

1971

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UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
VALENTINE NATIONAL WILDLIFE REFUGE
VALENTINE, NEBRASKA 69201

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I. GENERAL

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>0.67</u>	<u>0.62</u>	<u>9.5</u>	<u>52</u>	<u>-11</u>
February	<u>1.16</u>	<u>0.56</u>	<u>12.0</u>	<u>54</u>	<u>-20</u>
March	<u>0.54</u>	<u>1.09</u>	<u>7.5</u>	<u>69</u>	<u>6</u>
April	<u>5.20</u>	<u>2.20</u>	<u>8.5</u>	<u>83</u>	<u>20</u>
May	<u>3.77</u>	<u>3.36</u>	<u>-</u>	<u>78</u>	<u>34</u>
June	<u>1.72</u>	<u>4.00</u>	<u>-</u>	<u>102</u>	<u>49</u>
July	<u>1.97</u>	<u>2.91</u>	<u>-</u>	<u>97</u>	<u>42</u>
August	<u>3.05</u>	<u>2.55</u>	<u>-</u>	<u>101</u>	<u>54</u>
September	<u>2.18</u>	<u>1.78</u>	<u>-</u>	<u>93</u>	<u>34</u>
October	<u>2.94</u>	<u>1.07</u>	<u>-</u>	<u>84</u>	<u>16</u>
November	<u>0.52</u>	<u>0.55</u>	<u>3.2</u>	<u>72</u>	<u>9</u>
December	<u>0.29</u>	<u>0.43</u>	<u>3.1</u>	<u>62</u>	<u>-1</u>
Annual Totals	<u>24.01</u>	<u>21.12</u>	<u>43.8</u>	Extremes <u>102</u>	<u>-20</u>

* Normal precipitation is computed from a 30 year average between 1936 and 1966.

All weather data was collected at the official station maintained at refuge headquarters.

A monthly summary of weather conditions follows:

January - At the years commencement, it appeared that dry conditions would again prevail as only .02 inches of precipitation were received during the first 30 days of the month. On January 31, however, 9 inches of snow with .64 inches of moisture was received. Ice thickness on the refuge lakes averaged between 17 and 20 inches.

February - The coldest day of the year at Valentine NWR was February 7, when the mercury plummeted to -20° . Just 10 days later however, the lakes had open water around the edges, but they closed again shortly thereafter. Twelve inches of snow accumulated throughout the month, which was good for 1.16 inches of precipitation, .60 inches above normal.

March - The old proverb, "In like a lion and out like a lamb.", applied well this year. The low of 6 degrees was recorded on March 2, and the high of 69° was recorded on the 30th. Refuge lakes partially opened and closed twice during March, and were approximately 20% open by the end of the month.

April - A major rain storm brought 3.36 inches of precipitation in 24 hours on April 20. Waterfowl breeding pair habitat was excellent at this time. All refuge lakes were completely open on April 9.

May - The drought that had plagued the Sandhills for over two years ended during the latter half of April and above normal precipitation continued throughout May also. By the end of the month, precipitation was 2.51 inches above normal.

June - The hottest day of the year at Valentine Refuge was June 26, when the temperature reached 102 degrees. Rainfall was in short supply however, and by the end of the month, the surplus of precipitation was depleted.

July - Rainfall was again short of normal and the precipitation total for the year had again fallen to below average.

August - The mid-summer dry spell continued through August with only .18 inches of precipitation recorded, but on August 30, a major storm brought almost 3 inches of rain. The rain also brought temporary relief from the extremely hazardous fire conditions.

September - September was a typical late summer month with warm sunny days and cool evenings and nights. Precipitation was .40 inches above normal for the month.

October - The first frost of the year was recorded on October 9, providing 164 frost-free days this year. Temperatures were mild until the end of the month and precipitation was still above normal. The first and partial freeze-up of refuge lakes occurred on October 30.

November - The refuge lakes froze and reopened two times during November and finally froze for the season on November 25. Snow fall was light with only 3.2 inches throughout the month.

December - The average high temperature for the month was 41° with a singular high of 62° . Even with the balmy weather, ice on the lakes

remained thick enough for ice-fishermen. Average ice thickness at the years conclusion was between 7 and 10 inches.

B. Habitat Conditions

1. Water. Average ice thickness in early January on the refuge lakes was between 17 and 20 inches. After two years of low moisture, refuge lakes were lower than desirable. A snow storm in late January brought temporary relief, but lack of subsequent precipitation, warm temperatures, low humidity, and high winds resulted in continued receding water levels and depletion of soil moisture through mid-April. There was no standing water on the meadows at this time, and waterfowl breeding habitat was in short supply. On April 20, a major rain storm renewed our hopes, providing ideal waterfowl habitat with all potholes full and with major flooding of the meadows.

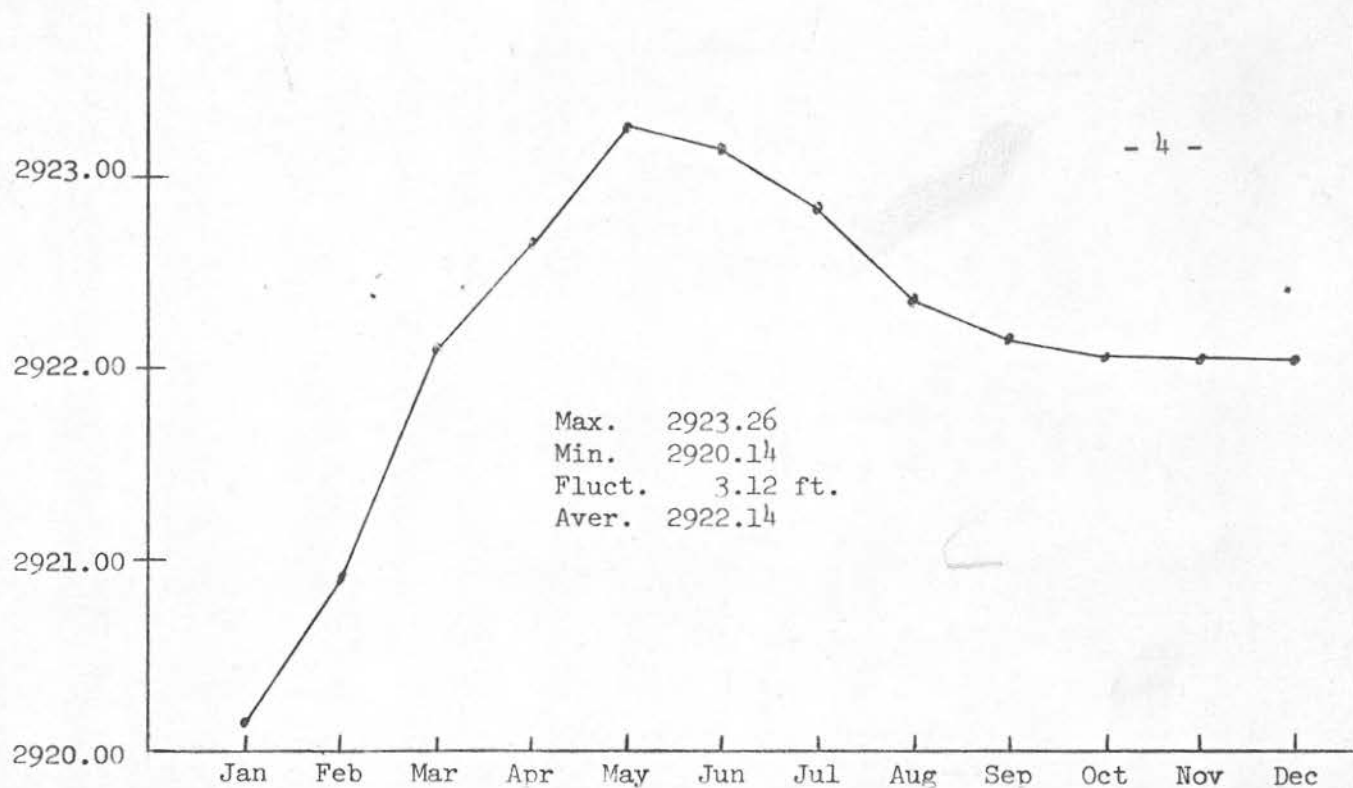
Water levels were at their low early in the year as a result of the preceding two years of drought. Most of the lakes reached their highest water level in May following the April and early May rains. June precipitation was well below normal, initiating a decline in lake levels which lasted through September. October rains replenished the water supply and the year ended with water levels increasing. The water level of all lakes at the end of the year averaged 8.6 inches higher than in January.

The amount of dissolved oxygen in the refuge lakes varied greatly during the winter, from 14 ppm in West Long Lake on February 18, to 0.00 ppm in parts of Watts Lake on March 8. The spring thaw revealed that a severe winter kill occurred in Watts Lake and moderate kills occurred in White-water and Pelican Lakes.

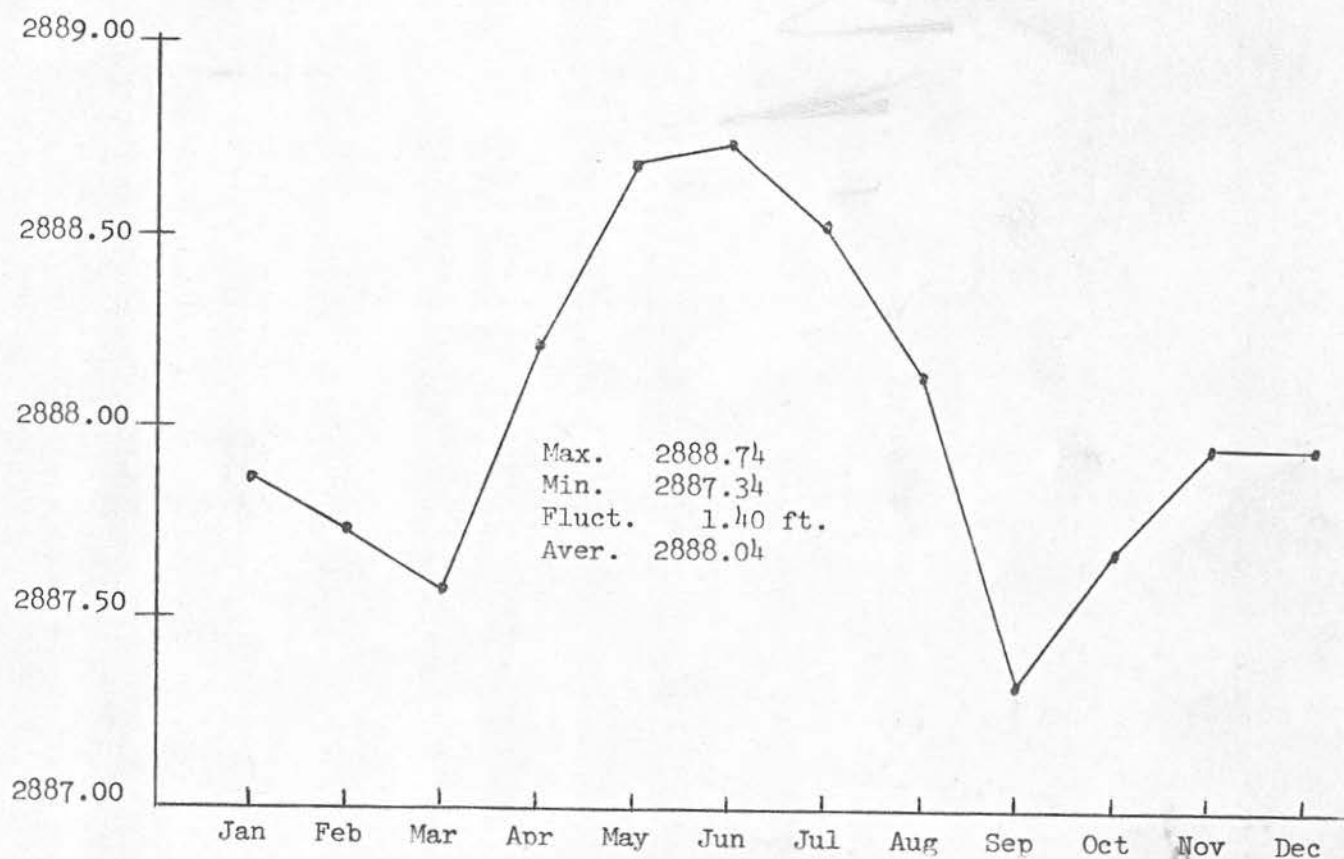
Aquatic habitat has continued to deteriorate in those lakes which are carp infested. When Hackberry Lake was sampled by electro-shocking, not one species of fish other than carp was discovered. Dewey Lake, one of our best fishing and waterfowl lakes, also exhibited a rapidly expanding carp population.

Although no formal aquatic transect studies were accomplished, random observations during waterfowl brood census generally indicated decreased growth of submergent aquatic vegetation in most lakes. This was attributed primarily to higher water levels and expanding carp and bullhead populations.

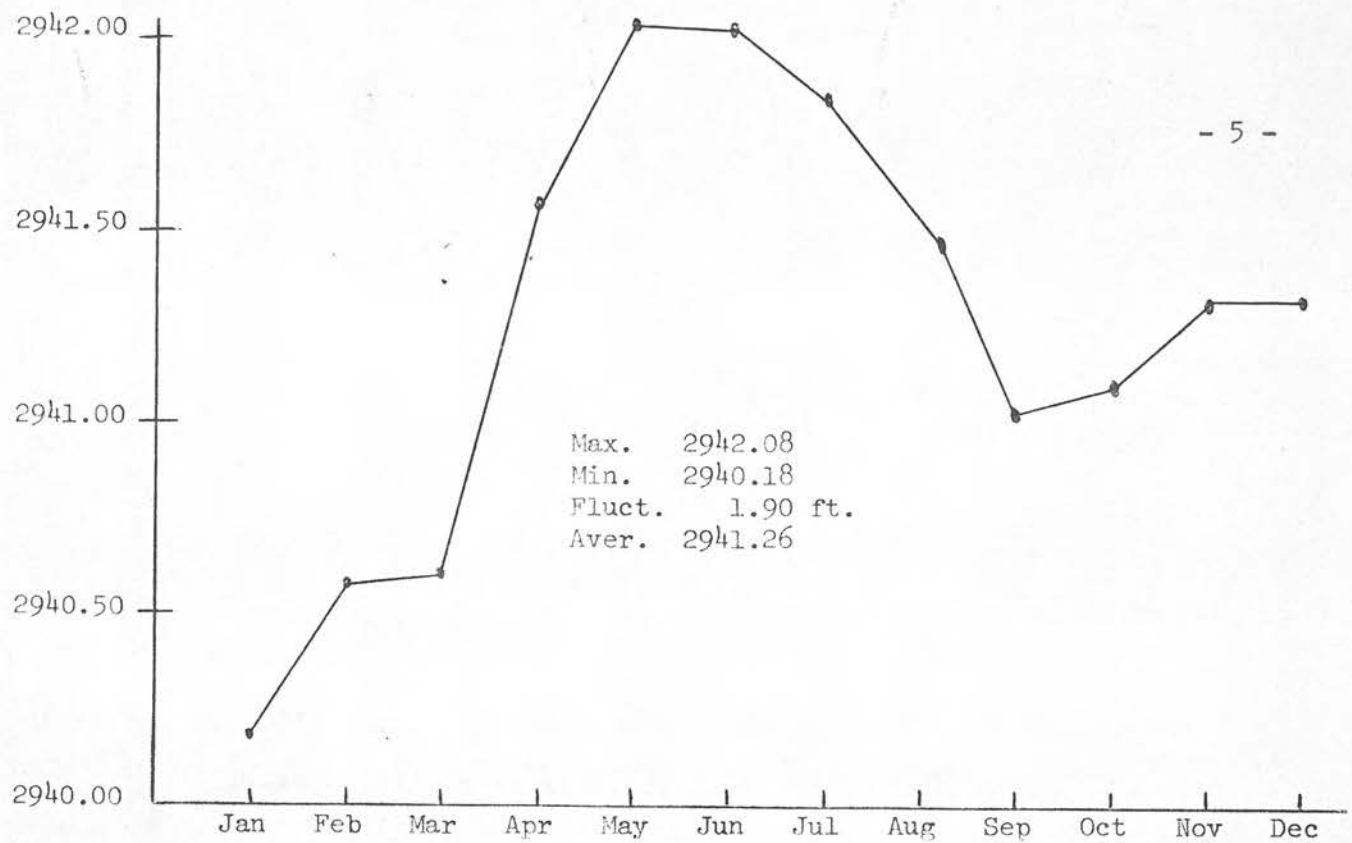
2. Food and Cover. Good food and cover conditions existed early in the year and wildlife populations from 1970 appeared to winter well. The winter of 1968-69 drastically reduced the pheasant population (by 95%), but they are now recovering due to the relatively mild winters and good cover conditions of late.



