

ROUTING SLIP

DIVISION OF WILDLIFE REFUGES

DATE: May 27, 194 6.MR. SALYER

SECTION OF HABITAT IMPROVEMENT:

MR. ELLER~~Mr. Griffith~~ REG 5-31~~MR. KRUMHOLTZ~~ WK 10/6~~Dr. Bourn~~ WSB 5/28MR. DIMONT OAD 6/14~~Miss Cook~~ SWC 6-11-46

SECTION OF OPERATIONS:

SECTION OF LAND MANAGEMENT:

~~Mr. Regan~~ WGR 7/1/46~~Mr. Kent~~ WK 15/14~~Mr. Ball~~ J.H.B. 7/2~~Mr. McCann~~ wa 6-14Miss Baum

SECTION OF STRUCTURES:

STENOGRAPHERS:

~~Mr. Taylor~~ WV 8/22CK 6-7-46REMARKS:UNION SLOUGH NATIONAL WILDLIFE REFUGENARRATIVE REPORTJan. - Apr. - 1946.

Return to: _____

Union Slough National Wildlife Refuge

Narrative Report

January to April 1946

TABLE OF CONTENTS

	page
Weather Conditions.....	1
Water Conditions.....	1
Fires.....	2
Migratory Birds.....	2
Upland Game Birds.....	3
Big Game Animals.....	3
Fur Animals, Predators, Rodents, and other Mammals....	4
Predaceous Birds.....	5
Fish.....	5
Refuge Development Maintainance.....	5
Economic Uses.....	7
Field Investigations or Applied Research.....	7
Public Relations.....	7
Other Items.....	8

Union Slough National Wildlife Refuge

Narrative Report

January, February, March, & April 1946

I. General.

A. Weather Conditions.

The following is a summary of the weather data taken from the Official Weather Bureau Station at Algona, located 15 miles South and West of the Refuge.

	<u>Snowfall</u>	<u>Precipitation</u>	<u>Max. Temp.</u>	<u>Min Temp.</u>
January	2.5	.93	42	-18
February	2.67	.82	54	- 4
March	2.06	3.39	77	10
April	--	.92	83	28
	<u>7.23</u>	<u>5.06</u>	<u>Extreme 83</u>	<u>-18</u>

The precipitation was 1.55 less than that of normal for the four months period and 4.73 less than that of the same period of 1945. The max. temperature was 17 degrees higher and min. temperature was 8 degrees lower than that of the period in 1945. The lowest temperature for the period was -18 degrees on January 1, and the highest plus 83 on April 17.

The largest snowfall occurred February 25, being 2.5 inches. No great amount of snow remained on the ground for any length of time.

B. Water Conditions.

The highest gage reading was 8.70 on March 6, when the Spring break up started. Although the ice did not completely break up in the Refuge Pools until March 20. The water levels have been fairly stable during the period with no large run off. at any time. There were no gages installed at the Refuge. At that time the Narrative Report was prepared for the same period of 1945, therefore, no readings are available to compare water levels with that of the same period of 1945. During the last part of April, the creeks and rivers in this area were at levels, as low as that of October 1945. It was necessary to hold all the water flowing down the Buffalo Creek to keep the South pool at the desired elevation. During the late afternoon or evening on April 28, someone entered the Refuge to the control structure at Buffalo Creek and cut away the lock on the North gate raised the gate and when discovered on the morning of April 29 the water levels had receded to 4.80 in pool "A." The gate was closed immediately and the water levels started to rise again.

Pools "B & C" are stable after the spring break-up. The county tile that flow into these pools were supplying only enough water to hold them stable, not allowing any excess water to flow over the stop logs. As to the local weather records April was the driest as recorded for this part of the state.

C. Fires.

No fires occurred on the Refuge during this period.

