

CRESCENT LAKE NATIONAL WILDLIFE REFUGE

NORTH PLATTE EASEMENT REFUGE

ANNUAL NARRATIVE REPORT

1968

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

BUREAU OF SPORT FISHERIES AND WILDLIFE

ELLSWORTH, NEBRASKA 69340

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I. GENERAL

1968

A. Weather Conditions

	<u>Month</u>	<u>Precipitation</u>		<u>Max. Temp.</u>	<u>Min. Temp.</u>
		<u>Normal</u>	<u>Snowfall</u>		
January	<u>.03</u>	<u>.46</u>	<u>2.0</u>	<u>59</u>	<u>-26</u>
February	<u>.26</u>	<u>.54</u>	<u>4.0</u>	<u>61</u>	<u>0</u>
March	<u>.31</u>	<u>.92</u>	<u>5.0</u>	<u>79</u>	<u>5</u>
April	<u>1.16</u>	<u>1.77</u>	<u>12.0</u>	<u>81</u>	<u>9</u>
May	<u>4.05</u>	<u>3.31</u>	<u>3.0</u>	<u>83</u>	<u>28</u>
June	<u>1.71</u>	<u>3.28</u>	<u> </u>	<u>98</u>	<u>38</u>
July	<u>1.67</u>	<u>2.59</u>	<u> </u>	<u>99</u>	<u>40</u>
August	<u>5.43</u>	<u>1.74</u>	<u> </u>	<u>96</u>	<u>44</u>
September	<u>.22</u>	<u>1.49</u>	<u> </u>	<u>86</u>	<u>31</u>
October	<u>.63</u>	<u>.92</u>	<u> </u>	<u>87</u>	<u>17</u>
November	<u>.45</u>	<u>.59</u>	<u>.50</u>	<u>65</u>	<u>5</u>
December	<u>.17</u>	<u>.36</u>	<u>5.0</u>	<u>65</u>	<u>-23</u>
Annual Totals	<u>16.09</u>	<u>17.97</u>	<u>31.5</u> Extremes	<u>99</u>	<u>-26</u>

Total precipitation for the year was 1.88 inches below normal. Again, dry and windy conditions prevailed during the first three months, threatening to retard grass growth. The 1.13 inches above usual moisture received in April and May boosted grass production. Severe blizzard conditions on April 3 dealt a serious blow to local goose and cattle production. Rainfall for June and July was 2.49 inches below usual. By late July water levels in potholes and lakes were low. Precipitation in August (3.69 inches above normal) produced good grass growth, and helped alleviate the effects of the early summer drouth. Snowfall for the year totaled 31.50 inches, as compared to 41.89 inches in 1967.

In early February the lakes started to open. All through February the lakes alternately froze and thawed until March 7th when the lakes opened for good. May 20th's low temperature of 28 degrees was the last frost of the spring.

September 26th's 31 degrees was the first fall frost. On November 7th all of the lakes were frozen over. Alternating cold and mild spells reopened and refroze the lakes until December 14th, when they froze for the winter.

B. Habitat Conditions.

1. Water. Weekly well readings in early August indicate that the well levels were the highest they have been in the last five years, except for Martin Lake. At freeze-up water levels of western potholes and lakes are the lowest they have been since the spring of 1965.

In the eastern one-third of the refuge, water levels are as good as in 1967, due to more abundant summer rainfall there.

2. Food and Cover. Aquatic submergent plant production in Goose, Crane, Deer and Gimlet Lakes was good to excellent. There continues to be a dearth of production of submergents in Island, Hackberry and Roundup Lakes.

Carp continue to keep Island Lake turbid and nearly barren of underwater vegetation. Water chemistry, combined with wind and wave action, appears to be causing unstable bottom conditions which seriously limits production of submergent aquatics in Hackberry and Roundup.

Ring-necked pheasants and mule-deer found the rank horseweed growth in the .65 acre former milo food patch in the north Gimlet meadow much to their liking. Rather than beating our head against the wall in fruitless attempts to raise domestic crops, we hope to maintain this as a weed food patch. By stirring things up every year or two and then letting it go-back, we should be able to

Keep this and other similar scattered patches attractive to upland wildlife.

On February 27 we attempted, unsuccessfully, to burn emergent vegetation on the north end of Island Lake. Apparently the growth was too damp and the litter too sparse to carry the fire. Heavy spring grazing on the north end of Smith Lake has slowed down the reinvasion of bulrush around the 33 AN/FO potholes blasted there in March, 1967. It appears that a combination of fire and grazing will be needed to keep the emergents from taking this area over once again.

Attempts to reduce the matting in non-use sub-irrigated meadows in Grouse Study Area No. 3 by experimental light to moderate grazing have been unsuccessful so far. Rather than eat the rank growth in these meadows the cattle prefer to concentrate in the hills of Unit 6b-1. This fall a cross-fence was erected to keep the cattle in the meadows and out of the over-grazed choppy and sands sites. Forcing the cattle onto the meadows during the spring may be detrimental to duck nesting efforts. A rotational system of one year hayed and winter grazed, or fall burned (if it can be done safely), followed by two to four years of non-use may be the most beneficial and effective way to manage this sub-irrigated site.

II. WILDLIFE

A. Migratory Birds.

1. Geese (Resident Flock). Twelve Canada geese, the first of the year, flew over Island and Gimlet Lakes on January 23. By the week of February 19, 60 of the flock were utilizing Gimlet and Goose Lakes.

Selection of nest site was noted in early March. Artificial platforms available include 28 pole platforms, 10 Dill-frame baskets, 10 fiberglass tubs, 5 metal-sided cribs, 2 log cribs, 3 barrels, 2 dirt Islands, 2 steel tubs, and a brooder house roof. Foul weather during the laying and incubation period of late March through early May was detrimental to production. On April 3 a blizzard raged all day with four inches of snow, high winds and a low of 15° F. Minimum temperatures were 9° F on the 3rd and 4th, and dipped below 28° F five other times during the month (including 24° F on the 28th). Snowfall for the first 18 days in April amounted to 12 inches. Despite these adversities we estimated that the flock reared 50 goslings to flight stage (see Table 1.), with the first brood sighted on May 4.

Table 1: GOOSE NESTING USE OF ARTIFICIAL NEST SITES

Artificial Sites	1963	1964	1965	1966	1967	1968
Available	49	52	55	69	69	63
Checked	41	50	55	69	69	61
Used	27	26	38	42	34	30
% Used	55%	50%	69%	61%	49%	49%
Attempts			38	44	35	32
Successful		13	26	34	28	23
% Successful			68%	77%	80%	72%
Eggs Hatched			111	128	119	76
Eggs Infertile			28	48	20	?
Eggs Embryonic			11	28	17	?
Eggs Aban.- Dest.- Unk.			22	22	7	91
Total Eggs	127	91	172	226	163	167
Avg. Clutch Size	4.70	3.50	4.53	5.14	4.66	5.22
Est. Yg. to Flight (All Nests)	55	81	75	101	75	50

In the last four years a goose has successfully nested on the brooder house 50 yards south of the office. This year a female with a crippled mate began incubating her two eggs at the end of March. While she was off the nest on April 3, the -25° F chill factor froze both eggs solid - we removed the two eggs that evening. The two birds returned the next day for about an hour, and again for a short time five days later. Then on April 19 the crippled male pair and one other goose were seen on the brooder house. From the 20th on, the crippled male was no longer seen with the pair nesting there. He was seen alone numerous times thereafter at the feeder. Apparently the same female was renesting after jilting her former mate. Only one of the three eggs she laid in her second clutch hatched - a rather meager reward for her perseverance.

Heavy rain, snow and chilling winds on May 7 was another blow to production; particularly for newly hatched and hatching goslings. It appears that weather leaves much to be desired for goose reproduction here.

No nesting was known to occur on muskrat houses, compared to five in 1965 and one each in 1966 and 1967. One incubating female finally abandoned her five eggs on a pole platform in Roundup Lake due to harassment by about 25 double-crested cormorants.

(Goose Trapping and Banding). Our plans to trap and band geese were frustrated because the flock was scattered throughout the refuge area all summer. Thinking we might get at least 30-50 birds using the goose feeder, we shut the east gate of the old pinioned flock pen. Following this seemingly harmless act on our part, the birds boycotted the feeder for nearly a month. With that affront from our feathered friends (?), we reopened the east gate and threw in the towel.

(Fall Resident Flock). In the late summer we estimated the population to be 125. Mowed meadows on the north end of Gimlet and on both sides of Goose Lake continue to provide grazing for these geese.

All but three of our locals left by December 19 (the close of the goose season), 5 days after freeze-up. These three stragglers remained at the close of the year, staying in a four feet diameter patch of water kept open by an artesian well flowing into the headquarters ditch. The ditch and jetty should be completed by next fall, along with placement of an experimental artesian well there. This promises to hold these Canadas here until the close of the State's late goose season in mid-December. Then we should be able to determine if the kill along the North Platte has been preventing the expansion of our flock by dipping into the breeding stock.

(Migrant Geese). The first migrants, about 280 Canadas, were seen during the week of March 5. Peak for the spring was only 552 the week of March 19, compared to last year's 1650. At the end of October about 20 new arrivals stopped, the first of the fall. By mid-November a peak population of 910 Canadas were present. Goose Use days exceeded only those recorded in 1966 for the last five years (Table 2).

Table 2: COMPARATIVE GOOSE USE-DAYS AND PEAK NUMBERS 1964-1968

		1964	1965	1966	1967	1968
Spring	Peak No.	(409)	(1441)	(301)	(1650)	(552)
(Jan-Apr)	Use-days	26,845	25,469	10,547	43,694	21,231
Summer	Use-days	41,034*	19,710	17,680	19,437	15,200
(May-Aug)						
Fall	Peak No.	(1170)	(1082)	(880)	(1404)	(910)
(Sep-Dec)	Use-days	42,942	41,267	35,434	32,144	35,560
	Total Use-days	110,821	86,446	63,661	95,275	71,991

* Large summer flock - 345 birds

2. Ducks. On February 27th the first spring arrivals were seen on Island Lake - 30 mallards, 15 pintails and 5 common mergansers. Blue-winged teal did not show up until April 8, three weeks later than a year ago. No spectacular movements were noted. Ducks peaked at about 10,600 in mid-April, lowest of the last five springs. Use-days (423,278) for the first 4 months was exceeded only by 1967's 571,347 for this same period in the last five years.

Habitat conditions favored the breeding population due to abundant water in both large and small wetlands. Good weather conditions made it possible to make the mated pair count from June 4-7. The main brood survey was conducted July 22-26. Both the duck breeding populations and production topped those tabulated in at least the five previous years. (Table 3).

Table 3: DUCK BREEDING PAIRS AND ESTIMATED PRODUCTION 1964-1968

Year	PAIRS			Estimated Production
	Puddlers	Divers	Total	
1964	474	84	558	1358
1965	669	111	780	1584
1966	737	80	817	1570
1967	777	75	853	1496
1968	970	135	1105	1830

About mid-August baldpates started moving in, and shovellers and blue-winged teal out. Gadwalls, our most abundant fall migrant, peaked at about 3570 birds the last 2 weeks of October. Our peak fall duck population of 13,180 birds, was the highest recorded since 1961. Use-days of 691,110 for the autumn was second best only to 1965 in the last 8 years. This fall's peak for the most abundant species is the highest tabulated in the 1962-1968 period (Table 4).

Table 4: PEAK POPULATIONS - FALL PERIOD (Sept-Dec), 1962-1968

	1962	1963	1964	1965	1966	1967	1968
Mallard	600	1440	2100	1275	2115	1670	1305
Gadwall	860	2770	1580	2635	2065	1876	3570
Baldpate	1210	1525	2890	2075	2030	1736	3140
Shoveler	1140	2190	2745	2910	1845	1187	2540
Redhead	230	975	280	1045	850	575	1890
Canvasback	1040	880	1315	1970	1490	1064	1435
Ruddy	870	1000	1145	1935	2045	688	1100
Bufflehead	770	1050	510	1440	655	220	1550
Total	6720	11830	12565	15285	13095	9016	16530

August 12 through September 17 we (mainly Duskin) banded 113 blue-winged teal, 62 mallards and 1 green-winged teal - a meager return for the time and money spent. Trapping was done with small, clover leaf, swim-in traps baited with corn and wheat. Those banded included 72 immature blue-wings and 18 "hatching year" mallards.

3. Swan. None observed.

4. Coot. Production was estimated to be 460, about 50 per cent higher than each of the previous two years. Use-days totaled 294,775, as compared to 1967's 317,592 and 1966's 232,965.

5. Water and Marsh Birds. Double-crested cormorants started arriving on March 27. Though the number of artificial nesting platforms used by these "black geese" was the lowest of the last four years, the number of nests was the highest (Table 5). By October 19 only two of the cormorants remained.

Table 5: DOUBLE-CRESTED CORMORANT USE OF NESTING PLATFORMS ON SMITH AND ROUNDUP LAKES

	1965	19 66	1967	1968
No. Platforms Used	6	6	6	4
No. Nests	41	53	69	75

Unusual visitors from this group included a white-faced ibis on May 11, and a snowy egret on June 6. Though white pelicans do not nest here they make an annual visit for about a month during late summer. This year a maximum of 250 were counted in late August, compared to 150 in 1967 and 1966's 500.

Sandhill cranes were first observed on March 25, when 60 flew north over headquarters. The last spring sighting was of a flock of 130 over Gimlet Lake. During the fall, migration began over the refuge when 60 sandhills were sighted from the residence area. Forty of these big birds were flushed from Upper Red Kate on November 15 - the last record for this fall. Though thousands pass through this area, rarely do any stop at the refuge.

6. Shorebirds, Gulls and Terns. March 29 was the spring arrival date for long-billed curlews.

Dr. Mary Tremaine, avid Omaha ornithologist who has done much birding here, reported that 1968's curlew breeding population was below those of the recent past. Miss Tremaine's attempts to photograph and study nesting long-bill yielded very little return for her efforts. Next year she hopes to spend about a month here during the late spring to study and photograph nesting activity of these grand sandpipers. One long-billed curlew, last sighted in the year, flew over headquarters on September 5.

7. Mourning Doves. Doves were first seen on March 31, and last noted on September 5. Between June 24 and July 30 the Wildlife Aids banded only 50 of these passerines, about one-half 1967's number. Perhaps differences in population levels are indicated by these banding results, since the same sites and one of the banders were the same for both years. Controversy is building over a bill introduced to reestablish a dove season in Nebraska. Good luck, eh!?

B. Upland Game Birds.

1. Grouse. Dancing ground counts began on April 9 and ended on May 2. Covalt, Duskin and Perkuchin conducted the surveys. By making future counts during the last two weeks in April, we should catch the peak dancing activity. Only one prairie chicken was observed, that being on the east side of Blue Lake.

This year's spring population of 325 male sharp-tailed grouse was the second highest for at least the last five years (Table 6).

Local ranchers reported seeing more broods this spring than in quite some time. Our records, based on observations made incidental to other field work, indicated that grouse production was the best it has been since at least 1963. At the end of December an estimated 700 grouse used the refuge, as compared to 800 in 1967 and 750 in 1966.

Table 6: SHARPTAIL GROUND CHECKS ON AND OFF REFUGE AND BROOD
SIGHTINGS 1964-1968

All Known Grounds	1964	1965	1966	1967	1968
No. Grounds Checked	37	46	53	52	55
No. Grounds Active	22	38	42	42	36
Total Males	279	293	307	379	325
Males/Active Ground	12.68	7.71	7.31	9.12	9.03
Same 35 Grounds					
No. Grounds Active	19	26	27	28	24
Total Males	247	199	202	251	173
Males/Active Ground	13.00	7.05	7.48	8.96	7.21
Broods					
Observed	12	10	11	18	19
Average Brood Size	6+	6.3	6.18	7.33	8.00

2. Ring-Necked Pheasants. Production, estimated at 250, was below 1967's 408 and above 1966's 235. Only 14 broods were tallied this summer, with 23 seen last year. Headquarters and the north end of Island Lake continue to maintain the biggest concentrations of ring-necks. About 650 pheasants remained in late December.

3. Bob-White Quail. Rarely seen, none have been noted since June, 1966.

C. Big Game Animals.

1. Rocky Mountain Mule Deer. Fawn sightings totalled 54 (including 16 sets of twins and a set of triplets), compared to 52 for 1967 and 67 in 1966. Though estimated production of 60 is better than 1967's 55, it is short of 1966's 75. As of December 31 about 160 remained, with 115 last year and 205 in 1966.

2. White-Tailed Deer. Fourteen fawns (including four sets of twins) were seen, compared to eighteen in 1967 and nine in 1966. Largest concentrations of white-tails were found on the northeast end of Island Lake and near Upper Harrison Lake. There was approximately 55 here at year's end, with 45 late in the previous two falls.

3. Pronghorn (Antelope). Antelope were rarely seen this summer, thus precluding sightings of young kids.

By late August scattered small groups of these elusive critters started to show. When we saw one herd of 85 pronghorns in the 7-ponds area, we realized last year's population estimates had to be much too low. Our December 31 estimate is 160 using the refuge. Up to 30 of the 160 head may reside on the east end. The remaining 130 are private land-based animals making intermittent use of the refuge.

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

1. Musk rats. Three hundred is a conservative estimate for muskrat houses on refuge lakes this fall. On Deer Lake alone, 75 rat houses were counted, compared to 58 in 1967 and 61 in 1966. Our estimated fall population is 1,480, with 1967's at 1,145 and 1966's at 1,205. In the future, winter house surveys should be conducted to get a more accurate index to fall population levels.
2. Mink. One mink was observed on the east side of Martin Lake on March 22, our only record for 1968. An estimated 25 of these secretive furbearers reside here, the same as for the previous two years.
3. Weasel. Long-tailed weasels, peak population estimated at 300, are occasionally seen around the headquarters. In winter, both brown and white color phases of these energetic little animals are seen bounding about. Infrequent glimpses of the rascals are one of those tasty morsels that make refuge living so appealing to some of us.
4. Coyotes. Hearing the voice of the coyote at sunset or in the still of the night is another of life's memorable moments for some. Unfortunately, this sentiment is not shared by many, as evidenced by relentless persecution of prairie wolves throughout their range. Discriminate control of problem coyotes is certainly warranted at times. Whereas indiscriminate 1080 poisoning, such as that carried out this spring in the vicinity of the refuge (see photo section), appears contrary to the intent and purpose of the Bureau's stated animal control policy. This year 23 sightings were made with an estimated population of 30, compared to 19 observations and a population figure of 25 for 1967.
5. Raccoon. Few raccoons are seen, but their sign is abundant around refuge lakes and marshes. An estimate for the total population is 100, the same as last year. To our knowledge their predation is not serious enough to warrant a control program.
6. Rabbits. Estimates for jackrabbits are the same as 1967's, 250 white-tailed and 150 black-tailed. Cottontails

appear to be lower this year than last, with about 250 in the scattered pockets of woody growth through the refuge.