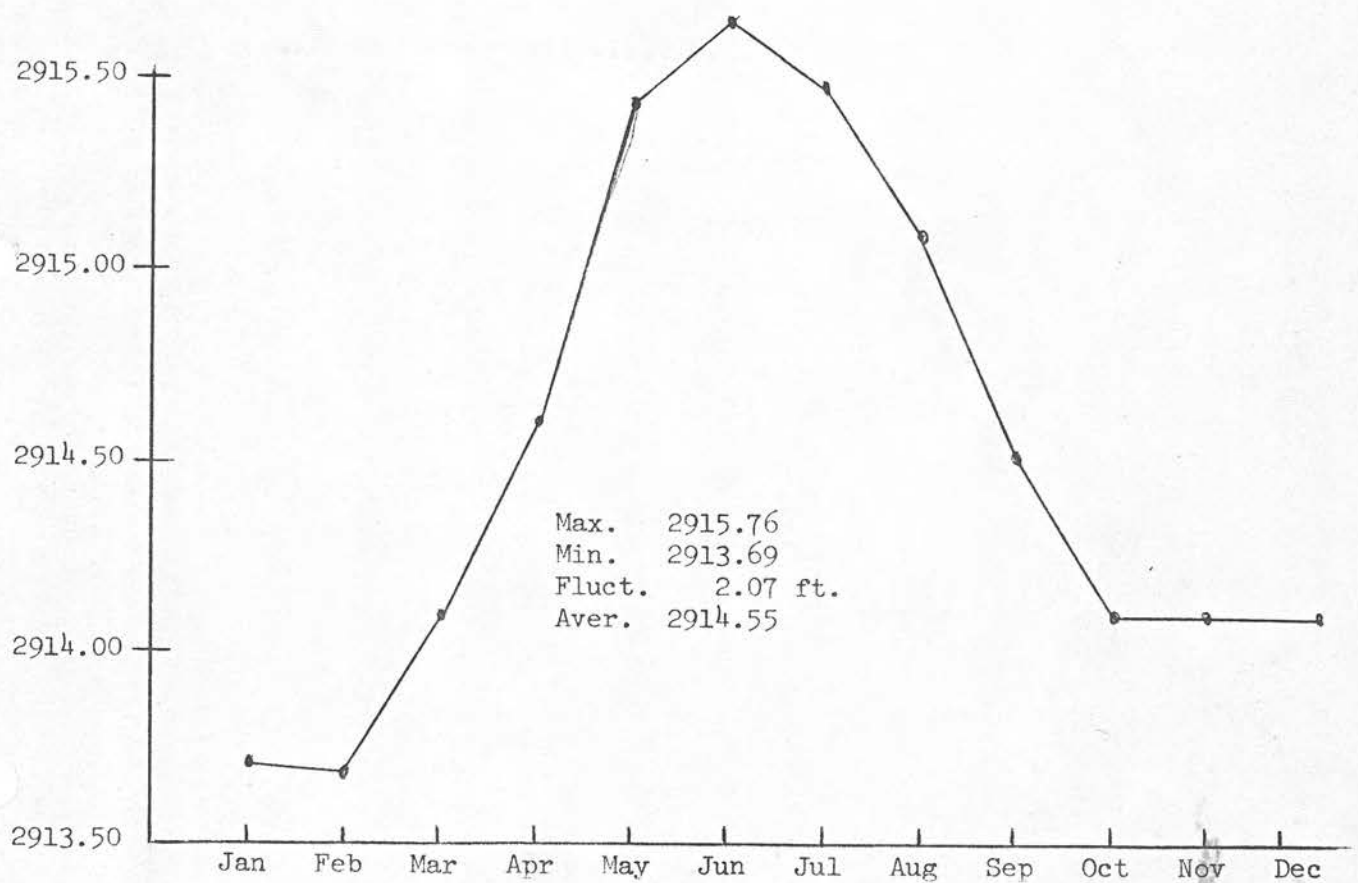
WATTS LAKE - 1971



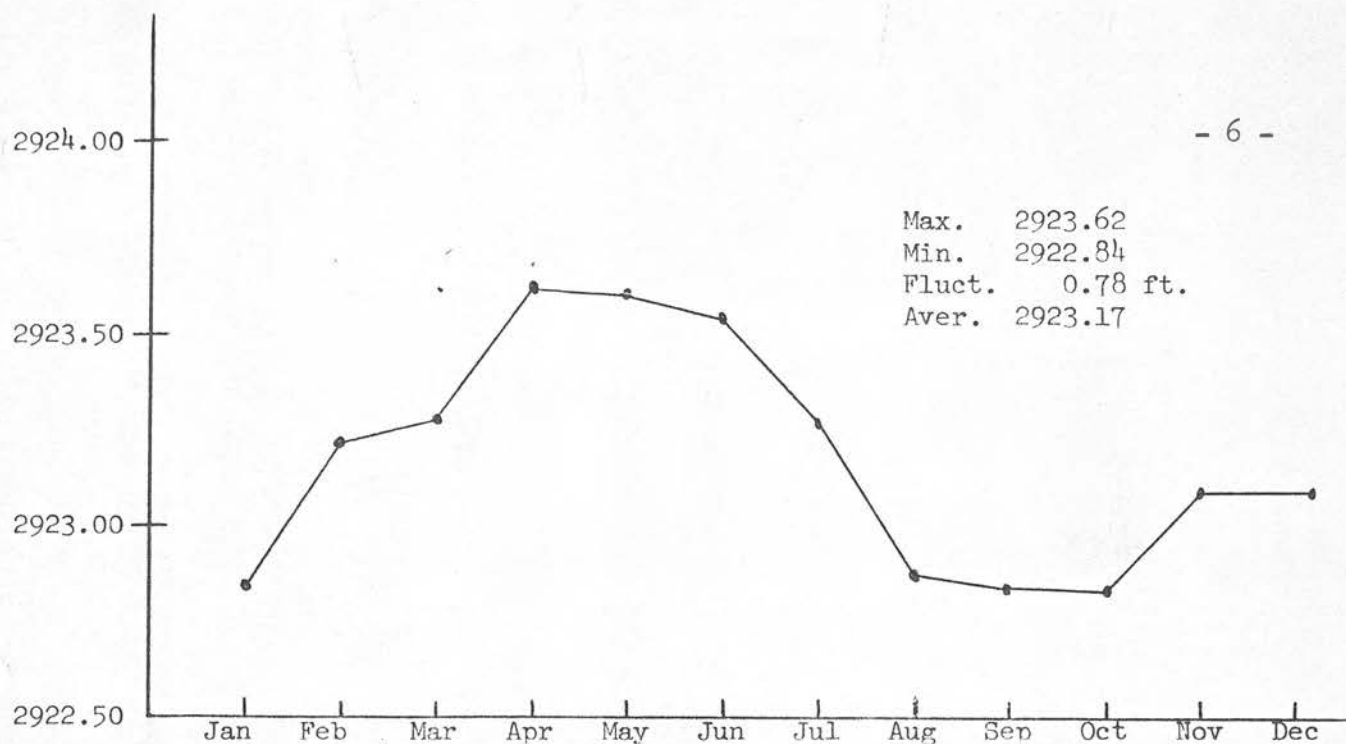
SOUTH MARSH LAKE - 1971



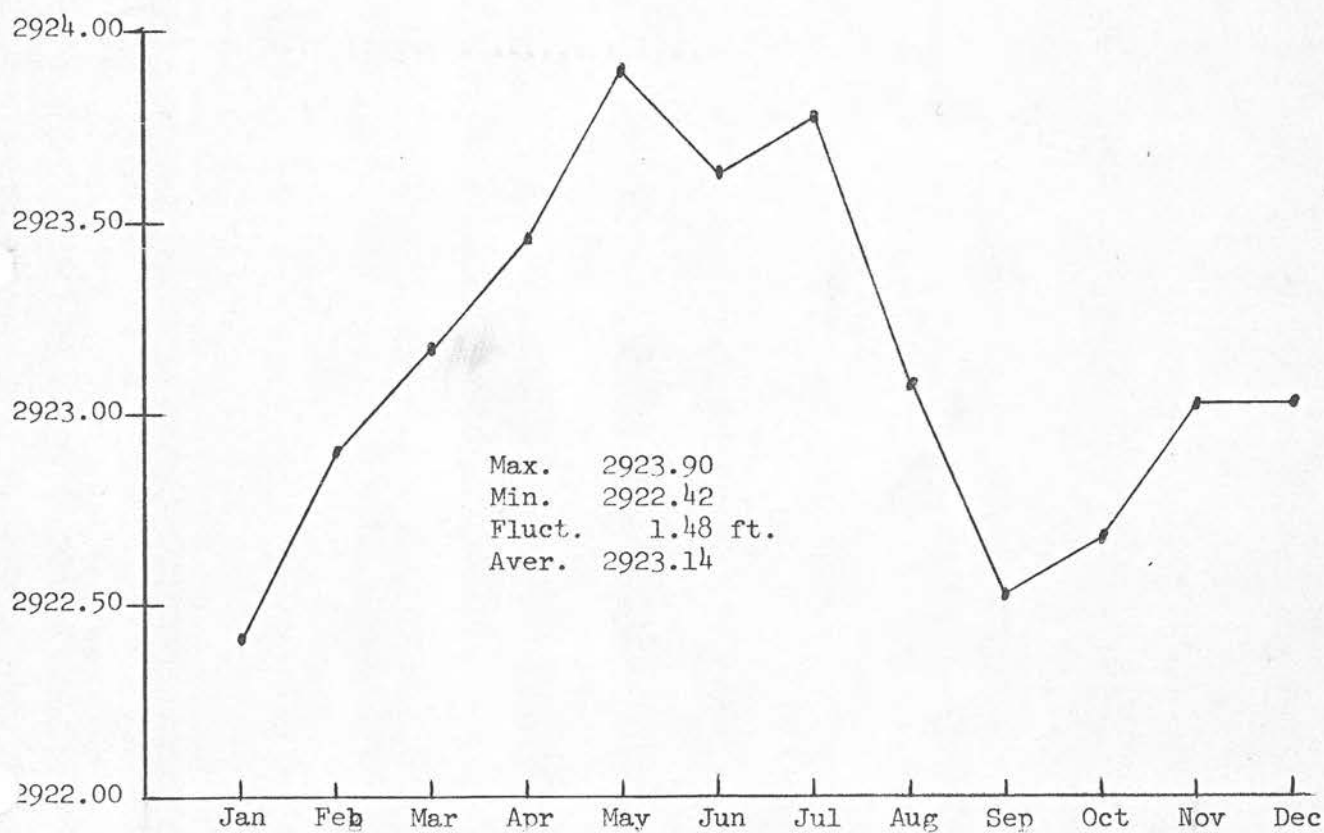
PELICAN LAKE - 1971



CLEAR LAKE - 1971



HACKBERRY LAKE - 1971



DEWEY LAKE - 1971

For the second consecutive year, above average precipitation received in April and May stimulated vegetative growth; cover conditions were generally excellent on the hills as well as the meadows. Winter wild-life foods were also produced in great quantities with choke cherry, rose hips, sunflowers, and poison ivy all yielding excellent crops.

Evidence provided by the Land-Use Study (see Section V) indicated that duck nesting was continuing through mid-July. The mowing of meadows was therefore delayed three weeks until August 8 to allow sufficient time for most nests to hatch.

II. WILDLIFE

A. Migratory Birds

1. Waterfowl.

a. Trumpeter Swan. The first observation of trumpeter swans occurred on February 17, 1971, when a family group of four was observed on Willow Lake. The first observation last year occurred on February 26. The swans were not seen again until April 2, when an adult pair was observed on "21" Lake, where the swans have nested for the past three years. April 23 was the first observation of the immatures since February 17. They were observed on a lake east of the refuge, while the adults were observed on numerous occasions throughout April and May until they finally settled down on "21" Lake where it appeared that they would attempt to nest. It should be remembered that last year the female of our mated pair was shot on Merritt Reservoir, receiving irreparable damage to one wing. We theorized that the cob remated with an inexperienced female and since he was the dominant bird, brought her back to his traditional nesting area.

During the aerial goose and swan production census flown on June 21, the swans were observed to be nesting on the very same muskrat house that was used in 1970, further indicating leadership by the male. Although six eggs were incubated, only two hatched. The family remained on "21" Lake until mid-October when they were observed on Center Lake, just west of "21" Lake. During November, they spent most of their time on Clear Lake.

On November 14, they were joined by four more swans (1 Adult and 3 Juveniles). They were last observed on Center Lake on November 18, this time accompanied by a lone whistling swan, which are extremely rare at this station.

b. Geese. The first observation of Canada geese occurred on February 15, when a pair was observed on Pony Lake. The next sighting occurred on March 7. Seventy-six Canadas were seen on Pony Lake, some with the red leg bands of the former captive flock. The spring population built

up to 200 individuals in mid-March, most of which left during a late spring blizzard. This year's peak is similar to what was encountered last year. Nesting data are summarized in Table I. Ten broods with only 29 young (2.9 young/brood) were observed this year, compared to last year's record of 13 broods and 64 young (4.9 young/brood). One note of encouragement is that the use of artificial structures is increasing. In 1970 only 7 out of 35 nests (54%) on the refuge were in structures while this year 10 out of 15 (68%) were in structures.

The State Department of Conservation again released Canada goose goslings on the refuge in hopes of increasing the nesting population. On July 14, 31 young and 3 adults were released on West Twin Lake; on August 11, 30 young and 6 adults were turned out on Middle Marsh Lake. Historical data concerning releases and other goose nesting information are summarized in Table II.

The fall population peaked at 109 on November 10, the lowest since 1966. Last year nearly 400 individuals congregated before freeze-up. The last observation of Canada geese occurred on Pony Lake on December 9.

Two snow geese were observed on South Marsh Lake on October 2, and 11 snows were observed on Pony Lake on November 3.

c. Ducks. Twenty mallards were first observed in Little Hay Valley on March 11. By March 20, most species commonly seen in the spring were present. Waterfowl numbers increased rapidly and by the first week in April the spring population had peaked at 21,725, a decrease of 82% from last year's peak of 118,900. The major components of the species composition ran as follows:

Gadwall	20.4%
Mallard	16.0%
Scaup	14.2%
Pintail	10.4%
Shoveler	7.9%

As a group, puddle ducks comprised 59.7% and divers 41.3% of the total spring population.

Breeding pair counts were conducted from May 25 to June 10. All refuge habitat units were counted once and a mated pair population of 3,334 was recorded. This represents an increase of 11.1% over last year's population of 3,002 pairs. Although an increasing trend was experienced, the count was still below the 1965-1971 average of 3,626 (see Table III).

Data obtained from the Duck Nesting - Land Use Study indicated that nesting was progressing more slowly than normal. This information provided the basis for delaying the annual mowing date 3 weeks and the

<u>On Refuge Location</u>	<u>Known Pairs</u>	<u>Known Nests</u>	<u>Success- ful Nests</u>	<u>No. of Goslings</u>
Pony Lake	4	4	2	3
Center Lake	2	2	1	1
"21" Lake	1	0	0	0
Cow Lake	1	1	0	0
E. Sweet Water Lake	2	1	0	0
S. Marsh Lake	2	1	1	2
M. Marsh Lake	1	1	1	4
N. Marsh Lake	2	1	0	0
White Water Lake	1	1	1	5
Hackberry Lake	1	1	1	6
Watts Lake	2	1	0	0
Clear Lake	1	1	1	4
Dewey Lake	1	0	0	0
Mule Lake	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
On Refuge Total	22	15	8	25
Off Refuge				
<u>Location</u>				
Trout Lake	1	1	1	2
Ballard's Marsh	1	1	1	2
Vrinder's Marsh	1	0	0	0
Lone Tree	1	0	0	0
Square Lake	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Off Refuge Total	5	2	2	4

Table I. Location, number and fate of Canada goose nests found on and in the vicinity of Valentine NWR, Valentine, Nebraska, 1971.

<u>Year</u>	<u>Breeding Pairs</u>	<u>Non-breeders</u>	<u>Natural</u>	<u>Stocked</u>	<u>Last Date Observed</u>
1961	2	24 (39)*	10	0	12/20
1962	14	77 (0)	12	39	11/27
1963	6	33 (0)	17	0	12/12
1964	27	11 (29)	34	0	11/29
1965	13	30 (63)	30	0	11/28
1966	13	15 (70)	35	14	12/17
1967	21	44 (75)	43	41	12/20
1968	23	24 (27)	47	31	12/20
1969	33	28 (0)	38	0	12/16
1970	41	75 (0)	64	63	12/16
1971	28	63 (0)	29	70	12/09

* Captive Geese

Table II. Goose production in the vicinity of Valentine National Wildlife Refuge, Valentine, Nebraska, 1961-1971.

brood census one week. Brood counts were therefore conducted between July 19 and August 11. Ninety-five broods, with an average brood size of 5.82 were actually counted. When these figures are expanded by the brood/pair index system, a calculated production of 4,632 was realized, with a productivity rate of 23.17%. Total production increased 70% over 1970's.

Brood count sample areas were counted three times during the time span mentioned previously. The most broods counted during any single census was on Clear Lake with 26. Thirteen broods were counted on Dewey Lake followed by West Long Lake with 12, and East Long and Pelican Lakes with 10 each. Only one brood has been observed on Hackberry Lake in the last 7 years, and only one brood has been observed on Whitewater Lake in the past 5 years on regular brood censuses.

Extremely heavy carp infestation are believed to be the major cause for their poor value as brood lakes. These lakes (and probably others in the near future) will continue to deteriorate as waterfowl habitat unless the carp populations are severely reduced, if not eliminated.

By the first week of September, more than 27,000 ducks had congregated on the refuge. The fall population peaked at only 42,880 on October 23. Last year's peak of 64,370 occurred in late September. As a result of an early winter storm in late October, the migrant population dropped to 6,900 by the first week of November. The gradual freeze-up of the lakes concentrated the birds on the available open water areas. The population continued to dwindle until only a few common mergansers remained on a patch of open water in Dewey Lake on November 27.

Table III gives a break down of waterfowl use during the period 1965-1971.

d. Coot. Coot were first observed on April 3. The Spring population leveled off in late April at only 3,950 compared to last year's peak of over 20,000. The breeding population on the refuge however, was estimated at 275 pairs, an increase of over 80% from 1970. Five broods were counted on the regular brood count surveys this year. Average brood size was 4.4. The fall numbers were highest on September 20, when over 13,000 were observed, a decrease of 38% from last year and 54% from 1969's peak. Coots were not observed on the refuge after the middle of November.

2. Marsh, Water and Shore Birds. General observations, migrational data, and other information concerning marsh, water, and shore bird species are tabulated on Form MR-1a. Table IV shows the marsh and water bird populations observed during the spring mated pair duck census, during the last 5 years.

	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	Ave. 65-71	% Change 71 data From Ave.
Total Breeding Population (prs.)	4,215	3,500	3,430	4,660	3,239	3,002	3,334	3,626	-8.1%
Blue-wing Teal	44%	48%	50%	56%	44%	41%	47%	47%	0.0%
Mallard	21%	25%	22%	21%	28%	26%	19%	23%	-17.4%
Gadwall	11%	12%	12%	11%	14%	18%	14%	13%	+7.2%
Production Rate*	15%	26%	20%	13%	27%	15%	23%	20%	+13.1%
Total Production	3,730	4,650	3,475	3,055	5,244	2,724	4,632	3,930	+15.2%
Spring Peak	70,000	30,000	62,000	91,055	38,385	118,900	21,725	61,724	-65.0%
Fall Peak	114,300	117,000	54,350	53,885	63,975	64,370	42,880	72,966	-41.2%
Duck Use Days**	7,164	7,161	6,498	7,670	5,048	8,411	4,064	6,574	-38.2%

* Percent of hens successfully producing a brood, based on an assumed average of 30%.

** Expressed in thousands.

Table III. A comparison of waterfowl populations at Valentine National Wildlife Refuge, 1965-1971.

<u>Species</u>	<u>1971</u>	<u>1970</u>	<u>1969</u>	<u>1968</u>	<u>1967</u>
Eared Grebe	328	42	30	327	165
Pied-billed Grebe	77	27	25	33	30
Horned Grebe	11	1	16	3	0
Western Grebe	298	73	225	62	135
White Pelican	48	219	125	466	128
D.C. Cormorant	127	168	166	114	229
B.C. Night Heron	307	306	575	309	312
G. Blue Heron	147	205	144	94	65
American Bittern	11	30	25	47	55
L.B. Curlew	67	54	30	25	12
Virginia Rail	0	1	0	8	37
Sora Rail	5	4	2	5	5
American Avocet	25	35	25	13	2
Willet	14	18	10	13	8
Upland Plover	431	236	Common	Common	Common
Kill Deer	215	139	82	0	0
Wilson's Phalarope	695	231	Abundant	Abundant	Abundant
Black Tern	592	712	Abundant	Abundant	Abundant
Common Tern	127	39	10	0	0
Ring-billed Gull	2	82	10	0	0
Franklin's Gull	0	0	1	0	0

Table IV. Marsh and water bird populations observed on duck mated pair counts on Valentine National Wildlife Refuge, 1967-1971.

B. Upland Game Birds.

1. Sharp-tail Grouse. Dancing ground counts were conducted between April 6 and April 23. Census on the 23.5 square mile sample area revealed a total of 142 displaying males, 5.61 per section. Expansion of these data for the entire refuge reveals a breeding population of 529 males, yielding a total refuge breeding population of 1,058 (assuming a sex ratio of 1:1). This figure represents an increase of 71.2% over 1970's estimates. It was suspected that peak activity on the dancing grounds was missed last year since they were not counted until April 21. This may account for some of the increase experienced on this year's counts.

