

NARRATIVE REPORT

FEBRUARY

1938

MEDICINE LAKE MIGRATORY WATERFOWL REFUGE

SHERIDAN AND ROOSEVELT COUNTIES

MONTANA

Paul T. Kreager

February 28, 1938

Wet

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Feb.

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February has seen the coldest weather of the winter to date with a low of 38 degrees below zero on several occasions. Of course, the sun is climbing steadily and the middle of the day showed a considerable rise in temperature towards the end of the month.

Precipitation for the month came in the form of snow during the week of February 6th to 12th during which time approximately four inches fell. It is estimated that the winter snowfall has amounted to over eighteen inches on the level. Of course, most of this snow found its way into coulees and other places where there was no vegetation on the flats to check drifting.

Many of the county roads which have not been "raised" were impassable. Mail routes were covered by "snowmobiles", an auto-type of machine with improvised caterpillar-type treads over tires.

During the coldest period the hot water pipe froze up in the refuge dwelling house above the ceiling but same was thawed out before any damage was done. The pipe was then covered with a heavier coat of insulating material. No trouble has been experienced with the sewer line or water pipes in the Service Building but a considerable amount of

coal has been burned in the four stoves in place in this building in order to keep the ground under the buildings from freezing down to the pipes.

The weather warmed up sufficiently towards the end of the month to the point where run-off was starting and Muddy Creek was beginning to flow in the vicinity of Reserve, Montana. (Initial delivery to Medicine Lake and the Homestead Unit took place on March 3). A good run-off is expected this spring due to the rainfall before the freeze up, thus making the ground impervious to soaking up moisture until the frost goes out. However, it is noted that a great deal of snow water is going into the soil through frost cracks.

No trees, with the exception of several Green Ash, were transplanted this month. Several loads of willows were brought in and matts woven for shading the nursery seed beds and for use as snow fences around the upland game bird shelters.

Upland game bird feeding has been carried out throughout the month, it being necessary for one feeding to hire a team of horses due to the fact that snow was too deep for trucks.

Approximately one-half mile of road was gravelled

during the month. Thirty rods of snow fence were constructed and rock stockpiled for use on the other two islands in Medicine Lake when completed.

The building of Islands has progressed during the month by the utilization of the over-burden from the gravel pit located immediately west of the secondary headquarter's tower on the edge of Medicine Lake. A total of 4,240 yards of earth were placed in islands during the month from the above source.

A gravel grader has been constructed and is now in use for the gravel which is being placed on the roads.

The flashboard structure west of Medicine Lake on the No. 1 Diversion Ditch was blasted out during the month.

Considerable work had to be done on the roads east of headquarters in keeping them passable due to drifting snow.

Various refuge signs "standard" were constructed during the month.

The CCC camp is undergoing an epidemic of mumps at the present time and at times as high as thirty boys were down at once.

Considerable field time was lost by the CCC camp during the month due to cold weather.

A few traps were out during the month and one coyote

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was caught. We cannot use poison here because the vicinity is too densely populated for the use of poison.

Miscellaneous work about the headquarters consisted of building cabinet, running germination tests on seeds and the elimination of stock from the refuge which gained entrance through the stock guards clogging up with snow drifts, getting vegetative specimens ready for identification, etc.

No bird shelters or feeders were constructed during the month as we have all built that are scheduled for construction. The upland game birds have pulled through the winter to date with very few fatalities as have the birds on the outside of the refuge also. From all indications there should be a good breeding stock on hand in the spring.

Table of the various amounts of grain taken by these birds is shown further on in the report. Birds, however, have fed on buds most of the winter and have not taken as much grain as they would have taken during a harder winter.

Agricultural, aquatic planting, shelterbelt planting, nesting and brood study programs have been compiled during the month.

Briefly the CCC projects carried on during the month
were as follows:

- A. Garage, Fire proof partitions.
- B. Fence, Snow.
- C. Truck Trails (Graveling).
- D. Moving and Planting Trees.
- E. Demolition of Bridge.
- F. Lake and Pond Development.
- G. Wild Life Feeding.
- H. Equipment Repair and Construction.
- I. Fencing.
- J. Signs, Markers and Monuments.
- K. General Cleanup.
- L. Surveys.
- M. Loading Ramps.

CLIMATIC FEATURES:

Precipitation:

Precipitation for the month of February consisted of approximately four inches of snowfall. With the ground well frozen we will, no doubt, be able to realize a good run-off during the spring thaw.

Temperature:

February was the coldest month of the year with a low of minus 38 degrees. However, it warmed up towards the end of the month and we had three days of thawing weather which later brought down a considerable run-off which was shunted off into the Lake and the Homestead Unit. (Starting March 3.)

Work projects were held up considerably due to the cold weather.

A real old-time blizzard hit the vicinity on February 12 but burned itself out in one day.

