NARRATIVE REPORTS FOR THE

LACREEK WILDLIFE REFUGE

1938

NARRATIVE REPORT

Lacreek Migratory Waterfowl Refuge
(November - December - January)

January 31, 1939

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Junior Refuge Manager

WEATHER CONDITIONS

NOVEMBER

Date	TEMP.° High	TEMP.° Low	PREC. Snow	PREC. Rain	WIND Dir.
1	60	42			
2	53	30		.24	
3	36	22		.08	
4	46	26			
5	35	23		.02	
6	25	10			
7	32	13			
8	47	20			
9	45	29			
10	45	31			
11	35	29			
12	32	22			
13	34	20			
14	45	20			
15	47	25			
16	55	45			
17	50	35		.10	
18	34	24			
19	50	31			
20	49	20			
21	46	19			
22	29	4			
23	23	3			
24	31	5			
25	28	12		.02	
26	25	-3			
27	38	26			
28	45	25			
29	50	27			
30	47	28			

Precipitation .46 in.

DECEMBER

Date	TEMP.° High	TEMP.° Low	PREC. Snow	PREC. Rain	WIND Dir.
1	42	29			NW
2	49	27			Quiet
3	49	25			NW
4	34	23			NW
5	55	19			NW
6	47	26			W
7	42	25			W
8	42	27			NW
9	46	26			W
10	46	29			Quiet
11	30	15			S
12	23	6			W
13	36	12			NW
14	36	16			SW
15	48	20			W
16	44	23			W
17	37	14			NW
18	38	18			Quiet
19	34	21			N
20	29	10			S
21	31	18			S
22	31	25		.03	
23	31	13			
24	45	23			
25	42	2			
26	24	-9		.01	
27	24	5			W
28	11	-9			N
29	36	15			S
30	47	28			SW
31					NW

Precipitation .04 in.

JANUARY

Date	TEMP.° High	TEMP.° Low	PREC. Snow	PREC. Rain	WIND Dir.
1	45	31			NW
2	50	40			W
3	49	31			S
4	43	32		.02	N
5	39	15			SW
6	39	28			NW
7	41	19			SW
8	47	25			Quiet
9	45	28		.80	N
10	30	25			N
11	28	12			SW
12	28	24			N
13	29	15			Quiet
14	31	10		.05	NW
15	18	-1			Quiet
16	19	8			Quiet
17	29	12			W
18	34	19			W
19	39	20			W
20	39	19			SW
21	37	13			NW
22	26	2			W
23	35	12			N
24	35	15			SW
25	39	25			N
26	31	14			SW
27	40	25			NW
28	40	23			N
29	36	18			Quiet
30	36	21			Quiet
31	34	27			NW

Precipitation .87 in.

Total Precipitation 1.37 in.

Temperature and precipitation readings taken from station at

Martin, South Dakota.

GENERAL WEATHER AND WATER CONDITIONS

We have not had much of a real winter season up to the time of this report and at present there are only a few, scattered, patches of snow to be seen. However, the temperature has held around the freezing point through most of the period and all creeks and ponds are frozen over to an approximate depth of three to six inches, excepting Elm Creek, which has been open most of the time.

All control structures on the Refuge have been open through the period of this report and as a consequence all units are at their lowest elevation, with only the borrow pits, the streams, and a few areas of extremely low elevation, holding water.

The water gauges on Lake and Elm Creeks show a variation in depth, as follows:

	Above Refuge		Elm Creek		Below Refuge	
	High	Low	High	Low	High	Low
November	2.44	0.94	0.97	0.92	2.64	1.98
December	1.65	0.88	1.58	1.00	3.41	2.20
January	1.86	1.44	0.98	0.96	3.96	3.31
	Average -- 1.66		Average -- 1.25		Average -- 2.97	

WILDLIFE

Waterfowl:

The high point of the waterfowl concentration for the three months period numbered approximately 45,341 birds of the following species and numbers of each, observed in November:

Mallards	40,000	Ringneck	150
Pintails	2,000	Ruddy	25
Greenwing Teal	2,000	Buffle Head	50
Gadwall	100	Golden Eye	15
Blue Wing Teal	25	American Mergansers	50
Redhead	300	Hooded Mergansers	20
Scaup	150	Shovellers	6
Canada Geese	250	Lr. Canada Geese	150
	Coots 50		