A productivity rate of 50% was assumed because of inadequate brood sample data. Random observations on several broods revealed an average brood size of 7, and with an estimated female breeding population of 529, an estimated total of 1,855 young was produced.

Information concerning the hunting season can be found in Section VI D.

2. Prairie Chicken. Booming ground counts were conducted on all known grounds in conjunction with the counts on sharp-tail grouse dancing grounds. The total of males counted increased from 49 last year to 60 this year, an increase of 22.4%. Fifteen unsexed birds were discovered in G-13A in groups of 7, 5, and 3. This area may be a new booming ground, and will be more closely scrutinized in the spring of 1972. Production estimates were made on a basis similar to sharp-tail estimates. A 50% productivity rate was assumed and coupled with an average brood size of 7 to come up with an overall production estimate of 210.

Very few prairie chickens are believed to be wintering on the refuge as only a few observations have been made at elevated feeders at the end of the year. No prairie chickens were known to have been taken during the sharp-tail season this year.

3. Ring-necked Pheasant. The pheasant population has continued to increase since the severe winter of 1968-69. The breeding population increased 31.7% from last year and 333% from 1969. This year's breeding population was estimated at 1,048, calculated from the crow counts run from April 23 through May 7. The number of roosters per section was calculated at 13.6 and the hen to rooster ratio decreased from 1.69 to 0.93 this year.

A realistic estimate of production for upland game birds cannot be made using present techniques. A reliable census technique will have to be developed so that production estimates can be made on sharp-tail grouse, prairie chicken, and pheasants. If an arbitrary productivity rate of 50% is assumed, coupled with an average brood size of 8, then a total production of 2,016 ring-necked pheasants would be estimated.

1970 counts
4/20 - 4/30

The refuge was open to pheasant hunting during the entire state season this year. An estimated 269 hunters took 225 roosters. The 72-day season opened on November 6, 1971, and closed on January 16, 1972.

C. Big Game Animals.

1. Deer. The annual aerial deer survey was flown February 11. Only 3 inches of snow cover was present at the time and an overcast sky made observation difficult. A total of only 45 deer was counted, with only one buck. Twenty-four mule deer and 21 white-tails made up the count. Because of the weather conditions, the count was considered to be highly inaccurate, and not commensurate with ground observation data.

During the 9-day, bucks only, state firearms season (November 13-21) a total of 18 bucks were killed on the refuge, 9 each of mule deer and white-tails. Hunter visits for the season totalled 400. Success this year was not as good as in past years; last year 32 deer were harvested, and in 1969, 34 were taken off refuge lands. No deer were taken this year with a bow. Known kill of deer by automobiles this year numbered 12. All usable venison was given to the State Conservation Officer for disposal.

2. Pronghorn Antelope. Although antelope are seen on some of the ranches near the refuge, no on-refuge observations were made this year.

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

1. Muskrat. The areial muskrat house census was not flown this year due primarily to insufficient funds. It was quite obvious, however, that the population had decreased from the previous year; so much so that no trapping program was permitted for the second consecutive year. Parameters of the refuge muskrat population are not available at this time. Section IV C provides more justification for suspending the trapping program.

2. Beaver. Beaver activity is spread thinly over many lakes on the refuge. These are active lodges on Pelican Lake, Mule Lake, Dewey Lake, Hackberry Lake, East Sweetwater, Calf Camp Marsh and Dad's Lake. The densest concentration of beaver is still in the Gordon Creek diversion ditch where several new dams have been constructed. One new dam which has backed water up over the nature trail bridge and parking area, will have to be removed next spring.

Trapping has not been permitted for the last two seasons now, and we believe that the beaver population is increasing. Selective harvest or transplant may be necessary to control the beaver in the Gordon Creek diversion ditch if they continue to back water up over vital areas or structures.

3. Other Fur Animals and Predators. Coyote populations are believed to be stable from year to year. Ranchers bordering the refuge have again solicited the aid of the county predator control agent in helping them remove coyotes from their lands. This practice undoubtedly limits the refuge population, but not as much as if predator control was permitted on the refuge.

Pocket gophers do not appear to have increased, but remain at a high level both in the hills and on the meadows. All other populations of small mammals and predators appear to have remained stable. Bobcat sign was observed around North Marsh Lake last year, but no direct observations were recorded.

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

Golden eagles were first observed on January 20 last year, with numerous other sightings throughout February, March and April. Golden eagles were not then observed until November 21, when a lone adult was observed near Dad's Lake. Bald eagles were first observed on March 13, with other sightings throughout April. The next sighting did not occur until November 18 and the last observation of the year was on November 21.

Marsh hawks were the most common raptor present for most of the year, with observations in every month. During the latter part of the year, the rough-legged hawk population increased greatly. The winter population of this bird was equal to or greater than the marsh hawk population. Other species observed during the year were sparrow hawk, red-tailed hawk, Swainson's hawk and prairie falcon. Several species of owl were also observed, including burrowing owls and short-eared owls. No observations of ravens were made this year, but both crows and magpies were seen all year long.

F. Other Birds.

The first observation of mourning doves occurred on March 30, this year, a week later than normal. Breeding populations remained stable as did production. The banding effort produced better results this year, with a total of 55 doves banded. The average for about the last 3 years has been around 30. The sex and age composition is listed below.

Adult Males	AHY-M	21
Adult Females	AHY-F	11
Young of Year	HY-U	<u>23</u>
Total		55

First of the year observations for various species are listed in Table IV.

<u>Species</u>	<u>Date (1971)</u>
Townsend Solitaire	January 6
Yellow-shafted Flicker	January 17
Starling	January 22
Downy Woodpecker	February 9
Cedar Waxwing	March 10
Red-winged Blackbird	March 13
Western Meadowlark	March 14
Brewer's Blackbird	March 25
Mountain Bluebird	March 29
Lark Bunting	March 30
Brown Thrasher	April 23
Willet	April 23
Blue Jay	April 23
Yellow-headed Blackbird	April 23
King Fisher	April 25
Western Kingbird	May 13
Baltimore Oriole	May 13
Bob-o-link	May 13
Eastern Kingbird	May 14
Mockingbird	May 14
Orchard Oriole	May 22

Table V. First of the year observations of various species of birds at Valentine National Wildlife Refuge, 1971.

G. Fish.

The federal-state cooperative northern pike spawning operation continued this year. The effort was concentrated on Pelican Lake this year, and the egg taking operation proved to be most successful, providing a record 40,500,000 eggs. Over 8,200 northern pike were trapped from Pelican, stripped of their eggs, and returned (45 pike were used in stocking an experimental marsh at LaCreek Refuge). Most of the eggs (81%) were distributed among the Gavins Point, Cedar Bluffs, and Miles City National Fish Hatcheries. The remainder of the eggs were taken to the North Platte State Fish Hatchery. A brief synopsis of several refuge lakes is listed below.

1. Hackberry Lake. State fisheries biologists placed four trap nets in Hackberry for one night in May. A total of 684 pounds of black bullheads were taken, averaging 0.1 pounds each. No game fish were taken at this time. In late October, District Fishery Supervisor Del Robinson, sampled Hackberry Lake by electro-shocking, and not one species of fish other than carp were discovered.

The combination of carp and an over population of stunted bullheads has ruined game fish habitat and has rendered the lake undesirable for waterfowl use. Populations of bass and bluegill, stocked in 1967, are suspected to be suffering greatly, but since no game fish were netted or shocked, no information is available concerning magnitude of population, condition, or growth rate.

2. Pelican Lake. A comprehensive gill net survey was conducted by state fishery biologists and Fishery Biologist Robinson in June. Approximately 60% of the gill net sample consisted of northern pike averaging 21 inches in length and 2.4 pounds. Twenty-two percent of the gill net catch consisted of yellow perch averaging 10.8 inches and 0.7 pounds. A large number of small yellow perch were also collected with a boat shocker. Pelican Lake was heavily fished during the spring of 1971, and large numbers of northern pike were taken by anglers. Fair ice-fishing success was also reported late in the year.

With the presence of substantial yellow perch and carp populations and the demand put on the northern pike population by anglers and spawning operations, the fishing of Pelican Lake may rapidly deteriorate.

3. Watts Lake. Watts Lake was netted by state and federal fishery biologists and good numbers of catchable black crappies (age class III) were found. A winter kill of crappies, bass and carp occurred last winter when the dissolved oxygen content dropped to 0.00 ppm. The crappie population is expected to put pressure on the fry of other game fish because of their predatory nature. The carp population is believed to be static and the northern pike population continues to be at a low level.

4. Clear Lake. A good walleye population exists with some natural reproduction. The carp population has continued to increase since they gained access when the Dewey Lake control structure washed out during the springs of 1969 and 1970.

On February 16, a fisherman from Valentine, Nebraska, caught a new state record Sacramento perch. The fish weighed in at 2 pounds, 3 ounces, and was caught on a tear-drop with a wax worm.

5. Dewey Lake. Dewey Lake has continued to deteriorate as the carp population has increased greatly over last year. The District Fishery Supervisor feels that Dewey Lake has "turned the corner" from good fishing and will go down hill from here. There is a strong population of small perch and a fair bass population. Walleye are still occasionally caught, but the significant item is Dewey's increasing carp population and the failing game fish population. State fishery biologists collected 520 yellow perch for transplant programs this year.

6. Duck Lake. Duck was not sampled by fishery biologists this year. During the ice fishing season however, large numbers of small (1970 year class) bass were caught. Duck Lake is scheduled for a comprehensive survey next year by the District Fishery Supervisor.

H. Reptiles and Amphibians.

Once again this year Mr. Robert Hirdler of Welcome, Minnesota, returned to hook snapping turtles on refuge waters. Mr. Hirdler made five trips to the refuge and returned to Minnesota with a total of 263 snappers. The total line weight of these turtles was 5,690 pounds, yielding an average weight of 21.6 pounds each. Last year "Hirdler the turtler" hooked only 77 turtles totalling 1,474 pounds, so this year was quite an improvement.

Again this year, bullfrogs and bullfrog tadpoles were commonly observed along the nature trail creek. Random observation of road killed and live turtles on refuge trails indicated a major increase in the Blanding's turtle population.

I. Disease.

No outbreaks of disease were recorded this year.

III REFUGE DEVELOPMENT

A. Physical Development.

1. Buildings. All building sites received lawn care and other landscape maintenance and in addition, all residences were inspected for fire hazards, faulty electrical systems and furnace disorders. Specific

projects for the different structures are summerized below.

a. Headquarters.

- (1) The office was completely remodeled, changing the cold, monotonous cinder block interior into a much more attractive and warm environment. The interior of the walls was lined with styrofoam insulation and paneled with maderia elm paneling. The ceiling was also renovated by the installation of white ceiling tile. A glass-enclosed display case was constructed in the entrance foyer and a large book case was built into a newly constructed wall, dividing the office into two sections. Six new fluorescent lighting fixtures were also installed.
- (2) Quarters-2, presently occupied by the refuge mechanic, was also remodeled inside. The living room, bedrooms and hallway were insulated and paneled and the ceilings were painted and partly tiled. Book cases and closet space were also built into the walls.
- (3) The exteriors of most of the structures at the headquarters area were painted white with green trim. The buildings were painted once with inferior paint purchased from GSA, and had to be entirely repainted with water-base paint. During the second painting, 21 gallons of white paint and 5 gallons of green paint were used.
- (4) A new comfort station with public rest room facilities was constructed at a cost of \$10,000. Included under the same construction contract was a new sewage system with a dual pump lift station at a cost of \$17,432. The construction area will be landscaped next spring. Parking area, hot water heater, and a few other refinements are also required.
- (5) A 40X60 foot Quanset storage building was procured from the Hastings Wetlands Area this year. Footing forms were constructed but erection had to be delayed because of lack of funds needed to pour the cement footing and floor.
- (6) Three hundred feet of Klearcore plastic waterline was laid from the barn to the students cabin. The old plastic pipe had deteriorated and was not fit for domestic use.

b. Pelican Lake Sub-headquarters.

- (1) A new well for domestic water supply was drilled, as the old well became contaminated for unknown reasons.
- (2) Forty yards of dirt fill and clay were hauled to provide a better foundation for the drive.

c. Pony Lake Sub-headquarters.

- (1) A new sewage system was installed at Pony at a cost of \$3,000, under the same construction contract as the comfort station and sewage disposal system at headquarters.
- (2) A new 1,500 bushel steel granary, obtained from the Hastings Wetlands Area, was erected and the old granary was buried in the ground to provide a covered dump.

2. Roads and Trails.

Considerable trail mulching was accomplished again this year in order to keep our sand trails in a navigable condition. Most trails were mulched between early September and late October. Over six miles of trail were hand mulched, using 36 tons of hay. Another ten miles were mulched by mowing a double swath on each side of the trail and raking the cuttings into the trail with a side-delivery rake. In addition to this, another nine miles were mulched with a side-delivery by various permittees, making a total of 25 miles of interior sand trails mulched this year.

Three cooperative haying agreements were contracted with permittees this year. Only 18 tons of the of the refuge's share of 182 tons were used, yeilding a reserve of 164 tons for next year's trail mulching and blow-out control programs.

Autogate installation was limited to one relocation and one replacement this year. One was relocated in conjunction with the improvement of a new trail through the west end of Calf Camp Valley and a 6 1/2 foot gate was replaced with a 9 foot autogate in G-34A to facilitate the passage of trailers and larger vehicles.

Four miles of interior trails were graded and leveled through Pony Lake Valley and 1 3/4 miles of new grade were established through Calf Camp, McKeel and School Lake Vall~~ies~~ys. The trail through Pony Valley was in poor shape with deep ruts and loose sand, and often drifted over with snow in the winter due to its being lower than the land level. The trail was built up, leveled, and compacted by our road patrol. The unimproved trail through Calf Camp Valley was a source of trouble for many spring fishermen as the old trail was an obstacle course, with vehicles often getting mired to the frame. The new grade should permit access for spring fishing enthusiasts unless we experience an extremely wet spring.

A potentially dangerous driving situation was corrected by building up the road shoulders along the narrow paved road adjacent to the Duck Lake Hills. The county hauled 128 yards of clay which was leveled and packed by refuge personnel. Vehicles can now safely pass by pulling off onto the clay shoulders.

3. Grazing Facilities.

Additional watering facilities provided in 1971 are shown below. Six new wells were drilled, five for livestock utilization and one for the Pelican Lake Sub-headquarters residence. Portions of well maintenance were charged to all three of our activities (0141, 0830, 0170). Also shown in the below table is the number and location of wells repaired.

<u>Location</u>	<u>Maintenance</u>	<u>Specific Area</u>
G-12B	New Well	Center
G-15A	New Well	Center
G-21A	Minor Repair	Middle
G-24A	New Well, Mill & Tower	West
G-25B	New Well, Mill & Tower	Center
G-30B	New Mill & Tower	West
G-35B,C	New Well	Fenceline
Pony Lake Goose Pen	Tower Relevelled	- - -
Pelican Lake Sub-hdqt.s.	New Well	Residence

Fence maintenance and repair was moderate this year with 408 steel posts, 370 wood posts, and 19 rolls of wire being issued to permittees. Approximately 1 3/4 miles of new fence was constructed by refuge personnel and permittees; 1/2 mile in G-34A and 1 1/4 miles in G-24A.

4. Erosion Control.

Several large areas of depletion and blowouts were renovated this year in grazing unit G-34A. A total of 14 acres was leveled, reseeded with 130 pounds of a mixture of native grasses (see Form NR-7) and mulched with 54 tons of hay. It has been observed on previous control areas that too heavy a mulch will retard or even prevent the growth of seeded grasses. Therefore a lighter mulch has been used and pressed into the ground with either a weighted disc, a crawler tractor, or cattle.

The Dewey Lake control structure was finally made operable in September. It had washed out in the spring of 1969, was plugged and repaired and returned to operation in the spring of 1970, after which it soon washed out again. It remained plugged until this fall. The plug was removed after the control structure was reinforced with 5 1/2 yards of concrete beneath and in front of the structure, and the canal leading to the control structure was lined on both sides and bottom with 300 yards of asphalt rip-rap to buffer the wave action.

5. Public Use Facilities.

Again this year we added to our growing number of public information signs. Eight mileage and direction signs were installed at strategic locations (mostly trail and road intersections) within the interior of the refuge. The signs were obtained from the Upper Mississippi Sign Shop and the frames were constructed from 428 feet of pipe.

The public access boat ramps constructed from corrugated landing mat, survived ice action fairly well and no major repairs or maintenance was needed. The approaches to the ramps were sprayed with oil to firm up the ground and a small area was mowed around the ramps for vehicle parking.

Nine additional trash receptacles were purchased last year from GSA. This winter they will be painted and a chain attached between the lid and receptacle so they can be put into use next spring.

Probably the biggest accomplishment under the category of public use facilities was the contract construction of public rest rooms with flush toilet. The comfort station was not completed until late in the year so it was decided to wait until next spring to open it up, since it has no winter capabilities.

6. Equipment Repair and Maintenance.

The upkeep and repair of antique refuge equipment is a major and costly undertaking. Excessive wear to the tracks of heavy equipment results from walking it from one project site to another. As of the end of 1971, two 2 1/2-ton 6X6 trucks had been frozen, one of which will be converted to a tractor for a low-boy trailer. This modification will allow us to transport equipment within the refuge, thereby saving on maintenance and labor. Other items of property obtained by transfer of surplus are:

- (1) one 1,500-bushel granary, obtained from the Hastings Wetlands Area, was erected at Pony Lake Sub-headquarters.
- (2) one 40'X60' Quanset style storage building obtained from the Hastings Wetlands Area.
- (3) one 60,000 BTU space heater obtained from Fort Leonard Wood will be used in the Quanset building until a more satisfactory heating unit is obtained.
- (4) one Huber-Warco diesel road grader obtained through Mingo NWR. Extensive use has been made of this unit in road development and maintenance.

- (5) Six "Mobilite" searchlights were obtained from Forbes Air Force Base, Kansas. The 24-volt circuitry will have to be changed to a 12-volt system, and then they will be used on night patrol.
- (6) One 300 gallon capacity skid-mounted John Bean sprayer was obtained from the U.S. Forest Service, Milwaukee, Wisconsin. The dump box was removed from a 5 ton 4X4 dump truck and the high pressure sprayer was mounted on the truck's frame. Excess property will be screened for a smaller, more suitable truck like a 1 1/2 ton 4X4 to improve speed and maneuverability of this unit.

Much of the equipment received on surplus had to be reworked and modified to suit our specific needs. All equipment received regular maintenance and repairs as required.

Our two equipment servicing contracts, negotiated during 1970, are still in effect. All refuge two-way radios (base station, portable and pack) received contract maintenance under one agreement. In addition to this, all radios were changed to the new Bureau frequency of 34.83 KC. The other maintenance agreement is with Monroe International to provide periodic service for the office calculator.

7. New Equipment.

The following new items of equipment were purchased during 1971.

