

NARRATIVE REPORTS
LACREEK MIGRATORY WATERFOWL REFUGE
MARTIN, SOUTH DAKOTA
FOR THE MONTHS OF
AUGUST, SEPTEMBER, OCTOBER, 1938

SUBMITTED BY
CHANDLER R. YOUNG
UNDER REFUGE MANAGER

JS
By 4/2/39

JWC
REG

Burn

WEATHER CONDITIONS

AND

WATER LEVELS

WEATHER REPORT AT LACREEK MIGRATORY WATERFOWL REFUGE FOR THE MONTH AUGUST, 1938.

DATE	MAX. & MIN. TEMP.	PRECIPITATION	WIND DIRECTION
1	97 71	0	SE
2	105 65	0	SW
3	99 59	.04	NW
4	96 60	0	S
5	96 62	0	NW
6	98 63	0	NW
7	96 61	0	NW
8	100 65	0	S
9	97 67	.30	NW
10	81 56		N
11	89 55		S
12	98 67		S
13	99 72		SW
14	98 59	.05	NW
15	99 55	.04	SE
16	80 53	.14	W
17	87 55		S
18	99 65		SW
19	94 55		N
20	77 50		S
21	90 56		S
22	100 65		N
23	97 61		NE
24	92 55	T	E
25	78 59	1.18	NE
26	76 53		NE
27	80 59	.04	SW
28	88 60		N
29	89 59		S
30	88 62	.46	N
31	82 59		NE

Chandler R. Young
Refuge Manager
Martin, So. Dakota

WEATHER REPORT AT LACREEK MIGRATORY WATERFOWL REFUGE FOR THE MONTH OF ~~AUGUST~~ ^{SEPTEMBER} 1938

DATE	MAX. & MIN. TEMP.	PRECIPITATION	WIND DIRECTION
1	95 60		E
2	69 55	.03	E
3	80 50		SW
4	74 56	T	SE
5	84 60	.05	SW
6	89 60		SE
7	83 65	T	N
8	75 61	.06	E
9	88 57		NW
10	80 49		E
11	74 52	.17	NE
12	70 53	T	SE
13	63 54	.66	NW
14	69 51	.08	NW
15	69 44		N
16	73 45		NW
17	72 45		NW
18	63 39		NW
19	71 38		S
20	89 38		SE
21	87 53		N
22	89 57		NE
23	88 58		NE
24	91 52		SE
25	92 52		SE
26	83 47		SE
27	90 40		SE
28	89 41		SE
29	85 42		NE
30	87 36		SE

CHANDLER R. YOUNG
REFUGE MANAGER
MARTIN, SOUTH DAKOTA

WEATHER REPORT AT LACREEK MIGRATORY WATERFOWL REFUGE FOR THE MONTH OF OCTOBER, 1938

DATE	MAX. & MIN. TEMP.	PRECIPITATION	WIND DIRECTION
1	88 46	0	NW
2	85 56	0	E
3	87 55	0	W
4	83 53	0	E
5	79 49	0	E
6	82 51	0	SW
7	79 50	0	NE
8	73 41	0	S
9	69 46	0	S
10	70 50	T	SW
11	73 42	0	W
12	71 48	0	N
13	79 44	0	SW
14	75 42	0	SE
15	71 41	T	SW
16	63 38	T	N
17	47 39	.03	NW
% 18	46 34	0	NW
19	47 22		NW
20	66 30	0	NW
21	68 36	0	NW
22	56 28	.03	NW
23	46 16	0	NW
24	61 31	0	NW
25	57 38	0	NW
26	67 33	0	SW
27	80 42	0	SW
28	70 40	0	NE
29	64 31	0	SW
30	73 46	0	W
31	46 74		SW

CHANDLER R. YOUNG
REFUGE MANAGER
MARTIN, SOUTH DAKOTA

WATER LEVELS

.00 = crest

DATE	RESERVOIR #7	RESERVOIR #8	RESERVOIR #9	RESERVOIR #10	REMARKS
8/1/38	-37½ in.	¾ in.	- 8 in.	-26 in.	
8/3/38	-37 in.	¾ in.	-10 in.	-27 in.	
8/8/38	-38 in.	¾ in.	-16 in.	-31 in.	
8/31/38	-35 in.	- 8 in.	-27 in.	-53½ in.	
9/8/38	-36½ in.	- 4½ in.	-48 in.	-57 ¾ in.	
9/16/38	-44 in.	-12 in.	-64½ in.	-61 in.	
9/26/38	-40½ in.	-17½ in.	-51½ in.	-52 in.	
10/3/38	-35½ in.	-16½ in.	-56 in.	-48½ in.	
10/10/38	-45 in.	-39½ in.	-61 in.	-54½ in.	
10/17/38	-63 in.	-55 in.	-62 in.	-58½ in.	
10/24/38	-62 in.	-54 in.	-67½ in.	-67 in.	