II. Wildlife.

A. Migratory Birds.

1. Population & Behavior.

The Spring Migration started on March 2. However, from 400 to 800 Mallards remained on the Refuge and did not migrate South in the cold parts of the period. A large migration of Snow and Blue Geese were observed March 3, but none stopped at the Refuge at that time. The peak mallard concentration was from March 6 to 14. The peak Pintail concentration was from March 6 to April 13. The Blue-winged teal, Green-winged teal, Gadwall, Baldpate, Lessor Scaup, Ring-neck, Shoveler, Coot and Canadian Geese were the most abundant from March 28 to April 26. The migration started approximately ten days earlier than for the same period of 1945. The following is a decrease and increase of species, which the numbers were taken from Form NR-1 Column 4 of Narrative Report for the same period of 1945. However, not all the Migratory Birds listed on Form NR-1 are classified as different species but classified as other ducks. Therefore, no base figure is available to determine the increase or decrease. Cormorants 46% decrease, Canada Goose 55% decrease, Mallard 20% increase, Pintail 87% increase and Blue-winged Teal 93% increase. The shallow-water or dabbling ducks were mostly concentrated on pool "C" as the water levels are at a lower stage and more suitable for their habitat. A good brood stock is still remaining at the close of this period and by all indications the largest per-cent will no doubt nest in the Refuge this spring. Some nests have been found adjacent to the Refuge but none in the Refuge as to date. In general a larger amount of ducks remain in the area than of last year.

2. Shorebirds.

Seven Wilson Snipes have been observed this period and very few shorebirds, but it is noticed that they are starting to migrate ~~down~~ the first week in May.

3. Food and Cover.

The mallards and pintails used the services' share of corn in the north part of the Refuge for their feeding site. Also a

3-1750

Form NR-1

(Nov. 1945)

WATERFOWL

Refuge Union Slough Months of January 1, to April 30, 1946

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u>									
Whistling swan									
Cormorant	45	4-26	45	4-26		present			50
II. <u>Geese:</u>									
Great Blue Heron	1	3-14	5	4-26		present			5
Canada goose	10	3-14	215	4-13		present			350
Cackling goose	none								
Brant	"								
White-fronted goose	"								
Snow goose	"								
Blue goose	1	3-6	35	3-24	35	3-28			50
III. <u>Ducks:</u>									
Mallard	800	1-1-46	2,500	3-14		present			5,000
Black duck	35	1-17-46	none noticed in	Spring migration					
Gadwall	7	3-14-46	175	4-13		present			475
Baldpate	15	3-14-46	700	3-28		present			1,200
Pintail	75	3-2-46	2,000	3-28		present			6,000
Green-winged teal	265	3-28-46	550	4-13		present			900
Blue-winged teal	350	3-28-46	2,000	4-13		present			3,500
Cinnamon teal									
Wood duck	1	3-28-46	1	3-28					1
Red head	6	3-6-46	9	3-28	9	3-28			10
Ring-necked duck	1	3-6-46	200	3-28	150	4-13			300
Canvas-back	16	3-28-46	16	3-28	8	4-13			25
Scaup	275	3-28-46	2,500	4-13		present			3,000
Golden-eye	4	3-6-46	4	3-6					6
Buffle-head	none								
Ruddy duck	none								
* Shoveler	35	3-14-46	450	4-15		present			700
IV. <u>Coot</u>	300	3-28-46	3,000			present			4,000

(over)

SUMMARIES

Total Production:

Geese 400

Ducks 21,117

Coots 4,000

Total waterfowl usage during period

Peak waterfowl numbers 14,405

Areas used by concentrations Pool 1-B Diving Ducks

Pool 1-C Dipping Ducks

Principal nesting areas this season

Reported by

INSTRUCTIONS

- (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) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: 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 in the reporting period.
- (5) Young Produced: 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.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Union Slouch Months of January to April 1946

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
II. <u>Shorebirds, Gulls and Terns:</u>										
<u>Wilson Snipe</u>	7	4-26-46	Migration now on							10

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove					
White-winged dove					
IV. Predaceous Birds:					
Golden eagle					
Duck hawk					
Horned owl	2	April 46			
Magpie					
Raven					
Crow					
Common through the year, but increased during the last part of the period.					150
Reported by.....					