- (1) Two 3/4 ton 4X4 International pickup trucks were purchased so that we could retire two of our many "war horses". They replaced a 1963 Dodge 1/2 ton pickup and a 1957 International 1/2 ton pickup.
- (2) One 35mm Nikkormat SLR camera, equipped with a wide angle lens, should greatly increase our chances of capturing some of the panoramic beauty of the Sandhills.
- (3) Two pairs of Bausch and Lomb binoculars and a 15-60X "Zoom" spotting scope further upgraded our optical equipment.
- (4) Two Norelco pocket tape recorders were purchased and have been used for spy blind work, census recording, the recording of public statements, law enforcement and other general uses. The main advantage is that the recorder enables one man to observe and record simultaneously which is of great benefit when things happen fast.

B. Plantings.

As reported in section III A-4, Erosion Control, approximately 130 lbs. of a native grass seed mix composed of little bluestem, sand bluestem, sand lovegrass, Indiangrass and switchgrass was dispersed over 14 acres of blowouts in unit G-34A. The blowouts were first leveled, seed at a rate approximating 10 lbs. per acre, and then mulched with native hay.

C. Collection and Receipts.

1. Seeds or Other Propagules. Nothing in this category was collected on the refuge this year but native grass seed was received from Lake Andes NWR. Narrative Report Form #7 gives a breakdown of amounts of each species of grass received.

2. Specimens. As part of a regional program to monitor pesticide and mercury residue accumulation in animal tissue, two great blue herons were collected last year along with about a dozen leopard frogs.

D. Control of Vegetation.

Again this year Tordon 22K was used to control the growth of leafy spurge. The results appeared good, but a better evaluation can be gained next spring. A total of 5 3/4 quarts were used on slightly over two acres in units G-15 and G-31A.

Mexican sandbur was combatted again this year with 2,4-D around the headquarters and sub-headquarters area. A total of 21 quarts of 2,4-D was used for repeated treatment on 14 acres of Mexican sandburs and one acre of dandelions. Narrative Report Form #12 provides this data in tabular form.

E. Planned Burning.

No planned burning was accomplished. In the future, however, experimental burning is planned to achieve specific grassland management objectives, and a Controlled Burning Plan will be submitted in 1972.

F. Fires.

Two known fires occurred on refuge lands last year. The first occurred on August 19 in unit G-21B. Summer student Bob Hahn observed a bale smoldering from an airplane and telephoned the refuge from the airport. Bio. Tech. Vaughn went to the scene and put the fire out within 1/2 hour. The fire was contained to one bale of hay and was believed to have been started by lightning.

The second fire occurred the next day, August 20, in unit G-8E. It was of the same nature but on a larger scale. This time a hay stack

had caught fire. Also caused by lightning, it was contained to the stack and took five man-hours to put out.

On July 24, Manager Peabody and Auto Mechanic Aufdengarten spent an hour and a half suppressing a fire on a hay meadow just east of the refuge boundary. The fire was started when a hay stacker hit a power line. Approximately five acres were burned. On the same day, Bio. Tech. Vaughn answered a fire call on a private ranch just south of the refuge. It was suspected that a careless smoker was to blame for over 12 acres being burned.

On August 17, all four refuge fire units answered a call on a ranch just west of the refuge. The fire was started by a tractor in a hay field, spread quickly into the hills, but was brought under control with only 50 acres burned. Seven refuge personnel attended for 1.5 hours each.

On August 26, a train headed for Valentine, Nebraska, touched off a blaze by shooting a spark into the grass along the track. Before it had ended, over 1,000 acres were burned, including grass meadows, hills, fencelines, and forested canyons. Approximately 750 firefighters were on the scene including six from the refuge with two fire units. Eighteen man-hours were expended during this suppression effort.

We were presented this year with a "Plectron" radio signal receiving set on the Sheriff's Office frequency. The "Plectron" is maintained at the refuge office, and is taken home by one of the refuge personnel at night when the fire hazard conditions are high. The unit is carried in the field as a self-contained mobile unit on all fires.

IV RESOURCE MANAGEMENT

A. Grazing.

During the 1970-71 grazing season (ending April 15, 1971), refuge permittees utilized 34,308 AUMs of grazing. This represents a decrease of 13% from the previous year's utilization of grazing units. At a grazing fee of \$3.10 per AUM, revenues totaled \$106,354.80. An additional \$245.00 was received from the leasing of 233 acres of unfenced tracts of refuge lands and \$59.12 on a special use permit let to one refuge employee. Total receipts from the 1970-71 grazing season were then \$106,658.92. The grazing fee for the present season (May 15, 1971 to April 15, 1972) will be \$3.25 per AUM. A new grazing fee survey coordinated with Crescent Lake NWR will be conducted this winter to establish the new base grazing fee in the future. Although the base price will remain constant for the next five years or so, the actual AUM fee may fluctuate from year to year based on fall prices of beef preceding the current grazing season.

A comprehensive grasslands management study and review was conducted this year which included every grazing unit and sub-unit on the refuge. Field inspection and evaluation of all grazing units and grassland areas was completed by a study team during the period of September 14 to October 15, 1971. The study team was composed of eight members: Harold Duebbert, Wildlife Biologist, NPWRC; William Bair, Area Biologist; Hugh Cosby, Grassland Ecologist; Ron Perry, Manager, Crescent Lake NWR; and four personnel from this station.

The purpose of the study was to develop long-range management plans as well as short-term or interim recommendations designed to improve habitat and satisfy refuge objectives. The team formulated recommendations for the improvement of individual units as well as general recommendations designed to maximize output from different range sites, i.e. wetlands, sub-irrigated meadows, sands and choppy sands. Major management recommendations advocated by the study team are as follows:

1. Zoning of all sub-irrigated meadows on the basis of their value to waterfowl management.
2. Termination of annual mowing of meadows.
3. Use of prescribed burning, mowing and grazing with alternating periods of rest to improve vigor and species composition of native plant communities to provide more desirable habitat.
4. Use same habitat manipulation techniques to maintain cover condition and provide 40-100 acre undisturbed blocks of vegetative cover for three to eight year periods.
5. Hold meadow units in reserve when released by current permittees through normal attrition to allow for flexible and intensive manipulation.
6. Initiation of restoration phase of management on Priority I meadows, especially key areas, as soon as possible, beginning in 1972.
7. Development of small food and cover plots to promote greater diversity and abundance of wildlife species.
8. Use of complete rest, fall-deferment, deferred-rotation and rest-rotation systems; reduced stocking rates and erosion control to promote restoration and maintenance of range condition.
9. Establishment of Wilderness Area with termination of annual leases and removal of facilities, and possible use of summer grazing.
10. Initiate adequate monitoring techniques to evaluate qualitative and quantitative changes in vegetation and response by wildlife.

11. Bureau assume total responsibility for maintenance of all government owned facilities required for grazing management.

If adopted, the recommendations outlined in the study will have a great impact on future grazing programs at Valentine Refuge.

B. Haying.

Sixteen haying operations were conducted by permittees this grazing season. Hay yields on most meadows were considered slightly under average due to the lack of available precipitation early in the growing season. It is the case in most years that winter hay units comprise over half of the AUMs used. This year 58% of the AUMs used on the refuge was on winter hay units.

Since grazing and haying programs are reported on a grazing year basis (May 15, year X, to April 15, year X+1), the previous discussion of haying concerned the growing season of 1970. During the growing season of 1971, hay yields were much better, primarily due to a wetter spring. Information obtained from the Duck Nesting - Land Use Study, section V, indicated that nesting activities were progressing at a very slow rate. Permission was received from the Regional and Central Offices to delay the mowing date three weeks, to August 8, the longest delay ever. Permittee cooperation was good, with a minimum of dissenting comments.

Three cooperative haying agreements were made with permittees this year (1971). The refuge share of the hay is used for blowout and erosion control and trail mulching. The refuge share this year was 182 tons, 18 of which were used.

C. Fur Harvest.

For the second consecutive year, it was recommended that the fur-bearer harvest program be suspended. Even in past trapping years, very few predators have been trapped, thereby insignificantly reducing predation on waterfowl, upland game birds, or their nests. The present population level of muskrat is much too low to have a deleterious effect on emergent vegetation, much less provide openings for waterfowl use.

Another objective of the trapping program is to provide public recreation and economic supplementation. Only one person expressed an interest in trapping this year. With continually declining fur prices, the public demand for trapping privileges has also diminished.

The annual cost of administering the Fur Harvest Program has been estimated at between \$60 and \$70. In only one year out of the last five trapping years has the government's share covered the cost of administration. Until more favorable conditions prevail, or a predation problem occurs, the Fur Harvest Program at Valentine will continue to remain suspended.

D. Timber Removal.

None

E. Commercial Fishing.

None

F. Other Uses.

Turtle trapping - see Section II-H.

V FIELD INVESTIGATIONS AND APPLIED RESEARCH

A. Relationship of Predation and Land Use Practices to Duck Nesting Activities. (Valentine-2)

This is a continuing study to collect quantitative information on waterfowl use and success on different land-use types. This year summer Biological Technician Robert E. Hahn undertook the investigation. An abstract of his findings follows.

"A total of 157 duck nests were found on two nest drags conducted in late June and early July of 1971. Five major land use types totaling 918 acres of sub-irrigated meadow were covered in both drags. Overall hatching success was 38 percent with strip-mowed and block-mowed units having significantly higher survival rates than non-use, fall-grazed and summer-grazed units. An average nest density of 13 nests/100 acres for all land use types (excluding the "island") was also found. The greatest nest densities were found on the "island" with 45 nests/100 acres in the non-use portion and 42 nests/100 acres in the strip-mowed areas. On the remaining study area, fall grazed, summer-grazed, non-use, block-mowed, and strip-mowed units had densities of 18.8, 18.6, 12.0, 10.4 and 8.4 nests/100 acres respectively. Nest densities, (excluding the "island") for fall-grazed and summer-grazed units were significantly higher than strip-mowed and block-mowed units. Blue-wing teal comprised 78 percent of the total nests found, compared with only 46 percent of the calculated breeding population."

B. Banding.

A banding quota of 1,000 mallards was received and was to have been accomplished during the months of August and September. Prebaiting in several locations proved to be unsuccessful and after considerable effort was expended, with similar results, the banding program was terminated with no birds banded.

Data on mourning dove banding is presented in Section II-F.

C. Utilization of Artificial Nesting Structures.

A total of 48 artificial nesting structures were available for use this spring. Eight of the fiberglass structures lost to ice action, were replaced with a new construction designed by Biological Technician Vaughn. The new structures were fabricated and installed last spring. They were made from 55 gallon barrels, cut in half, then split down the side into eight sections. Each section was then flared out approximately 40°. A 1/4 inch rod was welded between each section at the top to keep the sections evenly spaced, making a tub 42 inches in diameter. For easier installation a coupling was welded to the bottom of the tub and screwed onto a 1 1/4 inch pipe that had been driven into the ground. Total cost of material, labor, and installation was under \$7.00 each (most material being surplus).

The following chart gives a breakdown of the different types of structures available, and the number used by Canada geese in 1970 and 1971.

<u>Type</u>	<u># Available</u>	<u>Used in 1970</u>	<u>Used in 1971</u>
Dill Type	6	3	4
Artillery Sled	4	1	0
Fiberglass Tub	34 in 1970	3	
	27 in 1971		4
Barrel Type Platform	3	0	1
Barrel Type Tubs	8 1971 only	-	1
	<u>48</u>	<u>7</u>	<u>10</u>

Our usage of artificial structures continues to increase every year. We are accumulating data on the types of structures preferred by nesting geese and will eventually use only the most preferred type.

VI PUBLIC RELATIONS

A. Recreational Use.

Actual visits during 1971 increased by over 2,400 (15.4%) to a present total of 18,231. Fishing as usual accounted for the majority of visits, comprising 78 percent of the total.

The most dramatic increases were recorded in the non-consumptive categories, a trend worthy of mention. The category of Wildlife Observation increased 280% from last year. Bow hunting, another activity we like to encourage, increased 195% from last year, and participation in a new category was recorded this year, Boating.

Table VI provides historical information on recreational use at Valentine. The last line shows the percent of total visits comprised by fishing. The percentage increased steadily until a peak was reached last year, and this year it started to decline. It is felt that the quality of sport fishing at Valentine will continue to decrease due to expanding populations of rough fish. Carp and bullhead ruin sport fish habitat as well as reducing the potential for waterfowl. We have already lost two lakes to carp, Hackberry and Whitewater, and data collected by the District Fisheries Supervisor, Fishery Services, indicate that Dewey Lake, Clear and Watts Lakes will soon follow the fate of Hackberry and Whitewater.

It is also the District Fishery Supervisor's opinion that the pike population in Pelican Lake is the only thing saving that lake from a carp take-over. Dewey and Pelican are our two most heavily used fishing lakes. If we lose them, our public use will drop considerably and may approach a figure similar to the last line of Table VI.

Public use information leaflets were again revised to conform to the state hunting and fishing regulations, and distributed through our dispenser boxes located at refuge headquarters, State Spur 16B, and State Route 83.

The Nebraska Game and Parks Commission publishes a monthly conservation magazine entitled "Nebraskaland". Staff photographer Greg Beaumont spent June of 1970 at the Valentine Refuge observing and photographing scenery and wildlife. The final product of his efforts appeared in the May 1971 issue of "Nebraskaland", as a 16 page feature article entitled "Cry Spring, Cry Wild". The result is a delightful compendium of poetry and photography, a copy of which is attached.

B. Refuge Visitors.

A list of official visitors is appended. People visit the refuge daily, and many stop by the office for information or assistance. Other persons visited this station in connection with their official duties. Their names are also excluded except where the visit had some special significance.

C. Refuge Participation.

- 1/14 Peabody presented program to the Valentine Rotary (30 in attendance).
- 1/21 Peabody and H. Cosby attended Winter meeting of Nebraska Forage and Grassland Council at Lincoln, Nebraska.
- 1/25-29 Larsen attended a workshop for clerks and administrative assistants in Minneapolis, Minnesota.
- 2/6 Peabody attended the Nebraska State Chapter of the Wildlife Society meeting at Kearney, Nebraska,

	<u>1971</u>	<u>1970</u>	<u>1969</u>	<u>1968</u>	<u>1967</u>	
Hunting						
Big Game	495	340	290	230	440	
Upland Game	915	480	600	980	630	
Bow	300	105	65	0	0	
Fishing						
Warm Water	14,215	13,425	12,245	12,045	10,330	
Wildlife Photography	175	95	91	10	*	
Wildlife Observation	815	215	870	1,330	*	
Wildlife Trails	333	180	83	60	*	
Wildlife Tours/Routes	93	144	0	83	*	
Picnicking (wildlife related)	9,570	6,500	2,400	1,225	*	
Off-site Programs	434	45	84	*	*	1
On-site Programs	158	88	116	*	*	3
Miscellaneous Wildlife	301	111	100	168	*	2
Boating	10	0	0	0	*	
Picnicking	640	497	120	290	*	
Winter Sports	560	240	280	*	*	
Fruit, Nut Collecting	80	35	35	*	*	
Total Actual Visits	18,231	15,797	14,834	15,196	14,525	
% of Total Fishing	78%	85%	83%	79%	71%	

* Data not available.

Table VI. Public use recorded at Valentine National Wildlife Refuge during the period 1967-1971.

- 3/1-3 Peabody attended a meeting with grazing permittees at Crescent Lake NWR.
- 3/4 Peabody attended meeting with R.O. personnel and Nebraska Game and Parks Commission personnel on public hunting on Nebraska refuges, at DeSoto NWR.
- 3/22 Shupe presented National Wildlife Week program to the following local schools:

Kennedy School	11 attending
P.H. Young School	14 attending
Ballards Marsh School	13 attending
Goose Creek School	25 attending
Total Attendance	63

- 4/10 Peabody attended a big game management workshop at Bassett, Nebraska.
- 5/15 Shupe and Hahn gave a tour to visiting Australian Rotarians.
- 6/4 Shupe gave a tour to teachers attending a conservation workshop at Halsey, Nebraska.
- 7/15 Peabody and H. Cosby attended the summer meeting of the Nebraska Forage and Grassland Council at Grand Island, Nebraska.
- 8/3 Peabody gave talk on refuge history, objectives, and programs to a YOC party and their sponsors from Rosebud Sioux Reservation. Del Robinson, District Fishery Supervisor, presented a talk on fishery management and demonstrated trapping techniques on refuge lakes.
- 8/13 Peabody gave talk and tour to 50 people attending a conservation workshop at Halsey, Nebraska.
- 9/20-24 Peabody and Larsen attended a systems analysis workshop at Sioux Falls, South Dakota.
- 9/27-29 Refuge personnel assisted with buffalo roundup, testing, and branding at Fort Niobrara NWR.
- 10/13 Refuge personnel assisted with the annual buffalo and longhorn auction at Fort Niobrara NWR.
- 10/20 Peabody and Koerner presented slide show, nature trail hike and tour of refuge for 36 Indian youths from St. Francis School, South Dakota.
- 10/27 Koerner attended a defensive driving course in Grand Island, Nebraska.
- 12/3 Koerner presented two slide shows to 90 grade school and high school students in Thedford, Nebraska.
- 12/12-15 Koerner attended the Midwest Fish and Wildlife Conference and presented a paper on "Canada Geese of Southwestern Lake Erie" in Omaha, Nebraska.

D. Hunting.

1. Sharp-tail Grouse. In past years, hunting of upland game birds was closed during the duck season so last year's (1970) season was only seven days in length. The season this year ran 30 days, from

September 18 to October 17. During the season an estimated 640 hunters took approximately 800 birds for a ratio of 1.25 grouse per hunter, an increase from last years ratio of 1.1 birds per hunter. The daily bag limit was again two grouse. Table VII presents grouse hunting data for the past seven years.

2. Ring-necked Pheasants. The 1970 pheasant season was also restricted in length due to the waterfowl season. As a result, hunting pressure was light and harvest totals low. This year, the refuge remained open during the duck season for the entire 72 day season. Hunting pressure was again light with an estimated 296 hunters recorded for the season, with a total harvest of 225 roosters. This gives a success ratio of 0.76 birds per hunter. Table VIII provides historical pheasant hunting information.

3. Deer. The 1971 deer firearms season was held from November 13 through November 21. The refuge is in part of two State deer management units. The Calamus Unit includes that part of the refuge east of Highway 83, and the Sandhills Unit includes that part of the refuge west of 83. The season this year was limited to antlered deer only. An estimated 75 hunter days were expended in the Calamus Unit this year, compared to 80 last year. Hunters killed six white-tail bucks and three mule deer in the Calamus Unit. In the Sandhills Unit an estimated 325 hunter days took nine deer, five whitetails and four mule deer. Total harvest for the deer season was 18, nine of each species, which represents a 54% decrease from last year's kill of 39. Total hunter visits were 400 this year, compared to 340 last year.

The deer archery season opened on September 18, and closed on December 31. It was also closed during the week of the firearms season. The number of archers increased to 70 this year, an increase of 15 from last year. No deer were killed with a bow this year; only two have ever been killed on the refuge with a bow.

E. Violations.

Refuge personnel apprehended eight violators during 1971 and State Conservation Officers made the remaining six cases. All cases made by refuge employees were turned over to a State Conservation Officer and prosecuted through Cherry County District Court. Table IX gives a synopsis of the violations observed on the refuge in 1971.