WILDLIFE

A. Waterfowl:

The first noticeable influx of waterfowl into the Refuge occurred during the last week of August. Several thousand pintails moved into the Refuge. Most of these birds concentrated on the receding shore lines of Units Numbers 9 and 10. On August 25th, several large flocks of mallards came into the Refuge from the north. A large concentration of Blue Winged teal was in evidence during the whole month of August. One Black duck was banded on August 27th. This is the first Black duck observed on the Refuge. American Coots increased about 20 % during the first week in September. Gadwalls and Bald pates showed a decided increase during this week.

By September 10th, the ducks as a whole had decreased about fifty per cent as compared with the last week in July.

On about September 15th, a flock of about thirty white fronted geese moved into Unit Number 10.

September 15th, most of the Blue Winged teal had left the Refuge.

September 16th, an increase of Redheads was noticed on Reservoir No. 9.

September 17th, a few Lesser scaup have moved into the Refuge.

September 19th, first migrating Sand Hill cranes observed. A slight increase of Gadwalls, Bald pates, and Mallards was observed.

One flock of Lesser Canadian geese observed on the Refuge.

Oct. 1, a noticeable increase of Bald pates observed.

(Hunters checked showed Gadwalls and Baldpates to be the predominating species in their bags. There were a few Green Winged Teal, Spoonbills, pintails, and Redheads scattered among the kills.

Canada
Barn

✓
d. f. h.
dwc



Avocets

October 4th, a large flock of Lesser scaup observed on Unit No. 32. Large numbers of Sand Hill cranes migrating. From October 4th to October 13th, occurred the largest flight of Sand Hill cranes that has been seen in this country for a good many years. A few of these birds stopped over night on the Refuge.

October 11th, large flocks of Green Winged teal observed on the Refuge.

October 17th, Mallards increased.

October 18th, a few Canvas-backs in. Larger flocks of Lesser Scaup observed on the Refuge.

October 19th, about a 20% decrease in Mallards on the Refuge. A few Buffleheads and American Goldeneye observed on Unit No. 3.

October 23rd, first hard freeze--ice about 1 inch thick. About 15,000 Mallards observed leaving the Refuge for the South.

October 25th, large numbers of Mallards on Unit No. 10. Estimated numbers between ten and fifteen thousand. Practically all Bald-pates gone. Green Winged teal seen in large flocks.

At the present time October 31st, an estimate of Waterfowl on the Refuge is as follows:

✓Mallards	30,000	✓Green Winged Teal	1,000
✓Gadwalls	7,000	✓Canvas backs	200
✓Pintails	1,000	✓Ruddy Duck	100
✓Lesser Scaup	1,000	✓Redhead	500
✓Buffleheads	200	✓Shovelers	500

39,200
FEEDING HABITS

39,200

41,500

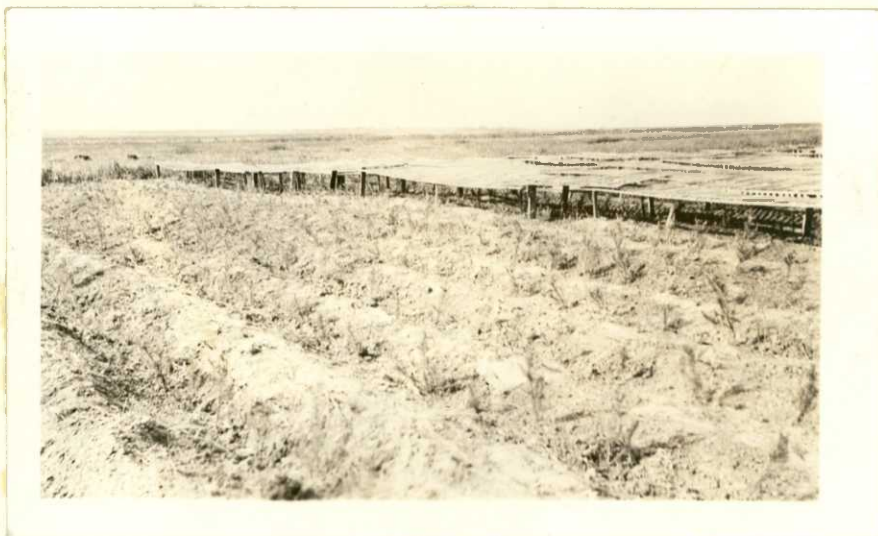
(During the forepart of August, large numbers of ducks concentrated and fed along the receding shore line of Reservoirs Numbers 9 and 10.