Concentration of species and numbers for each of the three months are as follows:

November			December		
(1 - 27)		(28 - 30)	(1 - 10)		(11 - 31)
See Above	Mallard	1500	1500	Mallard	19,900
				Scaup	75
				G. W. Teal	25

January					
(1 - 7)			(8 - 11)		(12 - 31)
12,000	Mallard		8,000	Mallard	15 to 1,200

During November the migration consisted mostly of an influx of Mallards, a rise and fall of Pintails and Green Wing Teals, and a gradual reduction of the other species, leaving the total concentration at about the same number through the period. However, the cold and storming weather of November 27 drove practically all the birds from the Refuge and the concentration was reduced to approximately 1500 birds for the November 28 - December 10 period. By December 12, the concentration had again increased to approximately 20,000 birds, remaining at that figure until December 31. The January 1 - 7 population varied from approximately 20,000 to 12,000 birds, January 8 - 11 from 12,000 to 8,000, January 12 - 31 from 8,000 to anywhere from 15 to 1200, all of which were Mallards. The present population is estimated at 1,200 Mallards.

The bulk of the concentration was usually observed in Units eight and nine and in estimating their numbers we counted units of the flocks and estimated the total from these units.

Feeding flights usually left the Refuge, during the hunting season, between four and five o'clock, returning late at night. They flew in a generally Northwest direction, during the open season, and after the closing of the season the birds continued their flights in the same direction, but at more irregular hours.

Very few birds were observed feeding on the Refuge and some trouble was experienced with Refuge neighbors when the feeding birds began taking grain crops.

We received complaints from two farmers during November, stating that the ducks had cleaned out one twenty acre grain field of "Kalo" and had partially destroyed two other twenty acre fields of "Milo". These fields were located from one to two miles to the Northwest of the Refuge.

From all reports the total concentration of birds first started feeding on the "Kalo", cleaned it out and moved to the "Milo". At this point experimental protective measures were inaugaurated, using scarecrows at 50 rod intervals. Bright tin cans were fastened over the arms of the scarecrows and the shining cans appeared to frighten the birds out of the fields. We often observed them coming in against the sun, or blind side of the scarecrows, but when they circled the flash of the metal would cause them to raise and scatter in all directions.

Our observations indicate this means of protection to be very effective, at least for temporary periods, but it is questionable that it would continue to be equally effective after a period of three weeks to one month.

Upland Game:

Our present population of Upland Game birds consists mainly of Pheasants, with Sharp Tail Grouse and a few Prairie Chickens and Hungarian Partridges observed at intervals.

The open winter has made the shelters rather unnecessary although a few of the Pheasants appear to use them at intervals.

We have made no attempt toward artificial feeding since there is ample food in the fields for them.

From all reports the Pheasant population has shown a sharp increase in the past year and if this year should be a good nesting year we will undoubtedly have more than an over supply of this specie.

We estimate our present population to be approximately 1600 Pheasants, 100 Sharp Tail Grouse, ten prairie Chickens and 18 Hungarian Partridge.

Predator and Rodent Control:

Control efforts were initiated during November against Housecats, Skunks, Civits, Weasels, and Muskrats. A total of six Skunk dens were dug out and fourteen Skunks were taken from one den, eight from one, one from another, and six were caught in steel traps, in the three months period. This species does not appear to be too common and we think it very probable that we will have their number reduced to a reasonable proportion by the end of the trapping season.

Not many Weasels have been taken during the period and there is not much evidence of any large number of them on the Refuge. However, we are desirous of taking as many of them as is possible.

Our control efforts on Muskrats was for the purpose of protecting our old dikes to avoid loss of water, damage from the spring run-off and the unnecessary labor of refilling washouts caused by the "rat" burrows. We also hoped to avoid as much useless loss of the "rats" as was possible in their shallow water houses, where the low condition of the water would have cost the lives of many of them in a severe winter.