F. Safety.

The monthly interagency safety meetings, held in Valentine, were attended by all available personnel, including temporary labors. Additional safety meetings were held at the refuge as needed. In addition, new and temporary employees are briefed by the maintenance man on vehicular and equipment safety. Specific projects directed

SHARP-TAILED GROUSE

	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>
Season Length	35	16	21	47	28	7	30
Bag Limit	2	2	3	3	2	2	2
Est. Hunter Days	175	225	370	700	450	385	640
Est. Kill	125	225	475	900	445	425	800
Est. Crippling Loss	25	25	75	100	70	25	100

Table VII. Prairie grouse hunting season data from 1965 to 1971.

PHEASANT

	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>
Season Length	33	18	47	52	53 W. 46 E.	9 W. 30 E.	72
Bag Limit	4	4	4	4	3	3	3
Est. Hunter Days	100	125	345	345	80	100	296
Est. Kill	75	100	350	350	65	95	225
Est. Crippling Loss	50	25	100	100	15	20	100

Table VIII. Ring-neck pheasant hunting season data from 1965 to 1971.

<u>Date</u>	<u>Violator's Name</u>	<u>Officer</u>	<u>Violation</u>	<u>Fine</u>	<u>CT Costs</u>	<u>Liq. Damg.</u>
5/1/71	Dauphin, William L.	SCO Zimmerman	No Life Preserver	10.00	5.00	- - -
5/8/71	Hanson, Raymond T.	SCO Showalter	Fishing Without Permit	10.00	5.00	20.00
5/30/71	Warta, Robert D.	SCO Spoering	No Life Preserver	10.00	5.00	- - -
5/30/71	Novak, Jerry J.	Shupe	Overnight Camping	10.00	5.00	- - -
5/15/71	Meter, Dale	Aufdengarten	Overnight Camping	10.00	5.00	- - -
5/13/71	Summers, Melvin J.	Shupe	Operating Motorboat	10.00	5.00	- - -
9/18/71	Partusch, Leonard E.	SCO Zimmerman	No Game Bird Stamp	10.00	6.00	- - -
9/18/71	Bierman, Donald E.	SCO Zimmerman	Hunting Out of Season	10.00	6.00	25.00
9/18/71	Riedler, Alfred K.	SCO Zimmerman	Hunting Out of Season	10.00	6.00	25.00
9/19/71	Hamernik, David L.	Peabody	Driving Off Trails	10.00	6.00	- - -
9/19/71	Jones, Ray	Shupe	Overbag of Grouse	10.00	6.00	25.00
9/19/71	Fries, Laverne L.	Aufdengarten	Failure to Leave ID on Grouse	10.00	6.00	- - -
10/10/71	Lappe, Carl W.	Peabody	Hunting Geese on Refuge	25.00	6.00	25.00
10/10/71	Kieffer, Michael K.	Vaughn	Hunting Geese on Refuge	25.00	6.00	25.00

Table IX. Violations observed on the Valentine National Wildlife Refuge in 1971.

toward the enhancement of safety are listed below.

Fire Protection and Suppression.

- 1) A John Bean portable fire unit was received surplus and mounted on a 2 1/2 ton 4X4 truck.
- 2) One hundred feet of high pressure hose was purchased from GSA to accomodate the Bean unit.
- 3) All fire extinguishers were checked, serviced and replaced as needed.
- 4) All residences, shops and office were checked quarterly and Quarterly Fire Hazard Inspection Reports completed.

Visitor Use.

- 1) Refuge facilities in all public use areas were cleaned and emptied as needed.
- 2) "Special" road and information signs were installed to warn of temporary or seasonal hazards.
- 3) Public water supply was inspected quarterly for contamination.
- 4) Special safety plate glass was installed in the office display case.
- 5) The shoulders along the Duck Lake road were widened and firmed with clay so that oncoming cars could pass safely.

Vehicle, Equipment, and Other Personnel Safety.

- 1) Roof of the fur shed east of the Headquarters area replaced.
- 2) Underground trash burying tanks relocated, and the old site filled over.
- 3) New windshield installed in a refuge vehicle.
- 4) 5,000-mile, and 90 day safety inspections performed on all refuge vehicles.
- 5) New guard, fingers, and wear plates installed on double bar mower.
- 6) Exhaust systems on two new International pickups redesigned to permit more efficient and safer expulsion of fumes.
- 7) Furnaces in office, shop, and residences checked, serviced, and cleaned.

VII OTHER ITEMS

A. Items of Interest.

On May 22, Wildlife Aid Bob Hahn was thrown from a horse and broke a leg, ending this stations incredible record of 7,371 days (20.3 years) without a lost time accident.

Biological Technician Larry E. Vaughn received over \$200.00 for three Incentive Award Suggestions over the last year.

Assistant Manager Ron Shupe and family transferred to Charles M. Russell National Wildlife Refuge at Fort Peck, Montana on September 22, where Ron was promoted to a GS-9.

John Koerner and his wife Connie entered on duty on October 3, as the new Assistant Manager. The Koerners came to the Sandhills from Ohio, and are experiencing a change for the better.

Administrative Assistant Bruce Larsen transferred to Sacramento National Wildlife Refuge on November 10. Bruce enjoyed his stay at Valentine, and also finds the California life style much to his liking.

B. Photographs.

A photo section relating some of the highlights of our accomplishments and problems is attached. The additional camera purchased this year enabled us to obtain slides as well as black and white prints of a work project simultaneously without having to change film.

C. Credits.

Biological Technician Vaughn and Mechanic Aufdengarten maintained accurate and detailed records of different work projects which made the job of data compiling easier. Manager Peabody did the photo section and edited the entire report, and Assistant Manager Koerner prepared all other sections and the last section of NR Forms. Past Assistant Manager Shupe prepared the first two sections of the NR Forms. Refuge Clerk Kleven typed and assembled the entire report.

List of Official Visitors

<u>Date</u>	<u>Name</u>	<u>Organization</u>	<u>Purpose of Visit</u>
1/14	D. Robinson	BSFW-Valentine	Fish Management
2/4	D. Robinson	BSFW-Valentine	Fish Management
2/11	B. Law	BSFW-Minneapolis	Aerial Survey
2/17	K. Dybsetter	BSFW-Minneapolis	Wilderness Planning
2/17	L. Dundas	BSFW-Minneapolis	Wilderness Planning
3/1	W. Bair	BSFW-Lake Andes	Grass Management
3/10	D. Robinson	BSFW-Valentine	Fish Management
3/11	H. Cosby	BSFW-Lake Andes	Grass Management
4/2	W. Rhodes	Nebr.Game&Parks	Fish Management
4/15	H. Cosby	BSFW-Lake Andes	Grazing Program
4/15	W. Bair	BSFW-Lake Andes	Grazing Program
4/20	E. Zimmerman	Nebr.Game&Parks	Law Enforcement
4/29	R. Perry	BSFW-Crescent Lake	Refuge Objectives
5/3	J. Winship	BSFW-Minneapolis	Aerial Survey
5/3	W. Sontag	BSFW-Minneapolis	Office Display
5/4	C. Wingard	BSFW-Minneapolis	Inspection
5/5	L. Ell	Nebr.Game&Parks	Photography
5/11	H. Cosby	BSFW-Lake Andes	Grazing Program
5/12	D. Koss	BSFW-Region 1	General Visit
5/27	H. Cosby	BSFW-Lake Andes	Nature Trail
6/21	J. Winship	BSFW-Minneapolis	Production Survey
6/22	E. Zimmerman	Nebr.Game&Parks	Law Enforcement
6/30	H. Cosby	BSFW-Lake Andes	Grazing Program
7/1	W. Bair	BSFW-Lake Andes	Grazing Program
7/27	C. Wingard	BSFW-Minneapolis	Inspection
7/28	J. Lee	BSFW-(WS)	Discussion
7/28	M. Anderson	BSFW-(WS)	Discussion
8/3	K. Robertson	Nebr.Game&Parks	Public Hunting
8/6	V. Larson	Nebr.Game&Parks	Public Hunting
8/17	H. Troester	BSFW-Tewaukon	General Visit
8/30	H. Cosby	BSFW-Lake Andes	Grazing Program
8/30	P. Caulfield	Free Lance	Photography
9/14	K. Dybsetter	BSFW-Minneapolis	Wilderness Study
9/14	L. Dundas	BSFW-Minneapolis	Wilderness Study
9/14	H. Duebbert	BSFW-NPWRC	Team Study
9/14-10/5	H. Cosby	BSFW-Lake Andes	Team Study
9/14-10/5	W. Bair	BSFW-Lake Andes	Team Study
9/14-10/15	R. Perry	BSFW-Crescent Lake	Team Study
10/12	J. Carlsen	BSFW-Minneapolis	Inspection
10/12	C. Rollins	BSFW-Minneapolis	Inspection
11/30	C. Wingard	BSFW-Minneapolis	Inspection

SIGNATURES

Prepared by:

John W. Koerner
Ass't. Refuge Manager

Submitted by:

Ned I. Peabody
Refuge Manager

Date: _____

Approved, Regional Office:

Date: _____

Regional Refuge Supervisor

~~ANNUAL~~
~~MONTHLY~~ RECREATIONAL USE REPORT

Refuge name

VALENTINE N.W.R.

State

NEBRASKA

State

Code 27
(1-2)

Congressional

District Code 03
(3-4)

Refuge

Code 329
(5-7)

Report Yr. | Mo.

Period 71 | -
(8-11)

(Card Columns). (12-13) (14-18) (19-25)

ACTIVITY	Code	VISITS FOR THE MONTH	
		Total Number	Total Hours
Hunting: Big Game	01	<u>495</u>	<u>2,780</u>
Upland Game	02	<u>915</u>	<u>3,660</u>
Waterfowl	03		
Other Migratory	04		
Other	05		
Bow	06	<u>300</u>	<u>1,200</u>
Fishing: Salt Water	07		
Warm Water	08	<u>14,215</u>	<u>71,075</u>
Cold Water	09		
Environmental Education	10		
Wildlife Photography	11	<u>175</u>	<u>600</u>
Wildlife Observation	12	<u>815</u>	<u>2,430</u>
Conducted Programs	13		
Field Trials	14		
Wildlife Trails	15	<u>333</u>	<u>298</u>
Wildlife Tours/Routes	16	<u>93</u>	<u>121</u>
Visitor Contact Stations	17		
Camping (wildlife related)	18		
Picnicking (wildlife related)	19	<u>9,570</u>	<u>9,570</u>
Wildlife Interpretive Center	20		
Off-Site Programs	21	<u>434</u>	<u>427</u>

(Card Columns). (12-13) (14-18) (19-25)

ACTIVITY	Code	VISITS FOR THE MONTH	
		Total Number	Total Hours
On-Site Programs	22	<u>158</u>	<u>379</u>
*Miscellaneous Wildlife	23	<u>301</u>	<u>1,114</u>
Swimming	24		
Boating	25	<u>10</u>	<u>10</u>
Water Skiing	26		
Camping	27		
Group Camping	28		
Picnicking	29	<u>640</u>	<u>595</u>
Horseback Riding	30		
Bicycling	31		
Winter Sports	32	<u>560</u>	<u>1,160</u>
Fruit, Nut and Vegetable Collecting	33	<u>80</u>	<u>135</u>
*Miscellaneous Non-Wildlife	34		
Peak Load Day	35	<u>460</u>	
Actual Visits	36	<u>18,231</u>	
Fee Area Use	37		
Number of Fee Areas	38	(14-18)	
Fee Collections	39	\$	
Collection Costs	40	\$	

	<u>VISITS</u>	<u>ACT. HRS.</u>
<u>Miscellaneous Wildlife</u>		
Fisheries Investigation & Collecting	144	646
Specimen Collecting & Research	9	52
Hunting Inquiry	105	100
Grassland Management Study	43	316
<u>Economic Use</u>		
Grazing Program	5,044	17,350
Turtle Hooking	40	400
State Highway Dept. Permit	35	210
<u>Bow Fishing</u> (included with Fishing)	205	820
<u>Bow Hunting</u> (included with Big Game Hunting)	95	280
<u>Upland Game Bird Hunting</u>		
Grouse	640	2,560
Pheasant	275	1,110

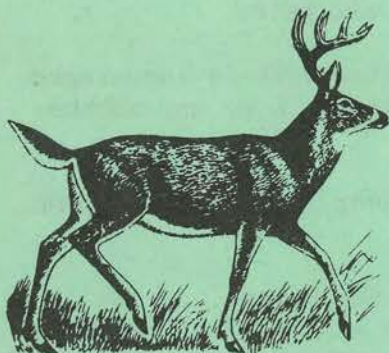
Valentine Refuge

HUNTER INFORMATION



SPECIES ALLOWED: Prairie Grouse, Ring-necked Pheasant, Whitetail and Mule Deer.

BAG LIMIT: The daily bag and possession limits for allowed species are in accordance with State regulations.



white-tailed deer

SEASONS:

GROUSE: September 18, 1971 through October 17, 1971.

PHEASANT: November 6, 1971 through January 16, 1971.

NOTICE: The Refuge will remain open for grouse and pheasant hunting for the entire seasons as listed above through the regular State duck hunting seasons.

DEER:

FIREARMS: November 13, 1971 through November 21, 1971

ARCHERY: September 18, 1971 through December 31, 1971. The archery season will be closed during the regular State deer firearms season.

OPEN AREAS:

GROUSE: Hunting Block I* ONLY.

PHEASANT: Hunting Blocks I and II**.

DEER: Sandhills Unit permit holders, Hunting Block I.
Calamus Unit permit holders, Hunting Block II.

FISHING: The Refuge will be closed to public fishing from the opening of the regular State duck hunting season on October 9, 1971 to December 15, 1971.

* Public Hunting Block I includes all Areas west of U.S. Highway 83.

** Public Hunting Block II includes all Areas east of U.S. Highway 83.



RINGNECK PHEASANT

SPECIAL REGULATIONS

STATE REGULATIONS: In addition to all special regulations listed herein, all hunting shall be in accordance with all applicable State regulations and laws governing the hunting of Grouse, Pheasants and Deer, i.e. bag limits, shooting hours, license requirements, etc.

PERMITS: No special permit is required to hunt upland game birds or deer.

CLOSED AREAS: Headquarters, Subheadquarters and Natural Areas as designated on the Public Recreation Map.

SPECIES ALLOWED: Prairie Grouse, Ring-necked Pheasant, and Deer only, during prescribed seasons. It is unlawful to take, attempt to take, or disturb any other species of birds or mammals.



MULE
DEER

LIVESTOCK: Livestock will be within much of the open area. Use extreme caution to avoid shooting towards livestock and please close all gates.

DOGS: The use of bird dogs and retrievers is encouraged when hunting upland game birds. Dogs may not be used to hunt deer.

LITTERING: Please take it with you. Keep the area clean and neat.

CAMPING: No camping is permitted on the Refuge. State camping areas are available at Big Alkali Fish Camp and Ballards Marsh Recreation Area.

VEHICLE TRAVEL:

Vehicle entrance and travel will be permitted only on mowed and well defined trails. No travel is permitted beyond posted points, or off the trails in the hills or meadows.



SHARP-TAILED
GROUSE

NOTICE: General regulations pertaining to all forms of public use throughout the year along with maps showing open and closed areas are available at the information signs on U.S. Highway 83, State Spur 16B (483) and at Refuge Headquarters.

On behalf of the Bureau of Sport Fisheries and Wildlife and the Nebraska Game and Parks Commission, we wish you good hunting.



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



GENERAL REGULATIONS

The following general regulations are applicable to all public use of the refuge throughout the year. Information and special regulations governing the public hunting and fishing programs are available at Refuge Headquarters.

- PERMITS:** No special permit is required for entering the refuge.
- TIME:** Public visitation is permitted during *daylight hours only*.
- TRAVEL:** All motor vehicles including jeeps, trail bikes and snowmobiles are permitted only on mowed or well defined trails. Travel is not permitted beyond posted points, off trails in the hills or meadows, or over the ice. Caution should be used in travelling the unimproved sand trails as they become very soft during dry seasons.
- PARKING:** Parking is permitted at any point along trails. Do not block trails, approaches or gates.
- WATER USE:** Boats *without motors* are permitted on all Public Fishing Lakes. Swimming is not permitted.
- FIRES:** Cooking fires confined to suitable containers such as camp stoves or charcoal broilers are permitted. Open fires are prohibited. Fire danger is ever present in the Sandhills and great care should be used with any fire and with smoking.
- PETS:** Dogs and other pets are permitted on the refuge but must be maintained under close control of the visitor and not permitted to roam free.
- FIREARMS:** Possessing or discharging firearms, fireworks or other explosives is prohibited, except that legal firearms are permitted during specified hunting seasons.
- LITTERING:** Trash receptacles are provided for your convenience. Please do not litter.
- CAMPING:** Camping facilities are not available and *no camping* is permitted on the refuge. Overnight camping is available on two State Special Use Areas: Alkali Fish Camp on State Spur 483; and Ballard Marsh, two miles north of the refuge on U.S. Highway 83.
- LIVESTOCK:** Controlled cattle grazing is an important management tool on the refuge. Watch for cattle on the trails and close all gates.
- CONDUCT:** Alcoholic beverages are permitted but no person who is obviously intoxicated shall enter or remain on the refuge. Disturbance of the peace or other disorderly conduct is prohibited. The destruction, defacement, disturbance or removal of plant and animal life, antiquities or public property is prohibited.

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources." The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States - now and in the future.

PUBLIC RECREATION OPPORTUNITIES

Valentine National Wildlife Refuge
Valentine, Nebraska 69201

We welcome you to the Valentine National Wildlife Refuge and encourage you to enjoy the following recreational activities available. The Refuge trail system and facilities are shown on the map inside. Please refer to the General Refuge Regulations on the back page of this leaflet.

SIGHTSEEING AND WILDLIFE OBSERVATION: The refuge represents an excellent sample of the unique Nebraska Sandhills with its sweeping valleys with large natural lakes and the choppy hills. This is the land of coyotes and cattle, sand blowouts and tall grasses. Concentrations of waterfowl occur in the spring and fall and excellent opportunity to view a large variety of prairie birds and mammals exists from spring through fall. Early morning and evening is normally the best time for viewing wildlife.



PHOTOGRAPHY: The challenge of photographing wildlife in its natural environment and in capturing the beauty of native flowers or the quiet immensity of the Sandhills awaits both amateur and professional. Contact Refuge Headquarters for the location of blinds that may be available.

DISPLAYS: Leaflets are available at the self-guided Nature Trail located one-half mile west of the Refuge Headquarters. Many native plants and other features are identified on this 15 minute walking trail. Special guided tours for organized educational and civic groups may be arranged in advance at Refuge Headquarters.



FISHING: Ten Refuge lakes with over 3,400 surface acres are open throughout most of the year for public fishing with hook and line, bow and spear. The best seasons are spring and early summer and winter ice fishing. Chest waders or boats are very helpful in fishing beyond the dense band of vegetation surrounding many lakes. A special fishing regulations leaflet is available at Refuge Headquarters.

HUNTING: Portions of the Refuge are currently open for public hunting of deer, prairie grouse and pheasants. A limited duck season may be provided in the future. Please refer to the Special Hunting Leaflet for complete information on seasons, dates, open areas, and special regulations.



