

BRANCH OF WILDLIFE REFUGES

NAARRATIVE REPORT

ROUTING SLIP

DATE May 28, 1954

~~Mr. Salyer~~ \_\_\_\_\_

Mr. DuMont BD \_\_\_\_\_

~~Mr. Krummel~~ \_\_\_\_\_

~~Miss Baum~~ \_\_\_\_\_

Section of Operations:

~~Mr. Dalli~~ \_\_\_\_\_

Dr. Morley \_\_\_\_\_

~~Mr. Hagan~~ JHR \_\_\_\_\_

Section of Habitat Improvement:

~~Mr. Griffith~~ GG \_\_\_\_\_

Mr. Kubichek \_\_\_\_\_

~~Mr. South~~ WSB \_\_\_\_\_

Mr. Stiles WS \_\_\_\_\_

Section of Land Management:

~~Mr. Ashworth~~ CA \_\_\_\_\_

~~Mr. Davis~~ \_\_\_\_\_

Stenographers:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

REFUGE UNION SLOUGH \_\_\_\_\_

PERIOD January-April, 1954 \_\_\_\_\_

UNION SLOUGH NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

JANUARY - APRIL 1954

Table of Contents

	page
Weather Conditions . . . . .	1
Water Conditions. . . . .	1
Fires. . . . .	2
Migratory Birds. . . . .	2
Upland Game Birds. . . . .	4
Big Game Animals . . . . .	4
Fur Bearing Animals, Predators, Rodents & Other Mammals	5
Predaceous Birds.. . . .	5
Fish . . . . .	5
Refuge Development and Maintenance - . . . . .	6
Economic Uses. . . . .	8
Field Investigations or Applied Research - . . . . .	8
Public Relations . . . . .	8
Other Items. . . . .	9
NR-Forms	

## Union Slough National Wildlife Refuge

## Narrative Report

January, February, March, and April 1954

I. GeneralA. Weather Conditions.

The following is a summary of the weather data obtained from the Official Weather Bureau Station, located at Algona, Iowa.

	<u>Snowfall</u>	<u>Precipitation</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>
January	5.9	0.43	46	-22
February	3.5	1.39	60	- 0
March	9.6	2.18	56	2
April	0	3.76	87	20
	<u>19.0</u>	<u>7.76</u>	<u>87</u>	<u>-22</u>

For the same period of 1953:

	<u>Snowfall</u>	<u>Precipitation</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>
January	8.1	0.97	41	-16
February	4.3	0.76	43	- 5
March	9.7	2.74	70	8
April	T	2.19	77	18
	<u>22.1</u>	<u>6.66</u>	<u>77</u>	<u>-16</u>

The snowfall was 3.1 inches less for this period than for the same period of 1953. The precipitation was 1.10 inches greater this period or 2.15 inches above the normal amount of precipitation.

In general, the weather was a rather mild winter with no <sup>sure</sup> blizzards and the coldest weather was 22 below zero in January, with the highest temperature of 87 in April. High winds have prevailed this spring causing the upland soils to become dry and favorable for agriculture crops.

B. Water Conditions.

At the beginning of this period the water levels in all pools was below the approved water management plan, which was 1125.0 ft. or 7.00 ft. by gage for Lowes Pool, 1124.5 ft. or 6.50 ft. by gage for Smiths, C & D pools. C. & D. pools dried out during last fall due to the drought. The gage reading in January for Lowes pool was



5.30 ft., Smith's Pool 5.20 ft., C Pool 5.00 ft. and D Pool 4.98 ft. The only water in the last two pools was in the drainage ditch. When the spring break up occurred in March, Lowes Pool raised to 7.02 ft. and the water was converted north into the other three pools and by mid April all four pools had the desired water level maintenance again. The ice broke up in Lowes and Smiths pools, March 27th, but froze over several times with thin ice in April.

C. Fires.

No fires occurred this period.

II. Wildlife

A. Migratory Birds.

1. Population & Behavior.

a. Waterfowl.

January 13th the national waterfowl inventory was taken on the refuge. 1,500 mallards, 4 black-ducks and 3 shovellers were present. These numbers remained on the refuge until the waterfowl started returning from the south on their northern migration.

The first migration of mallard and pintail moving northward and arriving at the refuge was February 15. By February 17, 3,500 mallard, 750 pintail was using the refuge and on the date 200 canada geese was observed. By February 27, 9,500 mallard, 350 pintail and 1 American merganser was present.

On March 17, the largest migration of waterfowl occurred that I have ever witnessed in Iowa. The weather was warm, south wind and the snow had melted creating small water areas in the grainfields, every water hole had ducks in them and any place you looked in the sky you could see waterfowl moving.