INSTRUCTIONS

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

few ring-necks were noticed in the flooded part of the corn fields. Canada Geese also made their daily routine flight to the corn fields. The small and diving ducks utilized the Refuge pools and marsh areas for their feeding sites. The only corn available for the Wildlife using in the Refuge this spring was in the north area as the pheasants that wintered on the Refuge utilized all of the Service's share of the corn on the south part of the Refuge.

4. Botulism.

None noticed.

5. Lead Poisoning and Other Diseases.

All migratory birds were in good condition. Only one wounded Blue-winged teal was observed.

B. Upland Game Birds.

1. Population and Behavior.

The pheasant census indicated that approximately 6,000 were using the Refuge during the winter. The mating started by mid-March. The first nest was observed the first week in April with five eggs. It is estimated that one-half or more have left the Refuge to adjacent areas for the nesting period.

No Hungarian partridge were noticed on the Refuge this period.

2. Food and Cover.

The pheasants used more of the Service's share of the share-cropping corn than that of last year. Unit A-1 was cleaned except a few damaged ears. Unit A-3 only had a small amount of corn remaining when the unit was seeded to oats this spring, but the corn is mostly all eaten at this time. The young shoots of alfalfa in Unit A-4 has attracted the pheasants as a feeding site. The wild plum thickets, old building sites, and the marsh land in Pool "C" provided them with ample cover for the winter months, which they appeared in good condition this spring. During the winter months a few were noticed where the Red foxes had feasted on them.

3. Diseases.

No disease was noticed, all appeared in good physical condition.

C. Big Game.

Three deer tracks have been noticed on the Refuge, indicating their presence.

Refuge Union SloughMonths of Januaryto April, 1946

(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	G.2, HI-2 900 acres.	.15			1-8				6,000	6,000 wintered on the Re- fuge, part of which migrated to adjacent lands during nesting season.

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.

D. Fur Animals, Predators, Rodents and Mammals.

1. Muskrats:

The muskrat population in the Refuge is by far from being a normal breeding stock. Very few rats have been observed since the spring break up. Only two were noticed during the month of April which appeared in a very weak condition. After the spring break up several were noticed dead where the ice had drifted them to the shores and were to far deteriorated to examine them for any diseases. It is believed that the rats throughout the state are diseased. No rats have been noticed along the north dike where the most damage was done last spring. A special permit was obtained from the Iowa Conservation Commission to trap muskrats during the months of April and May. Only two traps have been set to date where the two were noticed south side of the Govers Grade road. None were caught and no further signs were noticed.

2. Raccoon:

The Raccoons do not appear in such large numbers as last fall but several were taken adjacent to the Refuge during the open State fur trapping season. However, they should be given attention that the population does not build up to large.

3. Mink.

The mink population appears about equal to that of last falls, a good check was made while the snow was on the ground. It is estimated that the population will reach near 100. It is more common to see mink using the Refuge in the evening than it is to see muskrats.

4. Woodchuck.

A few woodchucks are present but they are not doing any damage as yet.

5. Badger.

The badgers are present but not in any large numbers.

6. Skunk.

There are a few present and appear in numbers of that of last fall. Local trappers were enticed to trap them off in areas adjacent to the Refuge as the price was \$2.50 per pelt. One trapper caught 42 pelts three miles South and East of the Refuge.

7. Red Fox.

Few foxes were present throughout this period. Two dens of young have been located on the Refuge this period. By observations they are feeding chiefly on pheasants. In general the population is reduced, as fox drives or hunts were staged every week-end in areas all directions from the Refuge. The county bounty was advanced to \$2.50 per head which should help to keep them under control. Also the County Sportsmen League is organized again and they are sponsoring predator hunts.