PICNICKING: Facilities are provided on most of the popular fishing lakes and other sites. Your cooperation is requested in keeping the areas litter free and ready for the next party.

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF SPORT FISHERIES AND WILDLIFE
VALENTINE NATIONAL WILDLIFE REFUGE

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Providing nature oriented recreation such as fishing is but one of the many management objectives of the Valentine National Wildlife Refuge. Ten lakes totaling 3,436 surface acres of water are presently open for public sport fishing and are posted and designated on maps. Special fishing regulations on the back of this page are necessary for proper control to avoid conflict with other important refuge objectives such as waterfowl management. Please review these carefully!

The following chart is provided as a guide to the population level and/or record of fishing success for the various species of fish available in each of the public fishing lakes. Three of the ten lakes are not included in this chart as they are likely to winter kill, and are not providing good fishing at this time.

XXX = Excellent

XX = Good

X = Poor to Fair

	<u>WATTS</u>	<u>HACK- BERRY</u>	<u>DUCK</u>	<u>DEWEY</u>	<u>CLEAR</u>	<u>PELICAN</u>	<u>WEST LONG</u>
PIKE	XX	X				XXX	
BASS	XX	X	XX	XXX	XXX	X	XXX
YEL. PERCH	XXX		XX	XXX	X		XXX
SAC. PERCH				X	XXX		
BLUEGILL	XXX	X	XX	XXX	X	XX	X
CRAPPIE	XXX		XX	XX	X		
SUNFISH						X	XX
BULLHEAD	XX	XX	XXX			X	XX
CARP	XX	XXX	X	X	X	XXX	X
ACREAGE	230	680	66	550	424	819	62

SPECIAL FISHING REGULATIONS



1. Sport Fishing with hook-and-line, bow-and-arrow and hand-spear is permitted in accordance with state regulations.
2. Fishing is prohibited during the regular state duck hunting season, and may be closed by posting for any emergency or special management.
3. Fishing, as all other public recreational use, is permitted during daylight hours only. Camping is prohibited.
4. The use of, or possession of fish or parts thereof, either alive or dead, for bait is not allowed.
5. Boats, without motors may be used for fishing in accordance with state boating regulations. Motors may not be mounted on boats used on refuge lakes.
6. Cars or other motorized vehicles are not permitted on the ice.



7. Return all fish tags to collection boxes or Refuge Headquarters.
8. Waste receptacles are provided. Do not litter.
9. Your cooperation is solicited in providing creel census data to Bureau and State personnel when requested. This information is needed to improve fisheries management on the refuge.

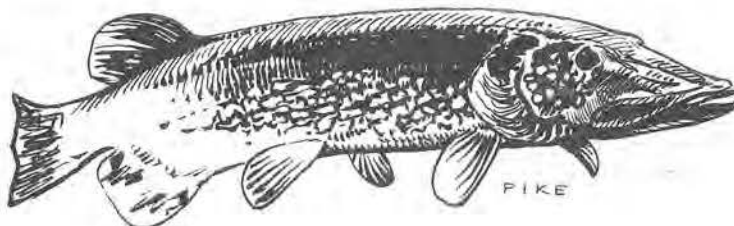
Refuge Headquarters is located on the West end of Hackberry Lake on State Spur 483. Visitors are welcome throughout the year and may inquire at the refuge office regarding current angling success and the travel conditions over access trails



One of the largest Northern Pike spawning operations in the Nation is conducted annually on the refuge by fisheries personnel of the State and Bureau. The eggs are provided to both Federal and State fish hatcheries for stocking other public fishing lakes and are used for trading stock with other states.

A major problem confronting the fisheries program is the heavy carp infestation of many lakes. Greater funds are required for renovation of lakes and to provide better access trails and other facilities for public use.

The Bureau of Sport Fisheries and Wildlife welcomes you to Valentine National Wildlife Refuge and hopes you enjoy your visit.





This American bittern found an abundant supply of minnows and crayfish provided by the draw down for outlet repairs and either became relatively tame or was too full to fly. (R71-B2 NIP)

WE-VAL-2827



Forty-eight platform structures were available in the spring and ten were utilized by nesting geese for a new station record. Biological Technician Vaughn designed the platform above from surplus oil drums which can be constructed and installed for less than \$7.00 each. (R71-B6 LEV)

WE-VAL-2828



21 • RVN

Permanent personnel, left to right: Larry E. Vaughn, Biological Technician; Ned I. Peabody, Refuge Manager; Arthur (Bud) Aufdengarten, Mechanic; John W. Koerner, Asst Refuge Manager, and Donald V. Kleven, Clerk. (RTI-BS)

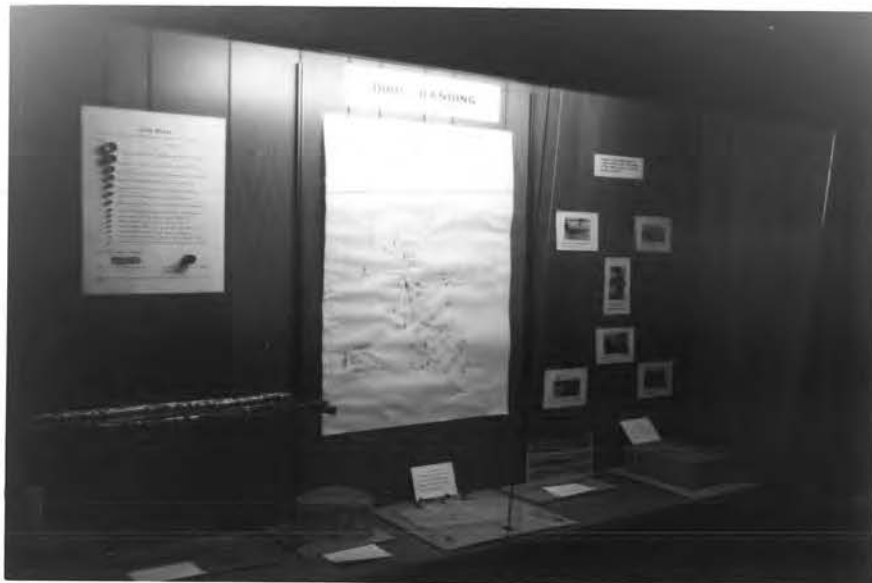
WE-VAL-2811

• MAR • 72



Biological Technician Vaughn (center) received monetary awards totaling \$210.00 for three Incentive Award suggestions. Two additional suggestions were circulated by R.O. for optional adoption and possible future recognition. (RTI-BI NIP)

WE-VAL-2812



• 22 • BVW

Major renovation of the office included the construction of an interpretive display case to provide for seasonal exhibits.
(R71-B3 NIP)

WE-VAL-2813

• MAR • 72



Eight directional signs constructed by the Upper Mississippi Sign Shop were erected within the interior of the refuge for the benefit of visitors.
(R71-B1 NIP)

WE-VAL-2814



21 • 89W

Polution Abatement Funds were utilized in the contract construction of new sewage disposal systems at Headquarters and Pony Lake Sub-Headquarters, including the dual-pump lift station in the foreground.

(R71-B3 NIP)

WE-VAL-2815



21 • 89W

A new four stall comfort station with flush toilets and storage area included under the same contract will be greatly appreciated by general visitors and special groups.

(R71-B4 NIP)

WE-VAL-2816



21 • 84W

Considerable time is expended annually in extracting visitors
mired in the mud or buried in the sand of refuge trails.

(R71-B6 LEV)

ME-VAL-2817



22 • 84W

One and one-half mile of new grade was developed through the
lower meadows in an attempt to alleviate our major problem
of providing suitable access.

(R71-B5 LEV)

ME-VAL-2818



22 • UWM •

Deer hunting success decreased to only 18 bucks for an estimated 400 hunter visits, with nine whitetail and nine mule deer taken. The relatively high hunting pressure in this open prairie has especially decreased the number of large bucks and only a fortunate few scored like the young Iowan above.

WE-VAL-2819
(R71-B5 LEV)



22 • UWM •

Sport fishing accounted for approximately 80 percent of total public use with 14,215 visits in 1971. Icefishing remains popular and again comprised about 40 percent of the total fishing use.

(R71-B1 HIP)

WE-VAL-2820



Extensive renovation of the Dewey Lake Outlet required plugging and reinforcement of the structure with 5 1/2 yards of cement.
(R71-B2 NIP)



With natural rip-rap material lacking in this area, 300 yards of asphalt chunks were salvaged from an abandoned highway to rip-rap the replacement fill bordering the outlet. (R71-B7 AHA)

NE-VH-2821



22 • UVW •

Fourteen acres of blowouts and severely eroded areas were leveled, seeded and mulched in an S&M restoration program. This depleted area in G-34A was a former site of extensive corrals and loading chutes utilized by many area ranchers.
(R70-B11 LEV) (R71-B6 LEV)



22 • UVW •

NE-VAL-2822



A surplus 300 gallon high-pressure Bean fire unit acquired from the U.S. Forest Service was mounted on a modified 4x4 5 ton dump truck. This unit will be invaluable in wildfire suppression and planned prescribed burning program.

(R71-B7 LEV)

NE-VAL-2823



Recommendation for major changes in grassland management were advanced by the study team. Members included, left to right: Ron Shupe, Asst. Refuge Manager; Bill Bair, Area Biologist; Ron Perry, Manager, Crescent Lake NWR; Larry Vaughn, Biological Technician; Harold Dubbert, HPWRC; and Hugh Cosby, Grassland Ecologist.

(R71-B3 NIP)

NE-VAL-2824



21 • UVN •

A hazardous driving situation was eliminated on the narrow road through the Duck Lake hills with the widening of shoulders to permit vehicles to pull off the single lane road to pass. The county hauled 128 yards of clay which was leveled and packed by refuge personnel.

(R71-B3 JWK)

WE-VAL-2825

• MAR • 72



A defunct steel granary at Pony Lake sub-headquarters was replaced with a new unit acquired from the Hastings Wetland Office, and the old unit was buried intact to provide a suitable dump.

(R71-B5 LEV)

WE-VAL-2826

WATERFOWL

REFUGE Valentine

MONTHS OF January TO April, 19 71

(1) Species	Weeks of reporting period ⁽²⁾									
	1	2	3	4	5	6	7	8	9	10
<u>Swans:</u>										
Whistling										
Trumpeter							2	-	-	
<u>Geese:</u>										
Canada							2	20	50	80
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard	ALL LAKES FROZEN OVER - NO WATERFOWL USE									75
Black										
Gadwall										
Baldpate										50
Pintail										100
Green-winged teal										50
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										150
Ring-necked										
Canvasback										
Scaup										200
Goldeneye										50
Bufflehead										
Ruddy										
Other										
<u>Coot:</u>										

WATERFOWL

REFUGE Valentine Refuge

MONTHS OF May TO August, 19 71

(1) Species	(2) Weeks of reporting period									
	5/21 5/8	5/9 5/15	5/16 5/23	5/24 5/30	5/31 6/6	6/7 6/13	6/14 6/20	6/21 6/27	6/28 7/4	7/5 7/11
Swans:										
Whistling	4	4	4	4	4	2	4	4	4	4
Trumpeter										
Geese:										
Canada	60	80	100	115	115	120	140	140	170	170
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	350	190	250	1,050	1,280	1,310	1,410	1,725	1,805	1,825
Black										
Gadwall	2,560	500	810	950	1,010	1,020	1,070	1,160	1,440	1,540
Baldpate	410	20	20	20	20	-	-	-	-	-
Pintail	260	290	260	230	215	220	230	265	275	280
Green-winged teal	15	15	40	55	65	70	70	85	85	120
Blue-winged teal	1,300	1,350	1,850	2,650	3,145	3,245	3,460	3,760	4,060	5,260
Cinnamon teal										
Shoveler	1,500	300	450	500	550	555	565	575	590	625
Wood		2	2	2	2	2	2	2	2	2
Redhead	180	210	280	360	425	495	500	510	535	545
Ring-necked					1					
Canvasback	50	20	40	55	65	70	85	105	155	165
Scaup	750	450	210	50	35	15				
Goldeneye										
Bufflehead	250	100	60	30	10					
Ruddy	600	750	680	520	425	510	510	515	520	540
Other										
Coot:	2,050	1,250	810	740	550	560	575	625	685	800

WATERFOWL

REFUGE Valentine NWR

MONTHS OF Sept TO Dec, 1971

(1) Species	Weeks of reporting period ⁽²⁾									
	1 9/5	2 9/12	3 9/19	4 9/26	5 10/3	6 10/10	7 10/17	8 10/24	9 10/31	10 11/7
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling	200	180	120	115	110	78	52	72	89	109
Brant										
White-fronted										
Snow										
Blue					2					11
Other										
Ducks:										
Mallard	8990	7600	6225	8420	10616	14,200	15,053	9,821	1,100	620
Black										
Gadwall	6910	6570	6838	7500	8074	8,425	8,947	4,200	640	42
Baldpate	965	950	943	940	938	1,409	1,658	1,210	230	10
Pintail	1260	982	660	1300	1939	2,880	3,745	2,100	125	0
Green-winged teal	1320	1410	1509	947	350	304	252	78	22	11
Blue-winged teal	5900	5800	5800	4750	3703	2300	160	51	0	0
Cinnamon teal										
Shoveler	585	4907	7876	5600	3318	3820	4137	4734	4951	5221
Wood										
Redhead	1475	1400	1368	1025	728	2242	2700			
Ring-necked		156	330	120	140	275	630			
Canvasback	310	120	25	78	115	2109	2415	1742	89	20
Scaup				100	380	1442	1680	1100	230	20
Goldeneye									11	52
Bufflehead					38	671	882	820	747	711
Ruddy	750	2100	2499	2500	1062	609	600	211	97	4
Other										
Coot:	6905	10,200	13,016	11,300	9681	9797	9751	7414	714	18

DISEASE

Refuge Valentine NWR Year 1971

Botulism

Lead Poisoning or other Disease

Period of outbreak None

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) _____

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

Condition of vegetation and invertebrate life _____

Remarks _____

Kind of disease None

Species affected _____

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks _____

Refuge Valentine NWR Year 19 71

Species	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
	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
Indian Grass	100	R	7/15	Lake Andes	None	40.5 PLS							
Little Blue Stem	100	R	7/15	Lake Andes	None	35.5 PLS							
Switch Grass	50	R	7/15	Lake Andes	None	45 PLS							
Mixed Grass*	65					35	G-34A	9.3 lbs of mix/A.	14 Acres	130 lbs.			
Mixed Grass**	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: * Had 65 lbs. of the following mixture on hand at the beginning of the year: Little bluestem, Sand bluestem, Indian grass, Switch grass, and Sand Iowa grass; 35 lbs. remain as of 12/31/71.

** 100 lbs. of mixed unclean seed was on hand at the years commencement. It was all used in 1971, and was harvested on the refuge in 1963.

ANNUAL REPORT OF PERSTICIDE APPLICATION

Valentine RWR	
Proposal Number	Reporting Year
71-1,2,3	1971

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)
5/12, 5/26	Dandelion	Refuge Headqtrs.	1.0	2,4-D	1 quart	1 lb AS/acre	water 1:64	Hand Sprayer
7/9, 7/12, 7/22	Mexican Sandbur	Refuge Hq., Pony Lake	6.0	2,4-D	11 quarts	1 lb AS/acre	water 1:100	Power Sprayer
8/9, 8/10	Mexican Sandbur	Refuge Hq., Pelican Lake	4.0	2,4-D	2 quarts	1 lb AS/acre	water 1:60	Hand Sprayer
9/10	Mexican Sandbur	Dewey & Pelican Trails	4.0	2,4-D	6 quarts	1 lb AS/acre	water 1:5	Power Sprayer
6/24	Leafy Spurge	G-31A	1/8	Tordon 22K	.25 quarts	2 lb AS/acre	water 1:48	Hand Sprayer

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

Mexican Sandbur control was effective temporarily, but came back from seed.

Leafy Spurge control appeared effective, but can be better evaluated next spring.

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 Valentine For 12-month period ending August 31, 1971

Reported by R. D. Shupe Title Asst. Refuge Manager

(1) Area or Unit Designation	(2) Habitat		(3) Use-days*	(4) (5) Breeding Pairs Population Production*	
	Type	Acreage			
I Watts	Crops		Ducks	62	29
	Upland	1,677	Geese	2	0
	Marsh	183	Swans	0	0
	Water	230	Coots	7	0
	Total	2,080	Total	71	29
II Hackberry	Crops		Ducks	52	0
	Upland	1,397	Geese	1	6
	Marsh	53	Swans	0	0
	Water	710	Coots	1	0
	Total	2,160	Total	54	6
III Duck - Rice	Crops		Ducks	33	31
	Upland	1,395	Geese	0	0
	Marsh	0	Swans	0	0
	Water	125	Coots	0	0
	Total	1,520	Total	33	31
IV Dewey	Crops		Ducks	1,199,225	74
	Upland	1,495	Geese	3,187	0
	Marsh	573	Swans	65	0
	Water	573	Coots	242,709	7
	Total	2,640	Total	1,445,186	81
V Clear	Crops		Ducks	455,262	147
	Upland	727	Geese	9,833	4
	Marsh	129	Swans	256	0
	Water	424	Coots	92,146	0
	Total	1,280	Total	556,496	151
VI Willow	Crops		Ducks	72	0
	Upland	1,225	Geese	0	0
	Marsh	0	Swans	0	0
	Water	245	Coots	1	0
	Total	1,600	Total	73	0
VII	Crops		Ducks	95	0
	Upland	1,120	Geese	0	0
	Marsh	25	Swans	0	0
	Water	195	Coots	0	0
	Total	1,280	Total	95	0

(over)

* Insufficient data except for census lakes

UNITED STATES
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BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Valentine Refuge For 12-month period ending August 31, 1971

Reported by R. D. Shupe Title Asst. Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type Acreage	(3) Use-days	(4) pairs Breeding Population	(5) Production
VIII	Crops	Ducks	45	0
	Upland	Geese	1	5
Whitewater	Marsh	Swans	0	0
	Water	Coots	0	0
	Total	Total	46	5

IX	Crops	Ducks	1,121,498	37
	Upland	Geese	554	0
	Marsh	Swans	0	0
Pelican - Sawyer	Water	Coots	226,978	22
Meadow	Total	Total	1,349,030	37

X	Crops	Ducks	42	76
	Upland	Geese	0	0
	Marsh	Swans	0	0
West Long	Water	Coots	1	0
	Total	Total	43	76

XI	Crops	Ducks	271	0
	Upland	Geese	0	0
	Marsh	Swans	0	0
Dad's, Bakers	Water	Coots	9	0
Rodger's	Total	Total	280	0

XII	Crops	Ducks	13	0
	Upland	Geese	0	0
	Marsh	Swans	0	0
Punchbowl	Water	Coots	0	0
	Total	Total	13	0

XIII	Crops	Ducks	44	0
	Upland	Geese	1	0
	Marsh	Swans	0	0
Mule	Water	Coots	4	0
	Total	Total	49	0

XIV	Crops	Ducks	25	0
	Upland	Geese	0	0
	Marsh	Swans	0	0
Coleman	Water	Coots	1	0
	Total	Total	26	0

