SLADE NATIONAL WILDLIFE REFUGE

DAWSON, NORTH DAKOTA

NARRATIVE REPORT

January 1, to December 31, 1965

Permanent Personnel

Marvin Mansfield.....Refuge Manager
Theodore Schauer.....Laborer Maintenanceman
James Martin..Resigned 5/21/65.....Refuge Clerk
Henry Hagness..EOD 7/21/65.....Refuge Clerk

Part-Time Personnel

Alvin L. Hottman..5/24 - 11/19/65.....Laborer

CONTENTS

I. GENERAL

A. Weather Conditions

	Precipitation			Max.	Min.
	Month	Normal	Snowfall	Temp.	Temp.
January	.49	.44	12.5	32	-33
February	.08	.37	2.0	44	-22
March	.36	.60	10.0	39	-16
April	2.61	1.32	11.0	78	20
May	3.94	2.26	5.0	85	26
June	4.58	3.88		81	40
July	3.78	2.51		94	43
August	1.05	2.04		97	36
September	3.80	1.81	T	76	16
October	.40	1.20		78	22
November	.16	.45	3.5	74	-5
December	.32	.32	5.5	56	-16
Annual Totals	21.57	17.10	49.5	Extremes 97	-33

The information contained in the above table was obtained from the records of the official U. S. Weather Bureau Station located eight miles west of the refuge in Steele, North Dakota.

Temperatures were much below normal during the first three months of the year, topped off by March which was 8.7 degrees below normal. On March 21 a new record low was set at Bismarck when the mercury dropped to 14 below.

Snow depth was 8" at the start of the year, with the peak of 14" reached on January 31. This was the greatest depth recorded in recent years, but fortunately no severe blizzards resulted from the snow.

Precipitation was the highest since 1956 (24.10"). This makes three of the last four years with above normal moisture. The heavy rains in September should have assured a good frost shield and brighten 1966 runoff prospects.

There were 14 days in April and 12 in May when precipitation was recorded. No bad storms took place in April, but a hard rain (.80") and 50 mph winds occurred on May 5. The last frost of the spring was recorded on May 28 when the temperature dropped to 26.

June was cool and damp with moisture falling on 13 days. Wind and rain storms occurred on the 14th, 19th, 25th, and 26th.

July remained cool with only two days over 90°. On the 11th there was a hard rain and hail storm with about 2" of moisture falling in an hour or so. This storm was not as damaging to wildlife and crops as the one on 7/19/64. Another hard rain occurred on the 22nd when about 1.50" fell.

August was warmer and drier than July, and it was storm free. September was very cold and damp, with the high temperature only 76 degrees and the low 16 degrees on the 26th. The first frost came on the 5th.

October was beautiful with 26 days of sunshine and only 2 days of rain. No snow fell. The average mean temperature was actually higher than in September.

The mild weather continued in November, topped by a 74 degree reading on the 2nd. Snow fell on 5 days with 2" on the 25th being the greatest amount. The only day below zero was the 29th when it was 5 below.

December started out with a new record high on the 4th when it was 56 degrees. The temperature dropped below zero on only 4 days. Light sleet fell on the 11th and 30th, and the heaviest snow was 1" on the 12th. At the end of the year there ~~were~~ WAS 2" of snow on the ground.

B. Habitat Conditions.

1. Water

Water conditions improved over 1964 with Headquarters Lakes holding water all year for the first time since 1962. The smaller potholes did not stand up as well and most were dry by June.

All water areas with gauges were higher at freeze-up than a year earlier. Southeast Slough increased the most because of the new dike (constructed Oct., 1964, called Dike #1). The Slough filled quickly and water started flowing (through two 18" culverts) into Harker Lake on April 21. By May 7 the flow was 5" deep and reached a maximum of 5½" on July 25. No water went over the emergency spillway.

The 18" culvert (in dike #2) between Southeast Slough and South Marsh was kept closed all year. Even so, some flow was experienced because of dike leakage.

There was a good flow of water into Lake Isabel from April until July, and again from September until about December 16. The flow stopped in July when the new dike (#3) was completed between South Marsh and Lake Isabel. It is hard to understand why it started flowing again in September as there was no apparent dike seepage, and no water was spilling through the culvert.

A lot of water passed through the refuge via Northwest Slough. The water started flowing into the refuge on April 10, and on April 11 it was going out through the Highway 3 culvert (north). This flow through the culvert reached a maximum depth of 15½" on May 7. There was still a fair flow at the end of the year.

Table Number I shows the water levels at the beginning and end of 1965, plus the highest known reading. This is the first year that all gauges are referenced to MSL.

TAPLE NUMBER I

MSL Elevation
Slade Refuge Pools
1965

	January	December	Maximum
Harker Lake	1731.29	1731.93	1732.24 (July)
Upper Harker	1731.15*	1731.85	1732.12 (July)
South Marsh	1732.01	1732.36	1733.04 (May)
Northwest Slough	1721.71	1722.20	1723.54 (June)
Headquarters Lakes	Dry(1725.90)	1726.55	1726.59 (July)
Southeast Slough	1733.20*	1735.27	1735.92 (May)

*Estimate, no gauge until 6/5/65.

2. Food and Cover.

The abundant moisture resulted in excellent food and cover conditions. The sweet clover patches in A-1, A-3 and A-4 were heavily used by upland game and deer, and it is assumed the one in A-4 was used by nesting ducks.

The phragmites in the south portion of the refuge received heavy wildlife use, especially in the winter. A canvasback nest with 13 eggs (see photo section) was found in a phragmites stand in Upper Harker Lake.

The hardstem bulrush stands in Northwest Slough, Harker Lake and Upper Harker Lake held their own or increased slightly.

Aquatic food production was good in Northwest and Southeast Sloughs, fair in South Marsh and Harker Lake, and poor in Upper Harker Lake and Headquarters Lakes.

In February, 18 deer were jumped from the willow patches in the east edge of Southeast Slough. At that time a check of the willows indicated 100% utilization of all available browse.

Small grain production was hampered again by a hail storm in July that caused about a 25% loss. In spite of this, there was an ample supply of grain left for wildlife. The total corn acreage of 34.7 was left standing. This was scattered over much of the refuge in nine strips. The yield was down due to hail, thirteen-lined ground squirrels, and underseeding. When last checked, in late December, there was less than 10% of the corn left. Most of the corn was taken by deer and raccoon, until deer season and cold weather slowed down this use.

The four feeding stations were kept in operation from January through March because of the severe winter and lack of standing corn. In March, a total of 65 bushels of wheat and 240 bushels of barley were spread on the ice in Upper Harker, Headquarters, Southeast Slough, South Marsh, Harker Lake, and Recreation Slough. All of this grain was utilized by ducks.

The feeding stations were not operated in the fall because of mild weather and standing corn.

Other foods were abundant, i.e. grasshoppers, rose hips, sweet clover, foxtail barley, ragweed, etc. A sharptailed grouse containing four grasshoppers was shot in early November.

II WILDLIFE

A. Migratory Birds.

1. Geese and Swans.

The first geese (30 Canadas) were observed flying over the refuge on April 7, and the first swans were seen on Recreation Slough on April 9. On that date 200 large Canada geese landed on Headquarters Lakes, but they departed the next day. This is the highest number of geese ever recorded on the refuge. The swans reached a spring peak of 14 on April 13.

The fall goose flight in this vicinity was poor but about equal to the 1964 flight. A flock of 30 white-fronted geese was observed flying over the refuge on September 10. The peak refuge population was 15 large Canadas on October 12.

Swan numbers were down in this area from the record numbers of 1964, but there still were a lot of them. The refuge peak of 10 on October 12 was much below the top year of 1964 when 170 were recorded. There were still 2 present on November 8.

2. Ducks.

The first ducks (2 mallards) were observed on March 31, 18 days later than last year. By April 14 all species were present except blue-winged teal, ruddy duck, and bufflehead.

The peak spring count of 4,945 set another record high for the second year in a row. The bulk of these birds were scaup, redheads, and "cans". They were taking advantage of the grain which had been placed on the ice.

Table Number 2 illustrates the peak count of common ducks on hand by species (omits mergansers, bufflehead, etc.) during the entire spring.

TABLE NUMBER 2

PEAK SPRING POPULATION OF COMMON DUCKS

	1960	1961	1962	1963	1964	1965
Mallard	180	200	70	180	190	235
Gadwall	60	180	100	110	170	70
Amercian widgeon	80	400	40	90	100	100
Pintail	200	200	40	140	70	185
Blue-winged teal	60	120	120	120	70	60
Shoveler	70	180	60	60	80	20
Total Dabblers	650	1,280	430	700	680	670
Redhead	10	400	40	80	1,420	1,870
Canvasback	40	220	80	40	530	680
Scaup	800	1,400	300	1,100	1,010	2,040
Ruddy	60	40	20	10	80	40
Total Divers	910	2,060	440	1,230	3,040	4,630
Total Ducks	1,560	3,340	870	1,930	3,720	5,300

The breeding pair count was made on May 19, followed by weekly brood runs from July 6 through September 1. Estimated production showed a definite increase over 1964, mainly because of larger brood sizes. This was the highest production since 578 ~~were~~ WAS reported in 1958.

TABLE NUMBER 3

DUCK BREEDING POPULATION AND BROODS

OBSERVED AND ESTIMATED

	Observed				
	Pairs	Lone Males	Estimated Pairs	Observed Broods	Estimated Broods
Mallard	8	12	18	7	11
Gadwall	15	1	17	8	12
A. widgeon	3	0	3	0	1
Pintail	4	0	4	0	2
B.W. teal	16	18	22	5	9
Shoveler	5	9	10	1	3
Total Dabblers	51	40	74	21	38
Redhead	4	6	5	0	1
Canvasback	5	5	6	2	3
Scaup	9	42	11	3	5
Ruddy	4	20	20	8	10
Total Divers	22	73	42	13	19
Total Ducks	73	113	116	34	57

TABLE NUMBER 4

ESTIMATED PRODUCTION

	1960	1961	1962	1963	1964	1965
Mallard	52	26	46	38	50	75
Gadwall	103	50	119	60	30	105
A. widgeon	-	-	11	11	5	10
Pintail	44	19	19	19	30	10
B.W. teal	68	34	122	68	55	60
Shoveler	-	-	19	13	15	20
Redhead	-	6	19	13	10	5
Canvasback	-	-	-	-	20	20
Scaup	-	-	-	-	4	30
Ruddy	-	-	8	7	40	50
Totals	286	135	363	229	259	385

The large increase in average brood size over 1964 can be seen in Table Number 5.

TABLE NUMBER 5

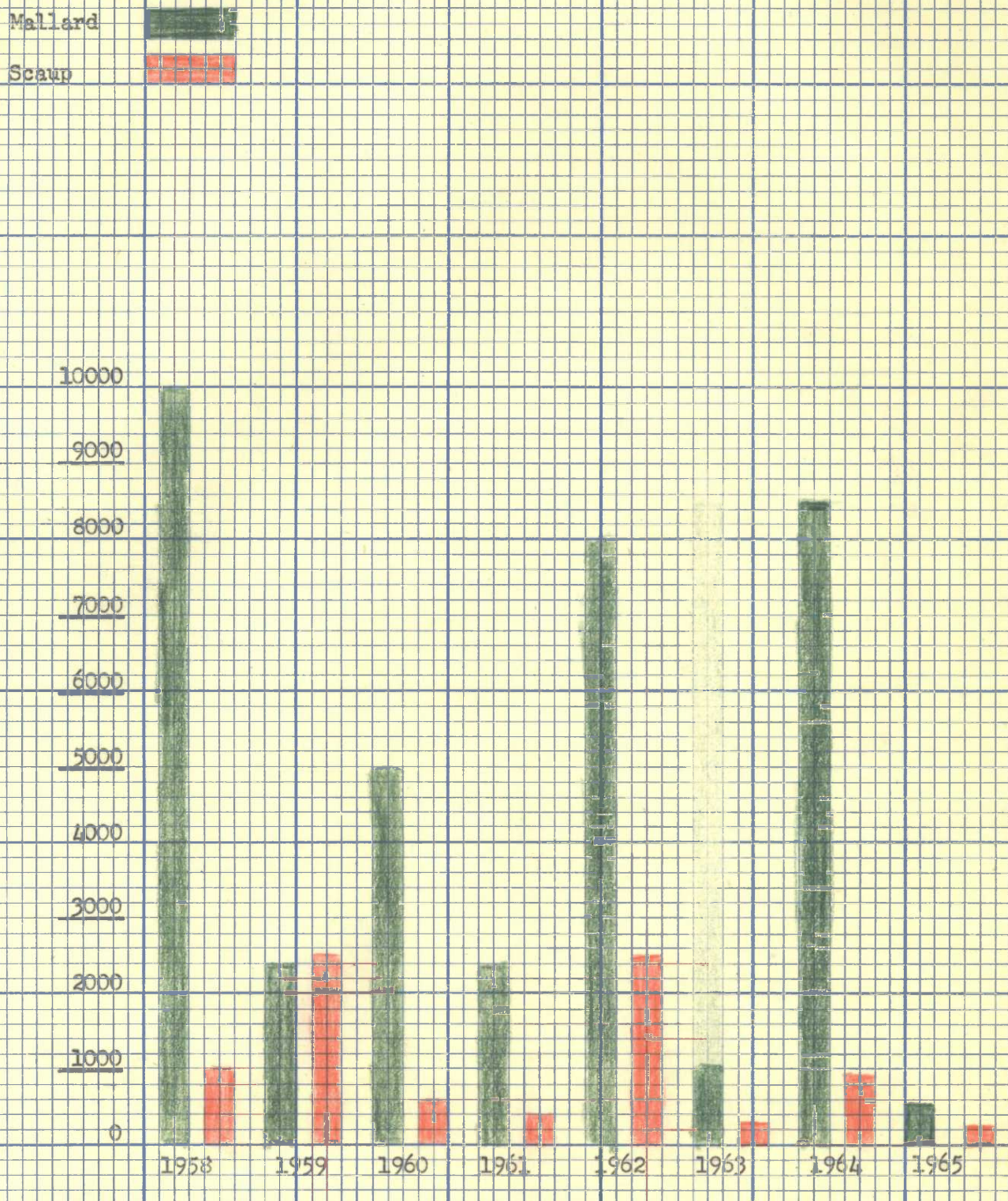
AVERAGE BROOD SIZE ALL AGE CLASSES

	Broods Observed		Total Young		Ave. Brood Size	
	1964	1965	1964	1965	1964	1965
Mallards	4	7	21	50	5.25	7.14
Gadwall	5	8	20	70	4.00	8.75
Pintail	2	0	10	-	5.00	-
B.W. teal	4	5	22	35	5.50	7.00
Shoveler	0	1	-	9	-	9.00
Redhead	2	0	5	-	2.50	-
Canvasback	3	2	14	14	4.67	7.00
Scaup	1	3	4	21	4.00	7.00
Ruddy	7	8	25	44	3.57	5.50
Total	28	34	121	243	4.32	7.15

Duck use-days for September to freeze-up were much below 1964 (98,252 compared to 305,389), and correspondingly the peak population of 1,895 was down from 9,000. Mallards accounted for most of the drop, going from 8,480 to 550.