In these units excellent growths of sago and pondweed were established in water from a few inches deep to a depth of about four feet.) By the

31st of August, Reservoir No. 10 had been drawn down $53\frac{1}{2}$ inches which



Black Tern



Nursery showing shades for newly planted evergreens



Reservoir No. 8 showing natural invasion of soft stem
Bull rush in center of lake

left practically all of the sago and other duck foods on dry land. This Reservoir was all but abandoned by the ducks. There was a large concentration of ducks in the shallow areas of Reservoir Number 9, which had only been dropped 27 inches by August 31st. (An abundance of duck food in the form of sago was available to the ducks in this Reservoir at this time.) By September 8th, Reservoir No. 9 had been dropped 48 inches leaving most of the sago and the Bull rushes in this unit on high and dry ground. It was the ducks move again. They concentrated on Reservoirs Numbers 7 and 8 and the lateral dike units 2, 3, and 5; these units having been kept at a fairly constant water level throughout the summer. (About the 15th of September, the Mallards and Pintails started feeding in the fields. The first field to be made use of by the ducks was the barley field on the west end of the Refuge. This field feeding gradually gained momentum until by the 31st of October practically all of the Mallards on the Refuge were feeding in the barley and wheat fields on the Refuge and in the barley and wheat stubble and cane off the Refuge. Mallards were observed flocking into Kalo cane fields that were bordered by barley and wheat stubble. A farmer living about two miles north of the Refuge informed me that the ducks and cranes were consuming great quantities of his Kalo and that they had done him appreciable amount of damage. (The Wild Millet planted this spring below the open spillway of dike Number 3 and along the borders of lateral dike Number 5, produced an abundance of seed which attracted large numbers of ducks. The Millet around the borders of the main units was too far from water at maturity to provide any food this fall.) ✓

B. Upland Game Birds:

The ringneck pheasants on the Refuge and in the surrounding

Plant Kalo
Barley on
Refuge
Wheat

Experimental
plantings being
made on refuge
according to
Gilbert

country had a very good hatch this season. Pheasants are to be seen in all sections of the Refuge. Pheasants were observed on the high uplands surrounding the Refuge. Heretofor it has been a rare occurrence to find pheasants any great distance from the creeks or swamps.

The State opened the pheasant season from October 1st, to October 7th. (I had the opportunity to examine the crops of two birds killed along the southern boundry of the Refuge. These crops were full and contained nothing but rye and four grasshoppers.

About the first of October ~~and~~ abundance of weed seeds of all description were available to these birds. These crops may indicate that rye is a very valuable food for pheasants on this Refuge.) A systematic collection of pheasant crops should be made this coming winter. If pheasants can thrive on rye, the winter feeding problem of pheasants is solved on this Refuge. (We have fields of volunteer rye scattered all over the Refuge.) ✓

One cove of Hungarian partridges was observed October 30th, on the east side of Reservoir No. 9.

Several covies of sharptail grouse moved into the Refuge. A good many more sharptails are to be seen on the creek above the Refuge than were observed last year at this time, October 31st.

One cove of sharptail grouse was observed during the month of August, and an occasional prairie chicken was flushed on the South east side of Reservoir No. 9.

(Our feeding shelters continued to function as escape cover through out the summer and fall.) (none later)

neg. ✓
sharptail
cove

checked
10/31/11

✓
sharptails
cove
swe

C. Predator and Rodent Control:

Predator control this period consisted mostly of killing of Bull snakes and snapping turtles. It is rather hard to get an accurate check on the kill of these species as men on CCC crews and W.P.A. crews kill bull snakes on sight and fail to report them. Snappers have been taken by trapping and shooting. I have gone out evenings with a rifle during the months of August and September, killing approximately sixty snappers.

28 snapper stomachs were collected by the trapping crew.

2 rattler and two bull snake stomachs were collected this fall.

Dates On take of stomachs are as follows:

Snapping Turtles	
August 18	1
August 19	4
August 26	1
August 29	2
September 6	3
September 7	1
September 8	1
September 9	3
September 12	2
September 14	2
September 15	1
September 20	1
September 22	1
September 26	1
September 27	1
October 5	1
October 6	1
October 8	1

Bull Snake ✓	
Sept. 2	1
Sept. 14	1

Rattler ✓	
Sept. 14	1

October Rattler ✓	
Sept. 8	1

On September 17, a pair of adult duck hawks were captured in one of our duck traps. These hawks were shipped to a falconer in New York.