(over)

* Insufficient data except for census lakes

UNITED STATES
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BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Valentine Refuge For 12-month period ending August 31, 1971

Reported by R.D. Shupe Title Asst. Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type Acreage	(3) Use-days	(4) Pairs Breeding Population	(5) Production
XV Lost Lake	Crops	Ducks	79	
	Upland	Geese	0	0
	Marsh	Swans	0	0
	Water	Coots	10	
	Total	Total	89	
XVI Little Bay	Crops	Ducks	45	
	Upland	Geese	0	0
	Marsh	Swans	0	0
	Water	Coots	0	
	Total	Total	45	
XVII North Marsh	Crops	Ducks	383,086	
	Upland	Geese	10,669	0
	Marsh	Swans	320	0
	Water	Coots	76,409	29
	Total	Total	470,484	206
XVIII Middle Marsh	Crops	Ducks	130,799	
	Upland	Geese	1,062	4
	Marsh	Swans	0	0
	Water	Coots	28,091	24
	Total	Total	157,952	402
XIX South Marsh	Crops	Ducks	244,287	
	Upland	Geese	2,910	2
	Marsh	Swans	0	0
	Water	Coots	49,441	36
	Total	Total	296,638	308
XX Calf Camp	Crops	Ducks	47	
	Upland	Geese	0	0
	Marsh	Swans	0	0
	Water	Coots	1	
	Total	Total	48	
XXI West Twin	Crops	Ducks	65	
	Upland	Geese	0	0
	Marsh	Swans	0	0
	Water	Coots	5	
	Total	Total	70	

(over)

* Insufficient data except for census lakes

UNITED STATES
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BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Valentine Refuge For 12-month period ending August 31, 1971

Reported by R. D. Shape Title Asst. Refuge Manager

(1) Area or Unit Designation	(2) Habitat		(3) Use-days	(4) pairs Breeding Population	(5) Production
	Type	Acreage			
XXII East Twin	Crops		Ducks	52	
	Upland	573	Geese	0	0
	Marsh	0	Swans	0	0
	Water	67	Coots	0	
	Total	640	Total	52	

XXIII Tom's Lake	Crops		Ducks	63	
	Upland	1,357	Geese	0	0
	Marsh	40	Swans	0	0
	Water	23	Coots	0	
	Total	1,420	Total	63	

XXIV West Sweetwater	Crops		Ducks	76	
	Upland	1,939	Geese	0	0
	Marsh	10	Swans	0	0
	Water	61	Coots	8	
	Total	2,000	Total	84	

XXV COu - King Flat	Crops		Ducks	142	37
	Upland	3,730	Geese	1	0
	Marsh	83	Swans	0	0
	Water	215	Coots	0	9
	Total	4,028	Total	151	46

XXVI East Sweetwater	Crops		Ducks	75	
	Upland	3,462	Geese	2	0
	Marsh	83	Swans	0	0
	Water	215	Coots	4	
	Total	3,760	Total	81	

XXVII Lee Lake	Crops		Ducks	53	
	Upland	1,575	Geese	0	0
	Marsh	10	Swans	0	0
	Water	35	Coots	0	
	Total	1,620	Total	53	

XXVIII Pony Lake	Crops		Ducks	49,968	9
	Upland	1,116	Geese	17,043	9
	Marsh	11	Swans	0	0
	Water	159	Coots	10,113	0
	Total	1,286	Total	77,124	18

(over)

* Insufficient data except for census lakes

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WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Valentine Refuge For 12-month period ending August 31, 1971

Reported by R.D. Shupe Title Asst. Refuge Manager

(1) Area or Unit Designation	(2) Habitat		(3) Use-days *	(4) Pairs Breeding Population	(5) Production *
	Type	Acreage			
XXIX Center	Crops		Ducks 183,215	77	
	Upland	799	Geese 369	2	1
	Marsh	40	Swans	0	0
	Water	151	Coots 37,030	2	
	Total	1,000	Total 220,665	81	
XXX Twenty-one	Crops		Ducks	73	
	Upland	1,340	Geese	1	20
	Marsh	50	Swans	1	2
	Water	250	Coots	2	
	Total	1,640	Total	77	
XXXI Crooked Lake	Crops		Ducks	144	
	Upland	5,435	Geese	0	0
	Marsh	40	Swans	0	0
	Water	45	Coots	5	
	Total	5,520	Total	149	
XXXII East Long	Crops		Ducks	164	55
	Upland	1,559	Geese	0	0
	Marsh	0	Swans	0	0
	Water	247	Coots	0	0
	Total	1,800	Total	172	55
Totals Census Lakes	Crops		Ducks	3,775,340	535
	Upland		Geese	45,632	24**
	Marsh		Swans	1,281	2
	Water		Coots	762,961	283 22
	Total		Total	4,585,214	560
Refuge Total	Crops		Ducks	5,551,970	4,632
	Upland	38,570	Geese	45,186	27**
	Marsh	1,797	Swans	1,281	2
	Water	9,562	Coots	1,123,655	282
	Total	70,000	Total	6,723,092	4,945
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		

(over)

* Insufficient data except for census lakes

** Includes data for birds from refuge flock nesting off refuge

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Valentine

Months of January to April, 19 71

(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 observed	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sharp-tailed Grouse	n/a	n/a	n/a	n/a	1:1 assumed	n/a	n/a	n/a	1,075	Dancing ground census on 25.3 sq mi study area revealed a breeding pop. of 529 males; up 71 percent over 1970.
Greater Prairie Chicken					1:1 assumed				125	Booming ground counts on all known grounds revealed a breeding pop. of 47 males on 10 grounds plus 15 birds observed in SW part of refuge and 2 hybrids.
Ring-necked Pheasants					0.93 hens/rooster				1,100	Three weekly counts of 20 mile crow count census route revealed a pop. of 504 hens and a total pop. of 1,048 pheasants. Sex ratio de- rived from count of 38 hens and 41 roosters on all counts.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Valentine Refuge

Months of May to August, 1942

(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 observed	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sharp-tailed Grouse		31.8	20	1,855	1 : 1 assumed	na	na	na	2,930	529 est. breeding females from spring dancing ground counts. Production est. of 50 % used due to inadequate brood sample data. Avg. brood size from random observations equals 7.
Greater Prairie Chicken		281.0	0	210	1 : 1 assumed	na	na	na	275	60 est. breeding females from spring booming ground counts. Production est. of 50 % used due to inadequate brood sample data. Avg. brood size equals 7.
Ring-necked Pheasant		38.8	14	1,520	0.93 hens/cock	na	na	na	2,620	104 breeding females est. from 20 mile spring crow count census route. Est. production of 50 % used due to inadequate brood sample data. Average brood size equals 6 from random observations.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Valentine NWR

Months of Sept to December, 19 71

(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 observed	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sharp-tailed grouse	62,178 acres of native grassland		NA	NA	1:1 assumed	800	0	0	2,900	Estimated 800 birds taken during hunting season. Estimate 2,000 as of 12/31/71
Greater Prairie Chicken	24,754 acres of native grassland		NA	NA	1:1 assumed	0	0	0	225	Estimate 40 Prairie Chicken remaining on the refuge as of 12/31/71.
Ring-necked Pheasant	49,196 acres of native grassland		NA	NA	.93 hens/ rooster	225	0	0	2,600	Estimate 2,275 as of 12/31/71

3-175
Form NA-3
(June 1945)

BIG GAME

Refuge Valentine NWR Calendar Year 1971

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
			Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
Mule Deer	62,178 acres of native grassland	80	9									250*	140	
White-tail Deer	62,178 acres of native grassland	20	9									60	30	
Antelope	62,178 acres of native grassland	0	0									5	0	

Remarks: • It is felt that deer move off the refuge in the winter in favor of agricultural areas.

Reported by Refuge Personnel

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Valentine

Year ending April 30, 1971

(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														1,000
Beaver														45
Mink														80
Raccoon														325
Badger														70
Skunk														350
Weasel														110
Bobcat														5
Coyote														120
Porcupine														10
Opposum														20
WT Jackrabbit														275
C.Tailed Rabbit														350

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS: *The fur harvest program was indefinitely suspended beginning with the 1970-71 season

Reported by _____

3-1758

Form NR-8

(Rev. Jan. 1956)

Fish and Wildlife Service

Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge

~~Ventilino 24 of 23~~

County _____

State Nebraska

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations 0 Haying Operations 16 Grazing Operations 25

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
Except for three (3) cooperative haying agreements listed below, all native hay is fed back on the refuge on an AUM basis.				1. Cattle	17,106	34,307.99	\$106,355	53,146
				2. Other	unknown	unknown	\$245	233
				1. Total Refuge Acreage Under Cultivation				
Hay - Wild	363	377	182 ton	2. Acreage Cultivated as Service Operation				0

REFUGE GRAIN REPORT

Refuge Valentine NWR

Months of January through December, 1951

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Shelled Corn	185	0	185			185	185	0		0	
Wheat	218	0	218			94	94	124		124	
Milo	30	244	274			74	74	200		200	
Millet	0	5	5			1	1	4		4	

(8) Indicate shipping or collection points Milo from Hastings Wetlands Area; Millet from USNM Loren J. Bonde

(9) Grain is stored at Headquarters and Pony Lake Sub-Headquarters Granaries

(10) Remarks _____

*See instructions on back.

WATERFOWL
(Continuation Sheet)

REFUGE Valentine

MONTHS OF January TO April, 1971

(1) Species	(2) Weeks of reporting period							(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen: total	
	11	12	13	14	15	16	17	18		
Swans:										
Whistling										
Trumpeter		2	2	4	4	4	2		140	
Geese:										
Canada	100	150	200	100	100	75	75		6,664	
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	300	300	375	3,475	2,850	1,900	2,335		81,270	
Black										
Cadwall	500	500	700	4,435	4,800	5,290	4,600		145,775	
Baldpate	200	200	200	585	650	830	450		22,155	
Pintail	500	500	800	2,260	1,850	275	180		45,255	
Green-winged teal	100	100	250	175	120	20	10		5,775	
Blue-winged teal				325	1,200	1,805	2,450		40,460	
Cinnamon teal					5	5	5		105	
Shoveler			100	1,175	2,250	2,930	3,100		70,665	
Wood										
Redhead	300	300	600	545	450	235	150		19,110	
Ring-necked				85	50				945	
Canvasback			200	110	100	85	60		3,885	
Scaup	300	300	550	3,085	2,500	1,975	1,400		72,170	
Goldeneye	200	200	250	325	180	65	20		9,030	
Bufflehead	25	25	150	1,130	1,050	830	650		27,020	
Ruddy			5	215	480	550	600		12,950	
Other C. Merg.	250	250	300	825	650	70	10		16,485	
Coots:			500	2,345	2,790	3,950	1,450		77,175	
					(over)					

	(5) Total Days Use	:	(6) Peak Number	:	(7) Total Production	SUMMARY
Swans	140	:	4	:		Principal feeding areas <u>Clear, Dewey & Marsh Lakes</u>
Geese	6,664	:	200	:		
Ducks	573,055	:	19,291	:		Principal nesting areas <u>n/a</u>
Coots	77,175	:	3,950	:		
						Reported by _____

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

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

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

WATERFOWL
 (Continuation Sheet)

REFUGE Valentine Refuge

MONTHS OF May TO August, 19 71

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen: total	
	7/11 11	7/18 12	7/25 13	8/1 14	8/8 15	8/15 16	8/22 17	8/29 18			
Swans:											
Whistling											
Trumpeter	4	4	4	4	4	4	4	4	490		
Geese:											
Canada	200	200	180	150	145	145	145	145	17,640		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	1,865	1,885	1,905	1,920	2,140	4,480	6,700	8,990	287,630		
Black											
Gadwall	1,590	1,620	1,640	2,010	2,450	3,900	5,400	6,310	258,860		
Baldpate	100	110	110	230	640	790	850	965	29,995		
Pintail	285	290	310	400	420	660	1,050	1,260	50,400		
Green-winged teal	120	210	250	460	550	840	1,220	1,320	39,130		
Blue-winged teal	5,550	5,850	6,000	6,140	6,250	6,410	6,500	6,550	555,310		
Cinnamon teal											
Shoveler	630	635	650	640	610	610	610	610	78,435		
Wood	2	2	2	2	2	2	2	2	238		
Redhead	560	565	575	580	620	850	1,245	1,475	74,060		
Ring-necked											
Canvasback	175	185	195	200	200	220	250	310	17,815		
Scaup											
Goldeneye											
Bufflehead											
Ruddy	550	555	560	560	575	575	640	750	73,220		
Other						610					
Coots:	810	830	960	1,250	1,460	2,150	4,230	6,305	186,480		
					(over)						

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	490	4	2	Principal feeding areas <u>Habitat Units 4,5,9,17,18 & 19</u>
Geese	17,640	200	29	
Ducks	1,465,095	28,540	4,630	Principal nesting areas <u>Habitat Units 4,5,17,18 & 19</u>
Coots	186,480	6,305	280	
				Reported by <u>R.D. Shupe, Asst. Refuge Manager</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).

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

WATERFOWL
 (Continuation Sheet)

REFUGE Valentine NWR

MONTHS OF Sept TO Dec, 1971

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	11	12	13	14	15	16	17	18			
Swans:											
Whistling	1	1							14		
Trumpeter	8	4							364		
Geese:											
Canada	75	66	75	49	35				9975		
Cackling											
Brant											
White-fronted											
Snow									91		
Blue											
Other											
Ducks:											
Mallard	311	44							581,000		
Black											
Gadwall	4								402,850		
Baldpate									64,491		
Pintail									104,937		
Green-winged teal									43,421		
Blue-winged teal									200,424		
Cinnamon teal											
Shoveler	2100	60							331,163		
Wood											
Redhead									76,566		
Ring-necked									11,557		
Canvasback									49,161		
Scaup									34,664		
Goldeneye	29	20							784		
Bufflehead	400	82							30,457		
Ruddy									86,324		
Other <u>C. Merganser</u>	74	381	640						7,665		
Coots:									547,022		
					(over)						

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	<u>378</u>	<u>8</u>		Principal feeding areas _____
Geese	<u>10,066</u>	<u>200</u>		
Ducks	<u>2,025,464</u>	<u>42,881</u>		Principal nesting areas _____
Coots	<u>547,022</u>	<u>13,016</u>		
				Reported by <u>Refuge Personnel</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).

3-1751

Form NR-1A
(Nov. 1945)MIGRATORY BIRDS
(other than waterfowl)Refuge ValentineMonths of January to April 1957;

(1) Species Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total Estimated
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Number
I. Water and Marsh Birds:										
Western Grebe	18	4/23	50	4/29	present					150
Horned Grebe	10	4/23	30	4/23	"					75
Eared Grebe	35	4/23	100	4/25	"					150
Pied-billed Grebe	4	4/09	50	4/23	"					175
D. Crested Cormorant	3	4/03	500	4/23	"					750
White Pelican	30	4/06	100	4/23	"					180
American Bittern	1	4/20	15	4/23	"					50
Great Blue Heron	2	3/18	50	4/23	"					100
Black-Crowned N. Heron	5	4/14	25	4/23	"					75
Sandhill Crane	1	4/13	3,050	4/14	10	4/29				4,100
Sora Rail	1	4/21	50	4/29	present					75
II. Shorebirds, Gulls and Terns:										
Herring Gull	1	1/16	75	3/18						200
Ring-billed Gull	10	3/17	200	4/09	present					350
Franklin's Gull	5	3/17	80	4/23	"					125
Wilson's Phalarope	15	4/23	3,500	4/30	"					5,000
Greater Yellowlegs	1	4/27	50	4/30	"					75
Willet	1	4/23	25	4/23	"					50
Upland Plover	1	4/16	50	4/23	"					300
Long-billed Curlew	2	4/05	80	4/23	"					100
Golden Plover	1	4/30	single observation only							
Killdeer	5	3/13	100	4/23	present					250

(over)

First seen date Peak date Last seen

(1)	(2)		(3)		(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	1	3/30	300	4/23	present				450
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle	present		5	2/26	1	4/27	4/27		10
Duck hawk									
Horned owl	present		75	3/17	present				80
Magpie	present		50	4/23	present				75
Raven									
Crow	present		500	3/18	present				1,000
Marsh Hawk	present		35	4/09	present				50
Red-tailed Hawk	1	3/14	10	4/15	1	4/27			20
Swainson's Hawk	1	4/30	single observation only						
Rough-legged Hawk	1	2/28							10
Bald Eagle	present		7	4/01	4	4/06			15
Prairie Falcon	1	4/13	single observation only						
Sparrow Hawk	1	3/27	15	4/01	1	4/27			30
Short Eared Owl	2	2/14	20	2/24	present	Reported by.....			
Burrowing Owl	1	4/23	single observation only						

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 Valentine Refuge

Months of May to August 1951

(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>										
Western Grebe	Present		330	8/30	Present					450
Horned Grebe	Present		15	6/10	Present					60
Eared Grebe	Present		328	6/10	Present					460
Pied-billed Grebe	Present		117	8/30	Present					250
D. Crested Cormorant	Present		475	8/30	Present					650
White Pelican	Present		520	8/30	Present					600
American Bittern	Present		25	6/10	Present					125
Eastern Least Bittern	Present		1	7/20	Single Observation Only					-
Great Blue Heron	Present		160	6/5	Present					200
Common Egret	2	8/30	Single Observation Only							-
Snowy Egret	4	5/25	13	6/4	13	6/4				20
Eastern Green Heron	1	5/26	Single Observation Only							-
Black-crowned Night Heron	Present		350	6/6	Present					400
Sora Rail	Present		15	6/10	Present					60
II. <u>Shorebirds, Gulls and Terns:</u>										
Ring-billed Gull	Present		150	5/15	Present					200
Common Tern	103	5/12	150	6/5	"					250
Black Tern	285	5/12	680	6/5	"					800
Wilson's Phalarope	Present		725	6/1	"					1,300
American Avocet	25	5/25	60	6/8	"					100
Common Snipe	40	8/30	60	8/30	"					80
Willet	Present		20	6/10	3	7/27				50
Upland Sandpiper	"		450	6/10	Present					650
Long-billed Curlew	"		75	6/1	"					150
Killdeer	"		250	6/5	"					450
Unidentified Sandpipers			500	5/30	-					-

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	Present	600	7/6	Present	1,150
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle	2	8/30	Single Observation Only This Period		-
Duck hawk					
Horned owl	Present	50	6/10	Present	75
Magpie	Present	40	6/5	"	100
Raven					
Crow	Present	15	5/20	"	80
Marsh Hawk	"	10	8/30	"	60
Red-tailed Hawk	"	5	6/10	"	25
Am. Rough-legged Hawk	1	8/30	Single Observation Only		-
American Osprey	1	5/12	Single Observation Only		-
Reported by <u>R.D. Shupe, Asst. 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.