7. Badger. Perhaps 25 of these excavators frequent meadow areas where pocket gophers abound.
8. Skunk. About 50 of these predators reside here. Only three were sighted, all along the west mail road near Smith Lake. Even their sign is rarely seen.
9. Porcupine. Only one was observed. Approximately five porcupines inhabit the marsh edges and scattered tree groves.
10. Small Rodents. There was very little trouble with pocket gophers in the yards. Apparently the previous fall's poisoning around headquarters with the burrow builder produced the desired results. Ord's kangaroo rats are the most commonly seen small rodents. Paul B. Robertson, graduate student from the University of Kansas, spent four days here in late spring collecting meadow jumping mice and meadow voles.

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

1. Hawks. One duck hawk, rarely found here, was observed on April 30, sitting alongside the ditch between Smith and Perrin Lakes. Marsh, Swainson's and rough-legged hawks were frequently seen.
2. Eagles. At least six golden, and only one bald, eagles were sighted on the refuge this fall. Pheasants on north Gimlet meadow are keeping a wary eye cocked for an adult golden which selected the headquarter's vicinity for his winter hunting ground.
3. Owls. One pair of horned owls nested on the Hackberry Lake natural area. Hearing their familiar hooting outside the children's bedroom window in the middle of the night makes for interesting conversation around the breakfast table the morning after. An estimated 15 western burrowing owl's were produced in five known nests.
4. Crows. Uncommon here, a flock of 19 was seen harassing a great-horned owl on the north end of Island Lake October 18.
5. Magpies. Though year around residents, their numbers probably do not exceed 20 at any time.
6. Other Birds. On September 21 we watched 14 pinon jays flitting about the trees on the north end of Roberts meadow. This is the first time that they have been seen here.

Because the refuge lies in the transition zone of eastern and western, as well as northern and southern, species, one never knows what birds they may find on the area.

- G. Fish. Good fishing for northern pike was experienced in February on Island Lake, and in July on Crane Lake. In late October the State Game Commission transplanted 175 mature northern pike into Island Lake, and 68 adult bluegill and 877 large perch into Crane Lake.

We assisted personnel from Fishery Services at Valentine in shock sampling Island Lake. Though some nice northern pike, largemouth bass and bluegill showed up in the sample, carp predominated. Two different age groups of adult carp have about tied up the fish carrying capacity of Island Lake and all but ruined its ability to produce aquatic vegetation. Arrangements were made to have the state seining crew seine carp to give Island Lake at least a temporary breather. Until chemical control is possible, this lake will be incapable of providing desirable waterfowl habitat.

- H. Reptiles. In five days Mr. Robert Hirdler and sons of Welcome, Minnesota removed 107 snapping turtles from 4 refuge lakes. When the permittee advised us that they removed 76 snappers in 2 days from Hackberry, we decided to terminate the privileges of the Special Use Permit. We did not imagine that someone could be so efficient in catching these reptiles from a boat with a long-handled hook. Nor did we have any idea that snappers were that abundant on the refuge. Unless it can be shown that these marsh monsters, are a problem here, no further removals will be permitted. In addition, a 59 pound snapper caught in Gimlet Lake by refuge personnel, provided some delicious eating at a station picnic.

Bull snakes frequently slithered into view during the summer. Wildlife Aid Jakabosky knocked one out of a tree near the office and forced it to regurgitate the three nestling robins it had just devoured. Jake had been watching the old devil systematically inspect the limbs of two different trees before it found the nest.

- I. Disease. About 30 ducks, suspected victims of botulism, were found dead along the north shore of Roundup Lake in late July. There was no other evidence of wildlife diseases noted.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Developments.

1. Roads, Trails and Landscaping. Landscaping for the new residences required hauling of 58 cu. yd of blackdirt fill to Quarters 8 and 452 cu. yd. to Quarters 9. At the new bone yard, it took 54 cu. yd. of gravel and clay from the pit on the northeast end of Crescent Lake for the road, and 133 cu. yd. of blackdirt for the storage area. Graveling on the west mail road was completed with the spreading there of 406 cu. yd. of gravel this summer from Eldred's pit. In addition 3 cu. yd. of manure for the resident area shelter belt were trucked from Paul Dietlein's.

Covalt and Dietlein put two new cattle guards in the west mail road, at the west boundary and just southeast of Smith Lake. Nine times during the year Covalt bladed the west mail road. The dump received a long overdue cleanup and burial treatment. Installation of a large covered tank receptacle this fall eliminated our previous unhealthy and unsightly open fill setup.

Three redwood entrance signs with pipe frames were erected at the county road entrances into the refuge. Revision of the areas open and closed to hunting necessitated additional posting during the summer.

2. Buildings and Utilities. Quarters 1 received a face lifting with a picture window replacing the two windows and large door in the north end of the livingroom. All but the kitchen and lower hallway were painted in the interior of Quarters 1. Residences 8 and 9 received two coats of white paint on the exterior, with all of the interior of No. 9 also painted.

This spring, work on a domestic water supply system for Quarters 9 was completed. Television towers, antennas, rotors and boosters were purchased and erected at the three permanent residences. Max Christ, contractor from Scottsbluff, blew rock wool insulation into the ceiling and walls of Quarters 1, and the office walls.

Electrical work (about \$1,050 worth), furnace and gas appliance inspections and repairs, and fire extinguisher refills and purchases improved the safety condition of all headquarter's facilities. A diesel oil tank and pump obtained from excess were put in next to the gas pump. Irey removed the old picket fence around the courtyard and behind the office, and gave the remainder a badly needed coat of paint.

3. Equipment Construction and Maintenance (Major Items). Our D-6

caterpillar tractor received a major overhaul, and had a double-drum winch installed, at the Western Nebraska Vocational Technical School for \$1,354.34. New brake linings, grease seals, wheel cylinder kits and front wheel bearings were put in jeeps 1 and 2. Two new GE mobile radios replaced the unreliable and troublesome rebuilds in jeep 1 and the new International 4x4.

4. Dugout-Pothole Development. In March six potholes were blasted in low meadowland on the northeast side of Island Lake with an Ammonium nitrate/fuel oil mixture. Using combinations of 12.5 and 25 pound charges in a "Z" pattern, the amount of blasting agent per hole ranged from 137.5 to 412.5 pounds. For the smallest hole 192 cubic yards of dirt were moved at a cost of \$.233 per cu. yd.. At a cost of \$.205 per cu. yd., 576 cu. yd. were moved in the largest pothole. This brings the total of these waterholes on the refuge to 40. Twenty-six duck breeding pairs used the AN/FO potholes this spring - a gratifying response to these developments.

Another 100 feet (278 cubic yards) were dug for the ditch near headquarters with the Bucyrus-Erie dragline. By next fall we plan to have this channel completed with at least one experimental artesian well sunk alongside it to keep a portion open. If we can keep an ice-free area large enough to hold our local Canada Geese until late December, the flock should start to rebuild.

5. Wells and Mills. Seven watering facilities received refuge financed replacement and materials at a cost of \$4,816.82 as follows:

Unit	Well	
1b	#3	8ft. aeromotor, 21-ft. tower, 82-ft. cased well, 20-ft. stock tank, 20 bags cement.
6a-2	#6	8-ft. aeromotor, 21-ft. tower, 84-ft. cased well, 36-ft. plate steel stock tank with bubble, 54 bags cement.
11b	#25	8-ft. aeromotor and 21-ft. tower.
14b-2	#42	8-ft. aeromotor, 21-ft. tower, 60-ft. cased well.
14b-3	#69	18 bags of cement for stock tank.
16a-1,2	#54	8-ft. aeromotor, 21-ft. tower, 80-ft. cased well.
19c	#52	80-ft. cased well.

All well work was done by Dunbar Drilling, Alliance.

In addition, 12-20 feet stock tanks (\$1,618.80), 11-21 feet towers (\$1,424.50), and 11-8 feet aeromotors (2,318.25) were purchased. Bernstein Bros. of Pueblo, Colorado supplied the tanks, and Sanford Larsen of Thedford, Nebraska the mills and towers.

With \$2,511 of expense for sale funds we purchased the following permittee-owned facilities on the refuge: all 6 stock tanks from the Douglas brothers ** mills, towers and tanks at wells #1 and 2 from Mrs. E. Eldred ** 6 ft. aeromotor for well #70; and towers, mills and tanks at wells #55-56-68 from V. Eldred ** mills for wells #15 and 18; and mill, tower and tank at well #22 from L. Keller ** mills, towers and tanks for wells #7-8-9-10 from Mrs. J. Peterson ** mill at well #51 and mill and tank for well #50 from D. Keenan and L. Sutton ** 800 old 7 feet posts and 40 rolls of old barbed wire in Unit 16b-1 from E. Hisel and D. Keenan.

B. Plantings.

1. Aquatic and Marsh Plants. Wildlife Aid Hyland hand planted sago pondweed (Potamogeton pectinatus) and coontail (Ceratophyllum demersum) in a bottomless tank embedded in the soft bottom deposits of Hackberry Lake. The 28 inches high sides of this tank protected the plant and oozy bottom material from wind and wave action. This experiment indicates that by stabilizing the bottom of Hackberry, submergent plantlife could grow there. Next summer we plan to check for regrowth at the site.

2. Trees and Shrubs. Between mid-April and mid-May 60 Ponderosa and 60 Austrian Pine potted seedlings were planted on the north, west and south sides of Quarters 8 and 9. Five foot post holes were bored in the black dirt fill, manure put in the bottom half and soaked, black dirt placed in upper half of each hole, and then seedlings planted in a depression on top. Old tires placed around each seedling protects them from wind. They were well-watered throughout the summer, and then sprayed with "Selco Deer and Rabbit Repellent" this fall. An additional 30 Austrian pine seedlings will be needed to replace the Ponderosa that died due to poor vigor. It may cost us close to \$1,000 for this shelterbelt and landscaping project before it's completed. But, it finally looks like our efforts to protect and improve these residential sites will be fruitful.

3. Upland Herbaceous Plants. No survival has been noted on the one-half acre experimental grass display plot planted in northwest Gimlet meadow during the spring of 1967. Reed canary grass sown on an experimental plot on northeast Smith meadow last year produced fair growth in 1968. The alsike and strawberry clover and alfalfa plantings provided fair to good goose browse in the Goose and Gimlet meadows.

4. Cultivated Crops. None.

C. Collections and Receipts.

1. Seed or Other Propagules. Altogether 400 bushel of shelled corn for goose feed was picked up with the GMC stake truck from DeSoto and Lake Andes Refuges.
2. Specimens. Jakabosky mistakenly shot a 9½ pound bobcat 150 feet south of the office. Believed to be an immature female, this is the first verified record of this species on the refuge. Paul B. Robertson, a University of Kansas graduate student, spent four days here in late spring collecting meadow jumping mice, meadow voles, and owl pellets.

- D. Control of Vegetation. About 12.5 acres of Canada Thistle were sprayed with 2,4-D amine with good control of this year's growth. 2,4-D amine was applied to a 12 square feet plot of leafy spurge to check its spread. Next year we hope to try tordon 212 to really knock these pest plants back. Dalapon was sprayed on 1.5 acres of meadowlands in an experimental attempt to kill brome and other tame grasses. Unless next year's attempts make a vast improvement over 1968's kill, reed canary grass will have to be established some other way.

- E. Planned Burning. An unsuccessful attempt was made in late February to burn extensive areas of emergent aquatics on the north end of Island Lake. Apparently the dampness of the vegetation and the sparsity of the litter would not allow the fire to spread. An adjacent landowner experienced good success in burning marsh vegetation he had mowed in the fall just prior to igniting it. Perhaps by trying this method we can get similar results in the future with badly needed controlled burning.

- F. Fires. Though our fire hazard was moderate to high in late winter, mid-summer and fall, no fires occurred on the refuge. Fortunately for us the only two range fires we were called to, on Mrs. Eldred's land (April 28 and August 7), had been extinguished before we got there. April's fire, caused by carelessness (?), occurred in a hayed meadow ½ mile south of the refuge. The August blaze, started by lightning, took place about 10 miles northwest of our boundary.

IV. RESOURCE MANAGEMENT

- A. Grazing. With our base grazing fee at \$2.50, the actual fee for this year was \$2.72 per AUM. AUM'S for calendar year 1968 were 24,145 for \$65,678.67 revenue, compared to 1967's 24,218 for a return of \$59,601.67. Above normal rainfall in May stimulated good grass growth on summer ranges for the June 1 turn in date. Slight reductions made at turn in remained in force through the season due to the dry weather of June and July.

Permittee Dean Emerson was docked 10 per cent on his AUM's for grazing unit 13e-1,2 because of four separate violations of the salting and oiling provisions of Special Use Permit No. CL-68-16. Due to three different violations of salting and oiling regulations, Permittee Elton Hisel (SUP No. CL-68-14) and Donald Keenan (SUP No. CL-68-19) each forfeited five per cent of the AUM's allowed them for unit 16b-1. These penalties should serve notice that the conditions set forth in the permits are to be taken seriously.

Mr. Ken Weyers, Range and Wildlife Officer for the U. S. Forest Service at Chadron, Nebraska, provided valuable advise and assistance during the summer range utilization checks of September 25 and October 21. As a direct result of these two inspections new maximum rates were established to benefit both range and wildlife on nine summer ranges (Table 7).

Table 7: CHANGES IN AUM RATES FOR SUMMER RANGES

Grazing Unit	Permittee	Avg. Used Previous 2, 3 or 4 years	New Maximum	% Reduction
2	P. Dietlein	496	372	25
5a	P. Dietlein	353	264	25
13e-1,2	D. Emerson	466	312	33
14a-1,2,4	Douglas Bros.	651	553	15
14b-1,2	D. Emerson	774	580	25
14b-3	D. Emerson	645	483	25
17	D. Rounsberg	175	149	15
18	D. Rounsberg	581	505	13

Each of the permittee's affected by these changes received verbal notice with a followup letter of confirmation in October.

Mr. Weyers also made helpful suggestions on cross-fencing and additional stock wells needed for grazing Units 16a-1,2; 16b-1;

17 and 18. This fall, Hisel and Keenan put in about two miles of cross-fence running north and south in Unit 16b-1 to divide that range in half. Also, Dietlein's erected slightly more than two miles of division fence in Unit 6b-1 to stop overgrazing in the soft hills west of Harrison Lake. All material and the John Deere tractor with hydraulic post driver (laborer Locker operating it) were furnished by the refuge. The remaining labor to erect these fences was provided by the permittees. By the 1971 grazing season we hope to have the planned additional 12 miles of division fences and 5 new stock wells installed.

- B. Haying. Hay produced in the west meadows equaled only one-half to three-fourths of that for 1967. Eastern meadowlands had nearly as much hay as they did last year. All mowing took place from July 15, through August. Clover patches in Goose and Gimlet meadows were again hayed to encourage clover growth and browsing by geese.
- C. Fur Harvest. None recommended.
- D. Timber Removal. Not applicable here.
- E. Commerical Fishing. None.
- F. Other Uses. Duskin and Perkuchin each had permits to keep personal domestic livestock on refuge lands. Special Use Permit No. CL-68-31 was issued to Donald Keenan for his continued occupancy of Quarters 6, the Jones buildings. Lloyd Keller received permit CL-68-35 for haying priveleges on Gimlet and Goose Lake meadows browse plots. Also, Keller is authorized to use a refuge trail to drive to his ranch according to SUP No. 39737 effective from June 1, 1965 to May 31, 1970. For trapping snapping turtle during the summer, SUP No. CL-68-33 was issued to Robert Hirdler.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Biological "Tinkering".1. Preliminary Limnological Study of Hackberry and Roundup Lakes.

The following recommendations resulted from Joe Hyland's study conducted this summer. Both lakes are deep with low limits of visibility. A system of artificial jettys might neutralize the effects of the wind and waves to a point where bottom stabilization could occur. Some method of controlled draw down may allow the bottom to stabilize or the deposits to be blown away. It has been suggested after a check of the bottom samples that sulfur, in one form or another, be applied to the water to help lower the pH of 8.5 and reduce the calcium carbonate in these two lakes. An intensive limnological study of six refuge lakes by a graduate student is needed to determine their biological features and other physical properties. In this way we may be able to improve the wildlife use of Hackberry and Roundup Lakes, particularly.

2. Dummy Nest Study In Different Sites and Land Treatment Areas.

This project was carried out under the direction of Wildlife Aid Wilbur Ladd to help him in his study at Valentine NWR. Until we get Skip's report on his interpretation of the data collected, we will defer comment. Presently, we plan to continue this study at least through 1969.

3. A Plant Analysis of Sandhills Meadow and Uplands Sites Under Different Types of Land Use.

Joel Jakabosky attempted to determine gross differences in percent of species composition and the percentenge of ground cover, litter, and plant cover in meadows and uplands under different types of land treatment. Jake did not complete the report on this study soon enough to present a brief summary of his findings. We plan to include it in 1969's NR.

VI. PUBLIC RELATIONS

- A. Recreational Use. Visitor days are estimated at 3,609 (see Annual Public Use Report that follows) compared to 2,340 in 1967 and 3,865 in 1966. Fishing accounted for about 45 per cent of the total, with 87 per cent of the recreation wildlife-oriented. Good fishing for northern pike on Island Lake in February, April and May attracted three-fourths of the angling use. Crane Lake provided good action for small northerns in July, but few people took advantage of it.
- B. Refuge Visitors. Listed on pages following.
- C. Refuge Participation. Listed on pages following.
- D. Hunting. Approximately 40,900 acres of the refuge was open to the hunting of sharp-tailed grouse, ring-necked pheasants, white-tailed and mule deer, and antelope (see attached regulations and map following this section). Changes for this year included opening an additional 20,900 acres and a season for taking pheasants. In April Bureau Managers from the Nebraska refuges met with Regional Office and Nebraska Game personnel to discuss past and future hunting seasons. This annual event continues to be conducted in a cordial and helpful manner.

Sharp-tailed grouse hunting took place during the regular state season of September 21 through November 17. Similar to last year's, the daily bag consisted of three birds. Fall grouse populations and hunting success were the best they've been in the four refuge hunting seasons. In 215 visits sharp-tail hunters took about 200 grouse.

Antelope permits for the unit in which the refuge is located numbered 150, the same as in 1967. Either sex could be taken during the regular firearm season of September 28 and 29, and October 5 and 6. No more than five pronghorns fell to the mighty cannons of the nimrods pussyfooting about the refuge. Very few are willing to stalk their prey on foot when they can prowl around nearby in four-wheel drive vehicles.

In accordance with state regulations, a bucks only rifle season was held between November 9 and 17, for white-tailed and mule deer. Only 750 permits were available for the Plains Unit. During 1967 1,000 permits, and in 1966 1,500, were available to take antlered deer except the last day. We estimated that during 50 visits big game hunters killed 15 mulies and 3 white-tails here. Only during the firearm deer season was vehicle travel allowed in the open area, that being restricted to four-wheel drive rigs.

Pheasantshunting was permitted here for the first time. The opening

was on December 13, the day after the state's waterfowl season terminated. January 19, the Nebraska closing date, was the final day of the refuge's ring-neck season. An estimated 30 roosters were bagged in 18 visits. Those of us willing to hoof it after these cagey lead shunners had good sport. Though we didn't bring many home for the pot, we sure gave them some "smarts."

Though the split duck season was open from October 12 through 20 and November 16 through December 12, waterfowl hunters in the sandhills had (in effect) a nine day season. Not more than two mallards and one canvasback or redhead could be included in the three bird daily bag limit. Hunting opportunities for mallards, pintails, gadwall, canvasback and redheads were fair to good in the vicinity. Light gunning pressure prevails. Gadwall are usually the most abundant duck in the area during the Nebraska season.