PEAK FALL POPULATIONS

MALLARDS AND SCAUP



The shoveler peak of 670 is the highest ever recorded. The previous peak of 300 was in 1961. These birds were very active in Harker Lake with their habit of feeding in tight groups. They remained in good numbers from September 10 to October 12.

3. Coots.

Coots were first observed on May 1 and reached a spring peak of 30, which was the supposed breeding population. However, only two broods were sighted, and total production was estimated at 20.

The fall peak of 250 compares with 270 in 1964. There were still fair numbers on hand when the waterfowl season opened, but most were gone by the middle of October.

4. Water and Marsh Birds.

The first arrivals in this group were five great blue herons on April 9. At least one was present all summer and eight were seen on September 1. There were still two present on November 8.

Pelican numbers were down slightly, but considerably below the 200 recorded in 1962. Cormorants increased again this year, but the peak of 121 is well below the 300 recorded in 1959.

All five grebes common to this area were present with the eared and pied-billed the most numerous. Western and horned grebes were fairly common while only one red-necked grebe was seen. All, except the latter, were known to have produced young.

5. Shorebirds, Gulls, and Terns.

The first spring migrants, 14 sandhill cranes, were observed flying over the refuge on April 13. They rarely land on the refuge, and then only for a short rest. This year was an exception as six cranes stayed from April 28-30. They roosted between Harker and Upper Harker Lakes and fed in A-4. These were the only cranes known to have used the refuge.

The summer and fall crane population data below was received from Mr. Carl Madsen (Biological Aide with NPWRC). The first sighting was 40 birds on July 15. This increased to the peak of 7,700 on September 21 when an aerial count was made. The last sighting was four birds on November 12. The peak is much below last years estimate of 16,000.

Mr. Madsen spent most of the summer and fall gathering data for his thesis. He was primarily interested in food habits, populations and depredations. The study area took in 36 sections of the good crane

country north of Dawson. It is hoped a copy of the report can be included in the next NR.

No whooping cranes were seen by refuge personnel, but reports of sightings came in thick and fast in May. Most of these turned out to be whistling swans, and the others could not be verified.

Franklin's gulls were the most numerous gulls, but the peak of 110 was much below 1960 when 3,000 were counted. Ring-billed and herring gulls were present in reduced numbers.

Marbled godwit were again quite numerous, and their actions indicated they nested on the refuge. They leave very early as none were seen after July 22.

Avocet were present in good numbers and willet and killdeer in fair numbers. A long-billed curlew was sighted in Northwest Slough on May 10.

6. Mourning Doves.

The first dove was sighted on April 13 and they reached a peak of 125 in August. Most nesting occurred in the Headquarters shelterbelt. The last doves (5) were noted on September 17.

The writer found a ground nest while bow hunting on the Dawson State Game Management Area on September 10. The nest contained one unhatched egg and one bird that had just hatched.

B. Upland Game Birds.

1. Ring-necked Pheasant.

The pheasant population has continued the gradual decline of the past two years. The severe cold weather from January through March apparently took its toll, and undoubtedly weakened those remaining as production was not good. The fall estimate of 60 compares with 100 a year ago.

2. Sharp-tailed Grouse.

The estimate of 40 is the same as a year ago. The only refuge dancing ground (first observed in 1964) was again active. Two counts were made, on April 13th and 28th, with 12 males counted the first time and 11 the second. There were 10 females present on the second count.

The dancing ground was mowed off in late August to see if they would use it in the fall and to be sure it was ready for spring use. When checked in September, up to eight grouse were using the ground.

3. Gray Partridge.

The fall estimate of 25 is down from 30 listed a year ago. "Huns" were seldom seen until fall when they turned up in fair numbers.

4. Pinnated Grouse.

No "Pinnates" were observed on the refuge, but a male and female were found on a sharptail dancing ground on the east side of Sibley Lake on April 28. Years ago the number of pinnated and sharptailed grouse in this area must have been very good as indicated in a letter to Les Dundas from G. Norman Slade (son of former landowner of refuge land). Apparently the numbers refer to birds shot on what is now Slade Refuge, although this is hard to believe. Portions of the letter follows:

Dear Les, August 22, 1965

Glad to see you are putting on a Prairie Grouse Conference. At Dawson, in the 30 years I hunted "prairie chickens" my written records cover 1924 to 1941. There was considerable variation in ratio of yellow legs & sharptails.

Year	Yellow Legs	Sharptails
1924	33	99
1925	9	63
1926	24	73
1927	1	12
1928	36	51
1929	4	52
1930	13	56
1931	13	38
1932	26	48
1933	44	154
1934	(Season already closed before camp opened)	
1935	1	7
1936	2	10
1937	0	0
1938	4	28
1939	2	5
1940	5	22
1941	0	10

This does not give any weight to number of days hunted upland game. In my opinion the more pheasants the fewer grouse.

Note: in later years, after duck season was delayed into October there were fewer "chicken" days, compared to the Sept. 16 opening. I did not expect to shoot chickens after Oct. 10th, too wild by then.

This is an interesting letter, and it sure makes a person wonder where we are headed. Under present conditions, it is doubtful if 10 sharptails would be harvested if the refuge was opened to hunting.

C. Big Game Animals.

At the beginning of the year the refuge white-tailed deer herd numbered about 25. Most of them stayed in the willows and phragmites in the eastern part of Southeast Slough. This area was checked on February 26, and 18 deer (3 with racks) were observed. These numbers are higher than usual, probably as a result of the prolonged cold and deeper than normal snow.

The summer population was about 15 animals which increased to 25 by November. This was reduced to an estimated 15 at the end of the year.

D. Fur Animals, Predators, Rodents, and Other Mammals.

1. Fur Animals.

Two muskrats were observed in South Marsh in October for the first sighting in several years. Only one mink was observed, while no weasel were seen. It is estimated there are five of each kind using the refuge.

2. Predators.

Skunks, raccoon, and red fox are common with their peak numbers estimated at 20, 20, and 12 respectively. Only one badger was seen, and five are estimated to be present.

During the year, control work eliminated seven skunks, seven raccoon, and three red fox.

3. Rodents and Other Mammals.

Jack rabbits and cottontails appear to be down slightly with their peak numbers estimated at 35 and 30 respectively. "Jacks" are scattered all over, but cottontails are only found at the Recreation Area, 4-H Camp, and in heavy brush along the lakes and sloughs.

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

At least one snowy owl was present during the winter and was last seen on February 24. Great horned owls were present all year. Two short-eared owls were observed on December 27.

Marsh hawks were numerous from the first sighting on March 30 to the last on December 2. Red-tailed, rough-legged, and sparrow hawks were common during migration periods but scarce during the summer. One

sharp-shinned hawk was observed on April 13 and again in September.

One adult bald eagle was seen on April 9, and one adult golden eagle in November and the last day of the year.

Crows are only present during the migration, and their numbers seemed to be less than in 1964. The top count of 60 was made at Headquarters on March 30. The only magpie observed was on December 27.

F. Other birds.

Numbers of snow buntings and prairie horned larks were low during the winter months. On April 2 several hundred horned larks and lapland longspurs were present.

Unusual observations include a nighthawk observed on September 1 for the first record in several years; a kingfisher fishing in Northwest Slough on September 15, and four bluejays at Headquarters on September 22.

G. Fish.

Fathead minnows and sticklebacks by the thousands were attempting to go from Harker Lake to Southeast Slough in late fall and early winter.

The perch and northerns in Lake Isabel were dealt a severe blow as a result of winter kill (see photo section). The refuge portion of shoreline contains slightly less than one mile and the following numbers of dead perch were counted:

0-3"	4-6"	7-10"	10-13"	14"+
1,200	500	125	18	8

In addition there were three northerns about 20" in length. There were many thousands more (perch and northerns) along the west and south shores of the Lake. Some northerns running over five lbs. were killed.

The lake was test netted by the state in September, and several perch and a northern (about 5 lbs.) were caught. It was stocked with 20,000 northern fingerlings in May.

H. Reptiles.

Garter snakes, painted turtles, and tiger salamanders are common. One smooth green snake was seen at Headquarters, and one hog-nosed snake on the entrance road.

In December there were several hundred mudpuppies attempting to go from Harker Lake to Southeast Slough. They ranged in length from 6" to 12".

I. Disease.

None noted.

III REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.

In July, a new road-dike (#3) was constructed between South Marsh and Lake Isabel. It contains two 18" culverts with flap gates. One culvert is set low so that the pool can be drawn down when necessary. The dike should raise the water level on about 80 acres of marsh to the point where it will be useable by ducks.

The work was done by a private contractor with a 1½ yard dragline at $20.00 per hour. Total cost for this 1/8 mile dike was $440. The cost was high because of the working conditions.

Two level ditches, four feet deep and 20 feet wide, were constructed in the east portion of Upper Harker Lake. This area normally contains water near the surface but none available for the ducks. The ditches totalled 3/16 of a mile in length and cost $430. Pothole blasting will be tried in 1966 to compare costs and results.

Two new pit toilets were constructed at the Lake Isabel Recreation Area. A badly eroded place was filled in and seeded, and the area around the new toilets was seeded.

All of the old toilets were removed, except two that will be painted and set up near the boat launching ramp. The old railroad boxcar was removed and set up in Dawson as a community building. One picnic table was rebuilt (new top), along with two beach benches.

All dead and down trees were cut up and removed at the Recreation Area and the 4-H Camp. The swimming beach was cleaned, and "No Littering" signs were erected.

Six new Corps of Engineer type gauges were installed in Harker Lake, Upper Harker, Southeast Slough, South Marsh, Headquarters Lakes, and Northwest Slough. They are all referenced to MSL.

The Studebaker Lark had a major overhaul in November. The work was done under contract by Corwin-Churchill of Bismarck. After a few

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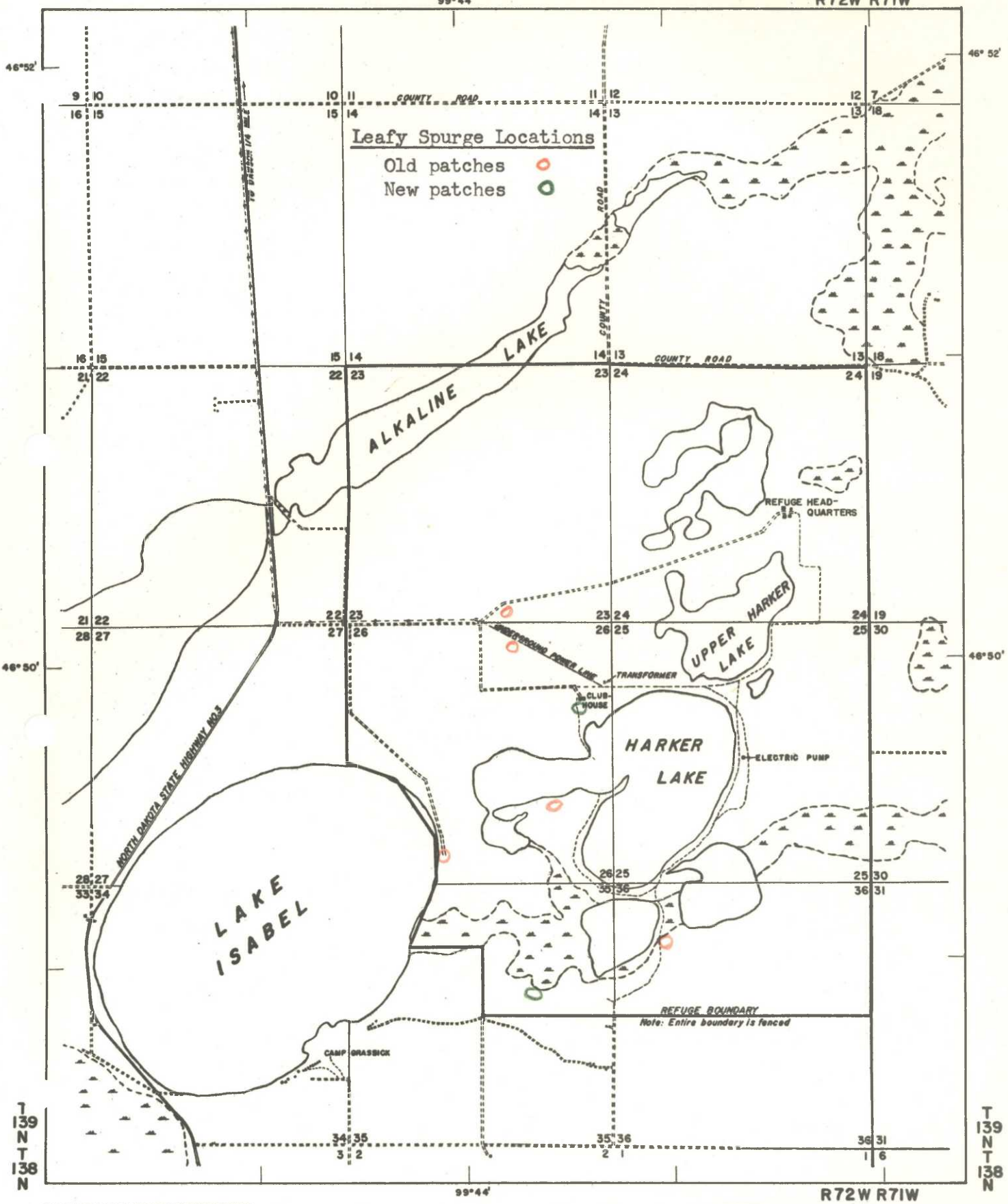
KIDDER COUNTY, NORTH DAKOTA

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF ENGINEERING

MINNEAPOLIS, MINNESOTA MARCH, 1960

FIFTH PRINCIPAL MERIDIAN

Scale 20 0 20 40 60 CHAINS
1/4 0 1/4 1/2 3/4 MILES

TOWNSHIP DIAGRAM

MEAN DECLINATION 1960

3R N.D. 394 408

days, an oil leak developed and they had to replace the rear main bearing (at their expense).

