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ROUTING SLIP

BRANCH OF WILDLIFE REFUGES

DATE: 1/27 1949

MR. SALYER \_\_\_\_\_

MR. KRUMMES \_\_\_\_\_

MR. DUMONT (PAD) 5-31

MISS BAUM \_\_\_\_\_

SECTION OF HABITAT IMPROVEMENT:

~~MR. GRIFFITH~~

~~DR. BOURN~~

~~MISS COOK~~

REG 2-9-49

WSB 2-7-49

inc 2-9

SECTION OF OPERATIONS:

MR. BALL \_\_\_\_\_

MR. REGAN APR 3/25

Monday Rem 4/29

SECTION OF LAND MANAGEMENT:

~~MR. KENT~~

~~MR. ACKERMAN~~

JK

da

SECTION OF STRUCTURES:

MR. TAYLOR WV 8/12

MR. JOHNSTON \_\_\_\_\_

STENOGRAPHERS:

RS. 6/2/49

NARRATIVE REPORT

REFUGE: FORT NIOBRARA

PERIOD: SEPTEMBER - DECEMBER 1948



PORT NIobrara NATIONAL WILDLIFE REFUGE  
Valentine, Nebr.

NARRATIVE REPORT- Sept. to Dec. 1948.

I. General.

A. Weather Conditions.

	<u>Snowfall</u>	<u>Precipitation</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>
Sept.	0	1.55	95	39
Oct.	0	.41	83	19
Nov.	.4	.39	69	12
Dec.	<u>10.3</u>	<u>.57</u>	<u>70</u>	<u>0</u>
Totals	10.7	2.92	95	0
Same period '47	16.3	2.64	101	-5
Normal for period	12.1	3.57		

The precipitation this year was below normal for the period. However, there was more than the same period last year. The weather was mild during the period. There were practically no storms until December, and they were not severe. (January 1949 started with the worst blizzard since 1913).

B. Water Conditions.

All springs and creeks are flowing at approximately normal flow. The ground is devicient in moisture.

C. Fires.

There were two fires on the refuge this period. Lightening set fire to a haystack belonging to permittee H. R. DeNaeyer. There was nothing burned except the hay stack. A stack of Gov. owned hay caught fire from the exhaust of the tractor while being moved. This fire burned the stack of hay, the rear tires and platform off the hay sled, and approx 3 acres of grass. Loss was estimated at \$100.00.

II. Wildlife.

A. Migratory Birds.

There has been a large increase in the number of ducks using the refuge this fall. It is estimated that there are 3,000 mallards wintering on the refuge this year as compared to 1,500 last year. The open ground allowed them to feed in the corn fields until the last of the period.

### B. Upland Game Birds.

Prarie Chickens and sharp tailed grouse have shown an increase. The prarie chickens have doubled and the grouse have trippled. They are now estimated at 200 chickens and 500 grouse.

Ring-necked pheasants are very scarce. They have shown no increase the last year. The pheasant population is estimated at 50. Feed is plentiful around the weed patches and alfalfa plots.

### C. Big Game.

Buffalo- 164 (121 yearlings or older & 44 calves).

The buffalo herd were held on the summer range until Dec. 14th when the gates were opened to permit them to move to the winter range. Approximately  $\frac{1}{2}$  of the herd moved to winter range, looked it over, and moved back to the summer range, which is by far the better range. (The buffalo stood the blizzard fine as they have been observed in 4 groups out on the flats feeding where the snow practically all blew off). Hay is on hand to feed them should they move to the winter range and require it.

25 buffalo were shipped alive this year for exhibition and breeding stock. 22 head were slaughtered as surplus. This year 10 adult cows and 2 adult bulls were disposed of and 6 yearling heifers and 6 yearling bulls were held as replacements to the herd. By reserving an equal number of bulls and heifers for breeding stock and disposing of more cows than bulls, the ratio of bulls to cows will soon be back to 1 to 1 rather than 1 to  $1\frac{1}{2}$  as at present. This is being done as suggested by Salyer and Gillett to make the herd more of an exhibition herd than a breeding herd.