Goose hunting occurred from October 1 through November 3, and again from November 9 through December 19. Two Canadas could be included in the daily bag of five. Crescent and Bean Lakes, adjacent to the refuge, provided fair opportunities for neighboring ranchers to shoot honkers.

- E. Violations. Trespassing, hunting in closed area, and shooting pheasants out of season are some of the violations we suspect happened on the refuge. Unfortunately we were not in the place at the right time to apprehend the culprits - as is so true too often in law enforcement, eh!?

In two instances violators were apprehended and their cases disposed of as follows:

- Oct. 5 Larry Stegeman, juvenile, Chappell, Nebraska.
Driving automobile into open area while hunting, when closed to vehicle travel. \$20 towing charge. Fined \$10 plus costs for trespassing. Apprehended by Perkuchin and Duskin. Case taken to court by Conservation Officer Don Hunt. (Car was stuck.)
- Oct. 5 Douglas Rehfeld, juvenile, Chappell, Nebraska.
Using vehicle, when prohibited while hunting in open area. Fined \$10 plus costs for trespassing. Apprehended by Perkuchin and Duskin. Case taken to court by Conservation Officer Don Hunt.
- Oct. 6 Jerome Richard Polk, adult, Oshkosh, Nebraska.
Driving two-wheel drive pickup into open area while hunting, when closed to vehicle travel. Truck stuck. \$20 towing charge. Fined \$10 plus costs for trespassing. Apprehended by Duskin and Perkuchin. Case taken to court by Conservation Officer Don Hunt.

F. Safety. The following formal safety meetings and discussions were held:

- January 30 - Discussed defensive driving (using 5 simulated driving situations).
- February 26 - Defensive driving.
- March 26 - Defensive driving.
- March 28 - Held fire drill with all fire fighting equipment and went through the different phases of fire suppression.
- April 22 - Defensive driving and fire fighting equipment.
- June 24 - Fire fighting plan, equipment use and fire drill.
- July 29 - Fire fighting plan, equipment use and fire drill.
- August 19 - Fire fighting plan, equipment use and fire drill.
- November 5 - Auto safety equipment.
- December 19 - Auto and hunting safety. Two films were viewed, "Tire Hydroplaning" and "Muzzleshy."

Informal discussions on the operation of heavy equipment and fire fighting apparatuses occurred throughout the year.

Due to a disabling injury to Wayne Locker on December 19, he has not returned to work at year's end. Therefore our safety record stands at zero days without a lost time accident on December 31.

Annual
MONTHLY PUBLIC USE REPORT

Refuge name
Crescent Lake
State
Nebraska

(This block completed by Washington Office)

State
Code
(1-2)

Congressional
District Code
(3-4)

Refuge
Code
(5-7)

Report Yr. | Mo.
Period
(8-11)

(Card Columns)		12-13	14-18	19-25
ACTIVITY		Code	VISITS FOR THE MONTH	
			Total Number	Total Hours
Hunting: Big Game	01	80	450	
Upland Game	02	233	1176	
Waterfowl	03			
Other Migratory	04			
Bow	05			
Fishing: Salt Water	06			
Warm Water	07	1639	6556	
Cold Water	08			
Bird and Animal Calling	09	151	604	
Wildlife Photography	10	101	404	
Wildlife Observation	11	620	1860	
Dog Training	12			
Id Trials	13			
Wildlife Trails and Walks	14			
Wildlife Tours	15	30	120	
Wildlife Scenic Veh. Rts.	16	250	250	
Camping (related to above)	17			
Picnicking (related to above)	18	1005	1005	
Wildlife Interpretive Center	19			
*Miscellaneous Wildlife	20	42	184	

(Card Columns)		26-27	28-32	33-39
ACTIVITY		Code	VISITS FOR THE MONTH	
			Total Number	Total Hours
Swimming	21			
Boating	22			
Water Skiing	23			
Camping	24			
Group Camping	25			
Picnicking	26			
Horseback Riding	27	140	364	
Bicycling	28	60	103	
Skiing, Sledding, etc.	29	65	130	
Ice Skating	30	38	130	
Fruit, Nut & Veg. Collecting	31			
Non-Recreational Use (inspections, audits, etc.)	32	57	146	
Actual Visits	33	3609		
Peak Load Day	34	75		
* Miscellaneous Non-Wildlife	35	103	194	

Code 10 - Wildlife Photography

Include here all photography occurring on the area--professional, amateur, blind use, etc.

Code 11 - Wildlife Observation

This category includes the general sightseeing user. It may involve the "windshield viewer" on some areas and walking observers on areas where trails are not designated.

Code 14 - Wildlife Trails and Walks

This would include all use of designated, self-guided trails and walk areas.

Code 15 - Wildlife Tours

All guided use would be included here--both vehicle tours and foot trail programs.

Code 16 - Wildlife Scenic Vehicle Routes

Don't confuse this category with general sightseeing. Use here refers to designated self-guided vehicle drives.

Code 19 - Wildlife Interpretive Center

This includes visitor center and office/visitor center facility use. To avoid other activity duplications, you should establish an average hour use for this category while visitors are actually in the visitor center. Once they leave the center, they will be recorded in some other activity.

Code 20 - Miscellaneous Wildlife

This category is the catch-all under wildlife-oriented uses. Those visits that do not fit any of the above activities would be recorded here. List the total number of visits and total hours and below the type of activities involved. Included in this category would be fur trapping, varmint hunting, nature studies, girl and boy scout activities, inquiries on hunting and fishing, visits by other agency people to discuss wildlife programs, etc.

Codes 21 to 32

Includes all non-wildlife-oriented uses. Snowmobile use would be put under Code 29--skiing, sledding, etc.

Code 33 - Actual Visits

This is the actual head count category. Since most visitors will be recorded in more than one activity, Code 33 will be the only place to measure individual visits. The total visits for the month includes both wildlife and non-wildlife-oriented activities.

Code 34 - Peak Load Day

List the largest number of visitors recorded on any one day during the report period.

Code 35 - Miscellaneous Non-Wildlife

Include here those non-wildlife-oriented uses that cannot be placed elsewhere. These could include: Industrial, economic, permittee, businessmen users, tower climbers, hikers, and non-wildlife inquiries.

Note:

A minimum of one hour should be used for all activities.

CRESCENT LAKE NATIONAL WILDLIFE REFUGE
ELLSWORTH, NEBRASKA

OFFICIAL VISITORS LOG

NAME	ORGANIZATION	PURPOSE OF VISIT	DATE	
			ARRIVED	DEPARTED
Robert Odell	Oshkosh HS Teacher	Courtesy call	1-13-68	Same
Donald Hunt	Nebr. Game Comm.	Courtesy call	1-13-68	Same
John Sweet	Nebr. Game Comm.	Courtesy call	1-18-68	Same
Nick Lyman	Nebr. Game Comm.	Courtesy call	1-18-68	Same
Keith Hamel	Tamarac Job Corp	Training new clerk	1-30-68	2-2-68
Donald Hunt	Nebr. Game Comm.	Check on Crane Lake fish die off possibility	3-27-68	Same
Bob Nieman	Gering, Nebraska	Fishing Information	3-28-68	Same
Nick Lyman	Nebr. Game Comm.	Courtesy call	4-2-68	Same
John Sweet	Nebr. Game Comm.	Courtesy call	4-2-68	Same
Jerry Wolford	Farming	Courtesy call	4-2-68	Same
W. D. Holsclaw	Platte Valley Packing	Fishing	4-2-68	Same
Elemer A Petersen	Grolier Society	Courtesy call	4-9-68	Same
Harry Crooks	Denver, Colorado	Fishing	4-11-68	4-13-68
Max Styanski	Golden, Colorado	Fishing	4-11-68	4-13-68
Larry D. Elston	Hay Springs, Nebraska	Courtesy call	4-13-68	Same
Terry M. Brentzel	Hay Springs, Nebraska	Courtesy call	4-13-68	Same
Marvin Elston	Hay Springs, Nebraska	Courtesy call	4-13-68	Same

CRESCENT LAKE NATIONAL WILDLIFE REFUGE
ELLSWORTH, NEBRASKA

OFFICIAL VISITORS LOG

NAME	ORGANIZATION	PURPOSE OF VISIT	DATE	
			ARRIVED	DEPARTED
Frank G Stanton Lt. Col.	Air Force	Sight seeing	4-13-68	Same
Frank G. Stanton	Bellevue, Nebraska	Sight Seeing	4-13-68	Same
Gayle Shickley	North Platte, Nebraska	Birding	4-12-68	4-14-68
Dr. Mary W. Tremaine	Omaha, Nebraska	Birding	4-12-68	4-14-68
Ralph H. Town	W. M. Biologist, USFWS	Grouse counts & Wildlife Studies	4-15-68	4-19-68
Arthur D. Erb	Scottsbluff, Nebraska	Wildlife photography	4-24-68	Same
Ed Duncan	Decatur, Ill.	Wildlife photography	4-24-68	Same
Edward Crozier	BSF&W, Mpls., Minn.	Master planning	5-13-68	5-15-68
Edwin Stevenson	BSF&W, Mpls., Minn.	Master planning	5-13-68	5-15-68
Gus Bonde	BSF&W, USGMA	Courtesy call	5-15-68	Same
Ben Gilmores	Cheyenne, Wyo.	Fishing information	5-18-68	Same
Norman Larsen	Globe Life Ins. Co.	Fishing information	5-20-68	Same
F. M. Davis	Railroad	Fishing	5-21-68	Same
Jim Nuss	Alliance, Nebraska	Fishing	5-30-68	Same
Bill Brice	Alliance, Nebraska	Fishing	5-30-68	Same
Paul B. Robertson	Univ. of Kansas	Collecting Small Mammals	5-30-68	6-2-68
Richard Muller	Lincoln, Nebraska	Fishing	5-31-68	Same

CRESCENT LAKE NATIONAL WILDLIFE REFUGE
ELLSWORTH, NEBRASKA

OFFICIAL VISITORS LOG

NAME	ORGANIZATION	PURPOSE OF VISIT	DATE	
			ARRIVED	DEPARTED
Loren H. Boman	Broadwater, Nebraska	Fishing	6-14-68	Same
Walter Schmitt	Bridgeport, Nebraska	Fishing	6-14-68	Same
Robert Schmitt	Fort Collins, Colorado	Fishing	6-14-68	Same
John Spencer	Denver, Colorado	Fishing	6-18-68	Same
Bill Morse	Denver, Colorado	Fishing	6-18-68	Same
D. R. Fortune	Alliance, Nebraska	Sight seeing	6-19-68	Same
Gus Bondie	BSF&W, USGMA	Dove traps	6-19-68	Same
Robert Wheeler	BSW&W, USGMA	Dove traps	6-19-68	Same
Nick Lyman	Nebr. Game Comm.	Courtesy call	7/1-68	Same
Dan Tinn	Nebr. Game Comm.	Courtesy call	7-1-68	Same
Dale Pollard	CB&Q Railroad	Sight seeing	7-9-68	Same
Rev. Robert D. Wigert	Methodist Minister	Sight seeing	7-11-68	Same
Leon Baxter & Family		Birding	7-12-68	Same
Douglas Fiesneld	University of Nebraska	Collecting rodents	7-16-68	7-19-68
Mr. & Mrs. Art Holmberg	Oberlin, Kansas	Sight seeing	7-25-68	Same
Victor Matousek	Lewellen, Nebraska	Fish Weir	8-1-68	Same
Dennie Shigmin	Lewellen, Nebraska	Fish Weir	8-1-68	Same

CRESCENT LAKE NATIONAL WILDLIFE REFUGE
ELLSWORTH, NEBRASKA

OFFICIAL VISITORS LOG

NAME	ORGANIZATION	PURPOSE OF VISIT	DATE	
			ARRIVED	DEPARTED
David Purington	BSF&W, USGMA	Waterfowl Banding	8-3-68	Same
Nick Lyman	Nebr. Game Comm.	Waterfowl Banding	8-3-68	Same
Dan Timm	Nebr. Game Comm.	Waterfowl Banding	8-3-68	Same
Lt. Daniel E. Lake	McConnel AFB, Kansas	Courtesy call	8-6-68	Same
Walter Ekedahl	Garden County SCS	Courtesy call	8-6-68	Same
Thomas King	Garden County Extension Agent	Get acquainted visit	8-7-68	Same
William Britton	Range Specialist Garden County SCS	Courtesy call	8-7-68	Same
Charles Havlicek	Nebr. Game Comm.	Courtesy call	8-7-68	Same
Randy Darling	Nebr. Game Comm.	Courtesy call	8-7-68	Same
Jack Nerud	Oshkosh Chamber of Comm.	Road Comm.	8-16-68	Same
C. C. Heugh	Omaha, Nebraska	Courtesy call	8-19-68	Same
Ben Shole	Hooper, Nebraska	Courtesy call	8-19-68	Same
Allen Clark	Blue Cross	Sight seeing	8-22-68	Same
Rex E. Norris	Blue Cross	Sight seeing	8-22-68	Same
E. A. Krejci	U. S. Post Office	Courtesy call	8-23-68	Same
E. H. Dringman	Kimball, Nebraska	Birding	9-12-68	Same
C. Cumcre	Colombia, Mo.	Birding - photography	9-14-68	Same

CRESCENT LAKE NATIONAL WILDLIFE REFUGE
 ELLSWORTH, NEBRASKA

OFFICIAL VISITORS LOG

NAME	ORGANIZATION	PURPOSE OF VISIT	DATE	
			ARRIVED	DEPARTED
E. B. Mufer	Colo. State University	Courtesy call	9-17-68	Same
Golden & Soas	Sidney, Nebraska	Hunting	9-20-68	Same
Ken Weyers	U. S. Forest Service	Summer Range Utilization check	9-25-68	Same
Mr. & Mrs. John Ott	Lincoln, Nebraska	Birding	9-27-68	Same
Mr. & Mrs. Earle Thomas	Lincoln, Nebraska	Birding	9-27-68	Same
Daniel Higman	Smithsonian Inst.	Birding, Botanizing	9-28-68	Same
Ben Ladd	Scottsbluff Nat'l Mont. National Park Service.	Hunting	10-9-68	Same
Dr. L. F. Wheaton	Evergreen, Colorado	Hunting	10-10-68	Same
B. H. Denahave	Evergreen, Colorado	Hunting	10-10-68	Same
Robert E. Waters	Auburn, Alabama	Birding	10-26-68	10-27-68
H. Granville Smith	Columbus, Ohio	Birding	10-26-68	10-27-68
Mr. & Mrs. H. P. Dovie	Lincoln, Nebraska	Birding	10-27-68	Same
Wm. H. E. Dovie	Kunsan AFB, Korea	Birding	10-27-68	Same
Jay Albert	Moore, Okla.	Hunting	11-1-68	Same
J. R. Eddy	Moore, Okla.	Hunting	11-1-68	Same
Hancel Huffman	Okla. City, Okla.	Hunting	11-1-68	Same
Guy Arnold	Okla. City, Okla.	Hunting	11-1-68	Same

CRESCENT LAKE NATIONAL WILDLIFE REFUGE
 ELLSWORTH, NEBRASKA

OFFICIAL VISITORS LOG

NAME	ORGANIZATION	PURPOSE OF VISIT	DATE	
			ARRIVED	DEPARTED
Travis Arnold	Moore, Okla.	Hunting	11-1-68	Same
T. Leit	Sodus, Mich.	Hunting	11-7-68	Same
Joe A. Hossle	Decatur, Mich.	Hunting	11-7-68	Same
Dean Emerer	Geneva, Nebraska	Hunting	11-8-68	Same
Bob Emerer	Geneva, Nebraska	Hunting	11-8-68	Same
W. S. Griffin	Minneapolis, Kansas	Hunting	11-8-68	Same
Bob Griffin	Minneapolis, Kansas	Hunting	11-8-68	Same
Marvin A Badtke	Omaha, Nebraska	Hunting	11-8-68	Same
Wallace C. Cheney	Omaha, Nebraska	Hunting	11-8-68	Same
Richard Badtke	Omaha, Nebraska	Hunting	11-8-68	Same
John Carlsen	Ass. Regional Supr. BSF&W	Inspection	10-28-68	Same
Mr. & Mrs William T. Krummes	Reg. Dir., Albuquerque	Courtesy call	11-17-68	Same
Mr. & Mrs. David Olson	Lake Andes NWR, BSF&W	Personal visit	11-16-68	11-18-68
Earl F. Eliason	Regional Office	Housing survey	12-9-68	Same
Fred B. Bills	Oshkosh, Nebraska	Fishing information	12-18-68	Same
Ernest Labon	Oshkosh, Nebraska	Fishing information	12-18-68	Same

REFUGE PARTICIPATION

- 1/16 Manager attended meeting regarding reconstruction of highway 27 in Oshkosh.
- 1/27 Perkuchin went to meeting of the Nebraska Chapter of the Wildlife Society at Norfolk.
- 2/5 Manager took part in conservation needs committee meeting at Oshkosh. Also made a courtesy call at Clear Creek State Game Refuge at Lewellyn, and took part in discussion on highway 27 reconstruction in Oshkosh.
- 2/12-16 Manager attended CSC Training School at Valentine.
- 2/29 Manager attended Heart of the Hills Rural Fire Protection District meeting in Lakeside.
- 3/5, 12, 19, 26 Covalt, Duskin, and Perkuchin attended Defensive Driving School at Alliance.
- 3/7 Manager with SCS Range Specialist, W. Britton to determine wildlife value of marsh near Ashby, Nebraska, and checked reed canary grass reseeding project on the Mule Shoe Bar Ranch, south of Antioch, Nebr.
- 4/17, 18 Covalt and Duskin attended USFS Fire Supression Training School at Alliance.
- 4/19 Perkuchin attended USFS Fire Supression Training School at Alliance, and Made courtesy call at District State Game and Parks Office in Alliance.
- 4/22 Manager made courtesy call at District State Game and Parks Office, and picked up wildlife film.
- 4/30 Manager presented movie, "Way of Life," and talk on conservation to 80 people at Kowanda Methodist Church and four students at District 30 school.
- 5/16 Duskin and Perkuchin presented talk on refuge program and conducted tour for 13 students and 13 parents from Ellsworth Grade School.
- 5/17 Staff attended annual District 30 School picnic held in refuge shop.
- 5/22-24 Manager attended GSA Middle Management School in Rapid City, South Dakota.

- 7/29 Staff attended Refuge snapping turtle picnic prepared by Mr. & Mrs. Art Covalt.
- 8/26, 27 Perkuchin, Hyland and Jakabosky attended Central Mountains and Plains Section of the Wildlife Society Meeting at Halsey National Forest.
- 9/16 Manager presented slides and talk on refuge to Oshkosh Rotary Club.
- 10/15 Manager presented revenue sharing check to Garden County Treasurer, and showed wildlife movies to Garden Ramblers Garden Club, Oshkosh.
- 10/22 Manager attended Longhorn and Buffalo auction at Fort Niobrara.
- 10/23 Manager attended Grassland Ecologist planning session in Valentine, Nebr.
- 11/4 Manager attended discussion of range management and inspected ranges at Halsey National Forest.
- 12/19 Staff attended Christmas Party at Covalt's.