A cattle guard was constructed at the north entrance to G-6. The old wooden flag pole was torn down and replaced with a 30' steel pole that was acquired from surplus.

The residence was painted on the outside, and the dining room and basement floor on the inside. The porch was rebuilt, which included a new floor and storm windows.

The oil burner in the residence furnace was replaced and a water pump installed. Other installations include a new radiator in the basement and new shut off valves on the upstairs radiators.

B. Plantings.

1. Aquatics and Marsh Plants.

None.

2. Trees and Shrubs.

Three Colorado blue spruce were transplanted from the Northwest Slough three grove to Headquarters. A double row (about 1,300) of eastern red cedar was planted along the east side of the road to the Recreation Area. A single row (about 500) was planted in the Northwest Slough tree grove, and three clump plantings (about 2,200) ten rows wide were made in A-1. The trees were planted by the local SCS District and survival was about 85%.

3. Upland Herbaceous Plants.

None.

4. Cultivated Crops.

Crop yields were much better than last year, even though they were reduced about 25% by the wind and hail storm in July. Yield estimates per acre are: oats 35 bu., barley 25 bu., wheat 10 bu., and corn 8 bu.

C. Collections and Receipts.

None.

D. Control of Vegetation.

Seven small patches of leafy spurge were sprayed with Trysben 200. Two of these were new in 1965 (see map). This is the second year

using Trysben 200 and it seems to be effective. The patch at Headquarters, which was first located and sprayed in 1964, could not be found. The one along the entrance road is nearly gone, and the others are fading fast.

E. Planned burning.

None.

F. Fires.

No fires were out of control in this area, even though the hazard was high in August and October.

IV RESOURCE MANAGEMENT

A. Grazing.

Grazing started on May 15 and ended on October 15 on all units except G-7, which ended on September 14. The rate was $1.52 per AUM compared to $1.84 in 1964. Beef prices increased this fall, so the grazing rate is up to $1.72 for 1966.

G-1, G-2 and G-4 were not grazed, and it is planned to leave G-1 empty because of its small size. The other two will be grazed in 1966.

All units were in excellent condition due to the abundant rainfall, and no reductions in AUM's are planned for 1966.

B. Haying.

None permitted.

C. Fur Harvest.

No trapping was permitted because of the low mink population and the lack of interest in trapping predator species.

D. Timber Removal.

None.

E. Commercial Fishing.

None.

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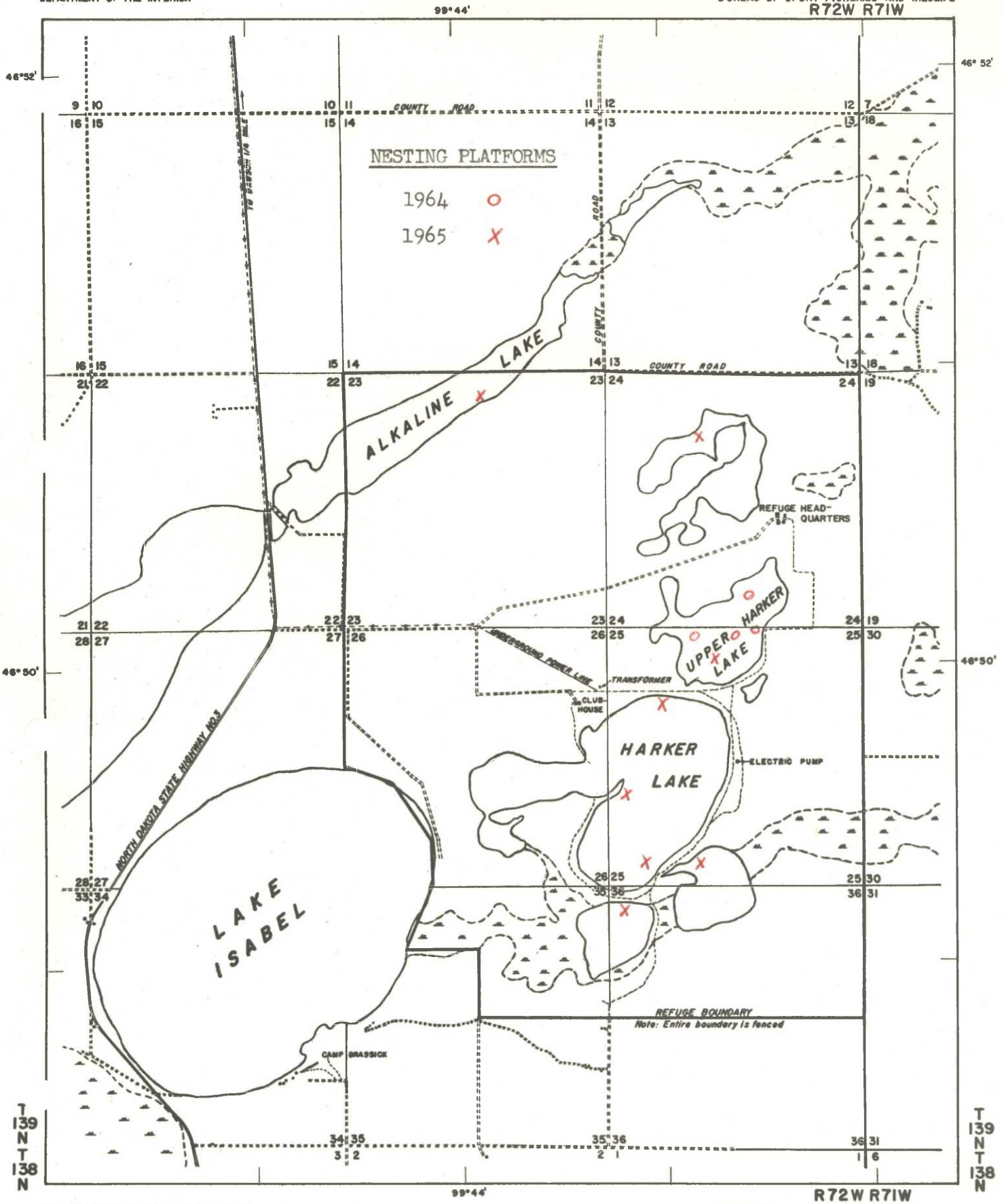


COMPILED IN THE BRANCH OF ENGINEERING

MINNEAPOLIS, MINNESOTA MARCH, 1960

FIFTH PRINCIPAL MERIDIAN

Scale 20 0 20 40 60 CHAINS
1/4 0 1/4 1/2 3/4 MILES

TOWNSHIP DIAGRAM

MEAN DECLINATION 1960

3R N.D. 394 408

F. Other Uses.

None.

V FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. Bromegrass Control Study*.

1. Mechanical Control Results.

The crested wheatgrass and Russian wildrye strips continue to resist bromegrass invasion. Strip #9, which was seeded to a mixture of grasses in the fall of 1963, also has very little bromegrass. This was expected since it was summer fallowed three years.

2. Chemical Control Results.

The four test plots that were sprayed with Radapon are now solid bromegrass. This chemical will kill the brome, but is only effective for two years. Even after one year a fair amount of brome was showing up.

B. Nesting Platform Study.

In February, 1964, four nesting platforms were erected in Upper Harker Lake. These were the first platforms erected on the refuge. They were made by simply driving four steel fence posts into the lake bottom through holes chopped in the ice.

The posts were connected together by scrap metal, which formed a platform about 4' square. Woven wire was used to support the nest material, which was held down by small tree branches wired to the sides. Each platform cost $12.00, but the life expectancy is only five years.

These platforms were not used by ducks in 1964 or 1965, for a reason which is now obvious. The woven wire did not have enough of a bag in it to hold the nesting material. This will be corrected for the 1966 season.

In March, 1965 eight more platforms were erected. They were set on the ice and allowed to sink through as it melted. Three of these were constructed from surplus pipe (2"), and the rest from the old style WPA sign posts. The former cost $27. each, and the latter $23. These platforms should last from 15 to 25 years.

* See map in Sept. - Dec., 1963 NR

Three of the eight were used by mallards, (assumed to be true wild ducks) but only two nests hatched. One hatched 9 out of 10 eggs, and the other 9 out of 9. The other nest was deserted, after four eggs were laid, because of waves hitting the bottom of the nest. This platform was in the south part of Harker Lake and had to be moved to more shallow water.

The nests that hatched were located in Upper Harker Lake and the west portion of Headquarters Lakes. One was about three feet above the water and the other about four feet. Neither one was located close to emergent vegetation. This will be studied further in 1966 when about 50 platforms will be available.

VI PUBLIC RELATIONS

A. Recreational Use.

In May, the Dawson Town and Country Club voted to relinquish their free use permit to the Lake Isabel Recreation Area. This dumped an added maintenance load on the refuge a few days before the area was scheduled to open. After some scrambling, it was decided to open the area the same as in the past, from May 15 to September 21.

The cool damp summer reduced use to about ½ of 1964. The only heavy use was on the 4th of July when 1,000 visitors were estimated using the area. Use in May and September was nearly zero.

The Slade 4-H Camp was used by the following groups:

Dates	Campers	Number
June 13-16	Burleigh County	68
June 16-19	Kidder County	65
June 20-23	Morton County	82
June 23-26	Logan-McIntosh Counties	65
June 27-30	Burleigh County	84
July 7-10	Emmons County	84
July 14-17	Leadership Camp	30
July 25-28	Farmers Union Camp	55
	TOTAL CAMPERS	533

The 4-H campers were also unfortunate in hitting bad camping weather, but somehow it does not seem to bother youngsters too much.

The 4-H Camp Association erected a new building in time for the camping season. It is used as a sleeping quarters only, and has no other facilities. It houses 12 campers.

B. Refuge Visitors.

Name	Affiliation	Purpose of Call	Date
B. Melland	State Warden, Jmstn.	Crawford case	1/4
K. Ystesund	Appraiser, Jmstn. AAO	Easements	Several
L. Ciucci	Appraiser, Jmstn. AAO	Easements	Several
C. Odin	Supvr. Jmstn, AAO	Courtesy	1/5
J. Gillette	Mgr. Tewaukon Refuge	"	1/15
K. Bodell	Appraiser, Jmstn. AAO	WPA's	Several
W. Sisco	Farmer Benson, Minn.	Grazing	2/5
H. Thompson	Farmer Kintrye	Grazing	2/12
M. Thompson	" "	"	2/12
H. Olson	PR&C Dawson	Skin Coyotes	2/15
M. Syverson	SCS, Steele	Courtesy	3/29
B. Daugherty	Dist. Fishery Mgmt. Bis.	"	3/31
L. Stenstavold	Farmer Tappen	Grazing	4/3
T. Fallrath	Appraiser Mpls. RO	WPA's	4/14
B. Johnson	" " "	"	4/22
G. Bekeris	Chief, Appr. Sec. RO	"	4/22
H. Jenson	USGMA Bismarck	Bald Eagle	5/3
B. Daugherty	Dist. Fishery Mgmt. Bis.	Courtesy	5/6
P. Hooper	Asst. Supvr. Fishery Mgmt. RO	"	5/6
M. Plenart	WHP Bio. Jamstn. AAO	"	5/14
E. Ebbeson	Engineer RO	Set gauges	5/21
G. Wade	" "	" "	5/21
B. Melland	State Warden Jmstn.	Dead deer	6/22
R. Polasky	Farmer Tappen	Haying PDL's	7/1
G. Olson	Clerk Long Lake Refuge	Assistance	7/1
L. DeKrey	Emmons County Agent	4-H Insurance	7/8
M. Syverson & crew	SCS Steele	Stake new road dike	7/15
R. Lynse & family	Clerk Arrowood Refuge	Visit	7/26
B. Melland	State Warden Jmstn.	Law Enf. Pblms.	8/10
P. Park	Kidder Cty. Agent	Winterize 4-H Camp	10/1
L. Kirsh	Dir. Woodworth Sta.	Crane Survey	10/5
C. Madsen	Bio. Aide with NPWRC	" "	10/5
J. Robinson & Fam.	Pastor at Steele	Visit	10/8
H. Jensen	USGMA Bismarck	Law Enf. Pblms.	10/14
L. Hines	Nursery man Bismarck	Bow Hunting Info	10/14
E. Edelbrock	Mpls. Realty Div.	Appraisal Slade	10/27