MIGRATORY BIRDS
(other than waterfowl)

Refuge Valentine NWR Months of Sept to December 1951

(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>										
Western Grebe	present		308	9/10	4	10/28		3100 75 500 7425		420
Pied-billed Grebe	present		130	9/10	2	11/14				150
Eared Grebe	present		6	9/10	2	9/14				12
Dbl-Crested Cormorant	present		1575	10/7	94	11/3				2000
White Pelican	present		810	9/20	32	11/6				1500
American Bittern	present		4	9/20	2	10/7				6
G.B. Heron	present		48	9/20	6	10/28				65
B. C. Night Heron	present		12	9/20	1	10/27				20
Greater Sandhill Cr.	Observed in migration only									
Common Egret			1	9/20	1	9/20				3
II. <u>Shorebirds, Gulls and Terns:</u>										
Ring-billed Gull	present		580	11/27	580	11/27				1700
Common tern	present		24	9/7	3	9/20				250
Common Snipe	present		35	9/20	5	10/20				160
Black Tern	present		30	9/5	2	9/14				60
Upland Sandpiper	present		9	9/7	4	9/17				143
Killdeer	present		90	9/20	6	10/4				140
Unid. Sandpipers	present		30	10/4	4	11/7				150

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	present				350
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle					
Duck hawk					
Horned owl	present				75
Magpie	present	14	12/14	present	100
Raven					
Crow	present				40
Unid. Eagle	Single observation on	11/20			
Marsh Hawk	present	25	10/4	present	45
Red-tailed Hawk	present			present	20
Swainson's Hawk	present			present	5
Rough-legged Hawk	present	48	12/8	present	30
Reported by <u>Refuge Personnel</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)
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- (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.

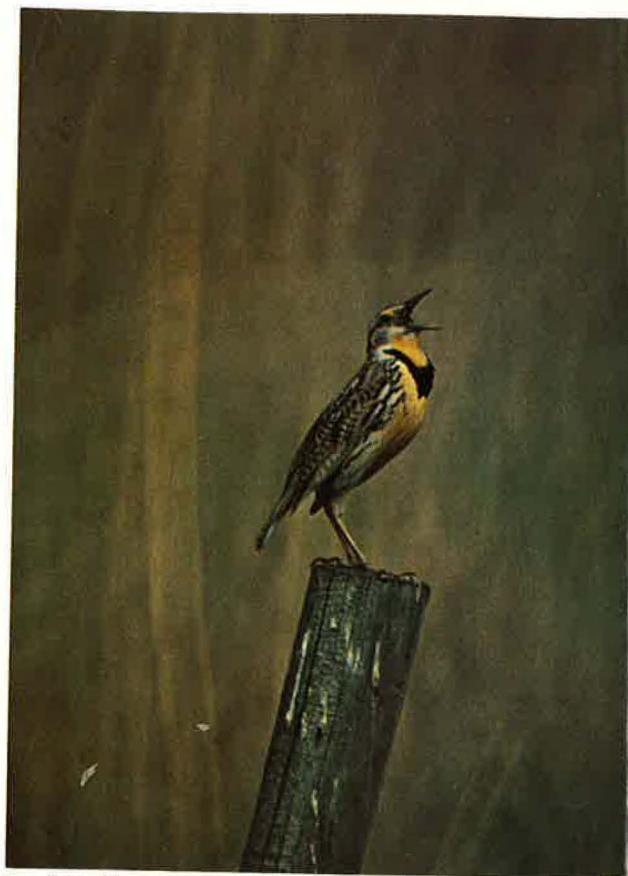
"Cry Spring, Cry Wild", a 16 page feature article appeared in the May, 1971 issue of the Nebraska Game and Parks Commission's monthly publication, Nebraskaland.



Long-billed Curlew



Canada Goose



Western Meadowlark

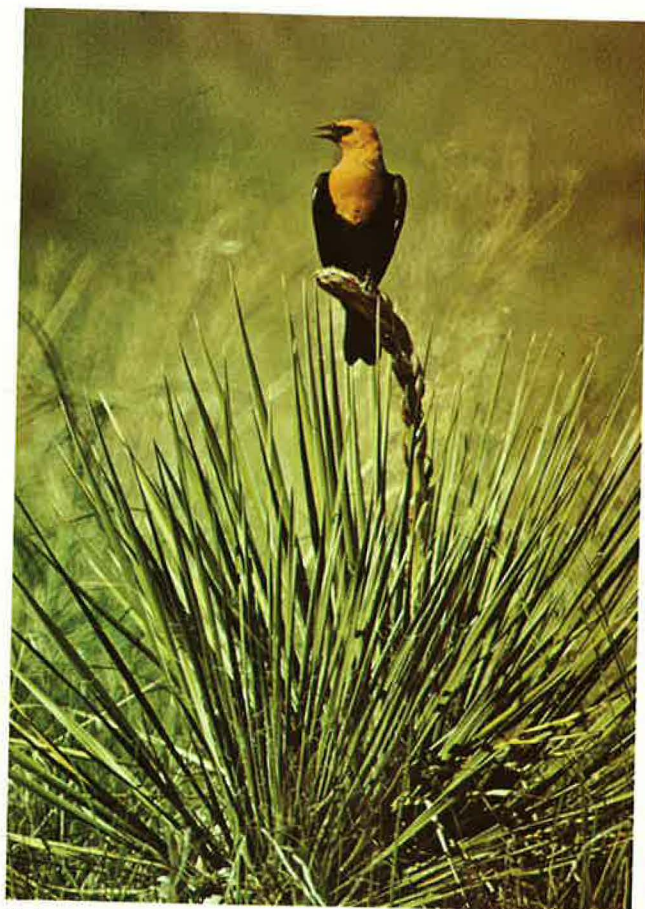
*Dawn explodes. Rushing wings unfold
this exuberant season, overtaking the land and lakes
with a song of spring in the Sand Hills.*

Cry Spring Cry Wild

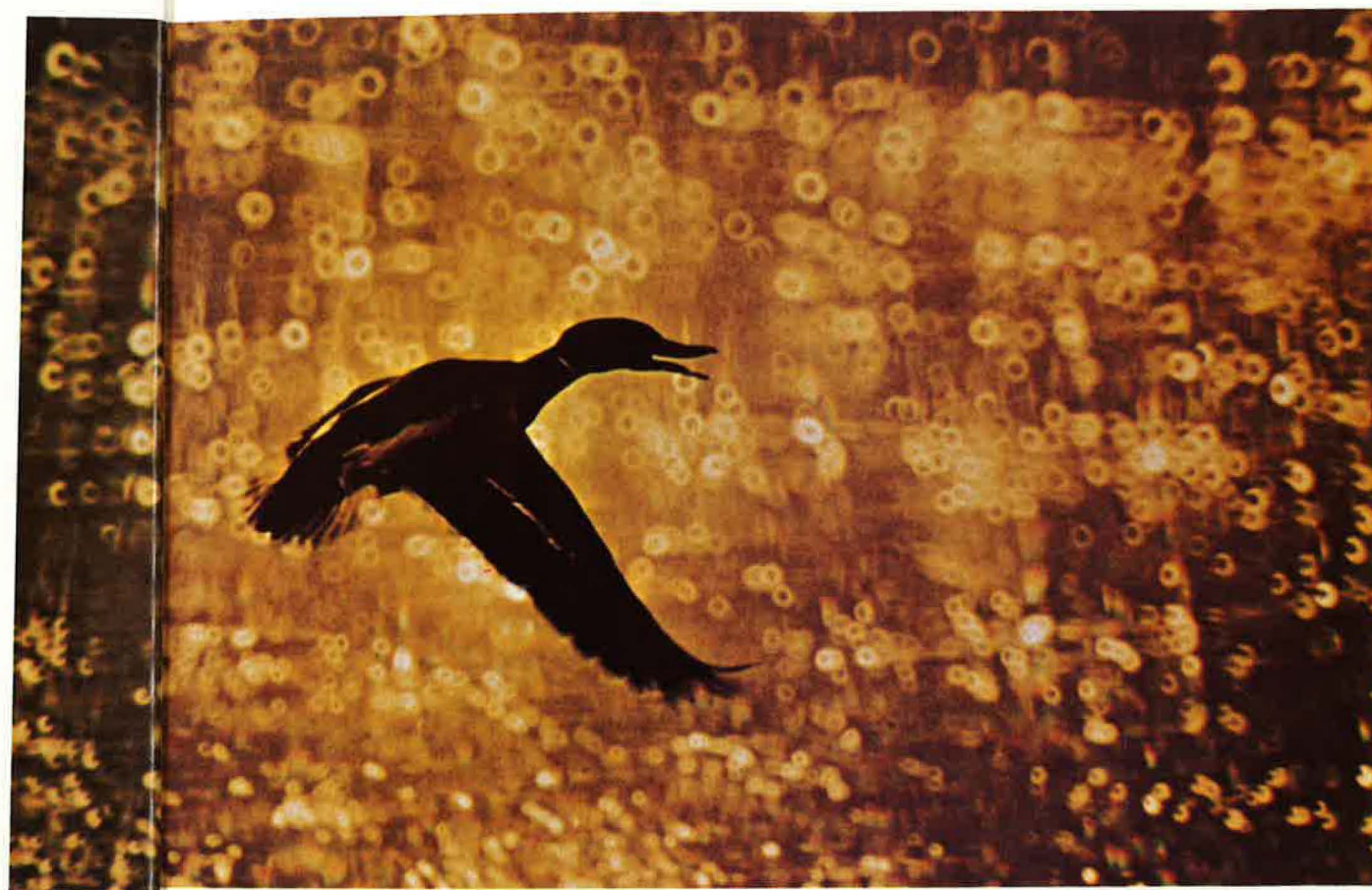
*Hidden in blinds or shoreline reeds,
photographer Greg Beaumont spent June 1970
in the wildlife refuge at Valentine.
His photographs and text reveal a gentle
invasion of nature's secret ways*



Whitewater Lake



Yellow-headed Blackbird



Mallard

B

etween April's cool genius and the sun-swirl of July, the Sand Hills host this best of seasons. Here, in ritual of sun and storm the land blooms yellow primrose and again infects the hills with sharp proclamations of soapweed. Here rush waterfowl and upland birds to take their territory when the wind is fresh and the meadows grass-building. The water's voice returns as the avocets arrive, and Sweetwater Lake again sees the black terns; Pelican Lake the mallards and bullet-flight pintails. Pony Lake hears once more congestions of geese. Potholes hide the bittern and teal.



Striped Swift



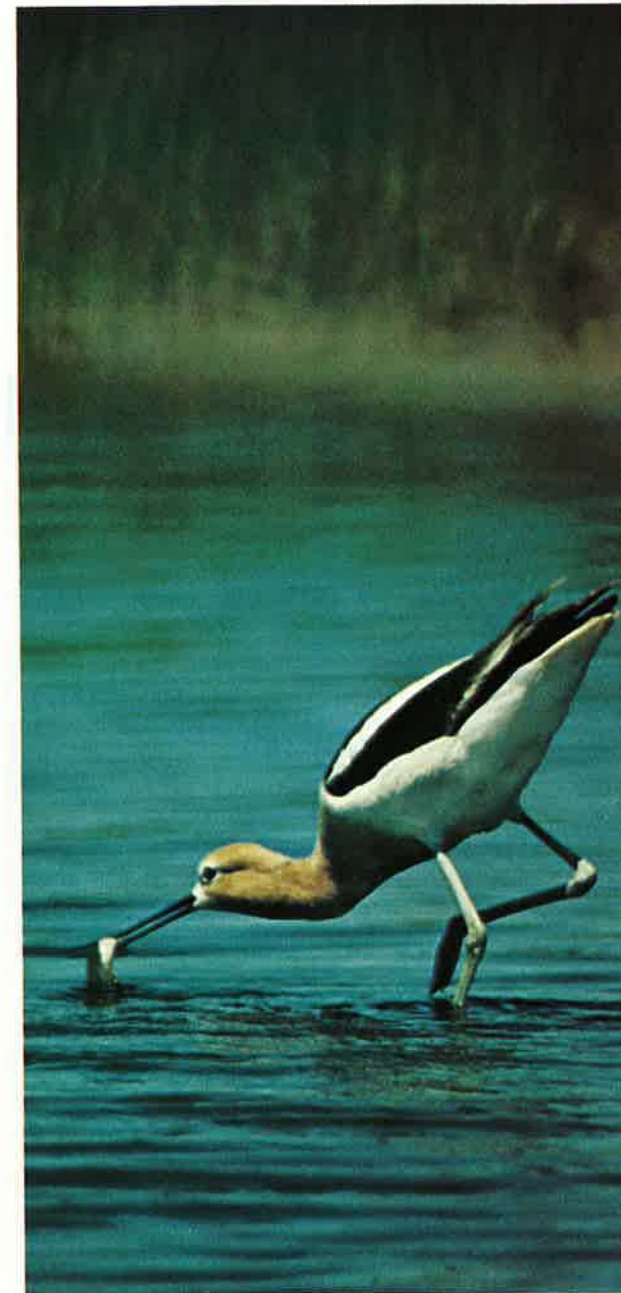
Box Turtle



Badger



Avocets





Killdeer



Long-billed Curlew



Red-winged Blackbird



Great Blue Heron

At dawn the great blue herons arrange a day's dominion where frogs are good. Nervous killdeer run and curtsy on the sandy shores, disturbing the morning with a loud, insistent, "Dee-dee-dee-dee-dee, kill-deeah, kill-deeah". On the rushes ride the yellowheads, rasping their one complaint: "Our cook skedaddled, our cook she-e-e!" An impatient least sandpiper, late for breakfast, trots into the ooze to begin a busy morning's massacre of larvae beside the spinning, dabbling phalaropes. Suddenly a long-billed curlew, its fantastic sickle bill agape with scolding, flushes from the grass and alights, running: "Kli-li-li-li" to the intruder, "curleeeeeeeeeuuu, curleeeeeeeeeuuu".



Wilson's Phalarope



Upland Plover

M

Secure in the broad meadows are the Wilson's phalaropes and the upland plovers, the grass streaming with the wind like the waves of shallow lakes.

ay to June at the Valentine National Wildlife Refuge is motion and building, a season intricate with sun broken on immaculate water and the wind singing with several voices. By noon this bright country has become a dream, blood-warm with its music and nodding reeds, endless and without interruption, as constant as the fierce, male red-winged blackbirds, epaulets ablaze, who challenge each other across ages and ages of warm sun.



Arrowhead Plant

Through the long, slow afternoon the continual terns lace and unlace Whitewater Lake, until suddenly the face of the water grows dark and they are gone. First thunder frightens five sandpipers together into flight. The wind stops; the hills growl. Hen mallards return to dry land and the brambles of wild roses which camouflage their nests. Avocets abandon their shore patrol: "Kleek, kleek, kleek". Nothing remains but bright lakes set in dark hills awaiting the torrent. So many places to hide in this open country! Then, the deserted landscape bears the fury of thunderheads.



Pelican Lake



Mallard



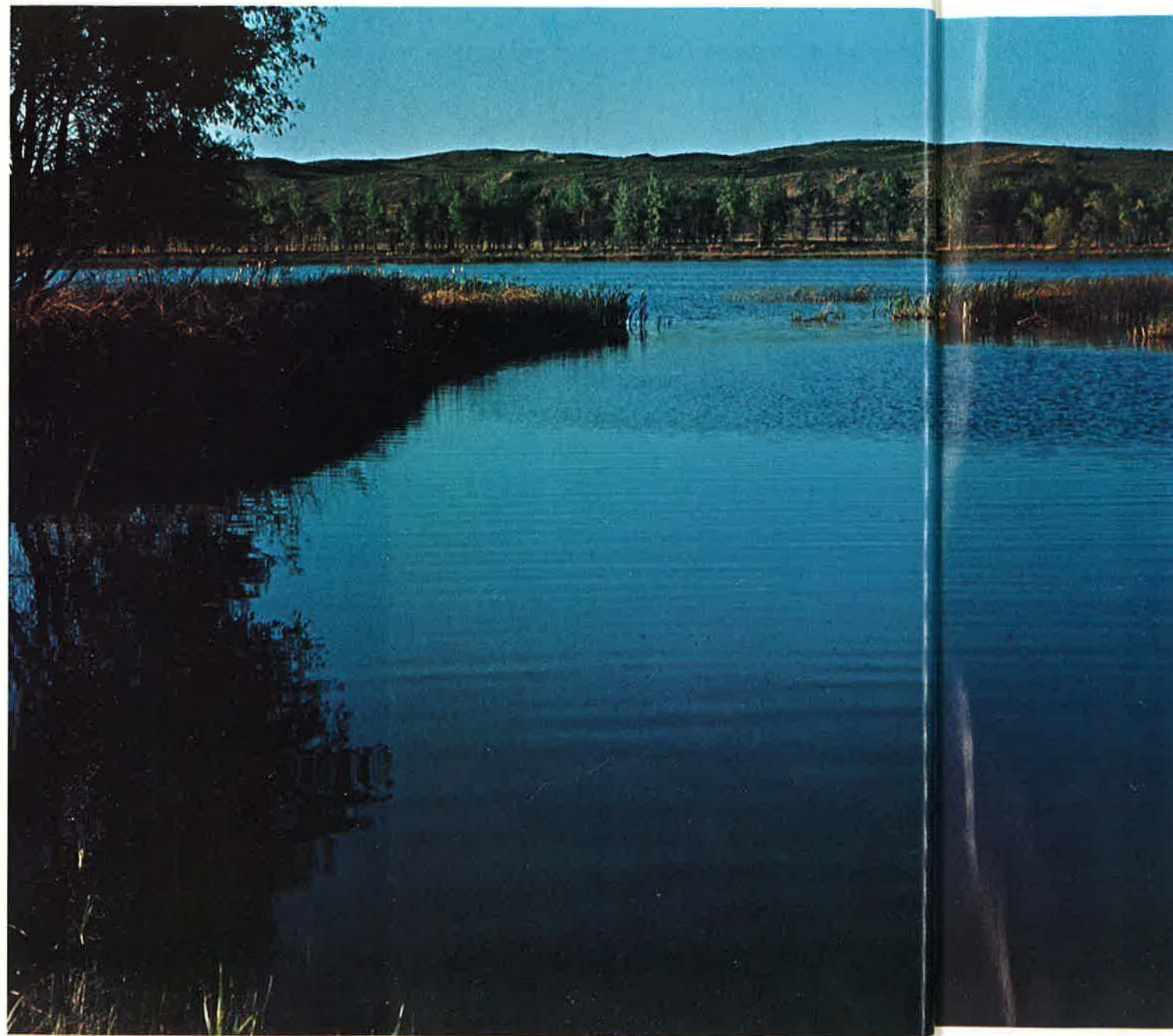
Blue-winged Teal



Sandpiper



White-tailed Deer



Marsh Lake



Sweetwater Lake

W

hen at last the skies clear, the far hills shoulder the sun. Briefly, the wet sand sparkles and the grass shines red. Then the sun is lost and the exhausted, cool expanse of marsh and pond accepts the dusk. Darkness brings to life the flat "Quark, quok" of the night herons. Through the indefinite air comes the strange "Oong-ka-choonk-oong-ka-choonk" of the furtive American bittern, answered by laughter and a chilling "Ha-oooooo" of a faraway, night-engulfed loon. Then through the moist darkness rides the eerie, eternal cry of an upland plover: "Kip-ip-ip-ip-whoooooeeeeee, wheelooooooooo". Finally, there is nothing but the sleeping sound of water lapping against the sand.

THE END