8. Rabbits.

The rabbits came through the winter in good shape and appear to have increased.

E. Predacious Birds.

Few crows were noticed the first part of the period, but they have gained in numbers the last half. They will also be reduced in number by the County Sportsmen League.

Very few hawks were noticed during this period.

Two great Horned Owls were observed during March.

F. Fish.

During January and February approximately 3,000 pounds of carp was dipped out in front of the county tile at the East end of the north dike. As the Refuge pool had 30 inches of ice on it and the only open water was by the tile.

When the Spring break-up occurred many thousand pounds of carp were dead. It did not seem possible that so many carp were in Pool "B".

Special attention has been given to the fish screens to see that no one removes them to let more carp into Pool "B". It is planned to lower the water when the weather is warmer and remove the carp if any have survived the winter.

15 pickrel were noticed among the winter kill and not many bullheads were killed. In general the water has remained clearer than that of last season.

III. Refuge Development and Maintenance.

A. Physical Development.

The cement forms were removed from the new South East wing wall at Govern's grade and was filled in behind with earth and rocks.

Refuge Union SloughApril 30, 1946

(1) Species	(2) Density		(3) Removals					(4) Disposition of Fur						(5) Total Popula- tion	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control	For Re- stocking	For Research	Share Trapping			Total Refuge Furs Shipped	Refuge Income	Furs Donated	Furs Destroyed	
								Permit Number	Trappers' Share	Refuge Share					
Muskrats	Marsh, 300 Acres	15	No	Removal of Muskrats during the year				period.							20
Mink	Marsh & Upland 300 Acres	80	No	Removal during the year				period.							100
Raccoon	Marsh & Upland 300 Acres	53	No	Removal during the year				period.							15

REMARKS:

* Muskrat decrease during the winter months, it is believed they are diseased.

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. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)
 - (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, 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. Also show any removals not falling under heading listed.
 - (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness 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.

Additional rocks were placed and rearranged at the structure on the north dike. Rock has been placed at three of the county bridge wing walls on the Bancroft Road where the stop log structure is located.

One-fourth of a mile of new boundary line fence is completed and another one-fourth of a mile is under constuction. Some of the boundary line fence in the South part of the Refuge was repaired.

B. Plantings.

1. Aquatic and Marsh Plants.

During the period of 8-18 to 9-8-45, 200 lbs. of Wild rice seed was planted approximately six acres. During April the plants started making their appearance above the water. However, germination started much earlier as some of the seed plantings were marked and inspected periodically. The planting was made two ways, the broadcasting of the seed and the mud ball method. Three small areas were seeded both ways by broadcasting and mud balls where the carp could not gain entrance. No difference can be told in the germination of the seed, only the seeding in mud balls are thicker as several seeds were in one mud ball, and the young shoots of rice appeared in a cluster. As to the present out look of the wild rice plantings, it is a well worth project and should be given special attention to keep it progressing.

2. Trees and Shrubs.

No plantings were made during this period, but a project is in the making with the local Boy Scout Troops for the planting of nursery stock.

3. Upland Herbaceous Plants.

None during this period.

4. Cultivated Crops.

Four special use permits were issued for co-op farming and three special use permits were issued for cash farming. The four permits were issued for corn crop lands on a 40-60 share. 40% of the Services share is to be left standing in the field for Wildlife. Oats accompanied with sweet clover seed was sowed by two permittees and one permittee sowed ten acres of alfalfa to recede the growth of noxious weeds. Of the three permits issued for cash farming two seeded the land to soybeans and one seeded the land to oats with no leagume crop accompaning.

The weather has been most favorable for Spring planting of crops. Oats are well advanced and one-fourth of the corn is planted as to date. Being approxmiately two weeks earlier than last springs growing or planting season.

1 permit No. 13890 was issued to Mr. Albert Johnson to harvest Government share of corn in Unit A. No. 5 with a income to the Service of \$59.25.