C. Refuge Participation.

Date	Organization	Location	Attendance	Activity
1/12	Isaak Walton League	Bismarck	21	Slide-talk
3/1	Steele Lion's Club	Steele	30	Talk
3/24	Presb. Father-Son Banq.	Steele	55	Slide-talk
4/22	Cub scouts	Slade Refuge	16	Refuge tour

Date	Organization	Location	Attendance	Activity
6/17	Kidder Co. 4-Hers.	Slade Refuge	10	Talk
6/18	" " "	" "	10	"
6/19	" " "	" "	10	Hike
6/21	Morton Co. 4-Hers.	" "	85	Refuge tour
6/24	Logan Co. 4-Hers.	" "	65	Slide-talk
9/17	Dawson people	Dawson	25	Movie
9/20	Steele Lion's Club	Steele	31	Movie-talk

D. Hunting.

The only hunting permitted on the refuge was during the deer gun season which opened at noon, November 12, and closed at sunset, November 21. Hunting pressure was again very light with a maximum of eight hunters on opening day. The deer kill was as follows:

Date	Number Hunters	Kill Male	Kill Female	Age
11/12	8		2	$2\frac{1}{2}$
11/12			1	$3\frac{1}{2}$
11/13	6	1		$3\frac{1}{2}$
11/13			1	$3\frac{1}{2}$
11/13			1	Fawn
11/14	4		1	$2\frac{1}{2}$
11/19	1	1		$1\frac{1}{2}$

In addition one buck (estimated age $2\frac{1}{2}$) was severely wounded but not found and is presumed dead. All of the does had milk, which could mean a reduced refuge herd for 1966, since they probably would have had twins. The total kill compares with four in 1964 when only one was a doe.

An experimental teal season was held in this area from September 3rd through the 12th. Hunting pressure was very light. There were lots of teal, and the hunters that went out usually had good luck. The few hunters that were checked knew their ducks and no violations were observed.

The sharptailed grouse and gray partridge season was open from September 15 to December 12. The population was down somewhat, and the birds were hard to find because of the lush cover. It is estimated the kill was down considerably in this area.

The goose season opened in this area to half day shooting (sunrise to noon) on October 1. Geese were very scarce and remained so during the entire season. It is doubtful that 50 geese were killed in Kidder County. The number of geese and the kill were similar to 1964.

The duck season opened October 9 with a fair population of ducks. Hunting pressure increased over 1964 but still was only moderate. Weather conditions were ideal for picnicing but poor for duck hunting. The kill consisted mainly of mallards, gadwall, scaup and redheads.

The pheasant season was open from October 16 to November 7, and in this area it compared favorably with the 1964 season. The "good" pheasant areas in the state were way down in numbers.

E. Violations.

No apprehensions were made.

F. Safety.

Safety meetings were held when possible. Two movies, "Safe as You Think", and "Know Your Fire Extinguisher" were shown.

The following articles were read and discussed:

"Carbon Monoxide Poisioning"
"Winter Driving"
"Fire Prevention Safety Checks"
"Lifting"
"Haste"
"Safety Vests"
"National Driver's Test"
"Air Pressure"

"What's Happened to our Accident Frequency Rates?"
"Ten Commandments for Good Accident Investigation"
"Seven Deadly Skids-How to Handle Them"
"Those Motor Vehicle Accidents"

Seat belts were installed in the Ford stake-dump and the Dodge 4-wheel drive. Safety vests were acquired and placed in three vehicles. All fire extinguishers were checked. A leaky muffler was replaced on the "Lark".

The Safety record is still intact and now stands at 8,995 days without a "Lost Time" accident.

VII OTHER ITEMS

A. Items of Interest.

Refuge Clerk Martin resigned in May to make more money so that he could attend school in the fall. We understand he is enrolled in a college at Sioux Falls, South Dakota. He was just getting to know the ropes when he left. He swore he would never get married, but it happened in August, and we wish them the best of luck.

Our new clerk, Henry Hagness, started work in July after transferring from Sully's Hill Game Preserve. We are happy to have him and hope

he likes it here. He is energetic and friendly, and already is well accepted in Dawson. So well, in fact, that he is the new Sunday School Superintendent at the Lutheran Church. He, his wife Pat, and baby Michelle reside in Dawson.

B. Credits.

Clerk Hagness duplicated the maps and did all the typing. The report was written by the manager.

C. Photographs.

All photos (except by Winship) were taken with the refuge Kodak Signet (35mm) camera.

FLORENCE LAKE NATIONAL WILDLIFE REFUGE

I GENERAL

The heaviest snow accumulation in years resulted in a good runoff. All refuge potholes had some water in them when the ducks arrived. Many of them were not full but conditions were much better than in 1964.

Florence Lake was 6" below the culvert bottom in March, but when checked on April 13 it was 5" above the bottom of the culvert. This is a rise of 11" in about two weeks. Above normal rainfall maintained the water level so that at freeze-up it was still one inch above the culvert bottom. This is a net gain during the year of seven inches.

The large west pothole held fair to good water all year and accounted for a good percentage of the total refuge duck use.

The abundant rainfall produced excellent cover conditions for all forms of wildlife.

II WILDLIFE

A. Waterfowl.

The following waterfowl counts were made during the year:

	4/13*	5/12	8/9*	8/31	9/13	10/8	10/21	11/12
Mallard	60	17	125	140	175	75	47	5
Gadwall		11	25	45	70	80	15	
A. Widgeon	2	7		5	25	25	2	
Pintail	81	8	100	55	100	82	5	
G. W. teal	10				15	10	9	
B. W. teal			50	60	25		2	
Shoveler	2	2					5	2
Total Dabs.	155	45	300	305	410	272	85	7
Redhead		3					2	
Canvasback		21				26	6	
Scaup		16					3	19
Bufflehead						1	17	9
Ruddy		6				8	27	
Total Divs.	0	46	0	0	0	35	55	28
Total Ducks	155	91	300	305	410	307	140	35
Coot	-	23	-	55	430	14	13	-

* Waterfowl Unit #3 only. Unit numbers identified on map in 1964 NR.

In addition, a flock of six large Canada geese was observed in Unit #1 on September 13, and seven snow geese in Unit #3 on October 8. The snow geese were mixed in with 68 whistling swans.

A brood count was made on August 9, and when compared to the 1964 count, it indicates a decrease in production.

Broods Observed

1965

	Number Young	Age	Unit Number
Mallard	6	1c	3
Gadwall	5	1c	1
Gadwall	6	1b	3
Pintail	6	III	3
A. Widgeon	1	2c	5
Redhead	4	1b	4
Ruddy	9	1a	5

Broods

	Number	Number Young	Ave. Size
1963	10	65	6.5
1964	15	79	5.27
1965	7	37	5.29

Total production for 1965 is estimated at 265. This compares to 400 for last year and 650 in 1963. In addition, a coot brood of two was observed in Unit #5.

B. Upland Game Birds.

Sharptailed grouse were observed on August 9 (2), October 8 (30), and November 12 (31). No pheasants or gray partridge were seen. Peak numbers are estimated at 35, 5, and 10 respectively.

C. Other Birds.

A great blue heron was observed on the main lake on August 9. Two great horned owls were using the trees at the old home site on October 21.

D. Big-game Animals.

The white-tailed deer population is good and is estimated at 35, the same as last year. On April 13 there were 25 deer counted.

E. Predators.

Red fox, skunk, and raccoon are present with numbers estimated at 4, 10, and 10 respectively. A female raccoon with 3 young was observed in June.

III REFUGE DEVELOPMENT AND MAINTANCE

A. Physical Development.

Slightly over ½ mile of cross fencing was erected in G-2 to permit rotation grazing. Two cattle guards were installed on the main trail.

Several days were spent cleaning up the junk around the old Fitzgerald place.

B. Plantings.

A Cooperative Farming Agreement was issued to Harris Crimmins to plant 30.2 acres of wheat, and 6.6 acres of corn. The refuge share of wheat (2.5 acres) and all of the corn was left standing. The wheat yield was about 25 bushels per acre, and the corn about 10 bushels per acre.

IV RESOURCE MANAGEMENT

Grazing permits were issued to Harris Crimmins (G-1) and Charles Giedd (G-2). The permit for G-1 extended from June 1 to October 31 for a maximum of 225 AUM's. The permit for G-2 extended from May 15 to October 15 for a maximum of 130 AUM's.

Mr. Crimmins utilized 215.36 AUM's, for which he paid $327.35, while Mr. Giedd utilized 108.74 AUM's, and he paid $165.28.

Both units were in excellent condition at the end of the grazing season. Unit G-2 was grazed very lightly and had a lot of area that appeared ungrazed. The AUM's will remain the same for 1966, since the lush growth was due to abnormal rainfall.

EASEMENT REFUGE DISTRICT #1

Appert Lake.

Water conditions were improved over 1964 but are still classified as poor. The refuge held about two acres of water most of the year. The following duck counts were made:

	4/13	6/23	9/1
Mallard	110	1	19
Pintails	25		
B. W. teal			5
Redheads	30		
Scaup	10		

Two signs and posts were replaced on September 1. On that date, a dead doe was found on the area. She had been dead for at least two weeks, and the cause of death was unknown.

Canfield Lake.

Water conditions improved slightly but are still classed as poor. When visited on August 31 the vegetation was too rank to observed any waterfowl. Water acreage was estimated at 30. On October 21, the water covered only 10 acres, and 7 mallards and 20 unidentified ducks were observed.

Flickertail.

A lot of water passed through the area, but because of the badly eroded spillway it only held 3-5 acres during the year. On June 23 the following lone male ducks were counted:

Mallard	Pintail	B.W. Teal	G.W. Teal	Shoveler
12	4	2	4	1

In addition there were two pairs of blue-winged teal. On September 1, there were 200 mallards present.

Hutchinson Lake.

The area was visited on October 21 when 150 small Canada geese, 40 unidentified geese, and 200 unidentified ducks were counted. Water conditions were good.

Lake George.

During the year, water conditions ranged from good to excellent. On August 30 the following birds were counted:

	South Unit	Main Lake
Mallard	200	806
B.W. teal	-	31
Canvasback	5	-
Ruddy	101	-
Coot	10	26
Western grebe	43	-
Horned grebe	60	-
Great blue heron	2	-
Pelican	1	-

On that date, 4 signs and 2 posts were replaced.

Hunting pressure on the pass was fairly heavy, and on some days (especially early in the season) there was a good kill of redheads. Fair numbers of gadwall and scaup were also taken.

Deer hunting in the vicinity of the refuge was not as good as in 1964. Opening day patrol by Maintenanceman Schauer indicated less hunting pressure. He only saw two live deer, and one that had been taken by hunters.

Lost Lake.

Three posts and one sign were replaced on September 2. At that time, the following birds were observed:

Mallard	2	Horned grebe	4
Gadwall	95	Great blue heron	3

Double-crested cormorant 1

Water conditions were good, and some water was running over the spillway.

Springwater.

A check of the area was made on March 17 to see if snow was blocking the spillway. The spillway was clear, and it was noted that a fair flow of water was going through the drop culvert.

On April 13 the lake was 70% ice covered and water was spilling 3" deep into the drop culvert. No waterfowl were present.

All signs and posts were in good condition on September 1. On that date 14 mallards were on the lake.

Sunburst.

The spillway contained no snow on March 17. On April 13 the lake was 90% ice covered and the water was about 4" below the spillway. There were 25 mallards and 12 scaup on the lake. The lake was full, and a small amount of water was trickling over the spillway on June 23 when the following birds were observed:

Mallards	2 prs. and 3 lone males	B.W. teal	1
Gadwall	1 lone male	Western grebe	1

Three posts and two signs were replaced on September 1. At that time, there 7 mallards, 9 blue-winged teal, and 1 double-crested cormorant on the lake. The water was about 2" below the spillway.

WATERFOWL PRODUCTION AREAS

I ACQUISITION STATUS

Acquisition of WPA's remained slow with only six purchased. They are:

Name	County	Acres	Name	County	Acres
Trusty (11)	Burleigh	87.69	Betsch (55)	McIntosh	45.00
Haak (17)	Emmons	20.28	Schneider (53a)	McIntosh	240.00
Schmidt (32)	Kidder	60.00	Strobel (60)	McIntosh	67.25

The following table compares the number of tracts owned at the end of 1964 and 1965:

County	Number of Tracts 1964	1965	Acres 1964	1965	Mgmt. Units 1964	1965
Burleigh	1	2	151.70	239.39	1	2
Emmons	6	7	2,212.57	2,232.91	5	6
Kidder	5	6	1,305.00	1,365.00	5	6
Logan	4	4	1,133.92	1,133.92	3	3
McIntosh	15	18	1,455.80	1,736.20	11	14
TOTALS	31	37	6,258.97	6,707.42	25	31

In addition, we have under management a 258 acre lease-purchase area (Blumhardt 18a) in McIntosh County. There are also eight tracts of Public Domain Land which are managed as WPA's. These tracts contain 492 acres. This makes a grand total of 7,457 acres in 46 tracts. However there are only 36 management units.