1968
HUNTING REGULATIONS
for
CRESCENT LAKE NATIONAL WILDLIFE REFUGE
FISH AND WILDLIFE SERVICE
Ellsworth, Nebraska

OPEN AREA: Area delineated on attached hunting map. Posted with both red and green signs - "Public Hunting Area".

CLOSED AREAS: Area delineated on attached hunting map. Posted with white signs - "Area Beyond This Sign Closed". No hunting allowed beyond signs.

PERMITS AND LICENSES: All big game hunters are requested to obtain a "registration card" which will be issued by asking for them, either in person or by mail, from the Refuge Headquarters, Ellsworth, Nebraska, 69340. Hunters must have a valid Nebraska hunting license and appropriate big game permits for State Management Units.

SPECIES AND SEASONS: No mammals or birds other than listed below may be hunted or shot on Refuge. ALL OTHER STATE REGULATIONS APPLY - PLEASE CONSULT YOUR NEBRASKA LAWS AND HUNTING GUIDES.

Sharp-tailed Grouse	September 21 - November 17
Ring-necked Pheasant	December 13 - January 19
Antelope - Rifle	September 28, 29 and October 5 and 6
Deer - Rifle	November 9 - 17
Deer - Archery	November 18 - December 31

VEHICLES-PARKING-ACCESS: Hunters gaining access to Refuge "Open" area will park vehicles in designated parking areas or immediately inside gate used for access.

No vehicles allowed in open area, except for four-wheel drive vehicles during the period of November 9-17.

COOPERATION: If you kill a deer or antelope on the Refuge we would appreciate your indicating this to State Check Station operator when you register your animal.

Please keep all gates in Refuge hunting area closed as cattle will be on the ranges.

Due to abundant grass growth, the FIRE HAZARD will be high. If your vehicle is equipped with a shovel, pail and sacks, you will be ready to take prompt action to keep a small fire from becoming an uncontrolled range fire.

Continued seasons on the Refuge will depend on hunter conduct.

IN EVENT OF ANY EMERGENCY OR FIRE CALL: Refuge Manager, Phone Alliance 762-4893

R 45 W R 44 W

102° 25'

R 44 W

R 43 W

21 N

TO ANTIOCH & LISCO

TO LAKESIDE HWY. NO. 2

BLOCK III

REFUGE HEADQUARTERS

AREA

BLOCK II

LOWER HARRISON LAKE

SWAN LAKE

W. JONES LAKE

BLUE LAKE

CRESCENT LAKE

HACKBERRY LAKE

ROUNDUP LAKE

CHRIST LAKE

CRANE LAKE

SHAFFER LAKE

GOOSE LAKE

RUSH LAKE

SMITH LAKE

BEAN LAKE

PERRIN LAKE

REDHEAD LAKE

HARRISON LAKE

LOST L.

BRI L.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

CRESCENT LAKE
NATIONAL WILDLIFE REFUGE
GARDEN COUNTY
NEBRASKA

LEGEND

- CONTROLLED HUNTING BLOCK BOUNDARY
- CLOSED AREA BOUNDARY
- INTERIOR FENCE LINE
- IMPROVED ROADS
- TRAILS
- △ WIND MILLS
- ▲ FIRE TOWERS
- BUILDINGS
- PARKING AREAS

0 1/2 1 MILE

TO OSHKOSH

102° 30'

R 45 W

R 44 W

102° 25'

20 N

21 N

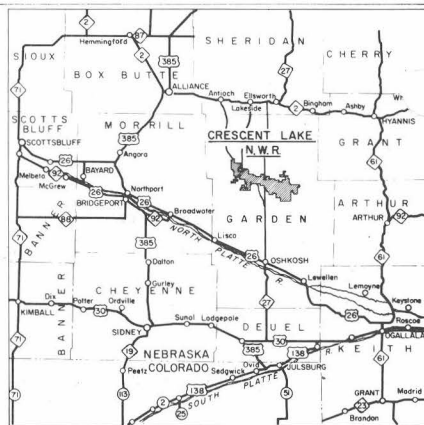
20 N

41° 45'

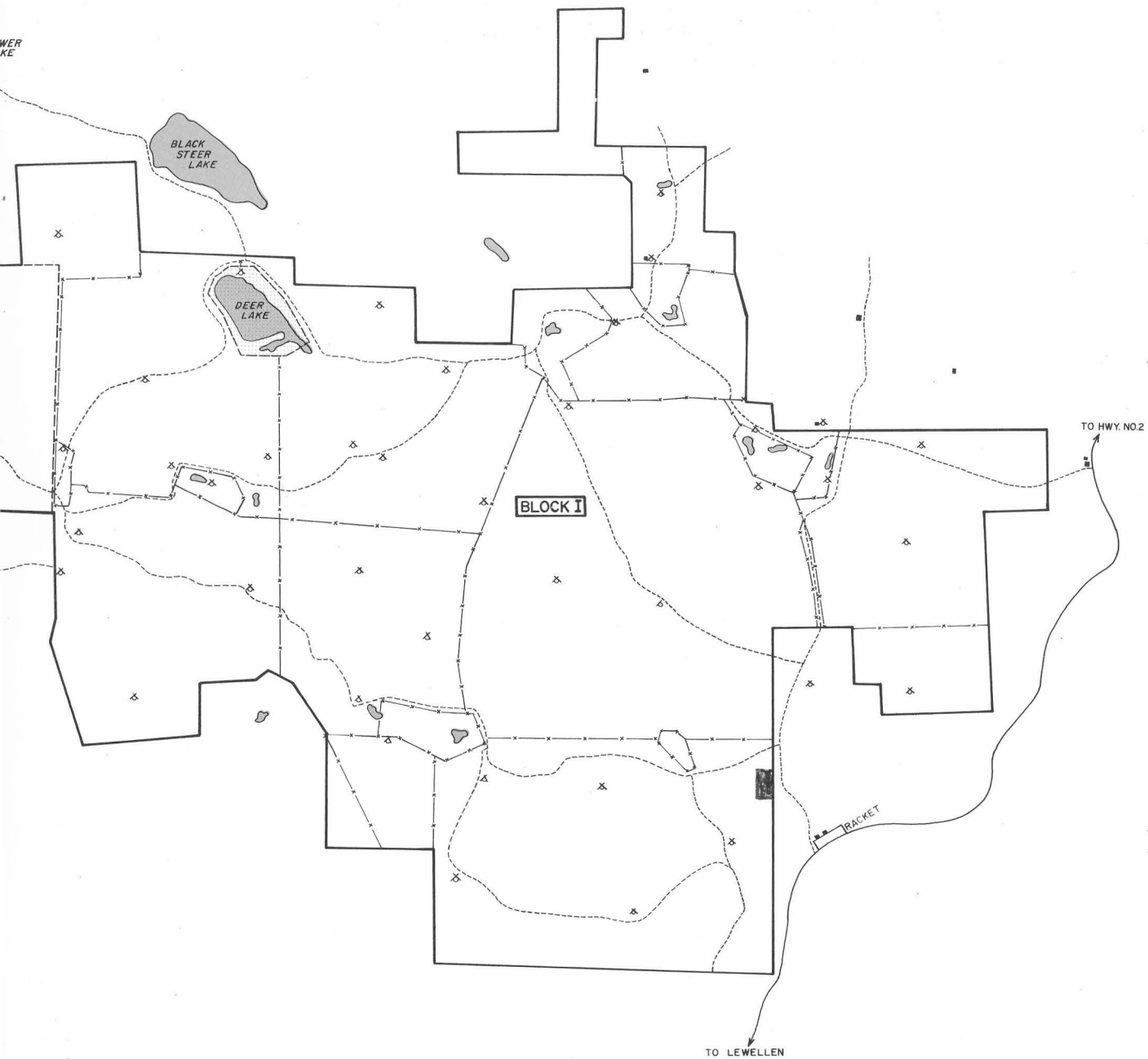
41° 40'

102° 20'

R 43 W R 42 W



VICINITY MAP



T 21-41° 45' N

T 20 N

T 20-41° 40' N

R 44 W R 43 W

102° 15'

R 43 W R 42 W

VII. OTHER ITEMS

- A. Personnel. Robert Duskin has been filling the Clerk-Typist position since January 22. Other members of his family include his wife Betty and their four children. Bob was born and raised in the Alliance area, a part of our "neighborhood."
- B. Acknowledgements. Art Covalt, Bob Duskin, Joe Hyland, Joel L. Jakabosky and Ron Saunders all contributed material for this report. Perkuchin wrote and edited the report with Duskin's assistance. All of the typing was done by Clerk Duskin. Joel Jakabosky took all the colored and many of the black and white pictures. The remaining photographs were taken by Duskin and Perkuchin.



DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service Regional Information

BUREAU OF SPORT FISHERIES AND WILDLIFE

Crescent Lake National Wildlife Refuge
Ellsworth, Nebraska 69340

For immediate release - September 10, 1968

REFUGE TO OFFER INCREASED HUNTING OPPORTUNITY

Ellsworth, Nebraska — About 40,900 acres of the Crescent Lake National Wildlife Refuge will be opened to the hunting of sharp-tailed grouse, ring-necked pheasant, antelope and deer this fall.

Seasons for sharp-tailed grouse, and rifle hunting for antelope and deer will be open during the regular Nebraska seasons. Pheasants may be hunted from December 13 through January 19. Archers may hunt deer from November 18 through December 31.

Don R. Perkuchin, refuge manager, said that all but about 5,100 acres around the headquarters area will be opened. Hunting maps outlining the open and closed areas, and special refuge hunting regulations, will be available upon request at refuge headquarters, Ellsworth, Nebraska 69340.

The refuge, located in western Nebraska, is approximately 30 miles North of Oshkosh, and 50 miles southeast of Alliance.

In addition to State laws governing hunting during the prescribed seasons, the following regulations will apply to the refuge:

Only those animals mentioned above may be hunted.

Hunters will be required to park their vehicles in designated parking lots or immediately inside any gate in the open area used for access. From

November 9 through 17, only four wheel drive vehicles will be permitted to drive in the open area.

Overnight camping is not permitted.



DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service Regional Information

BUREAU OF SPORT FISHERIES AND WILDLIFE

Crescent Lake National Wildlife Refuge
Ellsworth, Nebraska 69340

For immediate release - October 15, 1968

GARDEN COUNTY NEBRASKA SHARES IN NATIONAL WILDLIFE REFUGE REVENUE

Ellsworth, Nebraska — Garden County recently received a check for \$15,440.91 from the Bureau of Sport Fisheries and Wildlife. This payment represents the county's 25 percent share of the annual net receipts for grazing on the Crescent Lake National Wildlife Refuge. These annual payments from net refuge receipts are expended for the benefit of both the county's ^{public} schools and roads.

SIGNATURE PAGE

Submitted by:

Don R. Perkuchin
(Signature)Date: March 7, 1969Refuge Manager
(Title)

Approved, Regional Office:

Date: _____

(Signature)

Regional Refuge Supervisor

W A T E R F O W L

REFUGE Crescent Lake Refuge

MONTHS OF January TO April, 19 68

(1) Species	(2) Weeks of reporting period									
	1/1-7	1/8-14	1/15-21	1/22-28	1/29-2/4	2/5-11	2/11-18	2/19-25	2/26-3/4	3/5-11
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada								60	60	354
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other (Total Geese)								60	60	354
Ducks:										
Mallard								30	30	162
Black										
Gadwall										13
Baldpate										110
Pintail								15	15	204
Green-winged teal										31
Blue-winged teal										
Cinnamon teal										
Shoveler										2
Wood										
Redhead										302
Ring-necked										7
Canvasback										79
Scaup										40
Goldeneye										217
Bufflehead										33
Ruddy										
Other C Merganser								5	5	152
Total Ducks								50	50	1372
Coot:										

3 -1750a
 Cont. N
 (Rev. March 1953)

WATERFOWL
 (Continuation Sheet)

REFUGE Crescent Lake

MONTHS OF January TO May, 1958

(1) Species	(2) Weeks of reporting period (1 day)								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	3/12-18 11	3/19-25 12	3/26-4/1 13	4/2-8 14	4/9-15 15	4/16-22 16	4/23-29 17	4/30 18		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	419	552	552	552	154	154	154	154	21,231	
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other Total Geese	419	552	552	552	154	154	154	154	21,231	
Ducks:										
Mallard	126	459	459	459	147	147	147	147	15,449	
Black										
Gadwall	131	545	545	545	3,050	3,050	3,050	3,050	79,553	
Baldpate	55	477	477	477	1,386	1,386	1,386	1,386	41,664	
Pintail	87	182	182	182	66	66	66	66	7,521	
Green-winged teal	26	181	181	181	523	523	523	523	15,706	
Blue-winged teal					85	85	85	85	1,870	
Cinnamon teal										
Shoveler	62	272	272	272	1,169	1,169	1,169	1,169	31,878	
Wood										
Redhead	1,420	4,253	4,253	4,253	1,290	1,290	1,290	1,290	129,747	
Ring-necked	78	57	57	57	10	10	10	10	2,012	
Canvasback	60	357	357	357	450	450	450	450	18,370	
Scaup	143	698	698	698	1,131	1,131	1,131	1,131	40,821	
Goldeneye	155	152	152	152	1	1	1	1	5,818	
Bufflehead	30	57	57	57	394	394	394	394	10,306	
Ruddy		6	6	6	894	894	894	894	19,794	
Other C. Merganser	68	51	51	51	3	3	3	3	2,747	
Barrows Goldeneye					1	1	1	1	22	
Coot: Total Ducks	2441	7,747	7,747	7,747	10,600	10,600	10,600	10,600	423,278	
	1	7	7	7	1,618	1,618	1,618	1,618	35,750	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	:	:	:	Principal feeding areas
Geese	21,231	552	:	Goose, Shafer, Christ and Deer Lakes
Ducks	422,273	10,600	:	Principal nesting areas
Coots	35,750	1,618	:	
				Reported by Don R. Perkuchin, Refuge Manager

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

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

W A T E R F O W L

REFUGE Crescent Lake Refuge

MONTHS OF May TO August, 19 68

(1) Species	(2) Weeks of reporting period									
	5/1-7 1	5/8-14 2	5/15-21 3	5/22-28 4	5/29-6/4 5	6/5-11 6	6/12-18 7	6/19-25 8	6/26-7/2 9	7/2-9 10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	100	100	100	125	150	150	125	125	125	125
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other Total Geese	100	100	100	125	150	150	125	125	125	125
Ducks:										
Mallard	285	285	285	285	285	285	285	285	660	660
Black										
Gadwall	270	270	270	270	270	270	270	270	440	440
Baldpate	10	10	10	10	10	10	10	10	10	10
Pintail	155	155	155	155	155	155	155	155	460	460
Green-winged teal	50	50	50	50	50	50	50	50	50	50
Blue-winged teal	960	960	960	960	960	960	960	960	1640	1640
Cinnamon teal										
Shoveler	210	210	210	210	210	210	210	210	245	245
Wood										
Redhead	110	110	110	110	110	110	110	110	215	215
Ring-necked										
Canvasback	5	5	5	5	5	5	5	5	5	5
Scaup	30	30	30	30	30	30	30	30	65	65
Goldeneye										
Bufflehead										
Ruddy	125	125	125	125	125	125	125	125	160	160
Other Total Ducks	2210	2210	2210	2210	2210	2210	2210	2210	3950	3950
Coot:	305	305	305	305	305	305	305	305	765	765

3 -1750a

Cont. N
(Rev. March 1953)WATERFOWL
(Continuation Sheet)REFUGE Crescent Lake National Wildlife RefugeMONTHS OF May TO August, 1968

(1) Species	(2) Weeks of reporting period (4 days)								(3) Estimated waterfowl days use	(4) Production : Broods: Estimated : seen : total	
	7/10-16 11	7/17-23 12	7/24-30 13	7/31-8/6 14	8/7-13 15	8/14-20 16	8/21-27 17	8/28-31 18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	125	125	125	125	125	125	125	125	15,200	32 nests	50
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other Total Geese	125	125	125	125	125	125	125	125	15,200		
Ducks:											
Mallard	660	660	660	660	660	870	870	870	63,960	11	380
Black											
Gadwall	440	440	440	440	440	280	280	280	41,720	5	175
Baldpate	10	10	10	10	10	125	125	125	3,300		
Pintail	460	460	460	460	460	325	325	325	37,070	9	310
Green-winged teal	50	50	50	50	50	5	5	5	5,340		
Blue-winged teal	1640	1640	1640	1640	1640	880	880	880	149,960	22	760
Cinnamon teal											
Shoveler	245	245	245	245	245	45	45	45	24,575	1	30
Wood											
Redhead	215	215	215	215	215	110	110	110	18,675	3	105
Ring-necked											
Canvasback	5	5	5	5	5	10	10	10	705		
Scaup	65	65	65	65	65	45	45	45	5,675	1	35
Goldeneye											
Bufflehead											
Ruddy	160	160	160	160	160	385	385	385	21,770	1	35
Other Total Ducks	3950	3950	3950	3950	3950	3080	3080	3080	372,750		1830
Coot:	765	765	765	765	765	400	400	400	61,765	-	460

(over)

	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans			
Geese	15,200	150	50
Ducks	371,175	3935	1740
Coots	61,405	765	460

SUMMARY

Principal feeding areas Gimlet, Smith, Roundup Lakes - Ducks
Gimlet and Goose Lakes - Geese. Deer and Gimlet Lakes -
Coots.
Principal nesting areas Near lakes and in meadows

Reported by Don H. Perkuchin, Refuge Manager

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

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

WATERFOWL

REFUGE Crescent Lake National Wildlife Refuge

MONTHS OF September TO December, 19 68

(1) Species	(2) Weeks of reporting period									
	9/1-7	9/8-14	9/15-21	9/22-28	9/29-10/5	10/6-12	10/13-19	10/20-26	10/27-11/2	11/3-9
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	125	125	105	105	115	115	115	115	170	170
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other Total Geese	125	125	105	105	115	115	115	115	170	170
Ducks:										
Mallard	305	305	610	610	1305	1305	900	900	755	755
Black										
Gadwall	820	820	1635	1635	2575	2575	3570	3570	1805	1805
Baldpate	1170	1170	2765	2765	3140	3140	2490	2490	2685	2685
Pintail	140	140	515	515	340	340	135	135	285	285
Green-winged teal	220	220	110	110	405	405	285	285	275	275
Blue-winged teal	275	275	25	25	15	15	5	5		
Cinnamon teal										
Shoveler	195	195	490	490	905	905	2225	2225	2540	2540
Wood										
Redhead	305	305	150	150	1890	1890	745	745	25	25
Ring-necked	5	5	5	5	565	565	155	155	10	10
Canvasback			85	85	790	790	1435	1435	785	785
Scaup	5	5	30	30	35	35	60	60	125	125
Goldeneye										
Bufflehead			10	10	115	115	650	650	1550	1550
Ruddy	565	565	610	610	1100	1100	25	25	25	25
Other C. Merganser										
Total Ducks	4005	4005	7040	7040	13180	13180	12680	12680	10865	10865
Coot:	2695	2695	5085	5085	5995	5995	255	255	60	60