All calves were vaccinated for bangs disease and ear tagged, and branded. The ear tags show up well but some of the two year olds have lost the tags.

The new group of buffalo which were put in the exhibition pasture produced one calf this year. This family group with the calf has had very favorable comment. It is hoped that they will continue to produce.

Elk. 52 head.

This year the elk were in small groups and therefore it was hard to get an accurate count on the total. As near as could be determined the spring estimate of 20 calves was very accurate.

There was a better demand for elk this fall. 5 adult cows were donated to the State of Nebraska for the Wild Cat Hills State Park, and two bulls and two cows were sold for breeding and exhibition. 11 adults were ~~sold-as~~ slaughtered as surplus. This years price



as compared to buffalo was more in line and opened a sale for the elk.

Texas Longhorn Cattle. -- 92.

17 head of longhorns were sold as surplus this fall. ( 3 adult steers, 2 cows, 4 two year old steers, 4 yearling steers, & 4 calves). Total return from the 17 head was \$2231.19. The herd now consists of 2 bulls, 33 cows and heifers eligible to breed, 23 adult steers, 12 yearlings, & 22 calves. Next year the herd will be held at 100 head to winter. This is planned as the maximum number to be maintained on the refuge.

200 acres of hay were windrowed for the longhorns this summer. They were turned on the windrowed hay at the time our slaughter season started. They were on the windrowed hay during the slaughter season which left the refuge personnell free from feeding during the slaughter program. Considerable fall range goes to waste at present as there is no way to hold the cattle on the fresh fall range without giving them access to the windrowed hay. It is planned to construct a cross fence in the winter area which will allow turning the cattle on the fall range for six weeks to two months before putting them on the hay. The windrowed hay can then be cut on different parts of the winter area on alternate years. This year the windrowed hay was cleaned up by December 10th and the cattle have been fed stacked hay since that time.

Mule Deer.

The deer are not confined to the refuge. They are showing some increase and are often observed close to headquarters on the alfalfa.

White Tailed Deer.

Recently a few white tailed deer have been observed on the refuge. They are few.

D. Fur Animals.

The beaver have shown a little activity along the river. No Control is planned for this year.

Muskrat, racoon, & skunk are found in limited numbers. They do not require control measures.

The coyotes have shown an increase in numbers this fall. There have been no traps set due to the press of other activities. It is hoped that by another year a clerk patrolman position will be established and filled on this refuge in order that time will permit more activities along this line. The coyotes have done little or no damage to date. They should be controlled however as a public relations act.

#### E. Predacious Birds.

There were very few magpies or crows on the refuge this fall. The eagles, which visited the refuge each fall until last year, again failed to show up.

#### F. Fish.

The refuge has no fishing open to the public. All 26 ponds on the refuge are used by the State of Nebraska for rearing ponds.

### III Physical Development, & Maintenance.

#### A. Physical developmant.

Repairs were completed on the north barn which was wrecked by wind on Aug. 12th. The barn has been reduced from 165 to 100 feet in length, with a 20 foot loading platform on the south end.

New gates were installed at the buffalo corrals to facilitate handling the buffalo.

Some difficulty was experienced with the control pipes clogging with moss at the ponds near the slaughter house. Sixteen inch culverts were installed in the dikes to provide auxillary spillways where the trouble occurred.

Trails were mowed throughout the refuge to keep the roads free of snow and also to serve as fire breaks.

All refuge signs were removed from the Eagle Creek area in South Dakota, as this area proved to be of no value as a waterfowl area and no easements had ever been recorded on the land.

Maintenance work and the disposal of surplus animals consumed practically all of the time of the refuge personell this period. The number of animals on the refuge have been doubled during the past 6 years. The increase in the number of animals has increased the time required to round up and slaughter the surplus animals, and the amount of work required in the office in connection with the sale of surplus animals, as well as the time required to care and feed the animals. The time has arrived when additional help is required on this refuge. It is hoped that by July 1 a clerk patrolman will be filled in order that more time can be given to small details which now have to be overlooked.

