Narrative Report Routing Slip

Mr. Salyer _____ ~~Mr. [illegible]~~ _____

Mr. Crawford _____

Administrative Services

Miss Baum _____

Operations

Mr. Fernandich _____ Mr. Regan _____

Public Use

~~Mr. Dubant~~ _____ Mr. Kubichek _____

~~Mr. Stoliberg~~ _____

Resource Management

Dr. Morley _____ Mr. Hickok _____

Wildlife Management

Mr. Banko _____ Mr. Stiles _____

Mr. Goldman _____

Refuge VALENTINE Period May - August 1961

NARRATIVE REPORT
VALENTINE NATIONAL WILDLIFE REFUGE
VALENTINE, NEBRASKA

MAY, JUNE, JULY, AND AUGUST 1961

P-E-R-S-O-N-N-L

NELIUS B. NELSON	Refuge Manager
VACANT (SINCE SEPTEMBER, 1957)	Manager Trainee
R. DUANE KOSS	Wildlife Aid
VERYL C. OAKLAND (REPORTED JUNE 14, 1961)	Wildlife Aid (Student)
ARTHER H. AUFDENGARTEN	Maintenanceman
LEONARD H. FOXWORTHY (REPORTED JUNE 5, 1961)	Refuge Clerk

C-O-N-T-E-N-T-S

NARRATIVE REPORT

VALENTINE NATIONAL WILDLIFE REFUGE
VALENTINE, NEBRASKA

MAY, JUNE, JULY AND AUGUST 1961

I. GENERAL

A. Weather Conditions.

	Precipitation This Month	Precipitation Normal		Max. Temp.	Min. Temp.
May	3.73	2.82		87	35
June	1.59	2.87		104	45
July	3.68	3.01		98	50
August	1.95	2.17		101	54
Total	10.95	10.87	Extremes	104	35

The rain fall during the month of May was nearly one inch above normal. But in spite of the extra rain fall the lake water levels were not effected a great deal. The evaporation recorded at our evaporation tank was rather light as the day time temperatures did not run above normal. However, more wind was experienced during the month of May than normal.

The high temperatures combined with a great deal of wind and very light rainfall dried up many of the pot holes and lowered water tables in this general area. In July our rainfall did pick up towards the end of the month, but to late to bring any water in to the small ponds, to be of any value to waterfowl. Continued hot winds during July dropped water levels some more. Again during August the total amount of precipitation was nearly normal, but above normal temperatures and strong southerly winds evaporated a great deal of water from the Refuge Lakes. This condition began to affect the grazing units in some areas on the Refuge.

The above chart which shows a total of 10.95 hundreds inches of precipitation for the period as compared to a normal of 10.87 hundreds inches is deceiving. As a whole the period was rather hot and dry and effected the ground water levels considerably.

B. Habitat Conditions.

1. Water. As previously mentioned the past four months was quite warm and windy which resulted in the lowering in the ground water levels in spite of the fact that our rainfall was near normal. Most of the small pot holes were dry by the end of June. No water was released from any of the water areas at which there are control gates. Whitewater Lake which was drained last fall in order to permit a better job of eradicating the carp, did not recover from the draining as much as had been expected. However this fluctuation of the water level in Whitewater may assist in the return of the submerged acquatics.

There was little or no repair work necessary on any of the water control structures this past Summer. The repair work that was done last year on the dike between North and Middle Marsh held up with out any washing after vegetation consisting of bullrushes was mixed in with the fill. The following table shows high and low gage readings recorded during the period:

Lake	High Reading	Date	Low Reading	Date
Clear	1.48	5/7/61	.52	8/4/61
Dewey	3.77	7/15/61	2.64	8/31/61
E. Twin	Gage out during this period.			
Hackberry	3.00	7/1/61	1.92	8/31/61
Pelican	.90	6/5/61	Below .00	8/31/61
Pony	Gage out during this period.			
S. Marsh	7.28	5/12/61	Below .00	8/4/61
Watts	.95	5/15/61	7" below .00	8/31/61

2. Food and Cover. The small potholes this year did not provide very much in the line of food for waterfowl or shore birds since they dried up early. However, the aquatics improved a great deal in many of the larger bodies of water where the carp eradication program had been carried on. Aquatic transacts were run this period on Watts, Hackberry, Whitewater, Dewey, Pelican, Clear, Willow and Rice Lakes. The submerged aquatics in Hackberry Lake became so dence over the entire Lake that it became extremly difficult to navigate in a boat with an outboard motor. In this unit, Potomogeton pectinatus and Potomogeton pusillus, were the dominating aquatic plants. The seed production was not as good as a year ago; this may have been due to the heavy stand or bed of the two main aquatics. The submerged aquatics in Pelican Lake showed a good increase also. Last fall Dewey and Whitewater Lakes were renovated; the submerged aquatics became very noticable in both of these two units. Some very good beds of sago pondweed (Potomogeton pectinatus) began to show up in Dewey Lake during July. It is not felt necessary to go in to a great deal of detail as to the various species of plants identified on the transacts in all the units covered this year since the May - August 1960 narrative covered this in quite some detail. The main change

from our aquatic transacts over last year was the setting up of transacts on Clear and Willow Lakes since they were to be renovated. Student Assistant Oakland assisted with the transacts in order to receive training in the identification of the marsh and aquatic plants.

Nesting cover was plentiful over the entire Refuge and was certanly plentiful for both upland game birds and waterfowl using the area.

II WILDLIFE

A. Migratory Birds. The water fowl use for the past twelve months ending August 31 increased considerable. The total duck day use was 9,917,880 as compared to 5,122,622 the previous year. The Coot use was 2,173,500 days use compared to 1,386,280 the previous year. The total goose use on the Valentine Refuge is very small

The duck breeding population was 7,604 as compared to 4,232 a year ago. Some of these ducks included in the breeding population are birds that returned to the Valentine Refuge Lakes after they were unable to locate other suitable areas for nesting. The total duck production was 5,552 as compared to 4,008 last year,

The increased waterfowl use in spite of the decrease in the National duck population can be attributed to several very obvious reasons. First, conditions in this general area out side of the Refuge were dryer as far as pot holes were concerned; ground water levels were lower and therefore there were fewer breeding ponds available. Second, the increase in the aquatic foods on the Refuge no doubt attracted more waterfowl. The renovation of the lakes has increased the submerged aquatic plants. The duck use on the two lakes that were renovated last fall increased considerable. Since the carp population was not as heavy in Whitewater this lake made the best come back in aquatic plants; Dewey lake which had been grubed out like a plowed field by the carp did not respond as quickly with submerged aquatics.

The chart following this page will give the comparison in production by species. Therefore it will not be necessary to go in to detail on each one.

Migratory birds other than waterfowl showed very little change in numbers over the past year. More White Pelicans stayed on the Refuge through-out the summer; the total number increased from 3,100 to 5,000; there were also 10 young raised on one of the islands in the North Marsh units. This Refuge is not to attractive for shore birds such as Sandpipers, Yellowlegs, and Dowitchers. The Wilsons-phalarope use dropped from 1,200 last year to an estimated number of 6,000 this year.