3 -1750a

Cont. N
(Rev. March 1953)WATERFOWL
(Continuation Sheet)REFUGE Crescent Lake National Wildlife RefugeMONTHS OF September TO December, 19 68

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen: total
	11/10-16: 11	11/16-23: 12	11/24-30: 13	12/1-7: 14	12/8-14: 15	12/15-21: 16	12/22-28: 17	12/29-31: 18		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	910	910	800	800	200	200			35,560	
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other Total Geese	910	910	800	800	200	200			35,560	
Ducks:										
Mallard	235	235							57,540	
Black										
Gadwall	10	10							145,810	
Baldpate	770	770	5	5					182,350	
Pintail	10	10							19,950	
Green-winged teal	15	15							18,340	
Blue-winged teal									4,480	
Cinnamon teal										
Shoveler	150	150							91,070	
Wood										
Redhead									43,610	
Ring-necked									10,360	
Canvasback	10	10							43,470	
Scaup	35	35							4,060	
Goldeneye	10	10	10	10					280	
Bufflehead	325	325							37,100	
Ruddy									32,550	
Other C. Merganser	5	5	5	5					140	
Total Ducks	1575	1575	20	20					691,110	
Coot:									197,260	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	:	:	:	Principal feeding areas <u>Crane, Goose, Deer and Gimlet Lakes</u>
Geese	35,560	910	:	
Ducks	691,110	13,180	:	Principal nesting areas _____
Coots	197,260	5,995	:	
				Reported by <u>Don R. Perkuchin</u>

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.
1953

3-1751

Form NR-1A
(Nov. 1945)MIGRATORY BIRDS
(other than waterfowl)Refuge Crescent Lake RefugeMonths of January to April 1956

(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
<u>I. Water and Marsh Birds:</u>										
Horned Grebe	2	Apr. 20			still	Present				
Eared Grebe	2	Apr. 18			Still	Present				
Western Grebe	3	Apr. 16			Still	Present				
Pied-billed Grebe	1	Mar. 8			Still	Present				
White Pelican	30	Apr. 23	200	Apr. 23	Still	Present				
Double-crested Cormorant	3	Mar. 27			Still	Present				
Great Blue Heron	1	Apr. 23			Still	Present				
Black-crowned Night Heron	1	Apr. 24			Still	Present				
American Bittern	1	Apr. 29			Still	Present				
White-faced Ibis	1	Apr. 30			1	Apr. 30				
Sand hill Crane	60	Mar. 25	Flying over		130	Apr. 16				
<u>II. Shorebirds, Gulls and Terns:</u>										
Killdeer	1	Mar. 15			Still	Present				
Long-billed Curlew	1	Mar. 29			Still	Present				
Willet	4	Apr. 24			Still	Present				
Greater Yellow Legs	4	Apr. 18								
Lesser Yellow-legs	11	Apr. 11			Still	Present				
Pectoral Sandpiper	?	Apr. 20			Still	Present				
American Avocet	7	Apr. 18			Still	Present				
Wilson's Phalarope	23	Apr. 20			Still	Present				
Ring-billed Gull	15	Mar. 1			22	Mar. 22				
Forster's Tern	16	Apr. 25			Still	Present				
Baird's Sandpiper	?	Apr. 20								
Wilson's Snip	1	Apr. 11								
Marbled Godwit	7	Apr. 30			Still	Present				

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	1	Mar. 31	Still Present		
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle	3 ad. 1/10, 2 ad. 2/23, 1 imm. 4/30				
Duck hawk	1	Apr. 30	1	Apr. 30	
Horned owl	Year around residents				
Magpie	Year around residents				
Raven	None				
Crow	3	Mar. 9	5	Mar. 25	
Bald Eagle	1 ad. 2/15, 1 ad. 3/3, 2 ad. and 1 imm. 3/8.				
Swainson's Hawk	1	Apr. 20	Still Present		
Red-tailed Hawk	1	Apr. 18			
Sparrow Hawk	1	Apr. 2			
Rough Legged Hawk			1	Apr. 22	
Marsh Hawk			Still Present		
Barn Owl	1	Apr. 27	1	Apr. 27	
Short-eared Owl	2	Apr. 10	Still Present		
Reported by Don R. Perkuchin					

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.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge Crescent Lake RefugeMonths of Mayto August 30195 68

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Eared Grebe	Present		Unk.		Still present		2	Unk.	50	
Western Grebe	Present		60	July 25	Still present			Unk.	25	
Pied-billed Grebe	Present		Unk.		Still present					
White Pelican	60	Aug. 17	250	Aug. 22	Still present					
Double-crested Cormorant	Present		275	July 15	100	Aug. 31				
Black-crowned Night Heron	Present		Unk.		Still present			75	100	
American Bittern	Present		Unk.		Still present					
Great Blue Heron	Present		10	July 25	Still present					
Common Egret	1	June 6								
White-faced Ibis					1	May 11				
Snowy Egret	1	June 6								
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	Present				Still present					
Long-billed Curlew	Present		60	July 19	1	Aug. 13				
Upland Plover	Present		Unk.		Unk.					
Western Willet	Present		Unk.		Unk.					
Stilt Sandpiper					2	May 30				
Sora Rail	1	May 11			Still present					
Lesser Yellowlegs	?	May 5								
Common Snipe	?	May 5								
Dowitcher	?	May 5								
Wilson's Phalarope	Present									
American Avocet	Present		100	Aug. 22	Still present					
Franklin's Gull	?	May 5								
Forster's Tern	present		50	July 15	Unk.		1	12	20	
Black Tern	6	May 12								

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove	Present		Still present		
IV. <u>Predaceous Birds:</u> Golden eagle (sightings) Duck hawk Horned owl Magpie Raven Crow Red-tailed Hawk Swainson's Hawk Marsh Hawk Turkey Vulture Barn Owl Burrowing Owl Short-eared Owl	1 imm. 5/2 Present Year around residents 2 May 2 Present 1 May 5 Present Present 1 July 23	1 imm. 5/30 25 Aug. 1	1 imm. 6/7 Still present 1 July 19 Still Present Still present 1 June 1	1 imm. 7/12 1 Aug. 3 5 15	
Reported by <u>Don R. Perkuchin, Refuge Manager</u>					

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.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge Crescent LakeMonths of September to December 195 68

(1) Species Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production		(6) Total
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young Estimated Number
I. Water and Marsh Birds:									
Western Grebe	20	Sept. 5	30	Oct. 3	6	Nov. 1			
Pied-billed Grebe	5	Sept. 6	15	Oct. 4	15	Oct. 4			
White Pelican	Present		200	Sept. 6	2	Oct. 4			
Double-crested Cormorant	Present		35	Sept. 19	2	Oct. 19			
Great Blue Heron	4	Sept. 5	4	Sept. 5	4	Oct. 3			
Black-crowned Night Heron	1	Sept. 5	1	Sept. 5	1	Sept. 5			
American Bittern	1	Sept. 5	3	Sept. 19	1	Oct. 3			
Sandhill Crane	40	Nov. 15	40	Nov. 15	40	Nov. 15			
II. Shorebirds, Gulls and Terns:									
Killdeer	Present		20	Oct. 4	20	Oct. 4			
Common Snipe	2	Sept. 14	Unknown		1	Oct. 19			
Long-billed Curlew	1	Sept. 5	1	Sept. 5	1	Sept. 5			
Greater Yellowlegs	6	Sept. 10	6	Sept. 10	6	Sept. 10			
Lesser Yellowlegs	35	Sept. 19	35	Sept. 19	35	Sept. 19			
Wilson's Phalarope	10	Sept. 5	35	Sept. 19	35	Sept. 19			
Ring-billed Gull	2	Sept. 19	9	Oct. 31	3	Nov. 13			
Franklin's Gull	540	Sept. 5	940	Sept. 5	375	Sept. 19			
III. Seabirds:									

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	5	Sept. 19	Unknown	5	Sept. 20
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Bald Eagle	1	Oct. 24	Unknown	1	Dec. 1
Golden eagle	1	Oct. 31	Unknown	Still	Present
Duck hawk					
Horned owl	1	Sept. 5	Unknown	Still	Present
Magpie	3	Sept. 5	Unknown	Still	Present
Raven					
Crow	19	Oct. 18	19 Oct. 18	19	Oct. 18
Swainson's Hawk	2	Sept. 6	Unknown	Unknown	
Rough-legged Hawk	1	Oct. 18	Unknown	Still	Present
Marsh Hawk	Present		Unknown	Still	Present
Sparrow Hawk	1	Oct. 4	Unknown	1	Oct. 4
Reported by <u>Don H. Perkuchin</u>					

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.

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

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Crescent Lake

For 12-month period ending August 31, 1968

Reported by Don R. Perkuchin

Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat			(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage				
# 1 Martin Lake	Crops	0	Ducks	32,787	100	80
	Upland	1004	Geese	245	2	5
	Marsh	76	Swans			
	Water	14	Coots	7,000	15	25
	Total	1094	Total	40,032	117	110

# 2 Smith Lake	Crops	0	Ducks	46,266	155	125
	Upland	330	Geese	168	2	4
	Marsh	135	Swans			
	Water	81	Coots	7,973	20	30
	Total	546	Total	54,407	177	159

# 3 Perrin Lake	Crops	0	Ducks	30,276	130	105
	Upland	409	Geese	70		
	Marsh	5	Swans			
	Water	18	Coots			
	Total	432	Total	30,346	130	105

# 4 Harrison Lake	Crops	0	Ducks	20,277	70	60
	Upland	510	Geese	420		
	Marsh	16	Swans			
	Water	22	Coots	826	5	5
	Total	548	Total	21,523	75	65

# 5 Lost Lake	Crops	0	Ducks	20,494	100	80
	Upland	1109	Geese			
	Marsh	0	Swans			
	Water	24	Coots			
	Total	1133	Total	20,494	100	80

# 6 Goose Lake	Crops	0	Ducks	323,478	200	165
	Upland	1200	Geese	43,438	6	2
	Marsh	158	Swans			
	Water	207	Coots	48,629	85	130
	Total	1565	Total	415,545	291	297

# 7 Gimlet Lake	Crops	2	Ducks	69,264	110	95
	Upland	940	Geese	19,083	28	17
	Marsh	19	Swans			
	Water	82	Coots	7,090	10	10
	Total	1039	Total	95,437	148	122

(over)

INSTRUCTIONS

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

- (1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.
- (5) **Production:** Estimated total number of young raised to flight age.

UNITED STATES
DEPARTMENT OF THE INTERIOR
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BUREAU OF SPORT FISHERIES AND WILDLIFE
WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Crescent Lake

For 12-month period ending August 31, 1968

Reported by Don R. Perkuchin

Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat			(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage				
# 8 Hackberry Lake	Crops	0	Ducks	13,299	40	35
	Upland	1514	Geese	497	6	5
	Marsh	22	Swans			
	Water	281	Coots	1,249	5	10
	Total	1817	Total	15,045	51	50

# 9 Jones-Swan Lakes	Crops	0	Ducks	44,007	100	85
	Upland	669	Geese	100		
	Marsh	27	Swans			
	Water	114	Coots	421		
	Total	810	Total	44,528	100	85

# 10 Roundup lake	Crops	0	Ducks	34,698	135	110
	Upland	969	Geese	2,193	2	
	Marsh	5	Swans			
	Water	141	Coots	1,042	5	5
	Total	1115	Total	37,933	142	115

# 11 Island Lake	Crops	1	Ducks	51,862	110	95
	Upland	1152	Geese	1,645	8	5
	Marsh	102	Swans			
	Water	611	Coots	1,879	5	5
	Total	1866	Total	55,386	123	105

# 12 Shafer - Christ Lakes	Crops	0	Ducks	90,332	100	85
	Upland	1455	Geese	303	4	4
	Marsh	9	Swans			
	Water	64	Coots	7,566	20	30
	Total	1528	Total	98,506	124	119

# 13 Crane Lake	Crops	0	Ducks	153,455	55	45
	Upland	1731	Geese	125	2	5
	Marsh	18	Swans			
	Water	90	Coots	115,112	10	15
	Total	1839	Total	268,693	67	65

# 14 Deer Lake	Crops	0	Ducks	80,146	80	70
	Upland	99	Geese			
	Marsh	88	Swans			
	Water	88	Coots	40,920	100	150
	Total	275	Total	121,066	180	220

(over)

INSTRUCTIONS

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

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WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Crescent Lake

For 12-month period ending August 31, 19 68

Reported by Don R. Perkuichin

Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat			(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage				
# 15 Meadows West	Crops	0	Ducks	34,651	220	180
	Upland	5173	Geese	232	4	5
	Marsh	5	Swans			
	Water	43	Coots			
	Total	5221	Total	34,933	224	185

# 16 Meadows East	Crops	0	Ducks	48,818	335	275
	Upland	2988	Geese			
	Marsh	30	Swans			
	Water	25	Coots	2,800	15	25
	Total	3043	Total	51,618	350	300

# 17 Uplands	Crops	0	Ducks	24,667	170	140
	Upland	21,279	Geese			
	Marsh	1	Swans			
	Water	7	Coots	2,030	10	20
	Total	22,125	Total	26,697	180	160

Total	Crops	3	Ducks	1,118,777	2210	1830
	Upland	43,369	Geese	68,575	64	50
	Marsh	712	Swans			
	Water	1,912	Coots	244,837	305	460
	Total	45,996	Total	1,432,189	2579	2340

	Crops		Ducks		(Birds)	
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

(over)

INSTRUCTIONS

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

- (1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.
- (5) **Production:** Estimated total number of young raised to flight age.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Crescent Lake Refuge

Months of January to April, 19 60

(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.
Sharp-tailed Grouse	44,066 acres meadows and uplands				1:1				650	325 males counted on 55 dancing grounds.
Pinnated Grouse	8,000 acre marsh and better uplands				Unknown				2	1 male within 1/2 mile of refuge boundary.
Ring-necked Pheasant	3,000 acres marsh edges and better uplands				1M:2F				600	Good winter survival.

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.

3-1752
Form NA-2
(April 1946)

UPLAND GAME BIRDS

Refuge Crescent Lake

Months of May to August 31, 19 68

(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 specifically requested. List introductions here.
Sharp-tailed Grouse	44,066 acres meadows and uplands		19	550	1:1				1,000	Very good production
Pinnated Grouse	8,000 acres meadows and uplands		Unknown						Unknown	Last sighting - 1 in April, 1968
Ring-necked Pheasant	3,000 acres marsh edges and better uplands		14	250	1M : 2F				600	Fair production year

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.

3-1752
Form NK-2
(April 1946)

UPLAND GAME BIRDS

Refuge Crescent Lake Months of September to December, 1968

(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 specifically requested. List introductions here.
Sharp - tailed Grouse	44,000 acres meadows and Upland				1M : 1F	200			700	Good hunting on and around refuge.
Pinnated Grouse	8,000 acres meadows and uplands	None	Sighted			0			Unknown	Last sighting - 1 in April, 1968.
Ring - necked Pheasant	3,000 acres marsh edges and better uplands				1M : 2F	30			650	Good winter population.

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.

3-17
Form RR-3
(June 1945)

BIG GAME

Refuge Crescent Lake

Calendar Year 1968

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	Est. from observ- ations M-F
Rocky Mountain Mule Deer	500 acres of browse and 40,000 acres of grassland	60	15				Unknown				None	190	160	1 : 1.6
White-tailed Deer	500 acres of browse and 500 acres of marsh borders	25	3				Unknown				None	65	55	1:2.7
Pronghorn	40,000 acres of grassland	25	5				Unknown				None	205	160	1:4

Remarks: Observed
during summer and
fall

Mule Deer: Male - 23; Female & Yrlgs. - 41; Fawns - 54 (Twin sets 16 and one set triplets) = 135
White-tailed Deer: Male - 7; Female & Yrlgs. - 19 Fawns - 14 (Twin sets 4) = 40
Pronghorn: Male - 10; Female & Yrlgs. and Kids - 113 = 123

Reported by Don R. Perkuchin, Refuge Manager

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Crescent Lake Refuge

Year ending April 30, 1968

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5) Total Popula- tion
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	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				
Muskrat	2,634													1,000
Raccoon	800													50
Mink	800													20
Skunk, Striped	44,084													50
Skunk, Spotted	44,084													Unknown
Coyote	44,084													25
Badger	44,084													25
Long-tailed Weasel	44,084													300
Jackrabbit, W. Tailed	44,084													250
Jackrabbit, B. Tailed	44,084													150
Cottontail	44,084													250
Porcupine	44,084													5

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS: Muskrat pop. figure based on muskrat house count (class c data). Remaining pop. figures based on casual observations (class D data).

Reported by Don R. Perkuchin

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 unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

DISEASE

Refuge Crescent Lake

Year 1968

Botulism

Lead Poisoning or other Disease

Period of outbreak July 15 - Aug. 5

Period of heaviest losses July 25-31

Losses:

	Actual Count	Estimated
(a) Waterfowl	<u>30</u>	<u>50</u>
(b) Shorebirds	<u> </u>	<u> </u>
(c) Other	<u> </u>	<u> </u>

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl (12)	<u>6</u>	<u>50%</u>
(b) Shorebirds	<u> </u>	<u> </u>
(c) Other	<u> </u>	<u> </u>

Areas affected (location and approximate acreage)

North central shoreline area of Roundup Lake (5 acres)

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.)

Average depth of water between one and two feet.

Condition of vegetation and invertebrate life Not known.

Remarks

Kind of disease None noted

Species affected

Number Affected Species	Actual Count	Estimated
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

Number Recovered

Number lost

Source of infection

Water conditions

Food conditions

Remarks

3-1757
Form NR-7
(Rev. June 1960)

(1)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

Refuge Crescent Lake Year 19 68

Collections and Receipts (Seeds, rootstocks, trees, shrubs)							Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
Ponderosa pine	60 trees	R	5/3/68	purch.	16.40	None	Headquarters (Qtrs. 8 & 9)	120 trees/ acre	0.5 acre	60 potted seedlings	4/15- 5/13/68	50%	Poor seedling vigor
Austrian Pine	60 trees	R	5/3/68	purch.	16.40	None	Headquarters (Qtrs. 8 & 9)	120 trees/ acre	0.5 acre		4/15- 5/13/68	100%	

- (1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

Total acreage planted:

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

Remarks: Landscaping was done along with this shelterbelt planting.
Wildlife and refuge personnel will both benefit from this windbreak.
Thirty more potted Austrian pine seedlings will be planted in
spring, 1969 to replace Ponderosa pine seedlings which perished.

State **Nebraska**

L. Keller

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

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

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

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

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

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

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

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

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

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

REFUGE GRAIN REPORT

Refuge Crescent Lake

Months of January through December, 1956

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD BU.	(3) RECEIVED DURING PERIOD BU.	(4) TOTAL BU.	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD BU.	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed BU.	Total		Seed	Feed BU.	Surplus
Corn	115	400	515			240		275		275	
Milo			165			40		125		125	

(8) Indicate shipping or collection points Desoto NWR and Lake Andes NWR.

(9) Grain is stored at Headquarters grain bin and goose feeder.

(10) Remarks _____

*See instructions on back.

REFUGE GRAIN REPORT

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

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 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.