The easement part of the wetland program increased at a very rapid rate during 1965. This increase is reflected in the following table:

County	Number of Tracts 1964	1965	Acres 1964	1965
Burleigh	0	4	0	2,488
Emmons	4	9	1,720	4,387
Kidder	11	82	6,864	55,382
Logan	6	18	1,412	7,783
McIntosh	25	51	12,398	22,186
TOTALS	46	164	22,394	92,226

At the end of 1963 there were only five tracts containing 2,666 acres.

An aerial survey of all easements was made on December 2nd and 3rd. Burning violations were observed on the Hauff (48x,1), Klein (33x,1) and Entzi (44x,1) areas, all in McIntosh County.

There were two possible drainage violations in McIntosh County; Isaak (35x,1) and Knopp (41x,1). These will be ground checked in the spring after the snow is gone.

II HABITAT

Food and cover conditions ranged from good to excellent on all areas. Several years of low water have chocked some areas with nearly solid stands of emergents. Areas hardest hit were Foell, Kirschenmann, Ammon, Larson, and Vriesen.

Water conditions improved in all five counties, but the greatest improvement was in northern Kidder and Burleigh Counties. The water status and estimated duck production are shown in the following table:

County	Mgmt. Unit	Water Conditions Spring	Fall	Duck Production Rating	Est. No.
Burleigh	Trusty	Fair	Poor	Poor	15
"	Uhde	Excellent	Good	Excellent	120
Emmons	Delzer	Excellent	Good	Good	50
"	Foell	Fair	Poor	Fair	85
"	Haak	Good	Fair	Fair	25
"	Schiermeister	Good	Good	Good	45
"	Silvernagel	Dry	Dry	-	-
"	Sisco	Fair	Fair	Fair	45
Kidder	Bechhold	Fair	Poor	Fair	95
"	Bertsch	Excellent	Good	Good	75
"	Kirschenmann	Good	Fair	Poor	15
"	Plieness	Excellent	Good	Good	85
"	*Schmidt	-	-	-	-
"	Thacker	Good	Fair	Good	120
Logan	Ammon	Fair	Poor	Poor	25
"	Buchholz	Good	Fair	Fair	30
"	Larson	Fair	Poor	Poor	45
McIntosh	*Betsch	-	-	-	-
"	Bittner	Fair	Poor	Fair	35
"	Bovey	Good	Fair	Good	110
"	Geiszler	Fair	Poor	Fair	35
"	Goehring	Good	Fair	Good	75
"	Grosz	Good	Fair	Fair	45
"	Heinrich	Excellent	Good	Good	90
"	Jenner	Good	Fair	Good	110
"	Kempf	Good	Fair	Good	105
"	Neu	Excellent	Good	Fair	85
"	Nies	Good	Good	Good	95
"	*Schneider	-	-	-	-
"	*Strobel	-	-	-	-
"	Vriesen	Fair	Poor	Poor	30
				TOTAL	1,690

*Conditions unknown, acquired late in year.

III WILDLIFE

A. Waterfowl.

From observations made on some areas it appears that average duck use increased slightly over 1964, but there is a lot of room for improvement.

No geese and only two whistling swans are known to have used the areas. The swan use was in April on the Neu WPA. At least two of the areas are believed to have been used by geese. They are the Neu and Heinrich WPA's.

B. Upland Game.

The pheasant and gray partridge populations appeared to be down on all areas, while sharptailed grouse remained about the same. Areas known to receive use by the above species are listed below:

Pheasants		Sharptailed Grouse	Cray Partridge
Bechhold	Grosz	Bechhold	Bechhold
Kirschenmann	Nies	Ammon	Ammon
Foell	Larson	Larson	Larson
Schiermeister	Ammon	Sisco	Bertsch
Delzer	Kempf	Schiermeister	
Silvernagel	Bovey	Bertsch	

C. Big Game.

White-tailed deer are the only big game animals known to use the WPA's. Five Deer were observed on the Bechhold area at least twice during the year. Other areas which had use include: Ammon, Larson, Foell, Sisco, Schiermeister, Bertsch, Grosz, Silvernagel, and Ceiszler (20).

IV DEVELOPMENT AND MAINTENANCE

The following areas were fenced by refuge personnel during the year:

	Date	Distance	Type	Location
Silvernagel	8/10-12	1½ mile	Boundary	Entire boundary
Nies	5/3,4	130 rods	"	North boundary on East side of road
Schiermeister	6/11,14,15	½ mile	Protect dikes from grazing	Central portion
Bechhold	7/13	15 rods	" "	West dam
Bertsch	8/6	25 rods	Cross fence	North side

Posts and signs were erected on the Haak and Silvernagel tracts, and signs were fastened on previously installed posts at the Foell and Nies tracts.

Five new dikes were constructed on the Schiermeister area, at a total cost of $684.00 Emmons County did the work for $8.00 per hour. This includes the "cat", scraper, and operator. Four of these dikes are located along Horsehead Creek, and it is expected they will fill during spring runoff, as the creek usually floods every spring. If they do not fill by flood water, they will be pumped full. A water right has been obtained to cover the use of this water. Total water surface will be about 19 acres.

The other dike is located in the Sunburst Lake drainage, and will contain about one acre of water when full. There is another dike located between it and Sunburst Dam. This dike was constructed in 1964, and was full and spilling when checked in June, 1965.

Two men spent a day tearing out old fence and completing the clean-up job at the Schiermeister area. The Sisco area clean-up job was started and is about 10% complete. This is another large, and nasty job, as junk is scattered all over.

A new stockwater dugout was dug in the southwest part of the Larson WPA, which should result in better grazing distribution.

V ECONOMIC USE

Two Cooperative Farming Agreements were issued for the planting of 9 acres of wheat and 25 acres of oats. One third acre of wheat and three acres of oats were left standing for wildlife.

The wheat was planted on the Nies WPA by Harold Nies. In October he seeded 12 acres to the following mixtures:

Green needle grass	35 lbs.	Tall wheatgrass	15 lbs.
Western wheat grass	25 lbs.	Russian wildrye	15 lbs.
Slender wheat grass	25 lbs.	Alfalfa	15 lbs.

The oats were planted on the Silvernagel WPA by Felix Silvernagel. In october he seeded 25 acres to the following mixture:

Green needle grass	120 lbs.	Russian wildrye	30 lbs.
Western wheatgrass	60 lbs.	Switchgrass	30 lbs.
Slender wheatgrass	60 lbs.	Alkali sacaton	10 lbs.
Tall wheat grass	38 lbs.	Alkali nuttal	8 lbs.

In addition, he seeded the south portion (35 acres) with 343 lbs. of sweet clover. The better grasses were not used because this part of the area is subject to flooding.

Oscar Sauer planted and cultivated four acres of corn on the Bechhold tract for $30.00. The corn made fair feed and was heavily utilized by upland game birds and deer.

Jake Schiermeister planted and cultivated two acres of corn on the Schiermeister tract for $15.00. Very little of this corn grew because, according to Jake, "The pheasants ate it."

Nine grazing permits were issued for the privilege of grazing cattle on seven WPA's. The following table lists permittees, dates grazed, AUM's, etc.:

Oscar Sauer	Bechhold	6/1-10/31	140.51	213.57
L. Stenstadvold	"	5/16-10/4	58.49	88.90
James DeKrey	"	5/15-/10/4	62.71	95.31
Alfred Schrenk	Bertsch	6/10-10/10	56.31	85.60
Norman Miller	Larson	5/22-10/15	184.28	280.10
Luther Buchholz	Buchholz	6/1-10/30	48.43	73.61
D. Fallgatter	Fallgatter	5/16-10/15	192.47	292.55
William Sisco	Sisco	6/9-10/15	162.32	246.72
J. T. Ranch	Schiermeister	6/15-9/30	117.32	178.39
		TOTALS	1,022.88	$1,554.75

These figures compare with 919.15 AUM's, and $1,691.24 in revenue, in 1964. Leonard Stenstadvold and James DeKrey were new permittees, while Elmer Schweigert decided not to renew his permit for the Larson tract.

All grazing units were checked at least once and found to be in excellent condition.

VI HUNTING

Hunting pressure increased slightly, but is still light. Areas which received the most pressure are; Bechhold, Ammon, Uhde, Grosz, and Larson. The low pressure is due mainly to the fact that the areas with fences are kept locked, and many North Dakota hunters do not like to walk.

SIGNATURE PAGE

Submitted by:

Marvin Mansfield
(Signature)

Refuge Manager
Title

Date: March 9, 1966

Approved, Regional Office:

Date: March 16, 1966

(Signature)

Act. Asst.
Regional Refuge Supervisor

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Slade MONTHS OF January TO & April, 1965

(1) Species	(2) Weeks of reporting period 3/12 : 11	3/19 : 12	3/26 : 13	4/2 : 14	4/9 : 15	4/16 : 16	4/23 : 17	4/30 : 18	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
Swans:											
Whistling					5	15			140		
Trumpeter											
Geese:											
Canada					200				1,400		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard				5	235	125	60	30	3,185		
Black											
Gadwall						70	70	15	1,085		
Baldpate						100	40	5	1.015		
Pintail					185	110	60	25	2,660		
Green-winged teal					10	10	20	10	350		
Blue-winged teal							25	25	350		
Cinnamon teal											
Shoveler						10	20	20	350		
Wood											
Redhead					5	100	1,870	10	13,895		
Ring-necked						20	25	5	350		
Canvasback						75	680	10	5,355		
Scaup						600	2,040	260	20,300		
Goldeneye						5			35		
Bufflehead							20	10	210		
Ruddy							5	10	105		
Other											
Common merganser					5	10	10	10	245		
Coot:											

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	140	15	
Geese	1,400	200	
Ducks	49,490	4,945	
Coots			

SUMMARY

Principal feeding areas Harker Lake, SE Slough, South Marsh, and NW Slough

Principal nesting areas

Reported by Marvin Mansfield

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).

Interior Duplicating Section, Washington, D. C.
953

INT.-DUP., D.C.-53824-59

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Slade Months of January to April 1965

(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. Water and Marsh Birds:										
Red-necked grebe	1	4/30	1	4/30						
Horned grebe	3	4/22	7	4/30						
Eared grebe	5	4/30	5	4/30						
Great Blue Heron	5	4/9	5	4/9						
Sandhill Crane	14	4/13	Many	4/18	(Migrating over refuge)					
II. Shorebirds, Gulls and Terns:										
Herring gull	1	4/3	18	4/24						
Ring-billed gull	1	4/2	50	4/24						
Franklin's gull	1	4/15	100	4/30						
Avocet	1	4/20	120	4/24						
Marbled Godwit	2	4/20	110	4/26						
Willet	1	4/22	10	4/30						
Killdeer	1	4/10	15	4/30						

(over)

(1)	(2)		(3)		(4)	(5)	(6)
III. Doves and Pigeons:							
Mourning dove	2	4/13	50	4/30			
White-winged dove							
IV. Predaceous Birds:							
Golden eagle							
Duck hawk							
Horned owl	2-4	Present throughout period					
Magpie	1-5	Present throughout period					
Raven							
Crow	1	3/11	60	3/30			
Bald Eagle	1	4/9	1	4/9			
Marsh hawk	1	3/30	15	4/24			
Red-tailed hawk	1	4/10	8	4/23			
American rough-legged hawk	1	4/6	6	4/24			
Snowy owl	1	1/29	1	1/29			
Sparrow hawk	1	4/10	5	4/24			
Sharp-shinned hawk	1	4/13	1	4/13			

Reported by Marvin Mansfield

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 Gruiiformes)
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 Slade Months of January to April, 1965

(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 specifically requested. List introductions here.
Ring-necked pheasant	Cropland - 300 ac. Grassland and Marsh - 2,100 ac.	48			50:50				50	
Sharp-tailed grouse	" "	60			50:50				40	
Gray partridge	" "	80			50:50				30	

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.

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

WATERFOWL

REFUGE Slade MONTHS OF May TO August, 19 65

(1) Species	(2) Weeks of reporting period: 5/22-8 (1)	5/9-15 (2)	5/16-22 (3)	5/23-29 (4)	5/30-6/5 (5)	6/6-12 (6)	6/13-19 (7)	6/20-26 (8)	6/26-7/3 (9)	7/4-10 (10)
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	30	30	30	30	30	30	30	30	30	30
Black										
Gadwall	30	40	40	40	40	40	40	40	40	40
Baldpate	10	10	10	10	10	10	10	10	10	10
Pintail	20	20	10	10	10	10	10	10	10	10
Green-winged teal	10	10	10	10	10	10	10	10	10	10
Blue-winged teal	30	40	60	60	60	60	60	60	60	60
Cinnamon teal										
Shoveler	20	20	20	10	10	10	10	10	10	10
Wood										
Redhead	10	20	20	10	10	10	10	10	10	10
Ring-necked	10	5	5							
Canvasback	20	20	20	10	10	10	10	10	10	10
Scaup	200	100	80	40	10	10	10	10	10	10
Goldeneye	10									
Bufflehead	10	10	5							
Ruddy	20	30	40	40	40	40	40	40	40	40
Other										
TOTALS	430	355	350	270	240	240	240	240	240	240
Coot:	20	20	30	30	30	30	30	30	30	30

Int. Dup. Sec.,
Wash., D. C. 37944

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Slade MONTHS OF May TO August, 1965

(1) Species	(2) Weeks of reporting period 7/11-17 11	7/18-24 12	7/25-31 13	8/1-7 14	8/8-14 15	8/15-21 16	8/22-28 17	18	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	30	30	30	30	60	60	60		4,340	7	75
Black											
Gadwall	40	40	40	40	40	60	100		5,250	8	105
Baldpate	10	10	10	10	10	10	60		1,540	-	10
Pintail	10	10	10	10	10	10	50		1,610	-	10
Green-winged teal	10	10	10	10	10	20	20		1,330	-	-
Blue-winged teal	60	60	60	60	60	70	150		7,490	5	60
Cinnamon teal											
Shoveler	10	10	10	10	10	10	40		1,610	1	20
Wood											
Redhead	10	10	10	10	10	10	10		1,330	-	5
Ring-necked						10	10		280	-	-
Canvasback	10	10	10	10	10	10	10		1,400	2	20
Scaup	10	10	10	10	10	10	40		4,480	3	30
Goldeneye									70		
Bufflehead									175		
Ruddy	40	40	40	40	40	60	50		4,690	8	50
Other											
TOTALS	240	240	240	240	270	400	610		35,595	34	405
Coot:	30	30	30	30	50	120	70		4,480	2	20

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	-	-	-
Geese	-	-	-
Ducks	35,595	610	385
Coots	4,480	120	20

SUMMARY

Principal feeding areas Headquarters Lakes, NW Slough, Harker Lake

Principal nesting areas G-3, NW Slough, G-5

Reported by Marvin Mansfield Refuge Manager

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).