#### B. Plantings.

33 Bu. of barley and 78 bu. of corn were delivered to the refuge headquarters as the Government share of the crop raised by Mr. Kenneth Hall under permit #16907. This is the poorest crop raised by Mr. Hall since he has been farming the Dineen tract. The poor crop was due to lack of moisture and excessive heat during the growing period.

#### IV. Economic Use of the Refuge.

##### A.- Grazing.

4 permittees grazed 300 A. U. M. of cattle on 560 acres at a total fee of \$150.00 The A. U. M. of grazing was reduced by mutual agreement from that called for in the permits issued due to damage to the range by the hail storm of Aug. 12th.

##### B. Haying.

19 permittees harvested a total of 1300.95 tons of hay on 7815 acres of land. Of this amount 397.68 tons were harvested on a share basis with 99.42 tons as the Government share for feeding big game animals. The hay crop was light this year due to the dry season and hail damage. Two permittees were completely haled out and had no hay to cut.

##### C. Fur Harvest.

None.

##### Timber Removal.

None.

#### V. Public Relations.

546 visitors registered at the museum. On Sept. 16th the refuge manager & wife held open house for the public in celebration of friend wife having lived with the refuge manager for 25 years. Many friends and acquaintances drove out, many of them to visit the residence for the first time.

##### Official visitors.

9/22	J. Clark Salyer II.	8 hrs.
	F. C. Gillett	8 hrs.
10/7	T. S. Kibbe	2 hrs.
	Cap Culler	2 hrs.

##### Summary of sale of refuge products-

Grazing-----	\$150.00
Haying-----	1053.27
Texas longhorns-----	2231.19
Gig Game Animals -----	6795.00
Misc-----	30.00
	<hr/>
	\$10259.46

Approved.

Respectfully,

John D. Connors,  
Refuge Mgr.



LAKE ANDES NATIONAL WILDLIFE REFUGE  
Fort Niobrara Refuge.

NARRATIVE REPORT Sept. to Dec. 1948.

Water Conditions.

Gauge readings, as of Sept. 18.

Owens bay unit-----	6.3
North unit-----	2.6
Center unit-----	too low to read.
South unit-----	3.4

The water in Lake Andes has dropped alarmingly low this year. All units except the Owens Bay unit were much lower the middle of September this year than they were last year. No comparative gauge readings are available after Sept. 21 as the laborer-patrolman was laid off on that date this year due to lack of funds.

The two new wells put down by the State of South Dakota have held the water in the Owens Bay unit at the maximum level.

Waterfowl.

There are no migration figures or dates available for the area as there was no one on duty at the refuge due to shortage of funds. The refuge was visited on December 8th by the refuge mgr. At that time an estimated 70,000 mallards were observed on the refuge. Two hundred geese were observed in flight. The last of December a note from laborer-patrolman Engel stated that there were as ~~many~~ many or more ducks on the area as last. (100,000 mallards).

Disease.

Altho the water was very low there was no sign of the botulism which appeared on the refuge in 1947.

Fur Bearers.

Mink sign was scarce this year. Last year there was quite a few mink tracks altho none were trapped.

The rat population is estimated at approximately 1000 rats on the upper, lower, and Owens Bay units. It was estimated on Dec. 8th that there were 25 rats in houses close to the Owens Bay dike. P Patrolman Engel was instructed to trap these at an early date to protect the dike. There has been no report from him as to his action todate.

The center unit of the area is open to hunting and trapping. There are approximately 500 rats on this unit. They will no doubt be trapped by private trappers this year.



Fish.

Fishing was poor this period due to the very low water levels and the amount of vegetation in the lakes. No doubt all of the fish in the center unit will be killed out this winter as the lake will surley freeze to the bottom. There is only about 8 inches of water.

Economic Use.