Fur Take:

Totals for the period:

Muskrats 523 Skunks 29 Civitcats 5

Weasels 6 Housecats 3

The monthly record of furs taken on the Refuge is as follows:

November

Muskrats

Unit	Sex	Number
7	6-F * 4-M	10
8	8-F * 4-M	12
9	22-F *15-M	37
10	46-F *31-M	77
	82 54	136 ✓

Skunks

7		0
8		0
9	0-F * 1-M	1
10		0
	0 1	1 ✓

Civitcats

7	0-F * 1-M	1
8		0
9		0
10	1-F * 0-M	1
	1 1	2 ✓

Weasels

7	1-F * 0-M	1
8		0
9		0
10		0
	1 0	1 ✓

House Cats

7		0
8		0
9		0
10		0
	0 0	0 ✓

December

Muskrats

Unit	Sex	Number
7	2-F * 0-M	2
8	35-F *32-M	67
9	52-F *47-M	99
10	33-F *26-M	59
	122 105	227 ✓

Skunks

7		0
8	12-F * 2-M	14
9	3-F * 6-M	9
10	0-F * 1-M	1
	15 9	24 ✓

Civitcats

7	2-F * 0-M	2
8	0-F * 1-M	1
9		0
10		0 ✓
	2 1	3 ✓

Weasels

7		0
8		0
9		0
10		0 ✓
	0 0	0 ✓

House Cats

7	1-F * 1-M	2
8		0
9		0
10	0-F * 1-M	1 ✓
	1 2	3 ✓

January

Muskrats

Unit	Sex	Number
7	57-F * 48-M	105
8	18-F * 15-M	33
9	7-F * 4-M	11
10	6-F * 5-M	11 ✓
	88 72	160 ✓

Skunks

7	2-F * 2-M	4
8		0
9		0
10		0
	2 2	4 ✓

Civitcats

7		0
8		0
9		0
10		0 ✓
	0 0	0 ✓

Weasels

7	1-F * 2-M	3
8	1-F * 0-M	1
9	1-F * 0-M	1
10		0
	3 2	5 ✓

House Cats

7		0
8		0
9		0
10		0
	0 0	0 ✓

Other Animals:

We estimate our Beaver population at fifteen to twenty animals, in three colonies. One colony is located in Unit nine and the other two in Unit Seven.

There is not much evidence of Mink on the Refuge, but an occasional track is seen.

Two coyotes have been observed, one on the South side of Unit eight and the other on the North side of Unit seven.

A few Badger dens have been noted in Units nine and ten.

DEVELOPMENT AND MAINTENANCE

Our efforts toward Refuge development have been concentrated on dikes, control structures and trails. Other work consists of Rodent and Predator Control, surveys, telephone line construction, tree transplanting, bridge construction, concrete work in the Headquarters machine shed, well drilling, marsh plant seeding, threshing marsh plant seed, gravel drip lines, general clean-up, and road construction.

Maintenance work consisted of equipment repair, fence and sign maintenance and general up-keep of buildings and landscape at Headquarters and Secondary Headquarters.

Dike Construction (CCC):

At the end of the period Dikes Nos. 7, 8, 9, 2, and 5, have been completed, including the clay surfacing. Dike No. 3 has been re-filled over all of its length and a start has been made on the blading of the slope.

A total of approximately 42,209 cubic yards of dirt was moved on the different dikes as follows:

Dike No. 2 - 9,930 Dike No. 3 - 27,690 Dike No. 4 - 426

Dike No. 6 - 4,163

All dirt work on Dike No. 3 was done by dragline, working an average of one shift per day.

Control Structures (CCC):

Water control structures were completed on Dikes Nos. 1, 2, and 6. All of these structures were of the culvert type, with concrete head walls and footings.

A total of approximately fifteen cubic yards of concrete was poured on this job.

Excavations were made on Dikes Nos. 1, 2, and 3, for four other control structures and these will be completed as soon as conditions will permit.

In addition to the above, two open spillways, 100 and 150 feet long, were constructed on Dikes Nos. 5 and 6. These "spills" are floored and the walls rip rapped, with brule clay.

Trail Construction (CCC):

A total of approximately one and one half miles of trail was turnpiked and a distance of 200 rods of sand trail filled with 2,191 cubic yards of dirt and clay. About one and one quarter miles was surfaced with 528 cubic yards of gravel and a ten foot by fourteen foot concrete trail bridge constructed. This bridge is over Lake Creek where it leaves the Refuge on the east side and has two four foot openings to carry the creek flow. However, in addition to the bridge, a 100 foot open spillway was constructed in the trail in case of flood conditions where the bridge opening could not carry the flow. This spillway was floored with brule clay and the banks, inlets and outlets, rip rapped with the same material.