The largest concentration of 1,800 canada geese on the Refuge occurred during the week of April 4, to April 10. The largest concentration of 175 snow geese and 750 blue geese occurred on the refuge during the week of April 11, to April 24, and remained until May 4. The first migration of snow and blue geese was observed on March 22.

Blue-wing-teal arrived April 1. It is estimated by total waterfowl usage of the refuge that the use was 43% increase and the largest since the Refuge was established.  
(See Form NR-1.)

B. Other Waterfowl.

Three Great Blue Heron were observed March 25, and the number has built up to 27 by the close of this period.

One American Egret was observed April 13, and has been seen several times since.

C. Shore Birds.

Wilson Snipe are present and have indicated a small increase over other years.

Upland Plover are present with no decided change in numbers.

Golden Plovers were observed migrating through this area, none observed using the refuge.

Kill-deers were observed during the last week of March.

Gulls and Terns were observed during the last part of March with no change in numbers.

D. Other Birds.

Mourning doves and purple martins and birds in the song bird class appear in same number as other years.

2. Food and Cover.

The food and cover was ideal for waterfowl this spring. The millet seeded in the south part of Lowe's pool last summer was on dry land last fall and not much consumed by waterfowl, and with the increased water this spring the millet was flooded, and used heavily by waterfowl. Also, P ools C & D, were again flooded this spring and was free of ice when the waterfowl arrived and these pools were used heavily by waterfowl,also. The refuge grainfields were used more by waterfowl this spring than previous years. However, the diving ducks still used Smith's pool again this spring as this pool has a great growth of sago.

3. Botulism.

None observed this period.

4. Lead Poisoning and Other Diseases.

None observed this period.



## B. Upland Game Birds.

Ring necked pheasants did not concentrate on the refuge in large numbers this year as they have in years past. This is believed due to the open winter with no severe storms, and they could get waste grain from farm lands adjacent to the refuge. More pheasants were observed off of the refuge this winter than other years. They appeared in small groups with no large concentration. However, we had 6,000 scattered over the refuge and if the winter had been severe the build up on the refuge would have been greater than other years as the population near the refuge appeared greater than last year.

Hungarian partridge are present in small numbers, but are not classed as plentiful.

## 2. Food and Cover.

The food and cover was abundant this year. The pheasants did not eat as much of the Service's standing corn this year due to the fact that the ground was free from snow the largest part of the winter and they fed on waste corn on the ground from the mechanical corn picker when the permitte picked his share of corn.

## 3. Diseases.

None observed this period.

## C. Big Game.

White-tail deer is the only big game animal present on the refuge. 57 was counted in February in the deer yard on the south part of the refuge compared to 35 last year. The deer did a large amount of browsing on the white ash, maple and box elder trees, in the yard. They also, fed daily in the cornfield. It appears that this is about the only deer remaining in the county since the liberal deer season of last December. However, very few of these deer remain on the refuge during the summer month as their summer range is south of the refuge in the Des Moines river bottoms.

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

The muskrat population did not recover from the fall drought. Many of them died and many migrated from the refuge prior to our fur harvesting program. Only 20 muskrats have been observed on the refuge since the spring break-up. However, with the good food conditions of the marsh area they will soon recover.

2. Raccoons, appear to be 75% less than previous years.
3. Mink appear to be in fair numbers as it is believed the drought forced them from dried out areas to the refuge last fall and winter.
4. Beaver are present throught the entire refuge and are assisting in reducing the willows.
5. Woodchucks are not abundant.
6. Badger are present in small numbers.
7. Skunk, stripped and western spotted, none observed this period.
8. Red and gray foxes, one fox was observed on the refuge this spring.
9. Jack rabbits appear abundant and in larger numbers than cotton tails.
10. Cotton tail rabbits appear to be very low in number, it is not known what the causes are as they are seldom observed.

#### E. Predacious Birds.

Crows are not classed as abundant and seldom observed in the refuge after the spring break-up.

Hawks are present during migration and not classed as abundant.

#### F. Fish.

The fish in the refuge this spring is a puzzle, with the low water levels last winter. When the spring break came very few dead fish were noticed and Smiths and Lowes pool was frozen to the bottom in the largest per-cent of the area. Pools C & D were dry except for  $1\frac{1}{2}$  ft. of water in the ditch which was frozen to the bottoms. The surprise is that the fishermen are having better fishing success catching bullheads than for the past two years. The bullheads are biting from all county roads the entire length of the refuge. It is believed that 15,000 b bullheads have been taken the last month of this period through spot checks. All water areas of the refuge appear to have abundant supply of them. They had to be in the refuge the entire winter as the structure was operated that they could possible, have not come in from other waters.