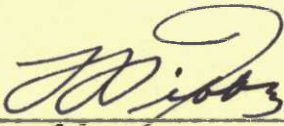
Paul Hruska grazed 60 A. U. M. of cattle on the diversion ditch under permit #16908, at a total fee of \$15.00.

Joseph Novak harvested 9.25 tons of hay under permit #16909 at a total fee of \$9.25.

Respectfully,

John D. Connors,  
Refuge Manager.

Approved



Acting Regional Director

JAN 24 1949

## 5336

more: outa coming abba-cara to the laboring bea-rod aron-ya re na-er. It is qea-ter-ya first the 2nd-ya-ter-ya

LOST BLOODSTON:



## SUMMARIES

Total Production:

Geese \_\_\_\_\_

Ducks \_\_\_\_\_

Coots \_\_\_\_\_

Total waterfowl usage during period 5,030Peak waterfowl numbers 5,000Areas used by concentrations Beaver creek ponds

Principal nesting areas this season \_\_\_\_\_

Reported by John D. Connors

## 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)

Months of Sept. to Dec. 1948[illegible]

## II. Shorebirds, Gulls and Terns:

INSTRUCTIONS

IV. Predaceous Birds (Falconiformes, Strigiformes and Procellariiformes)

III. Doves and Pigeons (Columbiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes, Gaviiformes to Goniiformes and Gruiiformes)

II. Shorebirds, Gulls and Terns

(over)



(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					Form NR-1A (Nov. 1945)
Mourning dove					
White-winged dove					
IV. Predaceous Birds:					
Golden eagle					
Duck hawk					
Horned owl					
Magpie		10	11/20		
Raven		25	11/1		
Crow					
Reported by.....John D. Connors.....					

#### 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 Fort NiobraraMonths of Sept. to Dec., 1943

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks	
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd. Estimated Total	Percentage	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specificioally requested. List introductions here.
Prarie chicken	Grass	75				200	
Sharp-tailed grouse	Grass	30				500	
Ring-necked pheasant	Weed patches & alfalfa	40				50	



# 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.



Refuge Fort NiobraraYear 1948

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population as of Dec. 31	(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Losses	Number	Source		Percentage
Buffalo	5,000	44			47				1			164	1-2
Elk	5,000	20			20							52	1-5
Mule Deer	10,000	--										35	1-5
White tailed deer	1,000	--										4	1-1
Texas longhorn cattle.	1,800	26			17							92	2 bulls 33 cows Balance steers & young.



## 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: Applies particularly to those species considered in removal programs (public hunts, etc.) exclusive of fenced herds. 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 each species on the refuge as of December 31.
- (8) SEX RATION: Indicate the percentage of males and females of each species as determined from field observations or through removals.

Refuge Fort Niobrara Year 1948

Permittee (If Farmed by Refuge, Indicate)	Permit No.	Unit or Location	Actual Acreage Cropped	Crops Grown	Avg. Yield Per Acre	No. Bu. Har- vested	Acres Left Stand- ing	Compensatory Services	Cash Receipts to Refuge
Kenneth Hall	16907	Dineen	26	Corn	19	234	---	78 Bu.	
			25	Barley	4	99	---	33 Bg.	
									Total

## Summary of Crops Grown:

Crops	Acreage	Refuge Share Bu. Harvested	Acres left Standing
Corn	26	78	---
Barley	25	33	---



3-1570  
NR-8a

REFUGE GRAIN REPORT

Refuge Fort Niobrara

Months of Sept. thru Dec. 1948.

(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.
Corn	290	78	368			100	100	268		268	0
Barley	0	33	33 <del>10</del>			10	10	23		23	0
Wheat	75	0	75			10	10	<del>XX</del> 65		65	0

(8) Indicate shipping or collection points Valentine, Nebr.

(9) Grain is stored at Fort Niobrara Refuge.