Interior Duplicating Section, Washington, D. C.
953

INT.-DUP., D.C.-53824-59

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Slade Months of May to August 1965

(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. Water and Marsh Birds:										
Red-necked Grebe	1	5/19	1	5/19	1	5/19			3	10
Horned Grebe			12	6/10					10	20
Eared Grebe			45	7/20					30	90
Western Grebe	7	5/19	14	6/10					15	40
Pied-billed Grebe	5	5/19	30	8/20					25	70
White Pelican	2	5/4	35	8/2						50
Double-crested Cormorant	6	5/4	121	8/31						175
Great Blue Heron			8	8/31						15
Black-crowned Night Heron	3	5/2	5	7/20					3	10
American Bittern	1	5/14	2	5/20						5
Sandhill Crane*	200	8/10	3,000	8/30						3,000
II. Shorebirds, Gulls and Terns:										
Herring Gull			25	6/10						50
Ring-billed Gull			30	8/20						75
Franklin's Gull			110	5/1						150
Avocet			45	5/3						100
Marbled Godwit			15	5/11	4	7/22				30
Long-billed Curlew	1	5/10	1	5/10	1	5/10				1
Killdeer			15	6/4	3	8/5				30

*Horsehead and Kunkel Lake Areas

(over)

(1)	(2)	(3)		(4)	(5)	(6)
III. Doves and Pigeons:						
Mourning dove		125	August		90	250
White-winged dove						
IV. Predaceous Birds:						
Golden eagle						
Duck hawk						
Horned owl	2-4 present throught period					
Magpie						
Raven						
Crow						
Marsh Hawk		10	8/27		3	20
Red-tailed Hawk		3	8/23			5
Rough-legged Hawk		3	5/20			5
Sparrow Hawk		5	5/7			10

Reported by Marvin, Mansfield, Refuge Manager

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 Gruiiformes)
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.

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Slade — For 12-month period ending August 31, 1965

Reported by Marvin Mansfield — Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	(2) Habitat Acreage		(3) Use-days	(4) Breeding Population	(5) Production
	Crops	65	Ducks	56,721	40	65
	Upland	440	Geese			
	Marsh	15	Swans			
	Water	80	Coots	5,901	10	10
	Total	600	Total	62,622	50	75
	Crops	-	Ducks	42,917	50	70
	Upland	420	Geese	700		
	Marsh	10	Swans			
	Water	70	Coots			
	Total	500	Total	43,617	50	70
	Crops	100	Ducks	210,497	120	195
	Upland	660	Geese	910		
	Marsh	110	Swans	2,940		
	Water	365	Coots		5	5
	Total	1,235	Total	214,347	125	200
	Crops	135	Ducks	80,339	50	55
	Upland	315	Geese			
	Marsh	130	Swans			
	Water	85	Coots	5,369	5	5
	Total	665	Total	85,708	55	60
	Crops	300	Ducks	390.474	260	385
	Upland	1,835	Geese	1,610		
	Marsh	265	Swans	2,940		
	Water	600	Coots	11,270	20	20
	Total	3,000	Total	406,294	280	405
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form MB-1.

(4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.

(5) **Production:** Estimated total number of young raised to flight age.

Interior Duplicating Section, Washington, D. C. 27580

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Slade Months of ~~May~~ to ~~August~~, 194~~4~~ 65

(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 specifically requested. List introductions here.
Ring-necked Pheasant	Crop 300 acres, Grassland and Marsh 2,050 acres, Trees and shrubs 50 acres.	32	2	30	50:50				75	
Sharp-tailed Grouse	"	80	1	20	50:50				30	
Gray partridge	"	80	1	10	50:50				30	

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.

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

WATERFOWL

REFUGE Slade MONTHS OF September TO December, 1965

(1) Species	(2) Weeks of reporting period 8/29-9/4 : 1	9/5-11 : 2	9/12-18 : 3	9/19-25 : 4	9/26-10/2 : 5	10/3-9 : 6	10/10-16 : 7	10/17-23 : 8	10/24-30 : 9	10/31-11/6 : 10
Swans:										
Whistling							10			
Trumpeter										
Geese:										
Canada Large							20			
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	270	180	190	90	70	180	300	150	350	500
Black										
Gadwall	280	150	140	70	70	80	100	10		
Baldpate	370	480	450	210	60	50	30			
Pintail	120	120	110	30	20	20	20	20	20	10
Green-winged teal	100	70	60	10	30	20	20	10		
Blue-winged teal	420	200	140	20	30	30	30	10		
Cinnamon teal										
Shoveler	60	410	550	670	600	600	650	150	150	130
Wood										
Redhead	5	5	10	10	5	5	5	5	10	10
Ring-necked		5			5					
Canvasback	5	40	50	70	30	30	20	10	10	
Scaup	40	20	20	10	20	30	40	30	150	200
Goldeneye										
Bufflehead	5		5	5	10	30	100	60	70	80
Ruddy	20	190	170	100	50	50	60	30	30	30
Other Hooded Merg.				1						
TOTALS	1,695	1,870	1,895	1,296	1,000	1,125	1,375	485	790	960
Coot:	80	200	200	200	250	200	60	40	30	20

Int. Dup. Sec.,
Wash., D. C. 37944

3 -1750a

Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Slade MONTHS OF September TO December, 1965

(1) Species	(2) Weeks of reporting period: 11/7-13	11/14-20								(3) Estimated waterfowl days use	(4) Production: Broods seen	Broods: Estimated total
	11	12	13	14	15	16	17	18				
Swans:												
Whistling	2			12						84		
Trumpeter												
Geese:												
Canada				20						140		
Cackling			None									
Brant												
White-fronted			Migration									
Snow												
Blue			Complete									
Other												
Ducks:												
Mallard	550	900		3,330						23,310		
Black												
Gadwall				900						6,300		
Baldpate				1,650						11,550		
Pintail	10			500						3,500		
Green-winged teal				320						2,240		
Blue-winged teal				880						6,160		
Cinnamon teal												
Shoveler	120			4,090						28,630		
Wood												
Redhead	15			85						595		
Ring-necked				10						70		
Canvasback				265						1,855		
Scaup	290			810						5,670		
Goldeneye												
Bufflehead	70			435						3,045		
Ruddy	30			760						5,320		
Other Hooded Merg.				1						7		
TOTALS	1,045	900		14,035						98,252		
Coot:	10			1,290						9,030		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	84	10	
Geese	140	20	
Ducks	98,252	1,895	
Coots	9,030	250	

SUMMARY

Principal feeding areas

Principal nesting areas

Reported by

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).

Interior Duplicating Section, Washington, D. C.
953

INT.-DUP., D.C.-53824-59

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Slade Months of September to December 1965

(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. Water and Marsh Birds:										
Eared Grebe			4	9/1	2	9/10				8
Western Grebe			5	9/21	5	9/21				10
Pied-billed Grebe			33	9/1	2	11/8				50
White Pelican			12	9/1	2	9/10				15
Double-crested Cormorant			121	9/1	10	10/1				150
Great Blue Heron			8	9/1	2	11/8				10
Black-crowned Night Heron			4	9/21	2	10/22				5
American Bittern			1	9/10	1	9/21				2
Sandhill Crane*			7,700	9/21	4	11/12				13,000
II. Shorebirds, Gulls and Terns:										
Killdeer			6	9/1	2	9/5				15
Wilson's Snipe			5	10/14	1	10/23				15
Herring Gull			10	9/1	2	9/10				25
Ring-billed Gull			13	9/21	13	9/21				40
Franklin's Gull			30	9/21	30	9/21				150
Common Tern			10	10/1	10	10/1				25

*Horsehead and Kunkel Lake Areas

(over)

(1)	(2)	(3)		(4)		(5)	(6)
III. Doves and Pigeons:							
Mourning dove		5	9/17	5	9/17		50
White-winged dove							
IV. Predaceous Birds:							
Golden eagle		1	11/6	1	12/31		2
Duck hawk							
Horned owl		2-4	present throughout period				5
Magpie		1	12/27	1	12/27		2
Raven							
Crow							
Red-tailed Hawk		2	9/10	1	9/17		5
Rough-legged Hawk		1	9/17	1	9/17		4
Marsh Hawk		3	9/29	1	12/2		15
Sharp-shinned Hawk		1	9/21	1	9/21		3
Sparrow Hawk		6	9/13	6	9/13		10
Snowy Owl		1	11/15	1	11/15		1
Short-eared Owl		2	12/27	2	12/27		2

Reported by Marvin Mansfield, Refuge Manager

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 Gruiiformes)
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 Slade Months of September to December, 1965

(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 specifically requested. List introductions here.
Ring-necked pheasant	Crop 300 acres, grass and marsh 2,050 acres, trees and shrubs 50 acres	40			50:50				60	
Sharp-tailed grouse	"	60			50:50				40	
Gray partridge	"	96			50:50				25	

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.

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge Slade Calendar Year 1965

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White-tailed deer	Crop 300 acres, grass and marsh 2,050 acres, trees and shrubs 50 acres.	15	8									30	15	1:4

Remarks:

Reported by _____
Marvin Mansfield, Refuge Manager

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: 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 total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each</u> <u>species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

116008

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Slade Year ending April 30, 1965

(1) *Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5)
								Share Trapping						
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator * Control	For Re-stocking	For Re-search	Permit Number	Trappers Share	Refuge share	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	Total Population
Mink				None				None						10
Raccoon				8										15
Striped Skunk				7										15
Badger				None										5
Weasel (Long-tailed)				None										10
Red Fox				3										7
Muskrat				None										5

Refuge Personnel

* List removals by ~~Predator Animal Hunter~~

REMARKS:

Reported by Marvin Mansfield, Refuge Manager

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 headingslisted.

(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.

116007

NR-6

Bureau of Sport Fisheries and Wildlife

PUBLIC RELATIONS

(See Instructions on Reverse Side)

Refuge Slade Calendar Year 1965

1. Visits

a. Hunting 40 b. Fishing 300 c. Miscellaneous 13,150 d. TOTAL VISITS 13,490

1a. Hunting (on refuge lands)

TYPE	HUNTERS	ACRES	MANAGED BY
Waterfowl			
Upland Game			
Big Game	25	2,840	Refuge
Other			

Number of permanent blinds -

Man-days of bow hunting included above -

Estimated man-days of hunting on lands adjacent to refuge 650

1b. Fishing (area open to fishing on refuge lands)

TYPE OF AREA	ACRES	MILES
Ponds or Lakes		
~~XXXXX~~ and Shores (Lake Isabel)		1

1c. Miscellaneous Visits

Recreation 12,500 Official 30

Economic Use 50 Industrial -

2. Refuge Participation (groups)

TYPE OF ORGANIZATION	On Refuge NO. OF GROUPS	On Refuge NUMBER IN GROUPS	Off Refuge NO. OF GROUPS	Off Refuge NUMBER IN GROUPS
Sportsmen Clubs			1	21
Bird and Garden Clubs				
Schools				
Service Clubs			1	30
Youth Groups	9	550		
Professional-Scientific				
Religious Groups	1	20	1	55
State or Federal Govt.				
Other			1	25

3. Other Activities

TYPE	NUMBER	TYPE	NUMBER
Press Releases	3	Radio Presentations	
Newspapers (P.R.'s sent to)	7	Exhibits	
TV Presentations		Est. Exhibit Viewers	

3-1756
(Rev. 4/63)

Form NR-1

PLANTINGS
(Marsh - Aquatic - Upland)

Refuge Slade Year 1965

Species	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount & Nature of Propagules	Date of Planting	Survival	Cause of Loss	Remarks
Alfalfa	A-4	10#/A.	10 A.		April	Good		
Alfalfa	A-5	10#/A.	18 A.		April	Good		
Sweet clover	A-3	10#/A.	8 A.		April	Good		
Sweet clover	A-4	10#/A.	10 A.		April	Good		
Sweet clover	A-5	10#/A.	11 A.		April	Good		
Eastern red cedar	A-1	700/A.	3 A.		May	85%		
Eastern red cedar	Rec. road	700/A.	2 A.		May	85%		
Eastern red cedar	NW Slough Tree grove	700/A.	1 A.		May	85%		

TOTAL ACREAGE PLANTED:

Marsh and aquatic _____
Hedgerows, cover patches _____
Food strips, food patches _____
Forest plantings 6

1618

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge SLADE County Kidder State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Wheat	143.4	1434			8.3	83	151.7	Alfalfa	78.5
Barley			16.0	400			16.0	Sweet Clover	12.0
Oats	31.5	1100					31.5		
Corn					34.7	280	34.7		
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations 2 Haying Operations - Grazing Operations 5

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	146	435.58	$662.08	805
				2. Other	1	10	$15.20	7
				1. Total Refuge Acreage Under Cultivation				324.4
Hay - Wild				2. Acreage Cultivated as Service Operation				-

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

INT.-DUP. SEC., WASH., D.C. 91767

3-1570
NR-8a

REFUGE GRAIN REPORT

Refuge Slade Months of January thru December 19 65

In Bushels

(1) VARIETY	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED USE		
				TRANS-FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Barley	290	550	840			390	390	450		450	
Wheat	80	0	80			80	80	0			
Mixed	0	100	100			0	0	100		100	

(8) Indicate shipping or collection points

(9) Grain is stored at Slade Refuge

(10) Remarks

NR-8a REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)--55 lbs., Corn (ear)--70 lbs., Wheat--60 lbs., Barley--50 lbs., Rye--55 lbs., Oats--30 lbs., Soy Beans--60 lbs., Millet--50 lbs., Cowpeas--60 lbs., and Mixed--50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.