C. Collections.

None during this period.

D. Receipts of Seed and Nursery Stocks.

None.

IV. Economic Use of Refuge.

A. Grazing.

None.

B. Haying.

None.

C. Fur Harvest.

Two traps were set along Govern's Grade near the stop-log structure in accordance with permission from the Iowa State Conservation Commission to trap muskrats from the Refuge during April and May. But the rats noticed, at the time the traps were set, have not reappeared. Under all observations, there are not enough muskrats to supply the Refuge with a normal breeding stock. No permits were issued for trapping during the period. It is doubtful if twenty muskrats are present in pools "A&B".

D. Timber Removal.

No timber is available on the Refuge in any large quantities, only wind breaks at old building sites, and a few in the extreme South area and a few cotton woods along the drainage ditch banks.

E. Other Uses.

None.

V. Field Investigation or Applied Research.

A. Progress Report.

None.

VI. Public Relations.

A. Recreational Uses.

The only recreational use of the Refuge is sport fishing off the county highways that cross the Refuge pools. Many large catches of bullheads have been observed. The pickrel State Season does not open until May 15.

B. Refuge Visitors.

<u>Names & Addresses:</u>	<u>Date</u>	<u>Time Spent</u>
Mr. Johnson, State Warden	1-23-46	2 hrs.
Mr. F. C. Gillett, Regional Refuge Supervisor	3- 7-46	7 hrs.
Mr. Harry Maltby, U.S. Game Agent, Des Moines,	2- 8-46	
Iowa	2- 9-46	8 hrs.
Mr. Harry Maltby, U.S. Game Agent,	2-15-46	6 hrs.
Mr. Walter F. Dennis, Field Scout Exec.	4- 2-46	1 hr.
Mr. Setchell, State Warden visits the office each week.		
Different local business men call at the office as to Refuge activities.		

C. Refuge Participation.

I appeared before the Lions Club 2-12-46 and gave an address on the Refuge activities. To Swea City High School 3-4-46 and gave an address to the General Science Class. Attended all the meetings of the Kossuth County Sportmens League. I was appointed captain of the Federal team in Predator Control.

D. Hunting.

None during this period.

E. Fishing.

The only fishing in the Refuge is from the Country Roads. Bullheads are the only species taken during the period. Several nice catches observed, but they are small in size.

F. Violations.

One violator was apprehended 1-6-46 for trespassing in pool "B" with a loaded 22 rifle. The case was given to Mr. Harry Maltby, U.S. Game Agent. I have been advised that the case will come up in the July term of Federal Court at Fort Dodge, Ia.

VII. Other Items.

A. Items of Interest.

None during this period.

B. Photographs.

The following pictures on the next page were taken from Mr. Setchell's plane on the afternoon of March 19, elevation 200 feet. All negatives are the property of the refuge manager.

May 8, 1946

(Date)

Milfred J. Smith

(Signature)

Approved:

Milfred J. Smith

Refuge Manager

(Title)

APPROVED:

W. B. Jamison
Acting REGIONAL DIRECTOR

MAY 24 1946



1. A view of winter kill of rough fish in the South part of pool "B."



2. A view of winter kill of rough fish in the North part of pool "B."



3. A view of the South part of pool "C" and the North part of pool "B," showing the North dike.





SUMMARY OF THE YEARS ACTIVITIES

Union Slough National Wildlife Refuge Iowa

Covering Period May 1, 1945 to April 30, 1946

The precipitation for the period of May 1945 to April 30, 1946 was 31.22 inches, being 1.12 inches more than the normal yearly rainfall. The largest amount of precipitation occurred during August 1945, December 1945 and March 1946, with the months of October 1945 and April 1946 being the driest ever recorded for this area. May and June of 1945 were very damp and cold with frost occurring in June which was very adverse conditions for the growing crops. The crops made rapid growth during August and part of September until the killing frost occurred in September, which resulted in 90% of the corn being damaged.