The Captive Canada goose flock at the Pony Subheadquarters consists of two age class geese. The 1959 geese were brailed during July as they will be released next spring. The 1960 flock was wing clipped several times. Free flyers were frequently noted on the Refuge especially on the east side of Hi-way

WATERFOWL PRODUCTION SUMMARY

Valentine National Wildlife Refuge
May-August, 1961

(Pairs)

	B.W. Teal	Mallard	Gadwall	Pintail	Redhead	Ruddy	Shoveler	Baldpate	Can.	Scaup	Totals	Est. Pairs Total
Pairs Ground Counted	799	544	235	80	91	138	83	7	0	118	2,095	3,802
						(Broods)						
Broods Seen	136	86	80	22	6	9	9	5	0	0	353	Est. Broods Total 925
						(Est. Production)						
Est. Production	2,484	1,502	684	270	144	234	192	40	0	78	5,552	

Method of counting was mostly on horseback (some canoe, Jeep and Aerial counts). Pair count data from counts taken 5/21--6/13; brood count data--7/20--7/27/61. Some units were counted several times.

83 during the Summer months. No nests were located in the Marsh Lakes or in any of the other units, but by the last of August it was definitely known that at least ten Canada Geese had been produced on the Refuge. These were apparently raised in the marshy section of the Marsh Lakes.

A truck load of wheat was secured from the Kerwin Refuge and a truck load of shelled corn was secured from the Squaw Creek Refuge for the captive goose flock. Suplemental feeding had to be carried out all summer as it was found that the birds lost weight without some corn or wheat in their feeders.

The regular morning dove count was made on the same route again this year as requested by our U. S. game agent for Nebraska. It was found that the breading population was slightly lower than the previous year.

Golden Eagles were scarce and no Bald Eagles were observed on the Refuge through the Summer months.

B. Upland Game Birds. Again the nesting season for upland game birds was ideal. Both the Sharptailed and the Pinnated grouse showed a remarkable increase. There was also a good hatch of Chinese Ring Necked pheasents. During the Summer one Cotornix quail was observed near the Dewey Lake dike and later just east of Refuge Headquarters. There were a number of Cotornix quail released at a ranch north of the Refuge several years ago but no reports have been received of any in the area for sometime. At the L. C. Beel ranch to the west of Refuge Headquarters a pair of Scaled quail stayed for quite sometime during the summer months; it is not known whether a brood was raised or not.

The Sharptailed Grouse hatch was unusually good as the attached charts will indicate. Very good counts on the dancing grounds were obtained since the weather was favorable. No further detail will be given on the sharptail grouse as the charts will give a good picture of what has been happening since 1956.

The Prairie Chicken also showed up in greater numbers on the booming grounds during the grouse counts last spring. During the summer months several broods of prairie chickens with 12 and 14 were observed in the general area of grazing unit G-33. The attached chart will give a good picture of the praire chicken populations since 1956 on the booming grounds. The Refuge is divided into two sections and therefore they are listed as East and West: the east area lies to the east of hiway 83 and the west unit to the west of hiway 83.

GROUSE INVENTORY--VALENTINE REFUGE

Prairie Chicken

(Identified males on ground)

East

Ground	1956	1957	1958	1959	1960	1961	
2			1	0	0	0	
5	4	3	6	0	0	0	
6	0	1	0	0	0	0	
7	5	6	6	7	4	4	
10	4	1	0	5	0	1	
11	4	3	0	16	10	16	
12	4	2	2	0	3	3	
14	6	4	3	0	0	0	
15	5	2	5	0	0	0	
16	0	1	0	1	0	0	
21	11	5	0	2	1	3	
57			0	0	0	1	
58	0	0	0	7	0	3	
65	0	0	0	1	0	0	
14	43	28	23	39	18	31	TOTALS

West

Ground	1956	1957	1958	1959	1960	1961	
8	0	1	0	0	0	0	
33	0	0	0	1	0	0	
45	5	0	0	0	0	0	
47		0			1		
56		0	0	0	1	0	
5	5	1	0	1	2	0	TOTALS

Ground	1956	1957	1958	1959	1960	1961	
19	48	29	23	40	20	31	GRAND TOTALS
Grounds where 15 males counted		17	18	18	19	18	
Average males per ground	3.2	1.7	1.3	2.2	1.2	1.6	
Average males per Act.ground	5.3	2.6	3.8	5.0	3.5	4.4	

Percent change	1960 to 1961	Average compared to 1961
Total No.	≠ 34 %	≠ 3 %
Average males per ground	≠ 33 %	— 16 %
Average males per active ground	≠ 25.7 %	≠ 10 %

GROUSE INVENTORY--VALENTINE REFUGE

Sharptails
(East)

Ground	1956	1957	1958	1959	1960	1961
1	10	13	35	(19)*	0	23
2	9	13	27	(16)	15	23
3	7	(4)	5	0	0	0
4	8	9	11	19	8	13
6	16	19	25	29	16	25
12			6	14	10	0
13	5	5	14	0	0	0
14	0	0	0	0	7	12
15	0	10	12	2	8	13
16	7	7	10	5	2	14
17	11	12	13	12	0	16
18	5	(8)	0	20	0	11
19	9	10	24	(8)	21	18
20	2	(0)	0	0	7	6
21	0	0	0	9	0	0
58	0	10	17	12	7	17
60	0	0	21	15		8
61	0	0	12	15	13	5
63			4	0	0	16
65				15	5	0
67	0	0	0	12	0	0
69				15	11	0
70				12	0	0
71				18	11	17
24	82	120	236	267	134	237 TOTALS

* Parenthetical notes indicate assumed based upon average of other counts.

Ground	1956	1957	1958	1959	1960	1961	
55	231	359	361	485	345	546	GRAND TOTALS
	33	43	31	44	55	55	NUMBER OF GROUNDS WHERE MALES WERE COUNTED
	7.0	8.3	11.6	11.0	6.3	8.5	AVERAGE MALES PER GROUND
					41	42	NUMBER OF GROUNDS WITH ACTIVE MALES
					8.4	13.0	AVERAGE MALES PER ACTIVE GROUND

Per cent change in Number of males counted.

1960-1961
+ 58.3 %

Average compared to 1961
+ 38.9 %

Average males per ground.