(3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.

(4) A total of Columns 2 and 3.

(6) Column 4 less Column 5.

(7) This is a proposed breakdown by varieties of grain listed in Column 6.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters grainary", etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

ANNUAL REPORT OF PERSTICIDE APPLICATION

Refuge: SLADE

Proposal Number:

Reporting Year: 1965

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6/2, 6/21	Leafy Spurge	Seven scattered locations, ranging in size from 1 to 3,000 sq. feet. All sprayed twice to catch new plants.	0.3 (0.15x2)	2,3,6-Trichloro-Benzoic acid (Trysben 200)	2.0 Gallons	12 lbs./A.	H_2O 40 Gal/A	Hand pump

10. Summary of results (continue on reverse side, if necessary)

(A) First years results

1.	Date & amount of first rainfall.	1. 6/7 .04"
2.	Date of first observation.	2. 6/9
3.	Date first effects noted.	3. 6/9
4.	Character of symptoms.	4. Leaves curled, plant turning brown.
5.	Date of exam. & percent of apparent kill.	5. 6/17 95%
6.	Date of followup observ. & percent regrowth	6. 6/30 10%
7.	Date of exam. & percent of real kill.	7. 8/17 90%
8.	Cost of chemical, equip., labor. Total & per acre cost.	8. $18.00, $5.50, $42.00 -- Total $65.50 or $216.00/A.

35500

Recreation-Conservation Stickers on Sale

The new Recreation-Conservation stickers, an annual permit to enter certain specially-designed federal recreation areas, are now available at Slade National Refuge, it was announced today.

The new bumper sticker, which costs $7, was authorized last September when Congress passed the Land and Water Conservation Fund. Income from the sale of the stickers will go into this fund and will be used during the next 25 years to provide additional federal recreation areas and to assist the states in planning acquiring and developing outdoor recreation areas and facilities.

Marvin Mansfield, manager of the refuge, emphasized that purchase of the sticker is optional, except for access to federal facilities where an entrance fee is charged. Even on these areas, the visitors may pay a single entry or weekly fee in lieu of purchasing the sticker, he said.

Federal agencies that may designate areas where the sticker may be used are the National Park Service, the Bureau of Land Management, the Bureau of Sport Fisheries and Wildlife and the Bureau of Reclamation, all of the Department of the Interior; the Forest Service of the Department of Agriculture; U. S. Army Corps of Engineers of the Department of Defense; the Tennessee Valley Authority; and the U. S. section of the International Boundary and Water Commission. Each such area will be identified by a sign stating that a fee is required.

No entrance fee or sticker will be required at the refuge this year, Mansfield said. On Bureau of Sport Fisheries and Wildlife facilities where improved recreation facilities are planned, the stickers or entrance fees may be required in future years.

The sticker is not usuable at all designated areas, the manager said, because some of these may be entered only by foot. At such places, a single entry fee will be required.

Some federal facilities providing special services to visitors will also make regular charges for these services in addition to entrance fees. The special charges would cover such services as cabin or campsite rentals, cut firewood, mechanical boat launching facilities and so forth.

Stickers now on sale will be in effect until April 1, 1966. The annual permit will save money for those persons who visit these designated areas more than a few times a year, Mansfield said.

The Recreation - Conservation stickers may also be purchased at any of the designated areas where entrance fees are charged.

Steele Ozone-- 6/16/65

Recreation Area Is Now Uncle Sam's

DAWSON — The Slade National Wildlife Refuge has taken over the maintenance of the Lake Isabel Recreation Area, it was announced Wednesday by refuge manager Marvin Mansfield.

The area was formerly maintained by the Dawson Town and Country Club. Members of the organization voted to discontinue the project at a recent meeting. The club had maintained the area since 1949.

Mansfield said the area would remain open as usual from May 15 to Sept. 21. Hours are 8 a.m. to 9 p.m., except for the month of September, when it will close an hour earlier.

Recent improvements to the recreational area, Mansfield said, include the construction of an entrance gate, two pit toilets, trimming of grass and trees and cleaning of the beach area.

There are facilities for swimming, boating and picnicking at Lake Isabel. Mansfield urged the public to help keep the area clean by depositing litter in cans provided for that purpose.

Napoleon Homestead
6/17/65

Lake Isabel Recreation Area Goes Back to Refuge

6/17/65

The Lake Isabel recreation area will now be maintained by the Slade National Wildlife Refuge, reports Refuge Manager, Marvin Mansfield. The area was formerly maintained by the Dawson Town and Country Club under a free use permit issued by the Refuge.

The decision came at the May meeting of the club. Members voted to discontinue maintenance of the area due to lack of general support for the project. They had maintained the area since 1949, at that time there was a great deal of interest and support. This had dwindled until a handfull of men had to carry the load. The Manager wishes to express his thanks to these men, and to everyone who has helped with the project.

The area will remain open as usual, from May 15 to September 21, reports Mansfield. A new entrance gate has been constructed to deter littering and vandalism after hours. A sign at the gate advises the hours the area is open. The gate will be open every day at 8:00 a.m. and close at 9:00 p.m., except in September, when it will close at 8:00 p.m.

At the present time two new pit toilets are under construction and these will be completed soon. Some trees have been trimmed, grass has been cut, and the beach has been cleaned. Other improvements will be made as funds become available.

Every effort will be made to keep the area clean but the public must help by placing litter in cans. Littering is prohibited by the Code of Federal Regulations. It states: "The dumping, disposing or littering in any manner of garbage, refuse, spoil, sludge, earth, rock, or other debris on any wildlife refuge area except at points designated by the officer in charge is prohibited." This law will strictly be enforced.

The public is invited to enjoy swimming, boating and picnicking at Lake Isabel on Slade National Wildlife Refuge. The manager urges you to cooperate in making this a nice recreation area.

Steele-Ozone-- 6/17/65

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service Regional Information

BUREAU OF SPORT FISHERIES AND WILDLIFE

Slade National Wildlife Refuge
Dawson, North Dakota

NEW SLADE REFUGE CLERK

Mr. Henry Hagness has assumed the duties of Refuge Clerk at Slade National Wildlife Refuge, reports Refuge Manager Marvin Mansfield.

Mr. Hagness started work on July 21st after transferring from Sully's Hill Game Preserve near Devils Lake. He started his career with the U. S. Fish and Wildlife Service at Sully's Hill on September 29, 1964.

Mr. Hagness was born and raised in Grand Forks, and graduated from Central High School. In 1964 he completed a forty-three week course in office procedures at U.N.D.

He was a radioman in the U. S. Navy from June, 1959 to August, 1962.

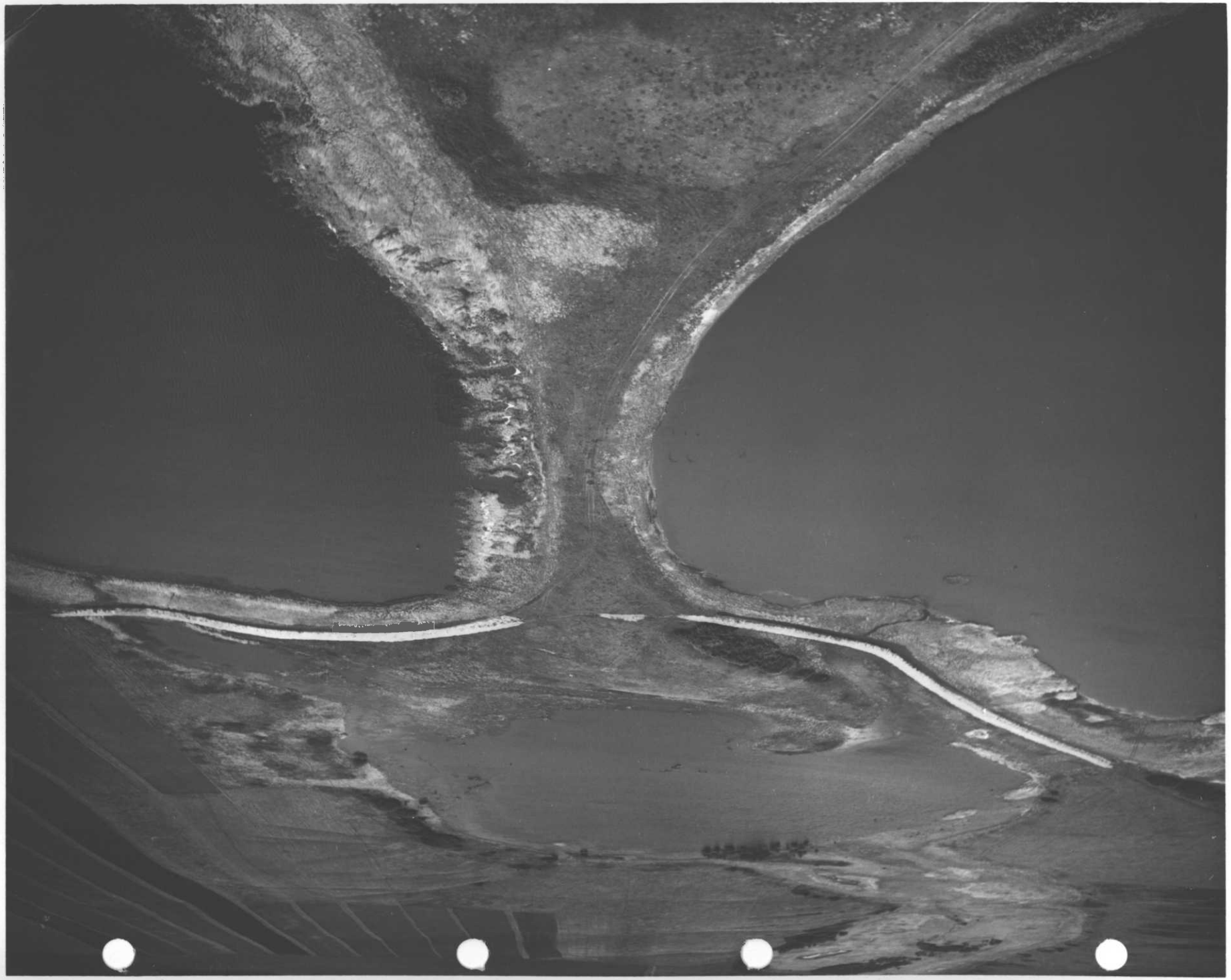
Mr. Hagness is married, and resides in Dawson with his wife Pat, and their new baby girl Michelle.

Slade Refuge Headquarters. Looking North.

6/3/65 000317 Winship

Slade Refuge. New dike-roads. Looking East. Harker Lake on left, South Marsh on right, and SE Slough in background.

6/3/65 000314 Winship



Slade Refuge Manager's house before porch repair.

10/6/64 Mansfield

Slade Refuge Manager's house after rebuilding porch.

11/24/65 Mansfield

FEB • 66 ⊙

FEB • 66 ⊙

New entrance gate to Rec. Area.

6/7/65 Mansfield

Rec. Area. Very effective sign.
6/7/65 Mansfield

• FEB • 66 ⊙


GATE HOURS

FEB • 66 ⊙


WARNING
LAW PROHIBITS
LITTERING
Federal Code Reads:
The dumping, disposing or littering in any manner of garbage, refuse, spoil, sludge, earth, rock, or other debris on any wildlife refuge area is prohibited, except at points designated by the officer in charge.

Recreation Area toilet.

5/6/65 Mansfield

New toilet at the Slade Refuge Rec. Area.

11/24/65 Mansfield

FEB 66 ⊙

• NOV • 65 ⊙

Rec. Area erosion control work on South side of South steps.

11/24/65 Mansfield

Rec. Area girls change house.

5/6/65 Mansfield

• FEB • 66 ⊙

FEB 66 ⊙

New sleeping quarters at the Slade 4-H Camp.

8/27/65 Mansfield

Boatel launched at Rec. Area. Driver slipped off concrete and stuck tractor.

7/14/65 Mansfield

FEB • 66 ⊙

FEB • 66 ⊙

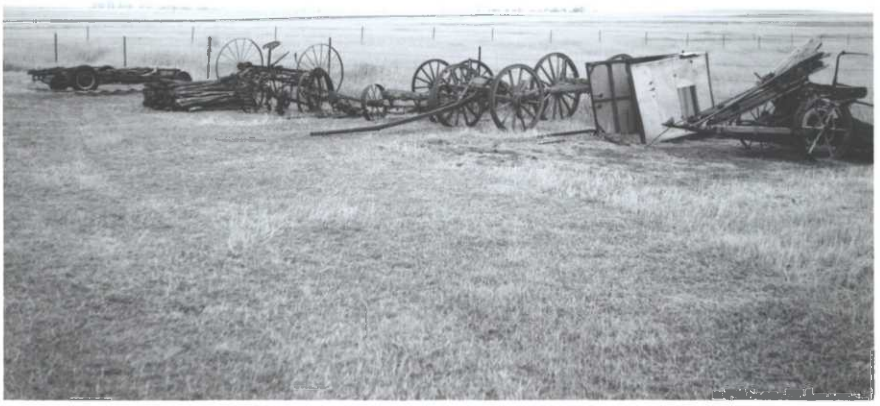
Junk (possibly some antiques) picked up at Florence Lake Refuge during cleanup work. Items will be sold by sealed bid.