The Refuge pools were near normal most of the period. However, it was necessary to remove stop-logs or to raise the radial gate at the Buffalo Creek to reduce some of the excess water, but no damage was caused by high water levels. During September and October of 1945 the pools "A & B" did not fill up as soon as expected after the rough fish removal program in August, as no water was flowing down the Buffalo Creek to supply enough water to bring the pools up to the desired levels.

No fires occurred during the entire period on the Refuge.

Very few Migratory Waterfowl remained on the Refuge during the first part of the period. The only species common was the Blue-winged teal. One brood of three mallards were observed. By mid August the fall migration started and continued until December. The largest bulk of waterfowl did not reach the Refuge until the first part of November and did not remain long until the weather turned cold which moved them on to the South. The Spring flight of 1946 showed an increase of mallards, pintails, and blue-winged teal and a decrease of Cormorants, Canada Geese, Snow and Blue Geese and Pelicans. More ducks are present on the Refuge at this time than of the same time last year. A normal flight of Shore birds were observed on the Refuge during August and September of 1945.

*also Wood duck
3 broods*

The Aquatic Vegetation showed a large increase for the period. The smart-weed and River Bull Rush supplied adequate cover. The smart-weed was well filled with seed during the late fall months. Two hundred pounds of wild rice seed was sowed in different areas of the entire Refuge. According to local residents in general the vegetation was much improved over the previous period.

The corn on the uplands of the co-operative farming units of the Refuge provided adequate food for both the upland game and

waterfowls. However, the corn was of poor quality and about one-half a crop was no good because of the severe hail storms and the frost in September killed the corn before it matured. All of the corn was utilized by the wildlife except 144.5 bu. harvested by Mr. Albert A. Johnson under special use permit at 41¢ per bushel giving the Service a total income of \$49.25.

The pheasant population came through the winter in good condition and a large breeding stock is estimated more than that of last year.

No diseases occurred on the Refuge among the wildlife during the period. Only in the muskrats which seems to be general throughout the entire State.

The stop-log structure on the Bancroft road was completed, except the placing of rock at one county bridge wing wall, and pool "C" flooded to the stage of 5.30 ft. The South East wing wall on the stop-log structure on the Govern's Grade was replaced. The radial gates were cleaned, painted, and new cables and water seals were installed. The work was done by prisoners of war labor and one extra skilled laborer. Also, 160 rod of new boundary line fence was installed.

Four co-operative farming permits were issued for the 1945 crop year.

The grasses for grazing was adequate for the season of 1945, as the wet cold spring gave the grass a good growth.

Total revenues derived from cash farming, grazing, haying, and corn sales were \$406.50 for the year of 1945. Six permits were issued for co-operative and cash farming for the crop year of 1946.

Canadian Thistle Control required a large amount of attention through the growing period. Several new patches were found which never has had any control measure taken. The control measure was by cutting, as the spraying chemicals were not available to the county where the order was placed to receive the supply for the Refuge.

The duck hunting as to the general hunters statements was some what improved over the season of 1944. Not many daily limits were observed, but most hunters killed a few ducks each hunting trip. Some hunters think if they cannot take the limit on each hunting trip that the hunting is poor.

The fishing was adequate on the road at Govern's Grade during the summer months. Pickrel was the most desired fish.

During the last of August 30,000 lbs. of Rough fish were removed from the Refuge and given to the Prisoner of War Camp for food. 3,000 lbs. were removed from the East end of the North dike at the county tile during January and February. By the amount that was winter killed not many carp are expected to be in pool "B".

One violator was apprehended with a rifle in the Refuge and the case arranged before Federal Court in Fort Dodge, is to come up in July term of Court.

May 8, 1946

(Date)

Milfred J. Smith

(Signature)

Approved:

Milfred J. Smith

Refuge Manager

(Title)

(The total returns from furs received from the New York Auction during the period was \$961.08. Furs were caught during the previous periods.)