The bass and blue-gill stocked in the gravel pit at the recreational area came through the winter in good condition. 600 lbs. of carp was removed during March. The rough fish removed in the past has paid off as carp are seldom observed in the three north pools.

### III. Refuge Development and Maintenance.

#### A. Physical Development.

Bundled and shipped Services share of furs to Auction Co.  
 Removed rough fish.  
 Cut ice at control structures.  
 National Waterfowl Inventory.  
 Deer and upland game census.  
 Broke down corn for pheasants and waterfowl.  
 Made and hung door on metal building, also placed gravel on floor of building.  
 Picked up seed shipment and stored in office building.  
 Moved Massey-Harris tractor and attachments to metal building, also stored other equipment in building to make more room in office building.  
 Place 30 yards of material in truck trail with tractor and front end loader so that the trail could be traveled during wet weather.  
 Installed more bolts and sheet metal screws in metal building to make building more sturdy.  
 Worked at recreational area with Burt Sportsmen.  
 Seeding of grass seed on grazing and wildlife area.  
 Plowed and worked 6 acres of land for food patches and tree planting.  
 Planted 50 pounds of milo. (Martion)  
 Removed drift from water control structures.  
 Repaired and checked  $7\frac{1}{2}$  miles of boundary fence.  
 Distributed bids for water control structure.  
 Stored two tons of fertilizer in metal building.  
 Made contacts for bid on services share of corn and sold it.  
 Checked wood-duck nesting boxes.  
 Tours of Refuge with school groups.  
 Supervision of soils and moisture program with co-op farmers.  
 Laid out contours for farming and checked all seeding and fertilizing.  
 Removed  $\frac{1}{4}$  mile of exterior barbed and hog fence.  
 Removed 1 woodchuck den from north dike.  
 Assisted Mr. Jamieson and Mr. Wright surveying structure and dike sites. Also, checking for contractors to build structure.  
 Waterfowl patrol.  
 Checking for fires built by fishermen along county highways.  
 Office work and janitor service of office.



B. Plantings.

1. Aquatic and Marsh Plantings.

20 pounds of wildrice was planted in the north part of pool C. Seed was a donation of local sportsmen.

2. Trees and Shrubs.

No plantings were made this period, but planting sites were made ready and black-hill spruce and Russian olive will be planted when moisture prevails.

3. Upland Herbaceous Plants.

450 lbs. of sweet clover was seeded on grazing and wildlife areas.

4. Cultivated Crops.

Three Special Use Permitts are in effect for Co-op farming.

There are 207 acres of tillable crop lands and the following is the cropping schedule for this crop season. 52 acres planted to corn, 53 acres seeded to oats accompanied with grass seed and fertilizer and 102 acres is in meadow seeded for soil builder. The Service receives 80% of the corn, the permittee 20% and all the oats and hay.

The Services share of corn remaining in the fields this spring from last years crop was 1,343 bushels and sold for \$.80 per bushel to the highest bidder, which brought a total of \$1,074.40.

C. Collection.

None this period.

D. Receipts of Seed and Nursery Stocks.

185 pounds of smart weed seed was received from Mingo Refuge and 500 pounds of millet received from Squaw Creek Refuge. This seed is for planting in the mud flats and shore line of Smiths and Lowes pool after the water is at the correct water stage.

1. Specimens.

None collected.

#### IV. Economic Use of Refuge.

##### A. Grazing.

No grazing until July 16.

##### B. Haying.

None this period.

##### C. Fur Harvest.

During the fur harvesting season of November 9 to December 10, 1953 three trapping permits were issued, and 1,378 muskrats were taken, 62 mink and 8 raccoons. The trappers received 689 muskrats, 31 mink and all the raccoons. The Service received 689 muskrats, 31 mink. The Services furs were shipped to the New York Auction, Minneapolis, Minnesota. A net total of \$589.96 was received for the mink. No returns have been received for the muskrats as to date. The trappers received \$450.00 for 31 mink which was an average of \$14.61 and the 689 muskrats sold for \$395.20 on a \$.58 average. The 8 raccoons sold for \$14.00 which was \$1.75 average. With these prices we did well on our mink.

##### D. Timber Removal.

None this period.

##### E. Other Uses.

None this period.

#### V. Field Investigation or Applied Research.

##### R. Progress Report.

None this period.