Telephone Line Construction (CCC):

Work has been started on the excavation for the pole line to the Secondary and Sub-Secondary Headquarters. A two wire, metallic system will be used with the poles set at approximately 125 feet. Nearly two miles of the excavation for the poles has been completed at this time.

Concrete Flooring (CCC):

A start was made on the concrete floor and approach to the Headquarters machine shed. This floor is four inches thick with a six inch footing of gravel.

To date one section, ten foot by twenty-four foot has been poured and the excavation for a fourteen foot by twenty-eight foot section is completed.

Well Drilling (WPA):

Our Refuge WPA crew completed the drilling of an eight inch well during the period. This well is for the CCC Camp and was drilled to a depth of 325 feet. A small Gormon-Rupp power pump was used for both water pressure drilling and for drill power. Veins of water were discovered at the fifty foot, the 180 foot, and the 322 foot levels, raising the water in the pipe to the 37 foot level.

Pumping tests with a two and one half inch cylinder checked approximately 1,000 gallons per hour.

Bridge Construction (WPA):

A wooden bridge across Lake Creek where it enters the Refuge from the west, is being raised and strengthened. To date, six, ten foot piling have been placed, by using a Gormon-Rupp pump for hydraulic drilling. When completed the bridge will have a twelve foot by twenty foot top and six foot by eight foot opening.

A combination control structure and concrete bridge is being constructed across the road where the channel from Little White River project enters the Refuge. The forms have been constructed, steel laid and the pouring of the concrete will be started when the crew returns for the next period.

Gravel Drip Lines (WPA):

Approximately 241 foot of gravel drip lines were constructed around the Headquarters buildings. This was to prevent dirt splashing on the buildings, caused by water dripping from the eaves. Worthless one by six inch lumber of only kindling value was used for this work.

Road Construction (WPA):

A total of 745 cubic yards of dirt was moved on the County road along the west side of the Refuge. It will be necessary to raise this road, approximately eighteen inches, over a distance of nearly one half mile, since water backed up by our dikes has caused the old road bed to soften and to overflow in a few locations.

A shovel crew, loading flat box trucks and assisted by a County-owned tractor and blade are moving the dirt from a borrow pit located one quarter mile from the job.

General Clean-up (WPA):

Approximately three acres of ground around the Secondary Headquarters and in the salvaged material stock pile was cleaned up and made presentable. All trash and weeds were burned and all material of any value, such as old iron, wire, lumber, and general odds and ends, were sorted and piled for future use.

Concrete Construction (WPA):

A concrete base was poured for the Headquarters gasoline pump. This base is six inches high and required approximately one yard of concrete.

Maintenance Work)WPA & CCC):

A mechanic was selected from our Refuge WPA crew. His work has consisted of the following jobs: overhaul and repair of Ford Pick-up, general repair of four stake trucks, and one station wagon, checking Chevrolet Pick-up and light plant motor, equipment inspection and odds and ends of shop work.

The Refuge information and directional signs were dismantled, tightened and re-installed.

Wires were raised over approximately four miles of Refuge fence to let the Russian thistle through. Several H braces were re-set, the posts and wire were checked and thistles cleaned out clear around the Refuge fence. The posts were re-set where necessary, wires repaired and spaced and unsightly ends either wound-up, or cut off.

At Headquarters all stored material was sorted and stacked in an orderly manner, blowing papers, weeds, and other trash disposed of and a temporary coal bin constructed in the work shop.

PLANTINGS

Marsh Plant Seed:

A total of 460 pounds of Prairie Bulrush and 297 pounds of Pale Smartweed were planted along the west side in Unit nine and ten. This seed was disced in since the low water levels made this operation possible. The Paludosus was planted from one to two rods inside the water line and the Smartweed approximately the same distance above the water line.

Trees and Shrubs:

The balance of the nursery stock, some 4,823 trees and 188 grape cuttings, were field planted early in the period. The following species and amounts were planted.