ANNUAL REPORT OF PERSTICIDE APPLICATION

Crescent Lake

Proposal Number

68-1, 68-2, 68-3

Reporting Year

1968

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

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7/3/68	Leafy Spurge	NE Island Lake	12' square plot	2,4-D amine	.02oz.	4lb./ac.	60 gals. H ₂ O/ac.	Power sprayer
7/3-24/68	Canada Thistle	Gimlet, Hackberry, Headquarters and U. Harrison.	12.5	2,4-D amine	18 lbs.	1.4 lb./ac.	72 gals. H ₂ O/ac.	Power Sprayer
Mid-July	Brome and other tame grasses.	So. and SW sides Smith Lake.	1.5	Dalapon	18 lbs.	12 lbs./ac.	50 gals. H ₂ O/ac	Power Sprayer

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

This year's growth of leafy spurge killed. 75% of this year's Canada Thistle growth killed by two treatments of .3 lb/ac. Only about 25% of brome and other tame grasses controlled by Dalapon application.

"That Old Gang of Mine." from left to right: Duskin,
Jakabosky, Covalt, Ireys, Saunders, Perkuchin, and Hyland.
(Roll 4-68-2, August, 1968, CBP)

NE-CRL-816

Mistaken for a tomcat seen in the headquarters area
numerous times before, this bobcat was shot in tall
grass 150 feet south of the office. Believed to be
an immature female, this is the first verified record
of a bobcat on the refuge. (Roll 5-68-3, August, 1968,
JLJ)

NE-CRL-817

JAN • 69



NE_CRL-816



69 • NVI

NE_CRL-817

Though not a "Boone and Crockett" trophy, Dawn Perkuchin thought this old pronghorn was a dandy. (Roll 7-68-2, August, 1968, RDD)

NE-CRL-818

Our attempts to nurse this car hit mule deer fawn back to good health were in vain. (Roll 3-68-1, August, 1968, JJJ)

NE-CRL-819



NE-CRL-818



NE-CRL-819

Late each winter fresh prairie hay is put in the goose nesting platforms. Looks like Covalt was setting up housekeeping, eh!? (Roll 1-68-1, January, 1968, DRP)

NE-CRL-820

Ev Dietlein and Art Covalt placing new cattle guard into west mail road just southeast of Smith Lake. (Roll 7-68-1, September, 1968, DRP)

NE-CRL-821

• JAN • 69



NE-CRL-820

• JAN • 69



NE-CRL-821

Bob Duskin removing a blue-winged teal from swim-in trap
on Goose Lake. (Roll 6-68-1, August, 1968, JLJ)

NE-CRL-822

Three happy ice fishermen on Island Lake with Northern
pike weighing up to eight pounds. (Roll 2-68-5, February,
1968, RDD)

NE-CRL-823



NE-CRL-822



NE-CRL-823

One of the 877 adult yellow perch and 68 mature bluegill transplanted into Crane Lake by the Nebraska Game and Parks Commission. (Roll 7-68-3, October, 1968,,RDD)

NE-CRL-824

From left to right: Dale McLain, Hyland, Gordon Beckett and Perkuchin measuring and weighing fish shocked in Island Lake. Beckett and McLain are with Fisheries services at Valentine, Nebraska. (Roll 5-68-2, August, 1968, RDD)

NE-CRL-825



69 • NVF •

NE-CRL-824



• JAN • 69

NE-CRL-825

Local contractor drilling new well for quarters 9 domestic water supply. (Roll 2-68-1, March, 1968, DRP)

NE-CRL-826

New stock well being drilled by Chuck Dunbar, local well-driller, at well site no. 3 on southwest end of Smith Lake, Without the windmills to bring the water forth from the vast underground reservoir, much of the sandhills would be indeed desolate. (Roll 7-68-4, November, 1968, DRP)

NE-CRL-827

NE-CRL-826

• JAN • 69



NE-CRL-827

• JAN • 69



Thar she blows! One of six potholes blasted with AN/FO mixture in March along the NE edge of Island Lake. (Roll 2-68-3, March, 1968, DRP)

NE-CRL-828

Blasted pothole (G-12-06) immediately after blast. Despite the lack of wind, the hole had an average depth of 4 feet. With 412.5 lbs. of AN/FO 518 cu. yd. of dirt were moved at a cost of \$.232 per cubic yard. (Roll 2-68-4, March, 1968, DRP)

NE-CRL-829



NE-CRL-828



NE-CRL-829

Old picket fence around courtyard and behind office was removed by Ireby to reduce maintenance load. The remainder of the fence around quarters 1 and 5 received a long overdue coat of paint. (Roll 4-68-3, August, 1968, JLJ)

NE-CRL-830

Saunders posted the new portion of the public hunting area and the new 5,100 acre closed area. Approximately 40,900 acres is open to hunting of mule and white-tailed deer, antelope, sharp-tailed grouse, and ring-necked pheasants. (Roll 5-68-1, August, 1968, JLJ)

NE-CRL-831

JAN • 69



NE-CRL-830

• JAN • 69



NE-CRL-831

Hyland taking water sample from Round-up Lake with sampler designed and constructed by Covalt. (Roll 4-68-1, August, 1968, JLJ)

NE-CRL-832

Jakabosky used frequency quadrat and point frame to determine gross differences in percent of species composition and the percentage of ground cover, litter, and plant cover in meadows and uplands under different types of land use. (Roll 4-68-4, August, 1968, JLJ)

NE-CRL-833

NE_CRL_832



JAN • 69

NE_CRL_833



JAN • 69

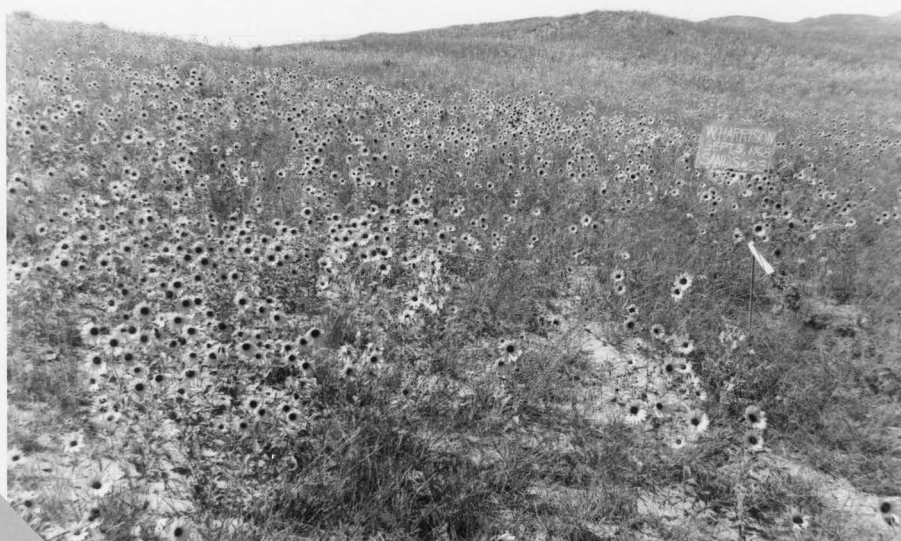
Heavily grazed sands site transect on west side of Harrison Lake. This upland tract was fenced this fall to protect it from further grazing abuse. Heavy rains in August helped produce a bumper crop of wild sunflowers. (Roll 6-68-2, September, 1968, JLJ)

NE-CRL-834

Close-up of frequency quadrat in same site showing abundance of bare soil and undesirable forbs. In sands sites which have not been grazed in the last 20 years, the quadrat would have about 95% litter (covers the bare soil) and only 5% live grass plants. (Roll 6-68-3, September, 1968, JLJ)

NE-CRL-835

• JAN • 69



NE-CRL-834

JAN • 69



NE-CRL-835

Sub-irrigated range site transect (#22) on east side of Harrison Lake. Heavy grazing or prescribed burning every 3-5 years might make this cover more attractive to wildlife. (Roll 6-68-4, September, 1968, JLJ)

NE-CRL-836

Close-up of frequency quadrat in same site showing thick mat of cover. There is about 86% litter, 8% plant cover and 6% bare soil in winter grazed sub-irrigated areas. In non-use sub-irrigated sites there is about 94% litter, 5% plant cover and 1% bare soil. (Roll 6-68-5, September, 1968, JLJ)

NE-CRL-837



NE-CRL-836



NE-CRL-837

Clerk Duskin holds head of freshly killed and partially eaten mule-deer fawn. On several occasions the two dead grey hounds lying next to this fawn (apparent victims of lead poisoning) had been seen running free on the refuge for about six weeks prior to this time. How many other deer they killed we do not know, but we are sure they won't be doing it anymore. (Roll 2-68-2, March, 1968, DRP)

NE-CRL-838

Remains of four coyotes on southeast shoreline of Crescent Lake, suspected victims of the Bureau's "new role" services to wildlife. Cow hide and bones in right background may be remains of bait station on lands of Mrs. Mary E. Eldred. Just three weeks earlier two adult and one immature bald eagles were flushed from this site. (Roll 2-68-6, March, 1968, DRP)

NE-CRL-839



NE-CRL-838



NE-CRL-839

NORTH PLATTE REFUGE

1. General

Located about 70 miles west of Crescent Lake National Wildlife Refuge, this easement area seldom inspected. Recreational use on Lake Minatare is administered by the Nebraska Game and Parks Commission. Our main activity at North Platte is maintaining the boundary posting to prevent disturbance of waterfowl from October 1 through December 31 each year.

Nebraska Conservation Officer James McCole handles routine patrol and law enforcement work with the occasional help of the USGMA stationed at North Platte, Nebraska. Refuge personnel made no trips to the area this year. McCole was provided with 12 new closed area signs at a cost of \$60.00 (purchased by the Bureau) for posting around Lake Minatare.

Mallards peaked at an estimated 200,000 on December 5, with a peak of 135,000 on November 25 in 1967. On December 5 geese peaked at only 50 Canadas, compared to 500 on November 19, 1967. All waterfowl data were obtained from aerial surveys made by John Sweet, NG&P Waterfowl Biologist

2. Public Use

The following information is for the record only. It was originally reported by the Bureau of Reclamation, and is always one year behind.

1967

Sightseeing	21,000
Picnicking	23,000
Camping	4,000
Swimming	36,000
Waterskiing	2,500
Boating	21,000
Fishing	<u>22,000</u>

Total Visitor Days 130,500

These estimates are based on periodic counts of cars, boats and other uses made by the Nebraska Game and Parks Commission personnel. They were taken from the "Recreation and Wildlife Summary," 1967, Bureau of Reclamation form 7-1643.

WATERFOWL

REFUGE North Platte

MONTHS OF January TO April, 19 68

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

Area not visited during the period. Use
probably light during spring migration period.

WATERFOWL

REFUGE North Platte

MONTHS OF May TO August, 1968

(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			Area not visited during period. Heavy recreational use - boating, swimming, picnicking, water skiing and camping through September 30.							
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard			Waterfowl use very limited.							
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
<u>Coot:</u>										

WATERFOWL

REFUGE North Platte

MONTHS OF September TO December, 19 68

(1) Species	(2) Weeks of reporting period									
	9/1-1	9/8-2	9/15-3	9/22-4	9/29-5	10/6-6	10/13-7	10/20-8	10/27-9	11/3-10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
XXXX Total Geese										
Ducks:										
Mallard										
Black				15	100	260	1,275	4,580	7,125	19,635
Gadwall				5		25	150			
Baldpate							315	10		
Pintail							125			
Green-winged teal				10	50	20			5	
Blue-winged teal				200	200	40	280	270	70	
Cinnamon teal				275	180					
Shoveler										
Wood					75		40			
Redhead										
Ring-necked				5	100	5	10	75	70	15
Canvasback				5	10					
Scaup								40		
Goldeneye				5			5	10	80	
Bufflehead									5	
Ruddy					5			10		15
Other				15	15				10	
XXXX C. Merganser				5	15	205	135	515	350	310
XXXX Total Ducks				540	1,130	580	2,335	5,510	7,715	19,980
Coot:				380	225	125	240	5		5

3 -1750a

Cont. N

(Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUGE

North Platte

MONTHS OF

September

TO

December

, 19 68

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	11/10-16 11	11/17-23 12	11/24-30 13	12/1-7 14	12/8-14 15	12/15-21 16	12/22-28 17	12/29-31 18		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	5	5	50	50	50				1,190	
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Other Total Geese	5	5	50	50	50				1,190	
Ducks:										
Mallard	19,635	19,635	200,000	200,000	128,580	128,580	2,500	2,500	5,130,940	
Black										
Gadwall									1,260	
Baldpate									1,900	
Pintail									1,470	
Green-winged teal	5	5							7,525	
Blue-winged teal									3,185	
Cinnamon teal										
Shoveler									805	
Wood										
Redhead	15	15							2,170	
Ring-necked									105	
Canvasback									280	
Scaup									700	
Goldeneye									35	
Bufflehead	15	15							420	
Ruddy									230	
Other C. Merganser	310	310							15,295	
Total Ducks	19,980	19,980	200,000	200,000	128,580	128,580	2,500	2,500	5,169,370	
Coot:	5	5							6,930	

(over)

	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans	0	0	0
Geese	1,190	50	0
Ducks	5,169,370	200,000	(Unknown) Slight
Coots	6,930	380	(Unknown) Slight

SUMMARY

Principal feeding areas Lakes Minnetonka, Alice and Winter Creek on Refuge; surrounding irrigated cornfields; and North Platte River off Refuge.

Principal nesting areas _____

Reported by Don R. Perleuchin, Refuge Manager
John Sweet, Waterfowl Biologist, NWRPC

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.
1953

(Nov. 1945)

Refuge North Platte Months of September to December, 1966

[illegible]

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove					
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow					
				Reported by <u>Don J. Fortman, Refuge Manager</u>	

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.

3-1750b

Form NR-1B

(Rev. Nov. 1957)

UNITED STATES

DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge North PlatteFor 12-month period ending August 31, 1968Reported by Don R. PericuchinTitle Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	Acreage	(3) Use-days	(4) Breeding Population	(5) Production
#1 Lake Alice	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water	750	Coots		
	Total		Total	*	
#2 Winter Creek and Lake No. 2	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water	510	Coots		
	Total		Total	*	
#3 Lake Minatare	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water	2,150	Coots		
	Total		Total	*	
Total	Crops		Ducks	5,856,105	
	Upland		Geese	6,125	
	Marsh		Swans	0	
	Water		Coots	Unknown	
	Total	5,107	Total	5,862,230	
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		

-- Note: Waterfowl use data based on

Sept.-Dec. State census

data for fall migration, 1967.

(over)

* Not enough information for

valid reporting. Most use on Minatare

INSTRUCTIONS

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

- (1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should be equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding
Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

Regional Directro, Minneapolis, Minn.

November 25, 1968

Refuge Manager, Crescent Lake Refuge
Ellsworth, Nebraska 69340

Monthly Activities Report July 21 -- August 22

I. General

The month started very dry with severe lighting storms, the fire hazard was extremely high. Relief came with above normal rainfall (3.69 inches above normal).

Brood counts were conducted.

II. Activities and Accomplishments

The fire equipment was checked and demonstrated, a emergency alert system was installed, all fire extinguishers were taken to Alliance to be check and recharged the old ones to be replaced. A station safety inspection was conducted by Mr. Lyle Miller, Regional Safety Officer.

The west mail road graveling was completed, all electrial wiring in the headquarters area was checked and improvments made where needed. A new yard light was installed on the front of the office. The picket fence around the court yard and behind the office was removed and the remaining fence received a fresh coat of paint.

A vented diesel fuel tank and pump were installed. Canada Thistle was sprayed on most of the refuge in an effort to control its spread. New signs were posted for the open and closed areas for the coming hunting seasons. Area Biologist Ralph Town paid the refuge a visit and helped us solve the problems we had encountered since his last visit.

III. Public Relations

Visitor use for the period totaled 197, down slightly from last month. A snapping turtle feed was held for the staff and their families with R. Town as a guest. A good time was had by all.

Don R. Perkuchin

Regional Director, Minneapolis, Minn.

November 26, 1968

Refuge Manager, Crescent Lake Refuge
Ellsworth, Nebraska 69340

Monthly Activities Report August 23 - September 21

I. General

This period was a dry one with only .22 inches of rain (normal for this period is 1.49) received. Strong winds accelerated evaporation of surface water from the lakes and potholes. The fire hazard again was high by the end of the month. Duck banding was completed and fall waterfowl surveys started.

II. Activities and Accomplishments

Various repair of refuge vehicles was completed, both of the fire towers were fenced off and gates with locks installed. Hunting regulations and signs for the parking areas were completed, two auto gates were replaced on the west mail road and one new entrance sign placed at the north entrance to the refuge.

A sampling of fish was taken on Crane, Island and Hackberry Lakes by G. Beckett, D. McLain, of Fishery Services at Valentine, and Jack Peterson of the Nebraska Game Commission, Alliance. It was decided to transplant some fish to Island and Crane Lakes this fall and to seine carp this winter from Island Lake.

III. Problems

Portions of the west mail road are extremely dangerous at curves. It was decided to eliminate the dangerous curve at the SW corner of Goose Lake by relocation of that $\frac{1}{4}$ to $\frac{1}{2}$ mile stretch of road about a hundred yards to the south.

IV. Public Relations

Visitor use for the period totaled 148, down from the last period. Manager Perkuchin attended the Central Mountains and Plains section of the Wildlife Society Annual Meeting at Halsey National Forest, attended the District 30 School meeting and presented a slide talk for the Rotary Club of Oshkosh.

Don R. Perkuchin

Regional Director, Minneapolis, Minn.

December 10, 1968

Refuge Manager, Crescent Lake Refuge
Ellsworth, Nebraska 69340

Monthly Activities Report September 22 - October 22

I General

Again this period was dry with only .63 inches of rain (normal .92) received. The fire hazard remains high.

Summer range surveys were completed with the aid of Mr. Ken Weyers, Range and Wildlife Officer, U. S. Forest Service at Chadron, Nebraska.

II. Activities and Accomplishments

TV towers were installed at Quarters 1, 8, and 9, two new entrance signs were installed at the South and West boundaries, cross-fencing was completed in grazing unit 6b-1, two stock watering wells were drilled and a new road was made to the new equipment storage area east of qtrs. 9.

Fish were transplanted in Island and Crane Lakes (105 northern pike, 416 perch and 68 bluegil) by the Nebraska Game Commission.

III. Problems

Three hunters were apprehended for trespassing on the refuge. After the summer range survey it was decided to reduce the AUM's allotted to several grazing units, and to add cross-fencing and more stock watering wells. These changes in our grassland management program should help improve range conditions and benefit the native plants and animals, particularly.

IV. Public Relations

Manager Perkuchin delivered Revenue sharing check in the amount of \$15,440.91 to the Garden County Treasurer, showed wildlife film to the Garden Rambler Garden Club at Oshkosh, and attended the longhorn and buffalo auction at Fort Niobrara. Visitor use for the period totaled 151.

Don R. Perkuchin

Regional Director, Minneapolis, Minn.