#### VI. Public Relations.

More work was accomplished this period on the recreational area. The Burt Conservation League came forth with \$175.00 for drag-line work on the swimming pool, the shore of the pool was leveled and back-sloped.

It is estimated 4,560 man days of fishing for bullheads from the county highway this period with a catch of 15,000 fish.



B. Refuge Visitors.

Harry Maltby	U.S.G.M.A.	Des Moines, Ia.	4-6-54	4 hrs.
Mr. Jamieson		Regional Office	work detail	
			March and April	

Scout Officials, SCS officials and local citizens call at the office frequently.

C. Refuge Participation.

During the period the following tours were made of the refuge. Lakota Science class, 42 children, Titonka Biology class, 46 children, Titonka 8th grade class, 48 children and 4 scout groups. County sportsmen league meetings were attended monthly. Attended 3 hr. watch on Civil Air Defense. Attended monthly meeting of volunteer fire department, which I am a member of in Burt. Attended scout meetings in Burt and Algona.

D. Hunting.

The only open hunting season was rabbits, but no hunting permitted on the refuge.

E. Fishing.

The bullhead fishing is the best on the refuge this spring than for the past two years. 50 to 60 cars can be counted daily of people fishing. Very few northern pike have been caught to date.

F. Violations.

None apprehended this period.

VII. Other Items.

A. Items of Interest.

Work has been started on the water control structure in the south end of Lowes pool.

I, have an idea which I think will help on waterfowl predepredation. It is using the ducks distress call for frightening them from the grainfields. We know that most all wildlife have warning calls or signals to warn each other of danger. So it is believed if a tape recording is made of mallards danger call and broadcasted over a loud speaker that the ducks will leave the grainfields. The danger call can be taken from domestic ducks by



placing a mounted owl or hawk near the pen to frighten them into giving the danger call and can be recorded on a tape at this time. Canada geese also, have a distress call and can be recorded the same method as the duck.

It is a known fact if a female mallard is caught into a trap set for muskrats and starts giving distress calls that very few ducks will remain near the trapped duck.

E. Photographs.

None this period.

May 1954  
Date

Malcolm G. Smith

Approved: DA Jansen  
Regional Director

Refuge Manager  
(Title)

Date: ~~6/1/54~~  
6/1/54

WATERFOWL

REFUGE Union Slough

MONTHS OF January TO Feb. 14, 1954

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard	1,500									
Black	4									
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler	3									
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
<u>Coot:</u>										

Winter residents until spring migration arrived February 15.



WATERFOWL

REFUGE Union Slough

MONTHS OF February 14 TO April 24, 1954

(1) Species	(2) Weeks of reporting period									
	Feb. 14-20	21-27	28 Mar. 6	Mar. 7-13	Mar. 14-20	Mar. 21-27	Mar. 28	April 4	April 11	April 18-24
	1	2	3	4	5	6	April 3	8 10	9 17	10
<b>Swans:</b>										
Whistling Trumpeter										
<b>Geese:</b>										
Canada	200					450	1,200	1,800	125	49
Cackling Brant										
White-fronted							19	25		
Snow					3	6	25	76	175	175
Blue					19	45	150	350	750	750
Other Hutchins						60	90			
<b>Ducks:</b>										
Mallard	3,500	9,500	9,500	10,000	96,000	85,000	65,000	25,000	6,000	1,500
Black					50	30	12	5		
Gadwall					9	275	300	700	350	75
Baldpate					30	750	800	1,200	800	250
Pintail	750	350	350	450	8,000	14,000	6,000	1,500	750	300
Green-winged teal					7	125	50	50	14	20
Blue-winged teal							9	500	2,500	3,000
Cinnamon teal										
Shoveler							10	60	175	450
Wood								4	2	
Redhead								15	10	
Ring-necked					75	1,500	1,000	450		
Canvasback					280	450	750	250	75	
Scaup					350	2,000	2,000	4,500	3,000	175
Goldeneye					75	30				
Bufflehead						2				
Ruddy										
Other American Merganser		1		3	450	175	150	40		
<b>Coot:</b>					7	125	400	1,200	3,500	3,000



WATERFOWL

REFUGE Union Slough

MONTHS OF April 25 TO May 1, 1954

(1) Species	(2) Weeks of reporting period										
	April 25 1	2	3	4	5	6	7	8	9	10	
<b>Swans:</b>											
Whistling											
Trumpeter											
<b>Geese:</b>											
Canada	115										
Cackling											
Brant											
White-fronted											
Snow	175	All geese departed from refuge May 4.									
Blue	750										
Other											
<b>Ducks:</b>											
Mallard	600	The ducks and coots believed to be nesting pairs.									
Black											
Gadwall	50										
Baldpate	175										
Pintail											
Green-winged teal											
Blue-winged teal	900										
Cinnamon teal											
Shoveler	200										
Wood	8										
Redhead											
Ring-necked											
Canvasback											
Scaup	175										
Goldeneye											
Bufflehead											
Ruddy											
Other											
<b>Coot:</b>	1,500										