1960-1961
+ 35 %

Average compared to 1961
+ 3 %

GROUSE INVENTORY--VALENTINE REFUGE

Sharptails
(West)

Ground	1956	1957	1958	1959	1960	1961	
8	10	21	22	19	11	4	* Parenthetical notes indicate assumed based upon average of other counts.
9	10	12	23	9	4	16	
25	7	9	19	0			
26	(1)*	3	(1)	0	0	0	
27	9	7	(10)	14	7	11	
28	6	5	2	0	0	0	
29	12	15	10	8	5	0	
31	(7)	11	4	0	8	10	
32	8	6	(7)	(7)	4	11	
33	6	11	9	9	8	16	
36	(1)	3	(1)	0		0	
37	12	16	23	(17)	5	14	
38	14	12	(13)	14	6	13	
39	6	9	(8)	9	5	14	
40	(16(	6	(16)	26	14	20	
41	7	6	(6)	4	0	2	
42	16	12	(21(	36	18	30	
43	10	12	(11)	(11)	8	0	
44	10	16	11	(12)	4	0	
47	(5)	5	(5)	(5)	11	23	
45	0	0	0	13	0	0	
48	(14)	14	(14)	(14)	10	18	
49	(12)	15	(12)	11	10	8	
50	10	9	(9)	(8)	0	0	
51	(6)	6	(6)	6		11	
54	0	0	0	3	12	13	
55	1	2	(2)	(2)	0	0	
56	(17)	16	17	18	6	6	
57	(11)	1	(11)	22	9	11	
59	0	0	5	18	9	13	
64	0	0	8	12	7	10	
31	244	260	306	327	181	511	TOTALS

The Chinese Ring Necked Pheasants can be observed in nearly any marsh or meadow area on the Refuge. The hatch was very good and survival about average. There is more natural food available this fall to help carry the pheasant population through the winter. The mowed meadows had a fair regrowth of clovers and other greens which make up a large portions of the pheasant food on the Refuge.

C. Big Game Animals. During the summer months Mule deer have been observed frequently in many areas on the Refuge. The population apparently is still on the increase as during the month of August a greater number were usually observed than previously. Several mule deer doe have been noted with two fawn. The Whitetailed deer continued to show a greater increase in numbers than the mule deer. Twin fawn have been noted frequently.

The Antelope that were released on the Refuge last winter have been noted frequently during the summer months. The number of young produced this past summer were few. Most of the antelope have remained in the general areas in which they were released.

D. Fur Animals, Predators and other Animals. No great change has occurred in the fur animal population on the Refuge since last year. To help reduce the number of coyotes on the Refuge the PRC was called in to assist in the removal of coyote pups from dens during the month of May. A plane was used to locate the dens and at the same time a few adults were shot. Only twenty-two coyote pups were removed after nearly four days of work on the Refuge. One antelope was found along side of a cross fence that had been killed by coyotes.

Just the opposite of last summer was noted in the field mice and Kangaroo rat populations on the Refuge. They were more abundant over the entire Refuge; ranchers also reported a noticeable increase in pocket gophers and moles. This increase perhaps can be attributed to the fact that winter was quite open a year ago.

The Muskrats population is slowly making a come back since the severe epidemic that hit them in 1959. The harvesting of muskrats this comming fall and winter will be limited to incidental muskrats caught while trapping Mink. Muskrats are needed to break down some of the heavy marsh growth that is becomming apparent on some of the larger water units.

There has been no appreciable change in the mink population. Seberal mink have been observed while on routine inspection on the Refuge. Other animals such as skunks and raccoon have shown an increase to the point where control measures will be necessary by the Refuge personnel if we are unable to secure trappers this comming winter. The raccoon nest depredation project carried on

by the Student Trainee during the summer indicated that better than 75% of the nests out in the marsh were being destroyed by the raccoon, artificial nests were set up in four different areas and each area contained ten nests. It appeared that the raccoon population was distributed over a wide area of the Refuge as the depredation at the different localities were very simular. Fresh poultry eggs were used in the nests.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies. Very few crows stay on the Refuge during the summer months; even the spring and fall migration of crows were light. Marsh hawks are the most common throughout the summer months. Redtailed hawks are seldom noted. Not as many magpies were observed. The Horned owl which is a permanent resident of the Refuge is slightly decreasing in numbers; efforts are being made by the Refuge personnel to remove as many as possible when opportunity to destroy them prevail.

F. Other birds. A few Lark buntings were observed through out the summer months. No Lazuli buntings were seen during the month of May; as a rule they are noted during the spring migration. Lark sparrows were more abundant than ever in this area. The Townsends solataire was noted and heard frequently during May, June and July at Refuge Headquarters. Brown thrasher were more numerous than during the past three years at Refuge Headquarters. As previously mentioned Morning doves were again counted on the twenty mile route which was set up in 1960 for the first time on this Refuge. Last year a total of 64 doves were counted as compared to 25 this year. Many of the coo's were again recorded along the route from grassland areas indicating that many of the morning doves in this area in particular are nesting on the ground.

G. Fish. Through the summer months many of the Refuge Lakes were tested by both Federal and State Fisheries biologists to collect data on species of fish present as well as the rate of growth of the fish that have been stocked. Testing operations in Whitewater and Dewey Lakes were very successful in that they did not find any fish after many hours of testing; it is still felt that it is almost impossable to get a lake renovated one-hundred percent. However the job done on both of these two lakes last fall so far look very promising. Dewey Lake was stocked with 10,000 Walleyed Pike in July. It is still possible that the waters may be slightly toxic and the survival may not be great. The testing in Hackberry Lake for fish brought out the fact that some carp are still present. It is hoped that heavy bass and northern pike population will help to keep the carp in check for several years. No fish will be stocked in Whitewater Lake.

Last winter Rice Lake was treated with the same toxaphene formula as was used to eradicate the fish in Whitewater and Dewey (Cooper Livestock Dip). The aquatic vegatation became so dense in Rice

Lake this past summer that it was impossible to run the aquatic survey with a boat; the transact had to be walked out. Apparently there are no fish left in Rice Lake.

Again Watts Lake furnished the fisning in this area through out the summer. It was the only lake that the fisherman could come to almost any day and catch either perch or bullheads and occasionaly a few northern pike and bass. All the perch caught were fair sized. Watts Lake was the nearest lake to furnish fishing for the fisherman out of Valentine; many of the fishermen have expressed appreciation to the Refuge for the fishing that it has been providing the past few years. Seldom did a day go by through this period with out some one fishing on Watts Lake. For about three weeks around the Memorial day holidays the northern pike and bass hit hard on the east end of Hackberry Lake. As soon as the submerged aquatic plants began to show up fishing stopped on Hackberry Lake. There was little or no fishing on Duck Lake due to the over population of bass and bluegills; many fish can be caught but most of them are to small to keep for the table. The State Hatchery at Valentine removed some bluegills and bass by the use of traps in Duck Lake but the operation was not considered too succesful . It almost impossible to seine the lake because of the abundance of submerged aquatics.

The plans for eradicating the carp in Clear and Willow Lakes will be carried out the last week of September. The toxaphene was on hand by the end of August; the same Cooper Livestock Dip toxaphine will be used since it contains a much greater percentage of emulsifier. The Nebraska Fishery division will install a carp control barrier below Willow to prevent carp from coming up into these two lakes during high water. Next year the State plans to eradicate the carp in Trout Lake and Big Alkali.

H. Reptiles. This summer bullsnake traps were operated in G-33 but not one bullsnake was caught nor were any observed. Several garter snakes were trapped. During this period no rattlesnakes were noted by Refuge personnel. It was interesting to note that as a result of a snapping turtle trapping program last year not one turtle was observed laying eggs on the sand trails, in the garden, or at the Refuge Headquarters yard as they have in the past. Several snapping turtles were hooked while running the aquatic surveys on the different lakes. These turtles were posted to find out what they were feeding on.