December 10, 1968

Refuge Manager, Crescent Lake Refuge
Ellsworth, Nebraska 69340

Monthly Activities Report October 23 - November 22

I. General

Moisture received for the period was .45 inches (normal .59 inches). This brings total moisture for the year to 15.92 inches, 1.69 inches below normal. Our first snow (a trace) came on the 5th of November, the lakes froze over on the 17th, and reopened off and on during the rest of the period.

Two adult Golden Eagles were sighted.

II. Activities and Accomplishments

During this period another load of fish was placed in Island (70 Northern Pike) and Crane (461 Perch) Lakes by the Nebraska Game Commission.

A refuge inspection was conducted by Assistant Regional Supervisor, John C. Carlsen. Two miles of cross-fencing was completed in unit 16b-1. Remodeling of the office was started. The west mail road was graded and the holes filled, refuse was buried at the dump and a trash tank installed.

III. Problems

IV. Public Relations

Visitor use for the period totaled 175. Manager Perkuchin attended the Grassland Ecologist Planning session in Valentine, Nebraska on October 23. With Ned Peabody, Valentine Refuge Manager and Don Heinz, District Ranger at Nebraska National Forest, Halsey, Nebraska, manager discussed range management and inspected range on the Bessey Division of the Forest.

Don R. Perkuchin

Regional Director, Minneapolis, Minn.

December 23, 1968

Refuge Manager, Crescent Lake Refuge
Ellsworth, Nebraska 69340

Monthly Activities Report November 23 - December 21

I. General

Near blizzard conditions brought 3 inches of snow (.12 inches prec.) on the last day of the period. The snow combined with strong winds out of the northwest caused considerable drifting (1' to 2' drifts) and closed all county roads leading to the refuge.

The lakes started opening December 3rd and remained open until December 13th. They remained closed the rest of the period.

The resident goose flock started leaving the 17th of December, and were all gone by the 18th.

Two Golden Eagles, 1 prairie Falcon and 1 Coyote were sighted.

Muskrat house count was completed with results showing an estimated 30% increase over C.Y. 67.

II. Activities and Accomplishments

During this period a domestic well was drilled for the headquarters buildings, and rushes were mowed around Island Lake in preparation for future AN-FO blasting. The west jetty on Gimlet Lake was extended 100 feet.

Program scheduling was completed for F.Y. 70 - 75.

III. Problems

Drifting snow once again reminds us of our susceptibility of being snowed in. Our isolation makes it imperative that we acquire a reliable emergency electrical system.

IV. Public Relations

Manager Perkuchin visited the SCS office in Oshkosh to discuss the grazing rate changes for the 1969 grazing season. The staff attended a Christmas party given by the Covalt's and the District No. 30 school Christmas program.

Don R. Perkuchin

SOIL AND MOISTURE NARRATIVE STATEMENT - FISCAL YEAR 1968

Crescent Lake National Wildlife Refuge

Ellsworth, Nebraska

Five wells were replaced, and one new well was installed. Six potholes were blasted on the northeast edge of Island Lake in late winter with an ammonium nitrate/fuel oil mixture. These potholes will provide both waterfowl breeding habitat (five pairs of ducks used them this spring) and cattle watering sites. In addition, 18 stock watering tanks, 15 windmills and 16 steel windmill towers were purchased to replace units needing it, as well as for new wells. An one acre tree planting windbreak of Austrian and ponderosa pines for control of wind erosion and drifting snow around quarters 8 and 9 was established.

Treatment of about 10 acres of Canada thistle with Tordon will be necessary next spring. Cross fencing in the larger summer grazing units and installation of new stock watering facilities is planned to allow range deferred grazing on them. This cross fencing will be started with the 3400 wooden fence posts and 114 rolls of barbed wire purchased this fiscal year.

Submitted by:



Don R. Perkuchin
Refuge Manager

SOIL AND MOISTURE CONSERVATION
AND
WOODLAND PRACTICE REPORT

Reporting unit

Crescent Lake NWR

Fiscal Year

1968

ITEM	Unit	COMPLETED THIS YEAR		Total Completed to Date	FUTURE NEEDS	
		Total	S&MC		Total	S&MC
RESEARCH AND STUDY TRIALS	No.					
SURVEYS						
Soil	Ac.			11,000	35,087	35,087
Range	Ac.			42,641	42,641	42,641
Woodland	Ac.					
Total	Ac.			53,641	77,728	77,728
LAND USE PLANNING - Total	Ac.	42,641		45,996	424	424
SOIL MANAGEMENT						
Brush control	Ac.					
Conservation Crop System	Ac.					
Contour Farming	Ac.					
Controlled burning:						
Marsh	Ac.				275	
Range	Ac.				1,000	250
Woodland	Ac.					
Cover crops	Ac.					
Deep plowing	Ac.					
Dune stabilization	Ac.	1	1	53	74	49
Fertilizers	Ac.				50	30
Land clearing	Ac.					
Land leveling	Ac.					
Obstruction removal	Ac.					
Pasture & hayland planting	Ac.					
Range deferred grazing	Ac.	42,641			42,641	
Range renovation	Ac.					
Range seeding	Ac.			129	80	80
Soil amendments	Ac.					
Strip cropping contour	Ac.					
Strip cropping wind	Ac.					
Stubble mulching	Ac.					
Timber stand improvement	Ac.					
Tree planting forest	Ac.					
Tree planting windbreaks	Ac.	1		57	423	423
Woodland thinning	Ac.					
Weed control dryland	Ac.	52		75	65	30
Weed control aquatic	Ac.			2	10	

ITEM	Unit	COMPLETED THIS YEAR		Total Completed to Date	FUTURE NEEDS	
		Total	S&MC		Total	S&MC
WATER MANAGEMENT						
Bank protection	Ft.					
Dam, diversion	No.					
Dam, multiple purpose	No.			6	5	3
Debris, basin or check	No.					
Dike and levee	Ft.					
Drainage main and lateral	Ft.					
Drainage area improved	Ac.					
Grade stabilization structure	No.					
Grassed waterway or outlet	Ac.					
Irrigation ditch & canal lining	Ft.					
Irrigation field ditch	Ft.					
Irrigation water management	Ac.					
Ponds and dugouts	No.	6		88	158	133
Ponds acre feet	No.	1		22	24	20
Spring development	No.					
Terracing	Ft.					
Tile drain	Ft.					
Toxic salt reduction	Ac.					
Trough or tank	No.	55	22	153	93	70
Water spreading	Ac.					
Well	No.	6	3	84	20	14
FACILITIES						
Bridges	No.					
Fencing	Mi.			155	15	8
Firebreak	Mi.					
Trails	Mi.			13	8	3

SUMMARY OF FUNDS EXPENDED

ITEM	S&MC Funds	Bureau Funds - Other than S&MC	Cooperator Funds	Total Funds
Research and study trials	\$	\$	\$	\$
Surveys				
Land Use Planning		109		109
Soil Management	415	1,976	732	3,123
Water Management	4,500	11,349	410	16,259
Facilities	1,084	2,531		3,615
Operations and Maintenance		3,030	1,647	4,677
TOTAL.	\$ 5,999	\$ 18,995	\$ 2,789	\$ 27,760

R. & M2 - July 1964

QUARTERLY SOIL AND MOISTURE CONSERVATION PROGRESS REPORT
 Refuge or WPA District: Crescent Lake Nat'l Wildlife Refuge
 Period Covered by This Report July-August-September 1967 (FY -68)

ITEM	Unit	Total Planned This F.Y.	Completed This Quarter By			Completed to Date This F.Y. By			Grand Total Completed This F.Y.
			S&M	BUR.	COOP.	S&M	BUR.	COOP.	
I. RESEARCH AND STUDY TRIALS	No.	1							
II. SURVEYS									
Soil Surveys	Ac.	35,087	(a)						
Range Surveys	Ac.								
Capability Surveys	Ac.								
Total of Above 3	Ac.	35,087							
III. LAND USE PLANNING	Ac.	42,641							
IV. SOIL MANAGEMENT									
Brush Control	Ac.								
Cons.Cropping Systems	Ac.	4							
Contour Farming	Ac.								
Contour Furrowing	Ac.								
Controlled Burning	Ac.	300							
Cover & Gr.Manure Crop	Ac.								
Critical Area Planting	Ac.	20	2			2			2
Crop Residue Use	Ac.								
Deep Plowing	Ac.								
Dune Stabilization	Ac.	20	1			1			1
Emergency Tillage	Ac.								
Fertilizers	Ac.	25							
Land Clearing	Ac.								
Land Leveling	Ac.								
Obstruction Removal	Ac.								
Pasture & Hayland Plant.	Ac.								
Pest Control	Ac.	200							
Range Deferred Grazing	Ac.	42,641		20,000			20,000		20,000
Range Proper Use	Ac.	42,641							
Range Renovation	Ac.								
Range Seeding	Ac.								
Soil Amendments	Ac.								
Stripcropping Contour	Ac.								
Stripcropping Wind	Ac.								
Stubble Mulching	Ac.								
Tree Planting	Ac.								
Tree Planting	No.								
Weed Control, Land	Ac.	50	50			50			50
Weed Control, Aquatic	Ac.								
Woodland Interplanting	Ac.								
Woodland Thinning	Ac.								

(a) SCS still working on soil resurvey of Garden County, Nebraska, including Refuge lands.

ITEM	Unit	Total Planned This F.Y.	Completed This Quarter By			Completed to Date This F.Y. By			Grand Total Completed This F.Y.
			S&M	BUR.	COOP.	S&M	BUR.	COOP.	
V. WATER MANAGEMENT									
Bank Protection	Ft.								
Dam, Diversion	No.								
Dam, Multiple Purpose	No.								
Debris Basin, or Check	No.								
Dike and Levee	Ft.								
Drainage, Main or Lateral	Ft.								
Drainage Acres	Ac.								
Grade Stab. Structure	No.								
Grassed Wtrway or Outlet	Ac.								
Irrig. Ditch & Canal Lng	Ft.								
Irrigation Field Ditch	Ft.								
Irrigation Water Mgmt.	Ac.								
Pipelines for Livestock Wtr	Ft.								
Ponds	No.	50							
Ponds Capacity Acre/Ft.	No.	102							
Spring Development	No.								
Terracing	Ft.								
Tile Drain	Ft.								
Toxic Salt Reduction	Ac.		8	3	0	8	3	0	11
Trough or Tank	No.	15	5	6	2	3	3	2	12
Water Spreading	Ac.								
Well	No.	5	1	1		1	1		2
VI. FACILITIES									
Boundary Posting	Mi.	30		24			24		24
Bridges	No.								
Corrals	No.								
Fencing	Mi.	155			75			75	75
Firebreak	Mi.								
Trails	Mi.	5		1	1		1	1	2

VII. PROGRAM COSTS (To Nearest Dollar)

ITEM	S&M Funds		Bureau Funds		Coop. Funds		Grand Total Funds To Date This F.Y.
	This Qtr.	To Date This F.Y.	This Qtr.	To Date This F.Y.	This Qtr.	To Date This F.Y.	
Research & Study Trls. ⁽²⁶⁾							
Surveys ⁽²⁶⁾							
Land Use Planning ⁽²⁵⁾							
Soil Management ⁽²⁷⁾	205	205	240	240			445
Water Management ⁽²⁸⁾	1228	1228	557	557	131	131	1916
Operations & Maint. ⁽²⁹⁻³⁰⁾			484	484	997	997	1481
Totals	1433	1433	1281	1281	1128	1128	2

List funds spent on VI. Facilities in the category Operation and Maintenance.

S&M Allotment this F.Y. \$6,000 S&M Bal. end of this Qtr. \$4,567

Refuge or Wetland Manager (sign) Don R. Perkuchin, Mgr.

D.R.P. - \$4.24 / hr
K.H. - \$2.70 / hr
A.C.C. - 3.25 / hr
Ev. D. - \$2.59 / hr
Laborer - \$2.37 / hr.
RDD - \$2.15 / hr.

Examination held on _____ day of _____
at _____
Plea: ☐ Guilty ☐ Not Guilty ☐ Pleaded exami-

Disposition by court: Fine \$ _____ ; costs \$ _____
on _____ day of _____
State court, before Judge _____

Return to _____

Signature _____

Title _____

Address _____

Date _____

Hackberry Well Tank 76

16 bags cement

man hrs w/ crawler = 2 hrs digging & filling

assemble / dig footing leveling = 2 men / 8 hrs = 16

fencing steel = 1 hr.

haul time & gather tool = 2 man hrs.

Cement running = 8 man hrs.

Sh. inlet Lake Well 10 A Unit

16 bags cement

crawler filling time = 1 hrs (including man)

haul time & gather tool = 2 hrs

Cement running time = 8 hrs (man)

fencing time = 1 hrs

preparing tank = 1 man 8 hrs

average or normal installation

time for installing slab tank

S4M - 1st ph.

S4M

Bureau

I-5311 CC/28 - 544.58 CC/16 - 544.58

Dunbar)

I-5309 CC/28 - 674.50 O4M - none

unster)

I-2264 CC/28 - 8.13 art's time 9.60
(3x3.20) Truck 3.00
(geo, bil. wgs/hrs)

0. monthly finance sheet doesn't
date this as of Oct 9, 1967

mp. Payroll CC/27 - 205.38

4 - Dan
(cutting weeds) - (Fonds include S.P. & I.H. 6 man days in Aug.)

S4M

	<u>27</u>	<u>28</u>	<u>Bureau</u>
allment			
0.00	\$ 205.38	\$ 1227.21	\$ 557.18
0000.00	<u>\$ 3567.41 Balance</u>		

Cooperator

Keller's:

Lobster - 2.37/hr
Caterpillar - 5.00/hr.

Tank installation

Unit 7b - Hackberry
Cat - 2 hrs = 10.00
Lobster 29 hrs = 68.73

Unit 10A - Humbird
Cat - 1 hr. = 5.00
Lobster 20 hr = 47.40

\$ 131.13

IV. Soil Mgmt.

	No. Complete	FUNDS		
		S&M	Bureau	Coop.
Critical Area Planting: Aris. 3 area Laborer D. Covalt 4 days mech. A. Covalt 1 day clerk Hamel 2 days	2 Ac.	75 (27)	(27)	
Dune Stabilization: Mulch @ radio tower - Laborer - Covalt 1 day trail mech. Covalt & Hamel 1/2 day	1 ac.	18 (27)	(27)	
Range Def. Grazing: Record keeping - Hamel 5 days	20,000 ac.	13 (27)	108 (27)	
Weed Control: Mowed goose browse areas, roadsides, jetty, etc. 3 da. 6 da. 25. Hyland, I. Pieper	50 ac.	112 (27)	(27)	

V. Water Mgmt.

Trough or Tank	well #41 tower & mill replaced well #21 tower, mill, tank replaced well #17 tower, mill, & tank replaced	(tower & mill purchased FY 67)	7	\$545	\$544	#131
	5 new tanks (includes well #173)		5	\$675 (28)		Permit, installed tanks (28)
Gravel	#8.139 AEC 3hrs. 9.60 truck 3hrs. 3.00			8	13	
[Well #21 & #17 (Keller's units)]				(28)	(28)	

VI. Facilities

Boundary Posting	U.E. Jones, L.E. Jones + Camp Valley (Boundary & closed Area signs)					
1 3/4 day	K.H. \$37.00 S.H. + J. \$33.00					
1/2 day	AEC 13.00					
120 mi. @ \$1.10 / mi.	12.00					
Fencing: Permittees maint. fence (75 mi. est.)						(29) 500
Trails: Assist Co. gravel 2 mi. Goose Lk. mail road						(29)
Refuge - 2 trucks @ 3.5 days						250
Ev Dietrich @ "						73
D. Covalt - laborer @ "						66 (29)
County 2 trucks & tractor @ 3.5 days						350
2 men @ 3.5 days						147
Totals				\$1433	1281	1128
Code 26				0	0	0
27				205	240	0
28				1228	557	131
29-30				0	484	997
check				1433	1281	1228

S&M Projects Completed to End of August 1967

Assigned
FUNDS

Item	S&M	Bureau	Coop
<u>II Soils Mgmt</u>			
2 Ac Grs 3 area Laborer Coralt 4 day	75+		
Critical area planting: Mech. Coralt 2 day		50+	
Clark Hamel 2			
Mulch at radio tower, water tower, Labor Coralt 1 day	18+		
Dune Stabilization: trail 1 Acre Mech Coralt & Hamel 1/2 day		25+	
Range Def. grazing: Record keeping, grazing Hamel 1 week		✓	
Wood Control: mow goose browse area Art 10 Ac Pieper 2 days	✓		
Hyland 5 (#2.37/hr.)			
<u>I Water Mgmt</u>			
Tanks (5)			

UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, Minneapolis, Minn.

DATE: August 25, 1967

FROM : Refuge Manager, Crescent Lake Refuge,
Ellsworth, Nebraska 69340

SUBJECT: 1968 S&M Funds (Mr. Carpenter's memo 8-16-67)

Manager Don Perkuchen and I have agreed that Crescent Lake could get along with \$1000 less S&M funds than has been appropriated. This would reduce our FY 1968 S&M funds from \$6000 to \$5000.

John E. Wilbrecht

1	W
3	KN
6	

AUG 13 1967

REGION 3, BSF&W, MINNEAPOLIS, MINNESOTA 55408

August 16, 1967

MEMORANDUM

TO: Refuge Managers and Wetland Managers,
Region III.

In reply refer to: R

FROM: Regional Supervisor, Division of Wildlife
Refuges, Minneapolis, Minnesota

SUBJECT: 1968 Soil and Moisture Conservation Funds

You should have now received your Operating Cost Budgets for 1968 Soil and Moisture, 0170 funds.

Some of you received less 1968 S&M, 0170 funds than you anticipated and perhaps few of you received more than you expected. Restrictions on allotment of 1968 funds did not allow Regional Office to adjust funds between stations to the extent possible in past years. It may be possible to adjust the 1968 S&M funds, through Central Office, if we have good justification.

If you believe you cannot accomplish necessary S&M work planned in F.Y. 1968 with the funds allotted, you should list projects and funds required, indicating the minimum amount of additional S&M funds needed for the current fiscal year.

If you can do necessary S&M work planned for fiscal year 1968 with less S&M, 0170 funds than you were allotted, you should indicate the amount of your 1968 funds you can release.

Please report any desired increase or decrease in 1968 S&M, 0170 funds, together with a brief justification, not later than September 10, 1967.

The amount we may be able to increase 1968 S&M allotments for one refuge will be limited by the total amount of funds another refuge is willing to release for reallocation.

Forrest A. Carpenter
Forrest A. Carpenter

Will we get:
Expense for Sales funds?