*By what authority?
Was permit necessary?
WTR*

*Stomachs should be
preserved and sent
to the Service for
examination WTR*

*Instruction
preservation etc*

D. Fur Take:

Three muskrats were trapped accidentally in an attempt to catch a mink which was raiding our duck trap. These rats were taken September 3, 1938.

E. Approximately 1,000 live muskrats were taken from the Refuge by the State Fish and Game Department. These rats are being used to stock suitable lakes in other parts of the State.

F. Bird Banding Operations:

Seven duck traps were put in operation this fall, but due to the falling water levels on all of the main units trouble was experienced in keeping the funnels in the water.

The following birds were banded during this period:

August

Mallards	-----	248
Pintails	-----	130
Blue Winged Teal	-----	16
✓ Northern Yellow Throat	--	1
American Coot	-----	13
Black Crowned Night Heron		3
Bald Pate	-----	1
Blue Bill	-----	1
Greater Yellow Leg	-----	1
Western Willet	-----	1
American Bittern	-----	2
✓ Barn Swallows	-----	4
Redheads	-----	1
Gadwall	-----	10
Black Duck	-----	1

September

Mallards	-----	197
Pintails	-----	114
Blue Winged Teal	-----	37
Lesser Scaup	-----	6
Pied Bill Grebe	-----	1
American Coot	-----	4 1
Black Crowned Night Heron		1
American Bittern	-----	1
Widgeon	-----	3
Redhead	-----	8
Gadwall	-----	5

October

Mallards	-----	264
Pintails	-----	123
Blue Winged Teal	-----	4
Pied Bill Grebe	-----	4
Green Winged Teal	-----	2
Gadwall	-----	7

Repeats of birds banded in 1937 are as follows:
These bands are of the 36 series.

August

Mallards	-----	5
Pintails	-----	1
Blue Winged Teal	-----	1

REFUGE DEVELOPMENT AND MAINTENANCE

A. The CCC's major projects have continued to be dike reconstruction, truck trails, and control structures.

Dike No. 7 and No. 2, were completed as far as dirt needed is concerned. Dike No. 2 will be graded when the dirt has dried sufficiently. 55,005 cu. yds. of earth were moved on to Dikes Nos. 2, 3, and 7, this period.

All of the main spillways have been sodded. 5,238 sq. yds. being completed on the seeding and sodding project. Wheat grass was scattered on the up-stream slope of Dike No. 9.

The truck trails are gradually being completed. One mile of gravel was placed on truck trails. About 120 lineal feet of culverts have been laid. The footing for a concrete bridge has been laid below the spillway of dike No. 10.

Four (4) lateral dike control structures have been completed this period; three are partially completed.

A start was made on our big project of making islands out of peninsulas. (The large peninsula on Reservoir No. 7 was cut off from the main-land by the dragline.) (Islands)
Done ✓

The grainary was moved from the Hines buildings to the Simpson place. The barn at the Simpson place was remodeled.

A fairly large CCC crew was employed transplanting sago pondweed and collecting bul rush and sagitaria seeds this period.

W.P.A. Work:

A well 160 feet deep was drilled at the Hines place and a flow of good water was secured. The windmill tower formerly on the Hancock place was moved to the Hines well.

✓
Duck nesting
Takes are
Refuge Development and Maintenance Continued--2

(Twelve (12) duck nest boxes were built and 22 crates were constructed for the contemplated storage of Sagittaria bulbs. *No! we shall use peas!* *WPK*)

Two automatic water gaging stations were installed.

A new motor was installed in the $1\frac{1}{2}$ ton truck.

The station wagon was retopped, overhauled, and painted.

The main portion of the W.P.A. crew, during most of August, continued to water and cultivate the trees planted in the field.

The Refuge boundary fence and gates were gone over and necessary repairs made.

Our two water pumps and the Case tractor were repainted.

A new cess-pool was constructed at the Hines house.

Three rows of hard stem and soft stem bull rush root stocks were transplanted along the water line of the entire length of Dike No. 9. *hard stem preferable and available about 10* ✓

(Eighteen upland bird feeding shelters were reconstructed and the drift fences behind them were reconditioned. *shelters* *WPK*)

B. Plantings:

(The various aquatic and marsh plantings made in 1936 and 1937, *X* *very noted* ✓ showed up in excellent shape this year.

All of the species of plants planted on the Lacreek Refuge were of species already native to the area; however, growth of aquatic and marsh plants in our newly flooded areas has shown the value of speeding up the invasion of desirable duck foods.)