Green Ash	3,549	Pines	220	Honey Locust	1,054
		Grape Cuttings	188		

Collections:

A total of 99 pounds of Hard and Soft Stem Bulrush seed was threshed out during the period. This seed was sacked and stored at Headquarters.

PUBLIC RELATIONS

Visitors:

Among our few visitors for this period was the Engineer for the South

Dakota State Game and Fish Commission and Mr. Axlund, State Warden.

A few local people have come in on weekends, or occasionally through the week, but the total was very small.

OTHER ITEMS

When work was first begun on the Little White River Project, twenty additional WPA workers were assigned to us. These men had been working in Martin, South Dakota on such work as concrete sidewalks, and sewage disposal systems and their experience there should be of some help in the concrete work on Little White River.

The Beaver population has been doing some cutting on the larger trees in the willow thicket at the west end of the Refuge.

An attempt to take turtles in the spring holes met with no success.

Classes in General Wildlife Studies were begun in January for CCC enrollees. Twelve young men have enrolled in the class and they appear to be very interested in the subject.

WELL DRILLING

Lifting the sand bucket used in drilling the CCC Camp well.

DIKE CONSTRUCTION

Loading brule clay in the borrow pit for use on the Refuge dikes.

DIKE CONSTRUCTION

A five yard scraper making a fill on Dike No. 5 and the completed slope of Dike No. 7.

DIKE CONSTRUCTION

Dragline making a fill on Dike No. 3.

CONTROL STRUCTURES

Filling for a coffer dam to construct a control structure between Dikes No. 2 and No. 2A.

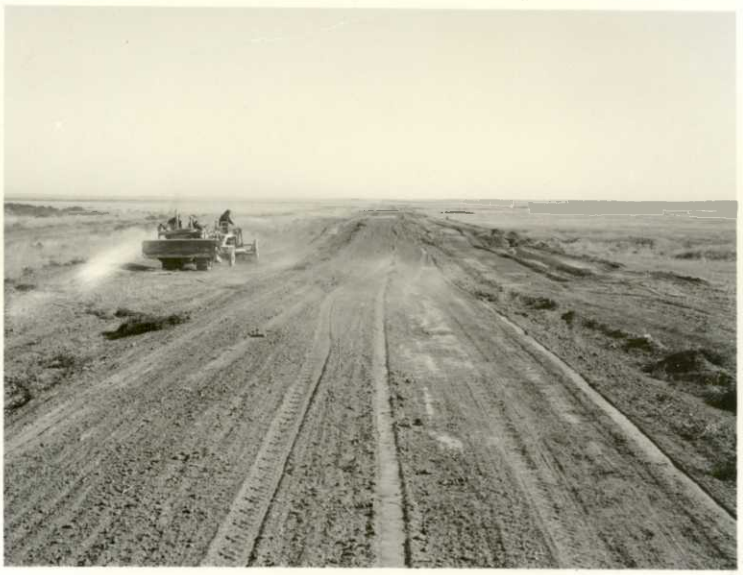
CONTROL STRUCTURES

Excavating for a stop log control structure on Dike No. 1
and laying concrete pipe for a control structure
on Dike No. 6.

CONTROL STRUCTURES

Excavating for a spillway in Dike No. 3 and completed spillway from Dike No. 5 pool.

TRAIL CONSTRUCTION



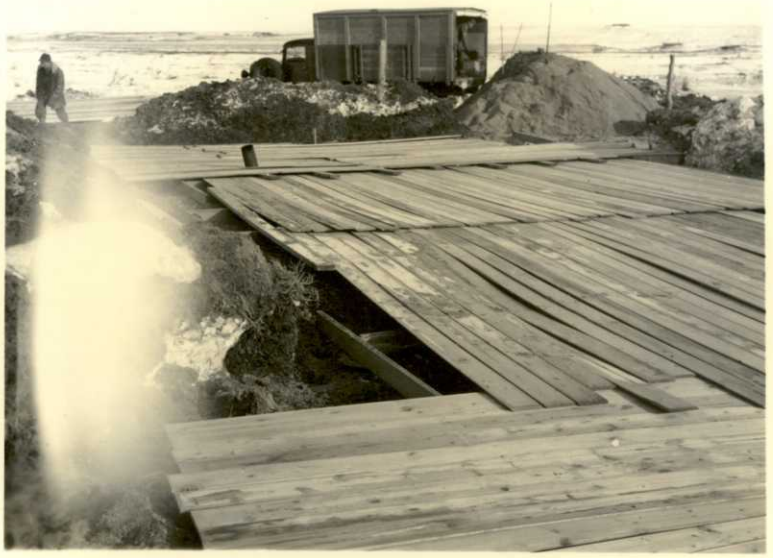
Blading slope on Secondary Headquarters trail and surfacing section of sand trail with clay.