SIM FY 5 Planned Units {Prepared 8/23/67 JEW}

I. RESEARCH & STUDY TRIALS		No. 1	Waterfowl Study - Snake Study (?) (Proposed)
II. SURVEYS			
Soil surveys	Ac 35.087		SCS still working on soil ^{re} survey Garden Co.
III. LAND USE PLANNING		Ac 42.641	Mgr's work on annual grazing plans, letters to permittees Permittee sign-up & interviews
IV. SOILS MGMT			
Cons Cropping Sys	Ac 4		Food plot plantings (milo, millet, etc)
Controlled burning	Ac 300±		NE Island, Martin, Pomelli Slough (etc?)
Critical Area Planting	Ac 20±		Seeding under mulch, roads & blowouts
Dune Stabilization	Ac 20±		Mulching " "
Fertilizer	Ac 25±		Sulphurhos. to clover plantings
Pest control	Ac 200±		Burrow Gophers in meadows & along roads { Grazing records (cattle) & cattle counts
Range Det. Grazing	Ac 42.641		{ Summer Range 27.445 Ac Approx; Wink. Range 15, 196
Range Proper Use	Ac 42.641		Proper use checks w/ SCS Tech.; ^{permittee} education
Weed Control	Ac 50±		Mow goose browse areas, roadsides, jetty, etc
V. WATER MANAGEMENT			
Ponds	[1.02 Ac/Ft/Pond Avg]		
Trough or Tank	Includes towers & mills	No. 50	AN/FD holes NW Smith, Pomelli Slough, Martin, NE Island
		No. Est. 4	{ Estimate at this date
Wells		No. Est. 4	
VI. FACILITIES			
Boundary Posting	mi. 30		Hunting area. Shafer, L.E. Jones, school sec., etc.
Fencing	mi. 155		Permittees maintain fences in grazing units Refuge furnishes posts & wire.
Trails	mi. 5		Goose Lk. mail road, Roundup Lk. trail.

R M2 - July 1964

QUARTERLY SOIL AND MOISTURE CONSERVATION PROGRESS REPORT
 Refuge or WPA District: **Crescent Lake Nat'l Wildlife Refuge**
 Period Covered by This Report **October-November-December, 1967 (FY-68)**

ITEM	Unit	Total Planned This F.Y.	Completed This Quarter By			Completed to Date This F.Y. By			Grand Total Completed This F.Y.
			S&M	BUR.	COOP.	S&M	BUR.	COOP.	
I. RESEARCH AND STUDY TRIALS	No.	1							
II. SURVEYS									
Soil Surveys	Ac.	35,087	(a)						
Range Surveys	Ac.								
Capability Surveys	Ac.								
Total of Above 3	Ac.	35,087							
III. LAND USE PLANNING	Ac.	42,641		42,641					42,641
IV. SOIL MANAGEMENT									
Brush Control	Ac.								
Cons.Cropping Systems	Ac.	4							
Contour Farming	Ac.								
Contour Furrowing	Ac.								
Controlled Burning	Ac.	300							
Cover & Gr.Manure Crop	Ac.								
Critical Area Planting	Ac.	20				2			2
Crop Residue Use	Ac.								
Deep Plowing	Ac.								
Dune Stabilization	Ac.	20				1			1
Emergency Tillage	Ac.								
Fertilizers	Ac.	25							
Land Clearing	Ac.								
Land Leveling	Ac.								
Obstruction Removal	Ac.								
Pasture & Hayland Plant.	Ac.								
Pest Control	Ac.	200							
Range Deferred Grazing	Ac.	42,641		8,000			28,000		28,000
Range Proper Use	Ac.	42,641		27,445			27,445		27,445
Range Renovation	Ac.								
Range Seeding	Ac.								
Soil Amendments	Ac.								
Stripcropping Contour	Ac.								
Stripcropping Wind	Ac.								
Stubble Mulching	Ac.								
Tree Planting	Ac.								
Tree Planting	No.								
Weed Control, Land	Ac.	50				50			50
Weed Control, Aquatic	Ac.								
Woodland Interplanting	Ac.								
Woodland Thinning	Ac.								

(a) SCS still working on soil resurvey of Garden County, Nebraska, including
 Refuge lands.

ITEM	Unit	Total Planned This F.Y.	Completed This Quarter By			Completed to Date This F.Y. By			Grand Total Completed This F.Y.
			S&M	BUR.	COOP.	S&M	BUR.	COOP.	
V. WATER MANAGEMENT									
Bank Protection	Ft.								
Dam, Diversion	No.								
Dam, Multiple Purpose	No.								
Debris Basin, or Check	No.								
Dike and Levee	Ft.								
Drainage, Main or Lateral	Ft.								
Drainage Acres	Ac.								
Grade Stab. Structure	No.								
Grassed Wtrway or Outlet	Ac.								
Irrig. Ditch & Canal Lng	Ft.								
Irrigation Field Ditch	Ft.								
Irrigation Water Mgmt.	Ac.								
Pipelines for Livestock Wtr	Ft.								
Ponds	No.	50							
Ponds Capacity Acre/Ft.	No.	102		1					1
Spring Development	No.								
Terracing	Ft.								
Tile Drain	Ft.								
Toxic Salt Reduction	Ac.								
Trough or Tank	No.	15				8	3	0	11
Water Spreading	Ac.								
Well	No.	5				1	1		2
VI. FACILITIES									
Boundary Posting	Mi.								
Bridges	No.								
Corrals	No.								
Fencing	Mi.	155			25			100	100
Firebreak	Mi.								
Trails	Mi.	5					1	1	2

VII. PROGRAM COSTS (To Nearest Dollar)

ITEM	S&M Funds		Bureau Funds		Coop. Funds		Gr. Total Funds To Date Th F.Y.
	This Qtr.	To Date This F.Y.	This Qtr.	To Date This F.Y.	This Qtr.	To Date This F.Y.	
Research & Study Trls.							
Surveys							
Land Use Planning			109	109			109
Soil Management		205	463	703	222	222	1130
Water Management		1228	776	1333	279	410	2971
Operations & Maint.			112	596	250	1247	1843
Totals		1433	1460	2741	751	1879	6053

List funds spent on VI. Facilities in the category Operation and Maintenance.

S&M Allotment this F.Y. \$6,000 S&M Bal. end of this Qtr. \$4,567

Refuge or Wetland Manager (sign) _____

Don R. Perkuchin

	No. Completed	FUNDS		
		S&M	Bureau	Coop
<u>Land Use Planning</u> : Grazing report Mgr. 22 hrs			(25) 109	
<u>IV. Soils Mgmt.</u>				
<u>Range Def, Grazing</u> : Winter Use 1/2 complete Permittee Cattle moves Cattle counts & records; clerk 40 hrs. Mgr. 64 hrs. #108 #317	8,000 Ac.		(27) 425	(27) 200
<u>Range Proper Use</u> : Summer Range proper use check w SCS Tech. Britton (23) + Mgr. (#38)	27,445 Ac.		(27) 138	(27) 22
<u>V. Water Mgmt.</u>				
<u>Ponds</u> : Ditch & Jetty est. 1500 ft. long by 20' wide by 5' deep = 3.5 ac. ft. 59 hrs. @ \$5 (295) Dragline 126 gal. gas (#27) - Labor AEC 71 hrs. (#231) E.D. 32 hrs. (#83) (Figure about 1/4 done)	0 1		(28) 1669	
Rototilling N. end Island #33 (AEC 10 hrs. labor)				
<u>Stock tanks</u> : Labor to winterize new wells. T. Emerson - 8 hrs. @ \$2.37 = \$19.00 AEC @ 8 hrs. = \$26 { Tank installation by V. Eldred (11/67) #70 + #54 (est. \$65/ tank for coop) (#130) Tank installation by D. Keenan - #31 + #71 (10/67) (#130)			(28) 1107	(28) 279
Mgr. review of well & mill records 8 hrs. @ 4.96 = \$40 clerk record keeping 4 hrs. @ 2.70 = \$11				
<u>VI Facilities</u>				
<u>Fencing</u> : Permittees maint. fence (est) 25 mi.			(29) 250	
<u>Trails</u> : Gravel around hdqtrs. { Gmc dump - 3 hrs = \$3.00 AEC 6 hrs. = 20.00				
<u>Patrol Road</u> - 2 days (12 hrs.) Mod. 12 Mod. 12 - 12 hrs. @ \$5 = \$60, AEC - 16 hrs. = \$52			(29) 112	
<u>Totals</u>		0	\$1460	\$751

Totals

S+M

Bureau

Coop

0

#1460

#751

25

109

code 26

222

27

463

222

28

776

279

29-30

112

250

check

#1460

#751

250

997

1247

596

484

112

596

1333

557

1333

1228

440

291

279

131

410

1105

205

703

222

430

1481

362

1843

1776

279

1055

1918

2971

3842

2211

6053

11460

751

2211

1445

685

1130

R&M2 - July 1964

QUARTERLY SOIL AND MOISTURE CONSERVATION PROGRESS REPORT
 Refuge or WPA District: Crescent Lake Nat'l Wildlife Refuge
 Period Covered by This Report: January, February and March, 1968 (FY-68)

ITEM	Unit	Total Planned This F.Y.	Completed This Quarter By			Completed to Date This F.Y. By			Grand Total Completed This F.Y.
			S&M	BUR.	COOP.	S&M	BUR.	COOP.	
I. RESEARCH AND STUDY TRIALS	No.	1							
II. SURVEYS									
Soil Surveys	Ac.	35,087	(a)						
Range Surveys	Ac.	12,641					12,641		12,641
Capability Surveys	Ac.								
Total of Above 3	Ac.	35,087							
III. LAND USE PLANNING	Ac.	12,641					12,641		12,641
IV. SOIL MANAGEMENT									
Brush Control	Ac.								
Cons.Cropping Systems	Ac.	4							
Contour Farming	Ac.								
Contour Furrowing	Ac.								
Controlled Burning	Ac.	300							
Cover & Gr.Manure Crop	Ac.								
Critical Area Planting	Ac.	20							
Crop Residue Use	Ac.								
Deep Plowing	Ac.								
Dune Stabilization	Ac.	20							
Emergency Tillage	Ac.								
Fertilizers	Ac.	25							
Land Clearing	Ac.								
Land Leveling	Ac.								
Obstruction Removal	Ac.								
Pasture & Hayland Plant.	Ac.								
Pest Control	Ac.	200							
Range Deferred Grazing	Ac.	12,641		4,000			32,000		32,000
Range Proper Use	Ac.	12,641		2,000			29,115		29,115
Range Renovation	Ac.								
Range Seeding	Ac.								
Soil Amendments	Ac.								
Stripcropping Contour	Ac.								
Stripcropping Wind	Ac.								
Stubble Mulching	Ac.								
Tree Planting	Ac.								
Tree Planting	No.								
Weed Control, Land	Ac.	50						50	50
Weed Control, Aquatic	Ac.								
Woodland Interplanting	Ac.								
Woodland Thinning	Ac.								

(a) SCS still working on soil resurvey of Garden County, Nebraska, including Refuge Lands.

ITEM	Unit	Total Planned This F.Y.	Completed This Quarter By			Completed to Date This F.Y. By			Grand Total Cor ected This F.Y.
			S&M	BUR.	COOP.	S&M	BUR.	COOP.	
V. WATER MANAGEMENT									
Bank Protection	Ft.								
Dam, Diversion	No.								
Dam, Multiple Purpose	No.								
Debris Basin, or Check	No.								
Dike and Levee	Ft.								
Drainage, Main or Lateral	Ft.								
Drainage Acres	Ac.								
Grade Stab. Structure	No.								
Grassed Wtrway or Outlet	Ac.								
Irrig. Ditch & Canal Lng	Ft.								
Irrigation Field Ditch	Ft.								
Irrigation Water Mgmt.	Ac.								
Pipelines for Livestock Wtr	Ft.								
Ponds	No.	50		6			6		6
Ponds Capacity Acre/Ft.	No.	102		1			1		1
Spring Development	No.								
Terracing	Ft.								
Tile Drain	Ft.								
Toxic Salt Reduction	Ac.								
Trough or Tank	No.	15	11			22	3		25
Water Spreading	Ac.								
Well	No.	5		1			2	1	3
VI. FACILITIES									
Boundary Posting	Mi.								
Bridges	No.								
Corrals	No.								
Fencing	Mi.	155			15			115	115
Firebreak	Mi.								
Trails	Mi.	5					1	1	2

VII. PROGRAM COSTS (To Nearest Dollar)

ITEM	S&M Funds		Bureau Funds		Coop. Funds		Gr Total Funds To Date This F.Y.
	This Qtr.	To Date This F.Y.	This Qtr.	To Date This F.Y.	This Qtr.	To Date This F.Y.	
Research & Study Trls.							
Surveys							
Land Use Planning				109			109
Soil Management		205	409	1112	160	382	1699
Water Management	2529	3757	1757	3090		410	7257
Operations & Maint.	158	158	151	750	150	1397	2305
Totals	2687	4120	2320	5061	310	2189	11370

List funds spent on VI. Facilities in the category Operation and Maintenance.

S&M Allotment this F.Y. \$6,000

S&M Bal. end of this Qtr. \$1,880

Refuge or Wetland Manager (sign)

Don R. Peruchin
Don R. Peruchin

Jan. - Mar., 1968 (FY '68) Accomplishments

3rd Qtr.

	No. Completed	FUNDS		
		S+M	Bureau	Coop.
III. Land Use Planning -				
IV. M. Soils Mgmt.			\$114	
IV. SR Range Def. Grazing			\$114	
Cattle counts & Records			(27)	(27)
REC #139			\$339	\$150
RDD #86	4,000 ac.			
DRP #114				
Range Proper Use			(27)	(27)
DRP #60	2,000		\$60	\$4
RDD #4				
Range seedings			(27)	(27)
Mgr. 2 hrs. #10			\$10	\$6
Britton 2 hrs. = #6				
V. Water Mgmt.				
Ponds				
Annual Water Prog. DRP - 16 hrs - #79				
Burmin's				
REC #135			(28)	
RDD #33			\$588	
ACC #13				
+ Blasting 6 holes (#418)	6 ponds 1 ac. ct.			
Windmills (4 heads, 5 towers)			(28)	
ACC #139	14		\$2529	\$39
5 tanks - #674 (S+M)				
217 bags cement - #315 (S+M)				
well				
atrl. wells				
ACC - #59			(28)	
DRP #50			\$1130	
RDD #1 - #32				
atrl. 9 #884				
ACC #65				
DRP #40				
VI Facilities				
250 posts - #158.00 (S+M)			(29-30)	(29-30)
Fencing!	15 mi.		\$158	\$150
Permittees maint. fence est.				
Trails				
(Patrol Road)				
RDD #9			(29-30)	
ACC #65			\$154	
Mod. 12				
BL @ \$/hr. = #80				
Totals		\$2,687	\$2320	\$310

Coop.	S+M	#2687	#2320	#310
Bureau				
Totals				
code 25	26	27	#409	#160
28	#2529	1757	154	150
29-30	158	#2,687	#2,320	#310
Check				

R. & M2 - July 1964

QUARTERLY SOIL AND MOISTURE CONSERVATION PROGRESS REPORT
 Refuge or WPA District Crescent Lake National Wildlife Refuge
 Period Covered by This Report April, May and June, 1968 (FY-68)

ITEM	Unit	Total Planned This F.Y.	Completed This Quarter By			Completed to Date This F.Y. By			Grand Total Completed This F.Y.
			S&M	BUR.	COOP.	S&M	BUR.	COOP.	
I. RESEARCH AND STUDY TRIALS	No.	1							
II. SURVEYS									
Soil Surveys	Ac.	35,087	(a)						
Range Surveys	Ac.								
Capability Surveys	Ac.								
Total of Above 3	Ac.	35,087							
III. LAND USE PLANNING	Ac.	42,641				42,641			42,641
IV. SOIL MANAGEMENT									
Brush Control	Ac.								
Cons.Cropping Systems	Ac.	4							
Contour Farming	Ac.								
Contour Furrowing	Ac.								
Controlled Burning	Ac.	300							
Cover & Gr.Manure Crop	Ac.								
Critical Area Planting	Ac.	20							
Crop Residue Use	Ac.								
Deep Plowing	Ac.								
Dune Stabilization	Ac.	20				1			1
Emergency Tillage	Ac.								
Fertilizers	Ac.	25							
Land Clearing	Ac.								
Land Leveling	Ac.								
Obstruction Removal	Ac.								
Pasture & Hayland Plant.	Ac.								
Pest Control	Ac.	200							
Range Deferred Grazing	Ac.	42,641		10,641		42,641			42,641
Range Proper Use	Ac.	42,641				29,445			29,445
Range Renovation	Ac.								
Range Seeding	Ac.	2							
Soil Amendments	Ac.								
Stripcropping Contour	Ac.								
Stripcropping Wind	Ac.								
Stubble Mulching	Ac.								
Tree Planting	Ac.	1		1		1			1
Tree Planting	No.	120		120		120			120
Weed Control, Land	Ac.	50		2		52			52
Weed Control, Aquatic	Ac.								
Woodland Interplanting	Ac.								
Woodland Thinning	Ac.								

(a) SCS still working on soil resurvey of Garden County, Nebraska including Refuge lands.

ITEM	Unit	Total Planned This F.Y.	Completed This Quarter By			Completed to Date This F.Y. By			Grand Total Completed This F.Y.
			S&M	BUR.	COOP.	S&M	BUR.	COOP.	
V. WATER MANAGEMENT									
Bank Protection	Ft.								
Dam, Diversion	No.								
Dam, Multiple Purpose	No.								
Debris Basin, or Check	No.								
Dike and Levee	Ft.								
Drainage, Main or Lateral	Ft.								
Drainage Acres	Ac.								
Grade Stab. Structure	No.								
Grassed Wtrway or Outlet	Ac.								
Irrig. Ditch & Canal Lng	Ft.								
Irrigation Field Ditch	Ft.								
Irrigation Water Mgmt.	Ac.								
Pipelines for Livestock Wtr	Ft.								
Ponds	No.	50					6		
Ponds Capacity Acre/Ft.	No.	102					1		
Spring Development	No.								
Terracing	Ft.								
Tile Drain	Ft.								
Toxic Salt Reduction	Ac.								
Trough or Tank	No.	15		30		22	33		55
Water Spreading	Ac.								
Well	No.	5	1	2		3	3		6
VI. FACILITIES									
Boundary Posting	Mi.								
Bridges	No.								
Corrals	No.								
Fencing	Mi.	155			40			155	155
Firebreak	Mi.								
Trails	Mi.	5	1	1		1	2		3

VII. PROGRAM COSTS (To Nearest Dollar)

ITEM	S&M Funds		Bureau Funds		Coop. Funds		Grand Total Funds To Date This F.Y.
	This Qtr.	To Date This F.Y.	This Qtr.	To Date This F.Y.	This Qtr.	To Date This F.Y.	
Research & Study Trls.							
Surveys							
Land Use Planning				109			109
Soil Management	210	415	864	1976	350	732	3123
Water Management	743	4500	8259	11349		410	16259
Operations & Maint.	926	1084	4811	5561	250	1647	8292
Totals	1879	5999	13,934	18995	600	2789	27,013

List funds spent on VI. Facilities in the category Operation and Maintenance.

S&M Allotment this F.Y. \$6,000

S&M Bal. end of this Qtr. \$1

Refuge or Wetland Manager (sign)

Don R. Perkuchin

TOPEKA MOTOR FREIGHT, Inc.

SERVING KANSAS, MISSOURI
AND NEBRASKA



Hourly Rates

Rate / hour
Ron. Saunders - \$2.46
(Laborer)

Ev. Diethien - \$2.71
(Truck driver)

Jake & Joe - \$2.47
GS-4

DRP - \$5.23

Art - \$3.38

RDD - \$2.21

Totals

code

25

26

27

28

29-30

check

SdM

Bureau

Coop.

1879

13,934

600

210

864

350

743

8259

926

4811

250

1879

13,934

600