11/24/65 Mansfield

Slade Refuge. Old well site after cleanup.

11/24/65 Mansfield

• FEB • 66 ⊙



• FEB • 66 ⊙

Messrs. Hottman and Schauer installing Slade Refuge cattle guard.

10/19/65 Mansfield

Dike work near Lake Isabel.

7/17/65 Mansfield

• FEB • 66 ⊙

• FEB • 66 ⊙

Dike work near Lake Isabel.

7/17/65 Mansfield

Slade Refuge. One of several strips fall plowed in Brome to break up brome stand, strips will be planted to grasses, sweet clover, corn, etc.

11/24/65 Mansfield

• FEB • 66 ⊙

• FEB • 66 ⊙

Sweet clover strip in A-3.

6/11/65 Mansfield

Red cedar planting along west boundary.

5/6/65 Mansfield

• FEB • 66 ⊙

FEB • 66 ⊙

Long Lake Refuge Manager, Omer Swenson, getting ready to blast #1 hole at Slade Refuge.

10/15/65 Mansfield

Slade Refuge. Anfo blasting #1 hole.

10/15/65 Mansfield

NOV • 65 ⊙

• FEB • 66 ⊙

Long Lake Refuge Manager, Omer Swenson, at east edge of No. 2 hole at Slade Refuge.

10/15/65 Mansfield

Slade Refuge. Anfo hole No. 2 after filling.

11/24/65 Mansfield

FEB 66 ⊙

NOV • 65 ⊙

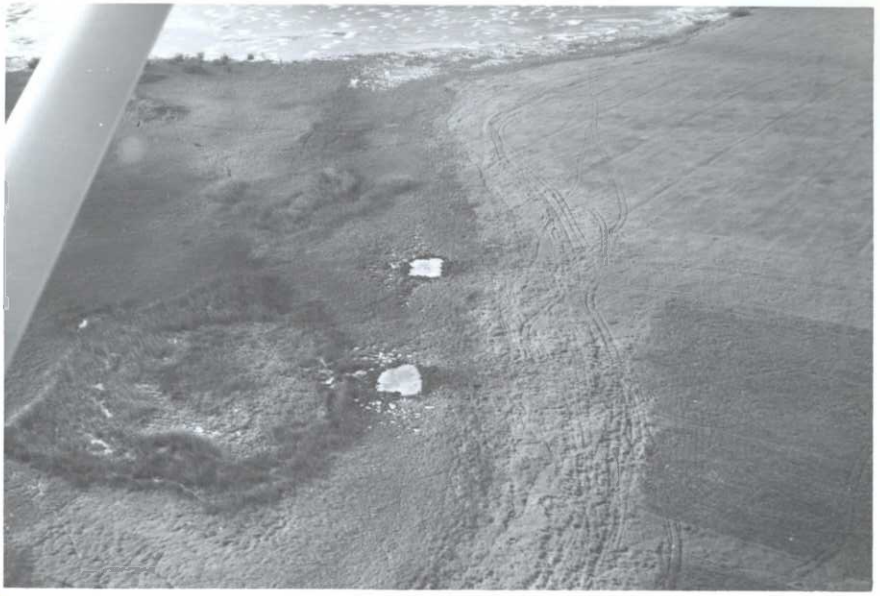
Aerial view of the first two potholes blasted on Slade Refuge in North edge of SE Slough.

12/3/65 Mansfield

"Coon" caught in live trap.

4/19/65 Mansfield

• DEC • 65 ⊙



FEB • 66 ⊙

Trap site with dead "coon" and skunk.

4/23/65 Mansfield

Manager's son, Dave, with adult bald eagle found dead 4 mi. SW of Refuge.

5/13/65 Mansfield

FEB • 66 ⊙

FEB • 66 ⊙

Platform in Upper Harker with mallard nest.

6/10/65 Mansfield

Mallard nest on platform in Upper Harker.

6/10/65 Mansfield

• FEB • 66 ⊙

⊙ 66 • BEJ

Site of Canvasback nest (13 eggs) in phragmites in Upper Harker.

6/10/65 Mansfield

Canvasback nest in phragmites in Upper Harker.

6/10/65 Mansfield

• FEB • 66 ⊙

FEB • 66 ⊙

New road-dike constructed in July in west end of South Marsh. Area outlined in black will be flooded. Looking NE.

12/8/65

WINSHIP
Mansfield

Same as above looking WSW.

North portion of Lake Isabel showing cottage development along NW shore.

12/8/65

WINSHIP
~~Mansfield~~

Level ditches constructed in July in the east edge of Upper Harker Lake. Refuge Hdqtrs. in background.

12/8/65

WINSHIP
~~Mansfield~~

Schiermeister WPA. showing dike and gully dam construction, and Sunburst Lake. Number 1 and 2 constructed in November 1964. Number 3 and 4 constructed in July 1965. Number 5 is Sunburst Lake Dam. constructed in the 1930's.

12/8/65

WINSHIP
~~Mansfield~~

Schiermeister WPA looking NE up Horsehead Creek valley. The dikes shown were constructed in July 1965 and will impound about 16 acres of water.

12/8/65

WINSHIP
~~Mansfield~~

Schiermeister WPA looking NE showing another dike, constructed in July 1965, adjacent to Horsehead Creek.

12/8/65

WINSHIP
Mansfield

Beaver dam in Horsehead Creek on the Schiermeister WPA.

11/5/65

~~WINSHIP~~
Mansfield
MANSFIELD

• FEB • 66 ⊙

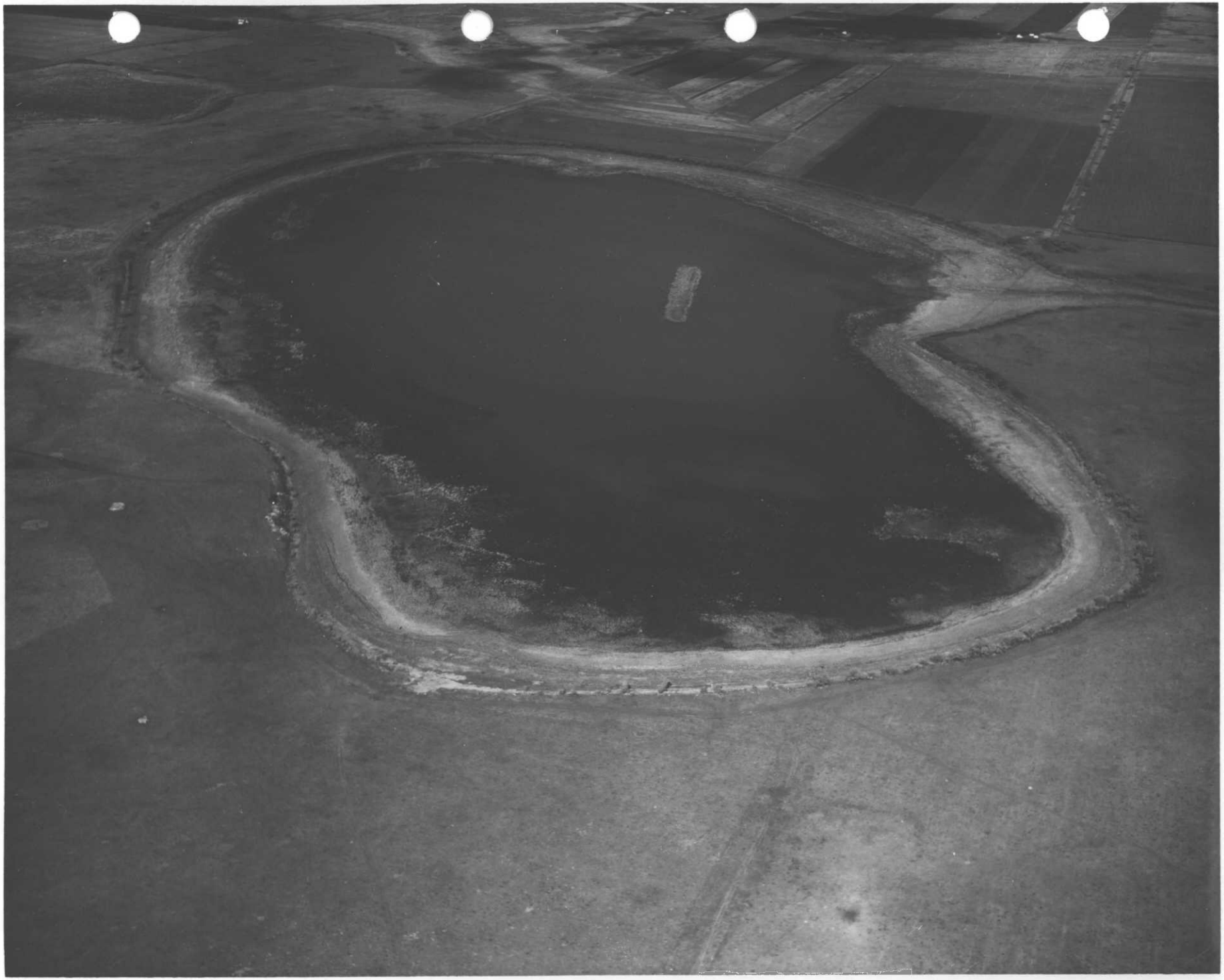
Flickertail Easement Refuge spillway washed out.

6/23/65 Mansfield

• FEB • 66 ⊙

Canfield Lake Easement Refuge. Looking ENE.

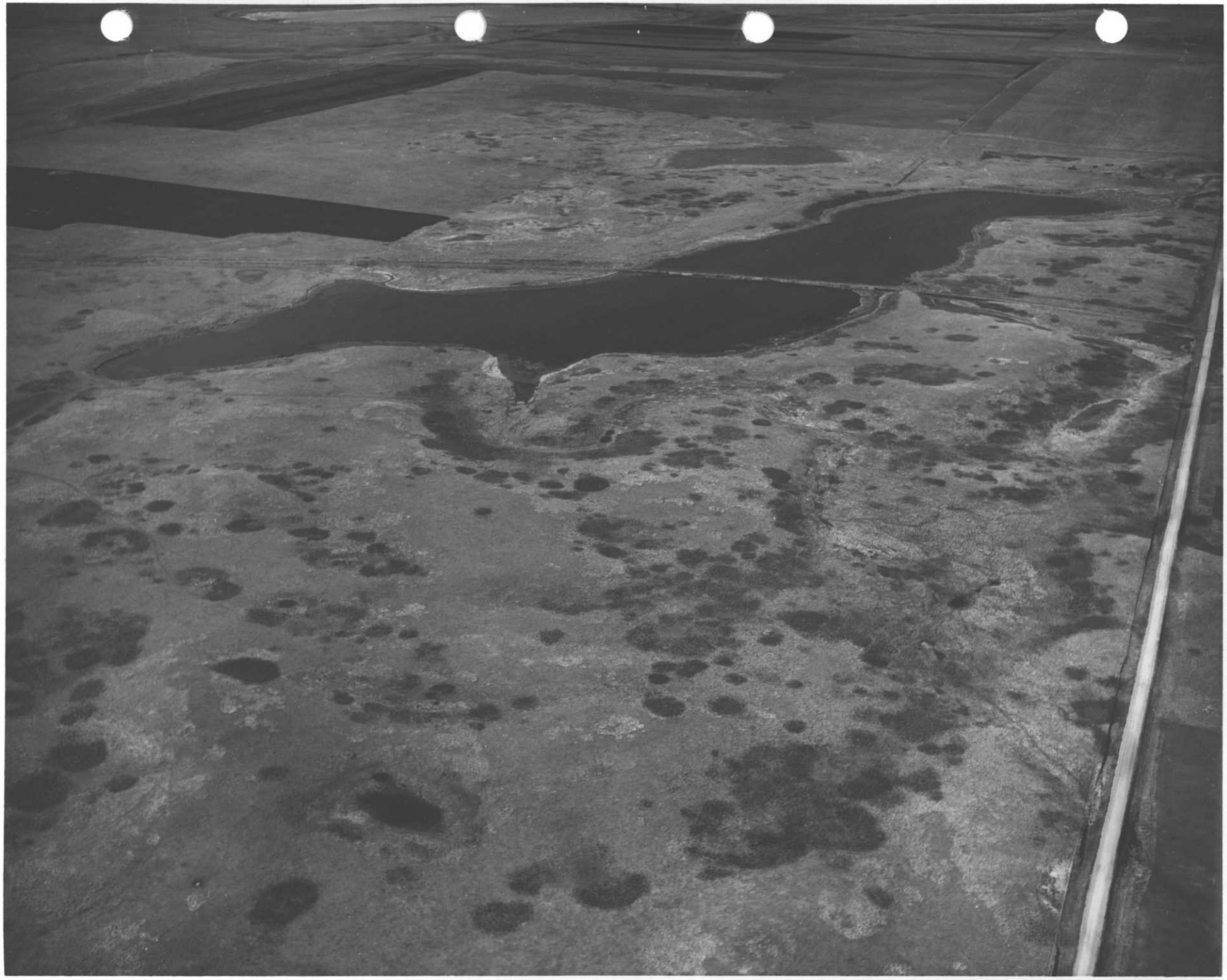
6/3/65 000303 Winship



MAY 1965

Uhde WPA. Looking North Northwest.

6/3/65 000306 Winship



MAY 1965

CCC306