(10) Remarks



NR-8a

## REFUGEE 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.



Refuge Fort NiobraraYear 1948

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
L. C. Beed	18890	G-1	200	72		7/16 to 11/13	.50	36.00	
L. C. Beed	18891	H-3	320		37.79	7/17 to 4/15/49	1.00	37.79	
Otto Buchle	18883	H-3	160		59.38	"	"	59.38	
Joe J. Connot	16920	H-3	640		51.06	"	"	51.06	
Henry R. DeNaeyer	18881	H-3	800		152.02	"	"	152.02	
Froman & Taylor	16916	H-3	1280		115.15	"	"	115.15	
Froman & Taylor	16917	H-3	1120		397.68	"	Share	-----	99.42 tons to Gov.
Kenneth Hall	16910	H-3	-----		-----	"	1.00	-----	Hailed out.
Howard Hall	18885	H-3	60		10.00	"	"	10.00	
Carl Klug	18888	H-2	50		20.48	"	"	20.48	
Carl Klug	18889	G-1	120	40		7/16 to 11/15	.50	20.00	
John Lovejoy	18886	H-3	320		52.82	7/16 to 4/15/49	1.00	52.82	(52.82)
J. E. Lovejoy	18882	H-3	320		27.21	"	"	27.21	

## Totals:

Acreage grazed \_\_\_\_\_

Animal use months \_\_\_\_\_

Total income Grazing \_\_\_\_\_

Acreage cut for hay \_\_\_\_\_

Tons of hay cut \_\_\_\_\_

Total income Haying \_\_\_\_\_



## HAYING AND GRAZING

Refuge Fort NiobraraYear 1948

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
James E. Ormesher	16915	H-3	320		<del>67.69</del> 67.69	7/16 to 4/15/49	1.00	67.69	
Henry Ormesher	16914	H-3	800		90.70	"	"	90.70	
Raymond E. Ormesher	16918	H-3	320		81.34	"	"	81.34	
P. H. Pedersen	18887	H-3	160		11.82	"	"	11.82	
Nick Rettinger	16919	H-3	640		60.83	"	"	60.83	
E. C. Shipley	18884	H-3	160		----	"	"	-----	Hailed out.
Otto Sprague	16911	H-1	25		5.00	"	"	5.00	
Otto Sprague	16912	G-1	80	28		7/16 to 11/15	.50	14.00	
State of Nebraska	18892	G-2	320	160		7/16 to 8/26	.50	80.00	
Jenus Swanson	16913	H-3	320		59.98	7/16 to 4/15/49	1.00	59.98	

## Totals:

Acreage grazed 560Animal use months 300Total income Grazing 150.00Acreage cut for hay 7815Tons of hay cut 1300.95Total income Haying 903.27



# WATERFOWL

Lake Andes Refuge %

Refuge Fort Niobrara Months of Sept. to Dec. 1948

(1) Species	(2) First Seen	(3) Peak Concentration	(4) Last Seen	(5) Young Produced	(6) Total
Common Name	Number	Number	Date	Broods Seen	Estimated Total
I. <u>Swans:</u> Whistling swan					
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose					
III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck		100,000	12/31/48		250,000
IV. <u>Coot:</u>					



# SUMMARIES

## Total Production:

Geese \_\_\_\_\_

Ducks \_\_\_\_\_

Coots \_\_\_\_\_

Total waterfowl usage during period 3000,000\*

Peak waterfowl numbers 100,000

Areas used by concentrations Total refuge.

Principal nesting areas this season \_\_\_\_\_

Reported by John D. Connors.

\* 300,000 estimate of total using refuge this fall is based on an increase over last year of 250,500. No one on the refuge to keep records this year.

## 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.



## HAYING AND GRAZING

 Lake Andes Refuge %  
 Refuge Fort Niobrara Refuge
Year 1948

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
Paul Hruska	16908	Diversion ditch	18	60		6/16 to 9/15	.25	15.00	
Joseph Novak	16909	Owen Bay	30		9.25	7/16 to 4/15/49	1.00	9.25	

## Totals:

Acreage grazed 18Animal use months 60Total income Grazing 15.00Acreage cut for hay 30Tons of hay cut 9.25Total income Haying 9.25