III REFUGE DEVELOPEMENT AND MAINTENANCE

A. Physical Development.

Quarters number one. Installed vinyl asbestos tile in N. W. bed room.

Quarters number two. Removed many of the out grown honeysuckle bushes on the north-west corner which had become a mass of dead branches. The honeysuckles in the back ground were trimmed down to eight inches so that a new growth of branches would appear. A large area of this lawn was re-sodded. Well rotted manure from the stock yards at Valentine was hauled out to improve the fertility of the soil around the honeysuckle bushes. Several new shade trees were planted so that in time some shade will be avilable for the residence.

Pelican Lake Subheadquarters. Quarters number 3-4b upstairs duplex was cleaned up and made ready for the Student Trainee before his arrival.

Pony Lake Subheadquarters. Work was started on the Pony Lake residence, the outside walls which had begun to peel were scraped in order to get it ready for a complete paint job.

Headquarters Shop. All Refuge vehicles were serviced or repaired as needed through out the period. The mower on the Ford Tractor was over hauled prior to using it to cut weeds at the different stations and on Refuge trails. Miscellaneous repair jobs on the D-4 tractor were taken care of, so as to have it ready for the fall repair work on the Refuge trails. The engine in the Lake Andes' sedan delivery was completely over-hauled by the Valentine Maintenance-man.

General. Headquarters septic tank had to be pumped out several times during the period. Routine check of fire fighting equipment. Repaired Refuge telephone line between Hackberry and Pony Lake. Assisted with the repair of the Gordenvalley telephone line leading into Refuge Headquarters. Brood count on all Refuge Lakes. The road grade from hi-way 83 into Pony Lake Subheadquarters was repaired with the use of the road patrol from the Fort Niobrara Refuge. About 10 ton of old mat hay was scattered on the Pony Lake grade to avoid blow outs. Conducted several tours for the visiting public; this included the Nebraska tourism trip to the Valentine Refuge. Assisted the PRC crew to locate and distroy coyotes dens. Refuge trail to Pelican Lake was mowed twice; airport landing field was mowed once and in addition

all the goose pens at Pony Lake were mowed so as to provide greener forage for the geese. The degree of use on all summer grazing units were frequently checked. Captive goose flock at the Pony Lake Subheadquarters was checked daily; one flock was brailed and the second flock wing clipped. The telephone line leading to the Marsh Cabins from the Refuge telephone line was removed and all the wire was rolled on spools; all brackets were also removed. Weather station box and rain gage container stand was painted. One truck load of wheat was obtained from the Kirwin Refuge in Kansas; and another truck load of shelled corn was secured from Squawcreek Refuge in Missouri. Most of the cedar trees were sprayed for red spiders. The Marsh Lakes were frequently checked for evidence of botulism. One trappers cabin and the Headquarters Oil Shed were repaired by replaceing some of the roofing material. All summer grazing units were checked to see if the cattle numbers turned in agreed with the count. Picnic area trash barrels were emptied as needed.

B. Plantings.

1. Aquatics and Marsh Plants. None.

2. Trees and Shrubs. The trees received from the SCS and planted at the new Hackberry recreational day time camping area made a good growth through the summer in spite of the dry condition that prevailed. The trees planted on the west end of Dads Lake also survived very satisfactorly. The new hybrid chinese elms appeared to do the best.

3. Upland Herbaceous Plants. None this period. A request for funds for a new grassland drill has been made but thus far has not been obtained. Many of our grouse areas can be improved by the seeding of clovers etc.

4. Cultivated Crops. None.

C. Colections and Receipts.

1. Seed or other Propagules. None.

2. Specimens. Collected 2 snapping turtles for stomach analysis.

D. Control of Vegetation. The leafy spurge in the Sawyer meadow at the Beel hay camp was treated again with 2-4D Ester. The one patch has been reduced considerably during the past two years of treatment.

It appears that we may have to go to a soil sterilizer in order to completely eliminate these two patches.

E. Planned Burning. None

F. Fires. The fire hazzard on the Refuge became quite high during the month of August due to the lack of sufficent moisture to take care of the hot and dry winds. Fortunately no fires accured. There was little or no lightning through out the entire four months.

IV. RESOURCE MANAGEMENT

A. Grazing. It will be noted in the first section of this narrative that the precipitation was near normal through out the summer months; this was true but the average higher temperatures and a great deal more wind caused higher evaporation. There fore some of the border line units which have been falling short on moisture for the past two years began to show over use before the alloted AUMs had been used up. In several grazing units permittees were asked to move their cattle either home or to a different unit. The grazing units in the Lads Lake area which had been cut almost in half on alloted AUMs for the summer showed some improvements.

There was some regrowth of grasses and legumes on the meadows that had been cut for hay during the latter part of July and first part of August. This regrowth especially of clovers will provide a great deal of food for the upland game birds.

B. Haying. All haying operations on the Refuge were curtailed and confined mainly to sub-irrigated areas. The cutting of any other upland hay on the bench above the subirrigated meadows was prohibited since much of it would be lost by rakeing anyway. These grasses were better off left standing; during the fall the livestock would still make use of some of the standing grass and yet leave enough to help catch snow and also to provide cover for nesting birds. Excellent cooperation was received from all of the permittees.

C. Fur Harvest. None

D. Timber Removal. None

E. Commercial Fishing. None

F. Other Uses. None

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Aquatic Transects. The previous aquatic transects on Hackberry, Dewey, Pelican, Whitewater and Rice Lakes were again checked. In addition aquatic transacts were set up on Clear and Willow Lakes. The latter two lakes were included in the transacts since plans had been set up to eradicate the carp in both of the two lakes.

Aquatic transects will now be carried out every summer on the above seven lakes. This will assist in evaluating the results of the carp control program and tieing it in with our waterfowl use and production.

B. Grouse Study Areas. Through out the summer months data was collected for the prairie grouse management study. It was not possible to carry out some of the objectives that had been set up last spring due to the heavy work load during the summer months. This project will be continued during the next period and for several years.

C. Other Biological Projects.

1. Nest depredation by raccoon. This was one of the projects carried out by the Student Tranee during the summer months, a great deal of valuable information was obtained.

2. Brood Chronology. The data collected from this project helped a great deal in determining out peak production week in ducks. This was tied in with our brood counts made on all the Refuge Lakes.

3. Human Disturbance Relationship. It was found that the disturbance made by a human on a lake did not effect the waterfowl use to any appreciable amount. The waterfowl use on Watts Lake did not seem to be affected a great deal by the numerious man hours of fishing by the public.

4. Brood Recovery after Disturbance. No conclusions were reached in carrying out this project. It will have to be carried on several more summers to have data of any importance.

5. Brood Size-predator Relationship by Lakes. Time did not permit carring out this project.

6. Bullsnake Habits and behavior in relation to nests. The Bull-snakes were collected and held ready for carrying out the project but because of the amount of hardware wire required

to construct the pen the order was back ordered several times. This project will be carried out again next summer.

D. Snapping Turtle Data. No commercial turtle trappers were available to continue trapping turtles from the Refuge Lakes. Two were collected by Refuge personnel while running aquatic transects. It is hoped that some production data can be worked out on the lakes that have been severely trapped and on the lakes that have not been trapped.