UPLAND GAME BIRDS

Refuge Union Slough Months of January to April, 1954

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
						Hunting	For Re- stocking	For Research		
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'vd.	Estimated Total	Percentage				Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked pheasant	marsh, grazing, agriculture	.3	0	0	1 to 5	0	0	0	6,000	nesting started the first week of April.
Hungarian partridge	" "	200	0	0	unknown	0	0	0	10	



## INSTRUCTIONS

### Form NR-2 - UPLAND GAME BIRDS.\*

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

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



3-1754  
Form NR-4  
(June 1945)

SMALL MAMMALS

Refuge Union Slough Year ending April 30, 1954

(1) Species  Common Name	(2) Density  Cover Types & Total Acreage of Habitat	Acres Per Animal	(3) Removals					(4) Disposition of Furs					(5) Total Popula tion	
			Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated		Furs Destroyed
								Permit Number	Trappers Share	Refuge share				
<b>Muskrats</b>	100 acres, Marsh	40	0	690	0	0	0	R-7832	345	345	345	0	0	50
			0	624	0	0	0	R-7833	312	312	312	0	0	
			0	64	0	0	0	R-7831	32	32	32	0	0	
<b>Mink</b>	Entire Refuge	180	0	42	0	0	0	R-7832	21	21	21	0	0	12
			0	18	0	0	0	R-7833	9	9	9	0	0	
<b>Raccoon</b>	" "	200	0	2	0	0	0	R-7831	1	1	1	0	0	
			0	7	0	0	0	R-7832	7	0	0	0	0	10
			0	4	0	0	0	R-7833	1	0	0	0	0	
			0	2	0	0	0	R-7831	0	0	0	0	0	
<b>Beaver</b>	800 acres, marsh	26	0	0	0	0	0	-	0	0	0	0	0	30

\* List removals by Predator Animal Hunter

REMARKS:

Reported by \_\_\_\_\_

INSTRUCTIONS

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

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



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

MIGRATORY BIRDS  
(other than waterfowl)

Refuge Union Slough Months of \_\_\_\_\_ to \_\_\_\_\_ 194

(1) Species  Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total Estimated Number
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	
<b>I. Water and Marsh Birds:</b>										
Great Blue Heron	3	3-27	4-20	27	still present		0	0	0	30
American Egret	1	4-13	4-13	1						
<b>II. Shorebirds, Gulls and Terns:</b>										
Wilson snipe	4	3-20	50	4-10	"	"	0	0	0	75
Yellow Leg Plover	30	4-1	600	4-10	"	"	0	0	0	800
Upland Plover	3	4-5	12	4-20	"	"	0	0	0	25
Kill-deer	2	4-3	50	4-20	"	"	0	0	0	75
Gulls, ring bill & herring	15	3-25	1,500	4-5	"	"	0	0	0	2,000
Terns, cormorants	50	3-25	2,000	4-20	"	"	0	0	0	2,500

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove	2	3-25	30	4-20	50
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow	Plentiful but not classed as abundant				
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.



### REFUGE GRAIN REPORT

Refuge Union Slough

Months of \_\_\_\_\_ through \_\_\_\_\_, 195

(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 OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
ear corn	200	0	200	0	0	0	0	200	0	0	200

(8) Indicate shipping or collection points Burt, Iowa

(9) Grain is stored at Refuge

(10) Remarks This corn was part of the Services share harvested last fall.

\*See instructions on back.

(10) Remarks *DATE WHEN AND PLACE OF THE DELIVERED GRAIN DESTROYED THIS YEAR*

NR-8a

(3) Grain is stored at *refuge*

### REFUGE GRAIN REPORT

(8) Indicate shipping or collection points *DATE 1944*

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 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. 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 break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

16-61482-1 U. S. GOVERNMENT PRINTING OFFICE

VARIETY	OR PERIOD RECEIVED OR HANDLED		TOTAL	GRAIN DISPOSED OR				PERIOD END OF OR HAND	PROPOSED OR SUPPLIED USE		
	(2)	(3)		(4)	(5)	(6)	(7)		(8)	(9)	(10)
	500	0	500								500

Refuge *Headquarters* Months of *1944* Group *102*

### REFUGE GRAIN REPORT