TRAIL CONSTRUCTION

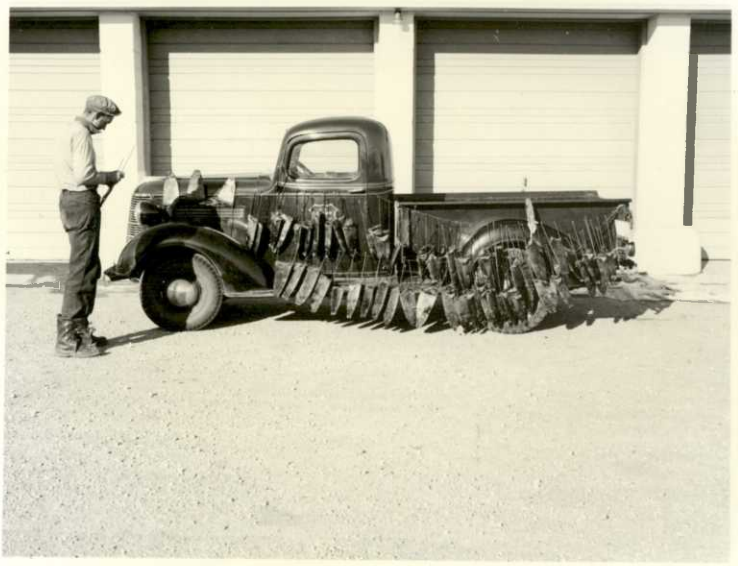
Excavating for new bridge on Secondary Headquarters trail and constructing bridge over Lake Creek where it leaves the Refuge.

COMBINATION BRIDGE AND CONTROL STRUCTURE

Constructing forms for County road bridge over Little White River diversion channel.



RODENT AND PREDATORY ANIMAL CONTROL

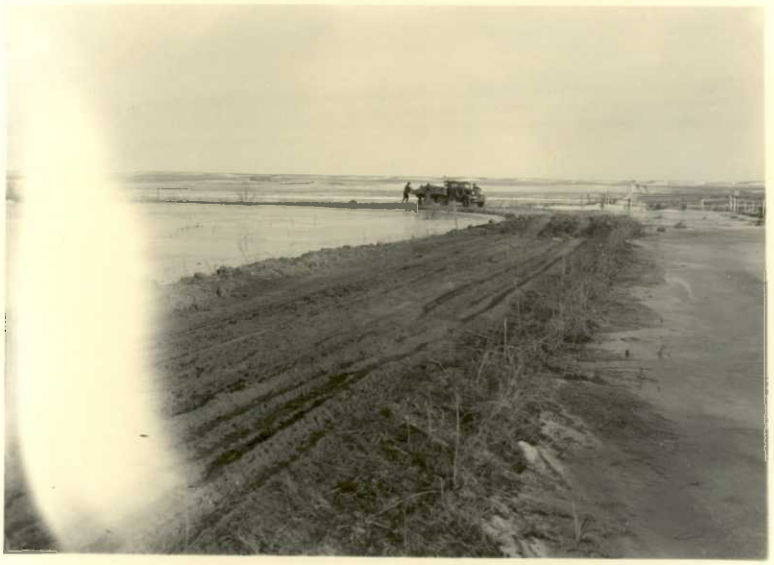


Muskrat and Weasel taken in November.

ROAD CONSTRUCTION

Borrow pit for County road fill along west side of Refuge.

ROAD CONSTRUCTION



Making a fill on County road west of Refuge and preparing to drive piling to raise County road bridge.

HEADQUARTERS CONSTRUCTION

Gravel drip lines around the buildings and cement base for the gasoline pump.

HEADQUARTERS CONSTRUCTION

Pouring concrete floor in Headquarters machine shed.

EQUIPMENT MAINTENANCE

WPA mechanic tuning up motor