E. Controlled Burning. Last spring one small island about half an acre in size was burned off. During the nesting season it was checked several times and a total of four duck nests were found on the island. An island close by similar in size but heavily over grown with vegetation was also checked several times and found to have no ducks nesting on it. Therefore a plan will be prepared for controlled burning of some of the small islands in the marsh lake when conditions are safe to do such burning.

VI. PUBLIC RELATIONS

A. Recreational Uses. Sport fishing continued to be the most important recreational use on the Valentine Refuge; very few days went by with out some one fishing on Watts Lake. More fisherman during the past year have secured their own boats and therefore more are usually seen on the lakes. Those without boats can secure some fair fishing by using breast waders.

The road side picnic area just west of the Refuge Headquarters on the shore of Hackberry Lake received a great deal of use on Sundays and holidays. The demand for a place to camp over night on the Refuge was a frequent headache; when told that the nearest one was on Dewey Lake over a sandhills trail and that the best place to go was back to Alkali Fish Camp they left very unhappy about our contributions to the public seeking some recreation.

B. Refuge Visitors. List attached.

C. Refuge Participation. In the evening of May 26, 1961, Refuge Manager and Maintenance-man attended the Valentine Wildlife Club meeting.

June 13, 1961, with help of Refuge personnel took care of the visitors on "Turism Bus Trip" for one hour at Headquarters. Governor's wife was one of the guests. A chart story with a map was used by the Refuge Manager to give them a picture of the refuge. A display tank of fish and another display of snapping turtles was set up on the lawn. Held welcoming party at Managers residence for the Foxworthy's, all personnel attend ed.

The following Refuge personnel attended the Ainsworth Rod & Gun Club annual fish feed and meeting: Nelius B. Nelson, Duane Koss & Wife, Arther Aufdengarten and family. All personnel attended the So-Braska Refuge picnic at Ft. Niobrara Refuge Sunday the 18th of May.

The following Refuge Personnel attended the Range Management Field Trip at Ft. Niobrara Refuge on 6/27/61. Nelius B. Nelson, R. Duane Koss, Arther Aufdengarten, Leonard H. Foxworthy. The Field Trip was conducted by Extension Range Specialist Don Burzlaff.

Refuge Manager conducted two hour Boat Safety Meeting on July 7th. in accordance with request from the Washington Office. All personnel present except Wildlife Aid Koss, on Annual Leave.

D. Hunting. None

E. Violations. None

VII. OTHER ITEMS

A. Items of Interest. This Refuge was fortunate this summer to have assigned a summer Student Trainee to assist with biological work through the summer months. Veryl Oakland from Soux Falls, South Dakota, a Student of the Utah State University at Logan was assigned to this station. The enthusasm shown by Veryl in carrying out various job assignments was very outstanding.

Word was received in August that an Assistant Manager would be assigned to the Valentine Refuge in September. By the end of August the was notified that Arnold Kruse of Ackley Iowa would report to duty the first part of September. He just completed two years of military service after being stationed at the Shiawassee Refuge for one and a half years. We are looking forward to the arrival of Mr. Kruse to help carry on the heavy work load at the Valentine Refuge.

The first phase of the Meritt Dam construction was carried out during the summer months by constructing a paved road from the City of Valentine to the damsite on the Snake River. Very little dirt work had been done at the damsite by the end of August.

On June 5, 1961 Mr. Leonard Foxworthy of Camp Crook, South Dakota reported to duty as Refuge Clerk to replace the vacancy left by former Clerk Mel Becker. Mr. Foxworthy is originally a native of Bassett, Nebraska. The Refuge personnel welcomed the Foxworthy family; which includes his wife, Irene and three children, Gene, Phyllis, and Raymond. The children will all be attending the local rural school.

B. Safety Meetings. Regular safety meetings were held through out the period and at nearly every meeting a film on safety was shown by the Refuge Manager to the personnel. One of the out standing safety meetings held was on boat safety; boat safety demonstrations were carried on from a raft on Hackberry Lake. The Refuge Manager received training in boat safety at a boat safety school conducted at River Dale North Dakota several years ago; this school has proved benificial many times in carrying out boat safety. All safety bulletins received were reveiwed by all the Refuge Personnel.

C. Photographs. Attached

Submitted by:

Delos B. Nelson
(Signature)

Date: October 14, 1961

Refuge Manager
(Title)

Approved, Regional Office:

Date: 10-23-61

Forrest A. Carpenter
(Signature)

Regional Supervisor, Branch of Wildlife Refuges

VALENTINE REFUGE VISITORS

Name	Address	Affiliation	Purpose of Visit	Date
Gerald Chaffin	Bassett, Nebraska	Nebraska Game Commission	State Land Advisor	5/12 & 15/61
Bruce McCarraher	Bassett, Nebraska	Nebraska Game Commission	Fish Management	5/15/61
William Schoenecker	Bassett, Nebraska	Nebraska Game Commission	Testing refuge lakes	5/15/61
Charles Sowards	Spearfish, South Dakota	Fish and Wildlife Service	Testing refuge lakes	5/15-20/61
Larry Smith	Spearfish, South Dakota	Fish and Wildlife Service	Testing refuge lakes	5/15-20/61
Donald A. Gretch	Valentine, Nebraska	Predator and Rodent Cont.	Predator information	6/25/61
Arden Trandahl	Yankton, South Dakota	Fish and Wildlife Service	Deliver walleye fingerlings	6/27/61
Dale Lamberton	Brookings, South Dakota	Fish and Wildlife Service	Deliver walleye fingerlings	6/27/61
Jack W. Walstrom	Bassett, Nebraska	Nebraska Game Commission	Biological data	6/27/61
Darwin E. Jones	Brownell, Kansas	Cedar Bluff Hatchery	Securing spawner fish	6/28/61
Eugene N. Braschler	Ellis, Kansas	Cedar Bluff Hatchery	Securing spawner fish	6/28/61
George Wiseman	Fallon, Nevada	Stillwater Refuge	Courtesy call	6/30/61
Carol Donner	Fallon, Nevada	Stillwater Refuge	Courtsey call	6/30/61
Curtis J. Smith	Lincoln, Nebraska	U.S. Weather Bureau	Evaporation station visit	7/14/61
Dr. Mary W. Trewaine	Omaha, Nebraska	Univ. of Neb. College of Med.	Bird Watching	7/14/61
Merrill Hendrickson	Omaha, Nebraska	Univ. of Neb Col. of Medicne	Plant observations	7/15/61
Jim Baldwin	Grand Island, Nebraska	Road Contractor	Check on repair of oil mat	7/18/61
Karl Menzel	Bassett, Nebraska	Nebraska Game Commission	Refuge Orientation	7/18/61
Dale Lamberton	Yankton, South Dakota	Fish and Wildlife Service	Deliver Bass fingerlings	7/19/61