Sago Pond weed seed:

Eighty-eight (88) gallons of Sago was planted in the spring of 1936. *noted* *WPK*

These seeds were planted by various methods. Holes were poked in the mud and the seed dropped in and the holes closed up. *probably too deep!* *WPK* This method was used on Reservoir No. 7. Soon after this planting the area was flooded.

Sago showed up in this Reservoir in scattered patches in 1937. In 1938 this unit was drawn down 37 inches during most of the growing season so that a good portion of the area where sago had started was on high and dry land; however, a good growth of sago was yet to be seen in water from a few inches up to three feet. In units Nos. 8 and 9 the seed was well soaked ~~and~~ before sowing it, sown broad-cast in water from two feet to about five feet deep. This year there was a luxuriant growth of sago in all portions of these Reservoirs in water up to a depth of about four feet.

A natural invasion of sago occurred in Reservoir No. 10. An excellent growth of this valuable duck food was established in water up to a depth of about four feet. Bu August 31st, all of this sago in Unit 10 was on dry land.

As the water receded, a CCC crew was put to work transplanting these plants in Units No. 2.

During the season of 1937, 100 lbs. of sago seed was planted along the lateral dikes Nos. 2, 3, and 6.

The seed was disced in during the fall in Units Nos. 2 and 3. The seed was sown broadcast in the barrow pit of dike No. 6.

These plantings are showing up in nick shape this year. ✓

Other plantings made during 1936, 1937, and 1938,

1936

200 lbs. of giant burred roots. These plants are abundant all over the marsh areas of the Refuge. These roots failed to grow in areas planted. *Time!*

*Learn out of
them as show up with.*

✓
600 lbs. of Wild Rice. This rice was planted in Units No. 7, 8, 9, 10. The plantings made an excellent growth in 1936 but probably due to black birds taking the seed, no large beds of rice was established from these plantings.

*Reported 250 lbs May, 1936
2 lbs June, 1936*
205 lbs. of wild Millet. The millet was planted on dikes Nos., 3, 4, 7, 8, and along the North shore dike of Reservoir No. 8. The only place that the millet did any good that first season was on the North shore of dike No. 8 where an excellent growth was established.

125 lbs. Swamp smart weed roots.

25 lbs. Swamp smart weed seeds.

10 lbs. Prairie Bull rush seed.

not in accord with previous reports
We were unable to tell whether our plantings of Smart weed succeeded or not as there occurred a natural invasion of this species all over the newly flooded areas.

The Prairie Bull rush failed to show up in areas planted this first year. This Bull rush seed was pushed down in the mud along the North-Western shore line of Reservoir No. 9 and along the Northwestern shore-line of Reservoir No. 8.

1937

Hard stem Bull rush, 20 ✓ lbs.

Swamp smart weed, 100 ✓ lbs.

Prairie Bull rush, 800 ✓ lbs.

Wild Rice, 200 ✓ lbs.

Wild Millet and Pale smart weed mixed, 900 lbs.

1938

Wild Millet, 600 ✓ lbs.

Wild Millet and Pennsylvania smart weed mixed, 400 ✓ lbs.



Area created by Dike No. 5 showing natural invasion of
smart weed and duck potato



A brood of Blue Wings in barrow pit.



Tower

Plantings Continued--4

The Prairie bull rush planted in the two preceding years showed up in small clumps all along the northern shore lines of Units Nos., 2, 3, 7, and 8, and clumps are to be seen widely scattered around the entire shore lines of Units Nos., 9, and 10.

(The Wild Millet and Pale smartweed is well established all along the dikes and ^mabout 75% of the shore line of all units.)

Field Crops:

The following field crops were put in this past spring: 1938

Name	No. acres	Probable yield Bu. per acre
Barley ✓	100 ✓	6 bus.
Wheat ✓	50 ✓	5 bu.
Corn ✓	90 ✓	1 bu.
Sorghum	15	2 bu.
Proso Millet	None	None

*crops
could
have*

Mixed food patches produced some feed.

None of these crops were harvested.

C. Collections: ✓

Duck Potato seed, 11 bags.

*could
have*

American Three square bull rush--estimate of clean seed, 4 bags.

Hard and soft stem bull rush, 20 lbs.

PUBLIC RELATIONS

No recreational area on Refuge.

Hunting clubs in vicinity were contacted and law enforcement discussed with them.

A group of students from the local high school were informed of the purposes of the Refuge and some of the details of Biological development that has taken place on the Lacreek Refuge.

ECONOMIC USES OF REFUGE

Haying:

319.31 tons of hay was cut on the Refuge from approximately 400 acres. \$319.31 revenue was derived from this hay.



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