VALENTINE REFUGE VISITORS

Name	Address	Affiliation	Purpose of Visit	Date
J. Knox Jones, Jr.	Lawrence, Kansas	Museum of Nat. History University of Kansas	Collect Vertebrate animals	7/21/61
William C. Stanley	" "	" " "	" " "	"
Jon C. Barlow	" "	" " "	" " "	7/21/61
Dean R. Rising	" "	" " "	" " "	"
Gary C. Packard	" "	" " "	" " "	"
A. H. Al-rawi	" "	" " "	" " "	"
Robert R. Patterson	" "	" " "	" " "	"
Ticul Alvarez	" "	" " "	" " "	"
J. Henry Sather	Macomb, Illinois	Western Illinois University	Biological studies w/7 students	7/22/61
Art Brazda	Minneapolis, Minnesota	Refuge Branch	Inspect Refuge	7/22/61
Allen Studholme	Minneapolis, Minnesota	Refuge Branch	Inspect Refuge	7/22/61
Howard Woon	Valentine, Nebraska	Ft. Niobrara refuge	Courtesy call	7/22/61
Harvey Miller	Lake Andes, South Dakota	Lake Andes, refuge	Duck Brood count	7/26-27/61
H. M. Morgan	North Platte, Nebraska	Fish and Wildlife Service	Visit	8/4/61
Gus Bonde	Lincoln, Nebraska	Fish and Wildlife Service	Visit	8/4/61
Harvey Miller	Lake Andes, South Dakota	Lake Andes refuge	Grouse counts	8/7-11/61
Alfred Perry	Lincoln, Nebraska	Union College Professor	Collect Mammals	8/11-15/61
Mr. & Mrs. W. P. Schaefer	Mpls, Minnesota	Fish and Wildlife Service	Inspect refuge	8/21/61
Curtis J. Smith	Lincoln, Nebraska	U.S. Weather Bureau	Inspect Weather Station	8/22/61
James W. Nelson	Lincoln, Nebraska	U.S. Geological Survey	check Location for Obs. Well	8/25/61
James B. Hyland	Lincoln, Nebraska	U.S. Geological Survey	check Location for Obs. Well	8/25/61
Mrs. Morrison	Lincoln, Nebraska	Governers wife	Tourism bus trip	6/13/61

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

WATERFOWL

REFUGE _____ MONTHS OF MAY TO AUGUST, 1961

(1) Species	(2) Weeks of reporting period: 4/30-5/6 (1)	7-13 (2)	14-20 (3)	21-27 (4)	28-6/3 (5)	4-10 (6)	11-17 (7)	18-24 (8)	25-7/1 (9)	2-8 (10)
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	27	22	22	22	22	22	22	22	22	22
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	4,400	4,100	4,100	4,100	4,100	4,100	4,100	4,100	4,100	4,200
Black										
Gadwall	5,400	5,100	4,900	4,900	4,900	4,900	4,900	4,900	4,900	4,900
Baldpate	2,200	2,100	1,900	1,000	1,000	900	700	600	600	600
Pintail	1,400	1,300	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Green-winged teal	500	20								
Blue-winged teal	10,000	12,000	9,000	8,500	8,500	8,500	8,500	8,500	8,800	8,800
Cinnamon teal										
Shoveler	16,000	7,000	4,000	1,500	1,200	1,000	1,000	900	800	800
Wood										
Redhead	1,200	700	400	400	400	400	400	400	400	400
Ring-necked	200	90	40	40	40	40	40	40	20	20
Canvasback	350	275	190	190	190	190	190	190	95	95
Scaup	12,000	9,000	6,000	3,000	2,000	1,900	1,900	1,900	1,000	700
Goldeneye										
Bufflehead	550	220	180	20						
Ruddy	800	700	450	500	500	500	500	500	500	600
Other										
Coot:	16,000	17,000	14,000	11,000	9,000	9,000	9,000	9,000	7,000	7,000

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

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

WATERFOWL
(Continuation Sheet)

REFUGE VALENTINE MONTHS OF MAY TO AUGUST, 1961

(1) Species	(2) Weeks of reporting period: 9-15 11	16-22 12	23-29 13	30-8/5 14	6-12 15	13-19 16	20-26 17	27-31 18	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	22	28	28	28	28	28	28	28	3,493	2	10
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	4,500	5,000	5,000	5,000	6,000	8,000	8,000	11,000	657,300	86	1502
Black											
Gadwall	5,000	5,200	5,200	5,200	5,200	7,000	8,000	9,000	696,500	80	684
Baldpate	650	700	900	1,000	1,000	3,000	9,000	12,000	278,950	5	0
Pintail	1,300	1,500	1,500	2,000	2,500	4,000	7,000	10,000	289,100	22	270
Green-winged teal					50	100	100	200	6,790	0	0
Blue-winged teal	8,900	8,900	9,000	9,000	9,000	9,000	7,000	7,000	1,112,300	136	2,484
Cinnamon teal											
Shoveler	800	800	500	400	200	200	200	200	262,500	9	192
Wood											
Redhead	300	300	300	300	300	400	500	500	56,000	6	144
Ring-necked	20	20	20	20	20	40	40	40	5,530	0	0
Canvasback	80	80	80	80	80	80	80	80	18,165	0	0
Scaup	300	200	100	50	50	50	50	50	281,750	0	78
Goldeneye									[illegible]	0	0
Bufflehead									6,790	0	0
Ruddy	670	670	670	700	700	750	2,000	3,000	102,970	9	234
Other											
Coot:	8,000	8,000	8,000	8,000	8,000	9,000	12,000	13,000	1,274,000	4	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese	3,493	28	10
Ducks	3,774,645	53,070	5,588
Coots	1,274,000	17,000	2,145

SUMMARY

Principal feeding areas Hackberry, Pelican, Whitewater, Marsh Lakes and other refuge lakes.

Principal nesting areas Quite well distributed on the refuge

Arnold D. Kruse
for Melius B. Nelson, Refuge Manager

Reported by

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C. 37944
1953

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

MIGRATORY BIRDS
(other than waterfowl)

Refuge VALENTINE Months of MAY to AUGUST 1961

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Eared grebe	Summer	resident			Still	present			40	180
Western grebe	"	"			35	8/27			60	510
Pied-billed grebe	"	"			Still	present			240	800
White pelican	"	"			Still	present			10	5000
Double-crested cormorant	"	"			Still	present		150	200	1,800
Great blue heron	"	"			Still	present		60	45	230
Black-crowned night heron	"	"			Still	present			200	1,200
American bittern	"	"			Still	present			40	260
Sandhill crane										none
Virginia rail	Summer	resident								280
Sora rail										30
II. Shorebirds, Gulls and Terns:										
Killdeer									200	700
Wilson's snipe										500
Long-billed curlew										70
Upland plover										400
Spotted sandpiper										90
Western willet										30
Greater yellow-legs										none
Lesser yellow-legs										420
Pectoral sandpiper										130
Baird's sandpiper										200
Least sandpiper										300
Long-billed dowitcher										1,200
Western sandpiper										20
Avocet										45
Wilson's phalarope										6,000
Northern phalarope										100

(over)

(1)	(2)		(3)	(4)		(5)		(6)
III. Doves and Pigeons:								
Mourning dove								
White-winged dove	Summer	resident		Still	present		500	2,800
IV. Predaceous Birds:								
Golden eagle								
Duck hawk								8
Horned owl								0
Magpie	Permanent	resident					20	50
Raven	"	"					80	180
Crow	"	"						6
Herring gull	"	"					60	320
Ring-billed gull	Summer	"				non-nesting		30
Franklin's gull	"	"				"		5,300
Forster's tern	"	"				"		800
Black tern	"	"						320
Bald eagle	"	"					260	2,000
								none

Reported by [signature] [illegible], Refuge Manager

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

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

59317

3-2750
Form NR-1B

UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Sport Fisheries & Wildlife

WATERFOWL UTILIZATION OF REFUGE HABITAT

V-A-L-E-N-T-I-N-E R-E-F-U-G-E For 12-month period ending August 31, 1961

Reported by Nelius B. Nelson, Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	(2) Habitat Acreage	(3) Use-Days	(3) Use-Days	(4) Breeding Population	(5) Production
	Crops		Ducks	140,000	127	77
	Upland	1,667	Geese			
I	Marsh	183	Swans			
	Water	230	Coots	22,000	16	30
WATTS LAKE	Total	2,080	Total	162,000	143	107
	Crops		Ducks	2,200,500	435	620
	Upland	1,397	Geese			
	Marsh	53	Swans			
II	Water	710	Coots	290,000	180	290
HACKBERRY LAKE	Total	2,160	Total	2,490,500	615	910
	Crops		Ducks	110,000	171	76
III	Upland	1,395	Geese			
	Marsh		Swans			
DUCK & RICE	Water	125	Coots	10,000	8	18
LAKES	Total	1,520	Total	120,000	179	94
	Crops		Ducks	350,000	460	448
IV	Upland	1,495	Geese			
	Marsh	573	Swans			
DEWEY LAKE	Water	572	Coots	94,000	20	90
	Total	2,640	Total	444,000	480	538
	Crops		Ducks	30,000	201	70
V	Upland	727	Geese			
	Marsh	129	Swans			
CLEAR LAKE	Water	424	Coots	10,000	6	10
	Total	1,280	Total	40,000	207	80
	Crops		Ducks	32,000	57	50
VI	Upland	1,255	Geese			
	Marsh		Swans			
WILLOW LAKE	Water	345	Coots	8,000	8	12
	Total	1,600	Total	40,000	65	62
	Crops		Ducks	90,000	210	110
VII	Upland	1,120	Geese			
SCHOOL and	Marsh	25	Swans			
MC KEEL	Water	135	Coots	4,500	18	40
LAKES	Total	1,280	Total	94,500	228	150

UNITED STATES
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WATERFOWL UTILIZATION OF REFUGE HABITAT

V-A-L-E-N-T-I-N-E R-E-F-U-G-E For 12-month period ending August 31, 19 61

Reported by Nelius B. Nelson, Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	(2) Habitat Acreage	(3) Use-Days		(4) Breeding Population	(5) Production
VIII	Crops		Ducks	210,000	388	300
	Upland	770	Geese			
	Marsh	14	Swans			
WHITEWATER	Water	576	Coots	20,000	20	35
	Total	1,360	Total	230,000	408	335
IX	Crops		Ducks	1,940,000	654	670
	Upland	3,603	Geese			
	Marsh	137	Swans			
PELICAN LAKE & POTHOLES	Water	900	Coots	200,000	80	160
	Total	4,640	Total	2,140,000	734	830
X	Crops		Ducks	40,000	120	60
	Upland	1,923	Geese			
	Marsh	0	Swans			
WEST LONG LAKE	Water	77	Coots	12,000	6	12
	Total	2,000	Total	52,000	126	72
XI	Crops		Ducks	830,380	270	290
DADS LAKE, BAKERS LAKE	Upland	3,550	Geese			
	Marsh	0	Swans			
ROGERS POTHOLES	Water	1,090	Coots	80,000	16	30
	Total	4,640	Total	910,380	286	320
XII	Crops		Ducks	110,000	279	110
	Upland	850	Geese			
	Marsh	0	Swans			
DEVILS PUNCHBOWL LAKE	Water	30	Coots	14,000	8	10
	Total	880	Total	124,000	287	120
XIII	Crops		Ducks	200,000	32	78
	Upland	2,132	Geese			
	Marsh	10	Swans			
MULE LAKE	Water	338	Coots	8,500	12	36
	Total	2,480	Total	208,500	44	114
XIV	Crops		Ducks	52,000	35	44
	Upland	1,730	Geese			
	Marsh	0	Swans			
COLEMAN LAKE	Water	30	Coots	2,500	8	20
	Total	1,760	Total	54,500	43	64

Form NR-1B

UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Sport Fisheries & Wildlife

WATERFOWL UTILIZATION OF REFUGE HABITAT

V-A-L-E-N-T-I-N-E R-E-F-U-G-E For 12-month period ending August 31, 1961

Reported by Nelius B. Nelson, Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	(2) Habitat Acreage	(3) Use-Days		(4) Breeding Population	(5) Production
XV	Crops		Ducks	90,000	205	190
	Upland	847	Geese			
	Marsh	10	Swans			
LOST LAKE	Water	103	Coots	15,000	10	16
	Total	960	Total	105,000	215	206
XVI	Crops		Ducks	29,000	114	69
	Upland	1,555	Geese			
	Marsh	15	Swans			
LITTLE HAY LAKE	Water	30	Coots	7,000	22	40
	Total	1,600	Total	36,000	136	109
XVII	Crops		Ducks	960,000	860	480
	Upland	2,273	Geese			
NORTH MARSH LAKE	Marsh	31	Swans			
	Water	776	Coots	470,000	100	240
	Total	3,080	Total	1430,000	960	720
XVIII	Crops		Ducks	710,000	640	240
	Upland	2,966	Geese			
	Marsh	106	Swans			
MIDDLE MARSH LAKE	Water	768	Coots	390,000	120	310
	Total	3,840	Total	1100,000	760	550
XIX	Crops		Ducks	500,000	590	360
	Upland	1,026	Geese			
	Marsh	48	Swans			
SOUTH MARCH LAKE	Water	806	Coots	280,000	80	180
	Total	1,880	Total	780,000	670	540
XX	Crops		Ducks	35,000	110	20
	Upland	1,175	Geese			
	Marsh	86	Swans			
CALF CAMP MARSH	Water	119	Coots	17,000	4	6
	Total	1,280	Total	52,000	114	26
XXI	Crops		Ducks	90,000	156	70
	Upland	1,743	Geese			
WEST TWIN LAKE	Marsh	10	Swans			
	Water	167	Coots	8,000	35	70
	Total	1,920	Total	98,000	191	140

FORM NR-1B

UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Sport Fisheries & Wildlife

WATERFOWL UTILIZATION OF REFUGE HABITAT

V-A-L-E-N-T-I-N-E R-E-F-U-G-E For 12-month period ending August 31, 1961

Reported by Nelius B. Nelson, Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	Acreage	(3) Use-Days		(4) Breeding Population	(5) Production
XXII EAST TWIN LAKE	~~Crops~~		Ducks	89,000	170	52
	Upland	573	Geese			
	~~Marsh~~		~~Swans~~			
	Water	67	Coots	2,000	6	0
	Total	640	Total	91,000	176	52
XXIII TOM'S LAKE	~~Crops~~		Ducks	16,000	70	38
	Upland	1,857	Geese			
	Marsh	40	~~Swans~~			
	Water	23	Coots	8,000	4	4
	Total	1,920	Total	24,000	74	42
XXIV WEST SWEETWATER MARSH	~~Crops~~		Ducks	73,000	184	140
	Upland	1,929	Geese			
	Marsh	10	~~Swans~~			
	Water	61	Coots	14,000	20	50
	Total	2,000	Total	87,000	204	190
XXV COW LAKE AND KING FLAT POTHOLES	~~Crops~~		Ducks	36,000	64	110
	Upland	3,730	Geese			
	Marsh	20	~~Swans~~			
	Water	70	Coots	8,000	10	20
	Total	3,820	Total	44,000	74	130
XXVI EAST SWEETWATER MARSH	~~Crops~~		Ducks	80,000	170	40
	Upland	3,462	Geese			
	~~Marsh~~	83	~~Swans~~			
	Water	215	Coots	60,000	12	21
	Total	3,760	Total	140,000	182	61
XXVII LEE LAKE	~~Crops~~		Ducks	18,000	90	18
	Upland	1,575	Geese			
	Marsh	10	~~Swans~~			
	Water	35	Coots	4,000	2	0
	Total	1,620	Total	22,000	92	18
XXVIII PONY LAKE	~~Crops~~		Ducks	190,000	160	120
	Upland	1,116	Geese			
	Marsh	11	~~Swans~~			
	Water	153	Coots	20,000	20	33
	Total	1,280	Total	210,000	180	153

Form NK-1B

UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Sport Fisheries & Wildlife

WATERFOWL UTILIZATION OF REFUGE HABITAT

V-A-L-E-N-T-I-N-E R-E-F-U-G-E For 12-month period ending August 31, 1961

Reported by Nelius B. Nelson, Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	(2) Habitat Acreage	(3) Use-Days	(3) Use-Days	(4) Breeding Population	(5) Production
XXIX	Crops		Ducks	295,000	96	140
	Upland	799	Geese			
	Marsh	40	Swans			
CENTER LAKE	Water	161	Coots	52,000	100	140
	Total	1,000	Total	347,000	196	280
XXX	Crops		Ducks	260,000	190	170
	Upland	1,340	Geese			
	Marsh	50	Swans			
TWENTY-ONE LAKE	Water	250	Coots	28,000	160	210
	Total	1,640	Total	288,000	350	380
XXXI	Crops		Ducks	38,000	38	40
	Upland	5,435	Geese			
	Marsh	40	Swans			
CROOKED LAKE	Water	45	Coots	3,000	4	2
	Total	5,520	Total	41,000	42	42
XXXII	Crops		Ducks	74,000	270	240
	Upland	1,553	Geese			
	Marsh		Swans			
LAST LONG LAKE	Water	247	Coots	12,000	8	10
	Total	1,800	Total	86,000		
T-O-T-A-L-S:	Crops		Ducks	9,917,880	7,604	5,552
	Upland		Geese			
	Marsh		Swans			
Period ending August 31, 1961	Water		Coots	2,173,500	1,123	2,145
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge VALENTINE Months of MAY to AUGUST, 1961

(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.
Sharptail grouse	59,000		26	960		0	0	0	3,650	
Prairie Chicken	59,000		4	64		0	0	0	118	Very good survival as conditions were favorable through-out the period.
Ring-neck Pheasant	59,000		24	680		0	0	0	2,960	

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.

Waterfowl on Pelican Lake on west end. Valentine Refuge 7/2/61
R-39-5

Abundance of submerged aquatics return to Hackberry Lake after eradication of the carp. Valentine Refuge 7/21/61 R-39-6

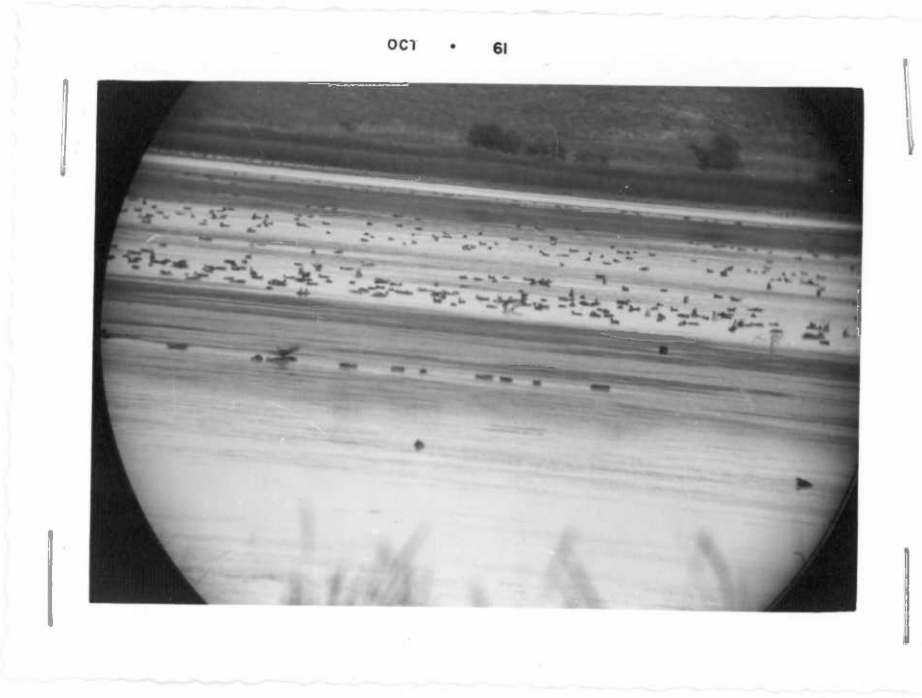

Photo of ducks on Hackberry Lake taken through a 20 power scope. Some coots. Valentine Refuge 8/15/61 R-41-21

Photo of ducks on Hackberry Lake taken through a 20 power scope. Some coots. Valentine Refuge 8/15/61 R-41-24

Northern Pike out of Watts Lake. Valentine Refuge 6/28/61
R-39-4

Testing Hackberry Lake for fishing - operation being shown to University students from Kansas & Illinois by State Fishery Biologist McCarrahar. Valentine Refuge 6/22/61 R-40-2

Spraying Hqtrs. Cedar trees with Malathion to kill red spiders. Used fire truck. Valentine Refuge. 6/28/61 R-40-6

Refuge personnel attended rangemanagement school at the Ft. Niobrara Refuge (Ft. Niobrara range). 6/27/61 R-39-1

Refuge Personnel except, Wildlife Aid Duane Koss, stationed at Pony Lake unit. Left to right - Nelius B. Nelson, Refuge Manager, Arnold D. Kruse, Assistant Refuge Manager, Arthur Aufdengarten, Maintenance-man, Veryl Oakland, Student Wildlife Aid, and Leonard H. Foxworthy, Refuge Clerk. Valentine Refuge 9/8/61
R-40-7