Winds:

No high winds, with the exception of February 11 and 12, occurred during the month. Snow drifted considerably, however, and nearly all county roads which are not "raised" are full of snow, making them impassable.

Water Impoundment:

All lakes and ponds are frozen over as yet, hence no change in water levels.

HEADQUARTERS: (See Supplement Sheet):

WINDBREAK AND LANDSCAPE PLANTING:

A total for the winter of 210 red cedar trees have been transferred from the Missouri River bottoms as well as a total of 32 green ash. No American Elm has been transferred as yet. Salvage lumber was used in constructing windbreaks about the red cedar trees which will also tend to keep down transpiration the first summer while the roots are getting readjusted.

Distribution of these plantings were made as follows:

<u>Native Cedar:</u>	66 at Entrance Gate to Highway
	93 at Refuge Headquarters
	47 at Sub-Headquarters

<u>Green Ash:</u>	32 at Headquarters
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STOCK GUARDS:

The nine stock guards placed on the refuge boundary worked fine during January but during February several of them drifted full of snow and thus paved the way for more stock in to the refuge. However, with the thaw towards the end of the month the guards are again in a workable condition.

HEADQUARTERS:

The hot water pipe froze up in the refuge dwelling house during one of the coldest spells in February but it was thawed out before any damage was done. This pipe, it was discovered, came in direct contact with a roof-air vent and same was remedied and more insulation added.

Miscellaneous work about the headquarters consisted of painting the work benches in the shop and building doors for the existing tool cabinets as well as constructing another miscellaneous tool cabinet in the tool room.

No other damage was done to any of the headquarters plumbing by the cold weather of the winter months. Four stoves well kept fired constantly in the Service Building throughout the coldest weather and the sewer pipes as well as the water have been kept open so far.

LOADING AND UNLOADING RAMPS:

The loading and unloading ramps which were previously constructed were filled with earth and gravel and are now ready for operation during the spring planting season. These ramps are so located that they can be used for both fire suppression as well as farming and so forth and should prove a labor saving as well as equipment saving investment.

UPLAND GAME BIRD FEEDING:

The feeding of upland game birds has continued through February and through feeding we have been able to retain almost 100% survival of all birds. We did find, however, three dead Hungarian partridges during the winter but no birds of other species. The birds did not tame to speak of and for this reason survived predation remarkably. Only one instance was found where a coyote had killed and eaten a partridge. The reason for low coyote predation is partially accounted for by the presence of a fairly numerous "crop" of jack rabbits. Many instances were noted where coyotes had overtaken rabbits and devoured them. One instance was noted where a rabbit had been killed and not eaten, apparently being killed for the sport of it. Table of feed allotted and feed taken by birds during the winter is presented herewith as

SHELTER AND FEEDER REPORT FOR

WINTER, 1937-38

Food Taken by Birds During the											Total Feed taken during				Shelters used by:									
Shelter & Feeder No.:		Month of: (in quarts)									Winter													
		DECEMBER			JANUARY			FEBRUARY																
		Corn:	Barley:	Screenings:	Corn:	Barley:	Screenings:	Corn:	Barley:	Screenings:	Corn:	Barley:	Screenings:											
1	:	0	:	0	:	6	:	16	:	12	:	0	:	0	:	0	:	6	:	16	:	12	:	Hungarian Partridge
3	:	0	:	0	:	Feeder Transferred:					:	0	:	0	:	0	:	0	:	0	:	0	:	Nothing
4	:	4	:	4	:	0	:	0	:	0	:	0	:	0	:	0	:	4	:	4	:	4	:	Nothing -
5	:	0	:	0	:	0	:	0	:	0	:	1	:	2	:	2	:	1	:	2	:	2	:	Nothing
5A	:	0	:	0	:	Horses took feed					:	0	:	0	:	0	:	0	:	0	:	0	:	Nothing
6	:	4	:	4	:	4	:	0	:	0	:	12	:	0	:	2	:	20	:	4	:	6	:	Nothing
7	:	0	:	0	:	6	:	3	:	0	:	0	:	0	:	0	:	6	:	3	:	4	:	Nothing
8	:	8	:	4	:	6	:	4	:	4	:	6	:	4	:	6	:	20	:	12	:	14	:	Sharptail Grouse & Hungarian Partridge
9	:	8	:	8	:	2	:	0	:	0	:	0	:	0	:	0	:	10	:	8	:	8	:	Sharptail Grouse
10	:	0	:	0	:	0	:	0	:	2	:	0	:	0	:	0	:	0	:	00	:	2	:	Nothing
11	:	4	:	4	:	6	:	0	:	0	:	0	:	0	:	0	:	10	:	4	:	4	:	Nothing
12	:	0	:	0	:	2	:	0	:	0	:	1	:	6	:	4	:	3	:	6	:	4	:	Hungarian Partridge
14	:	0	:	4	:	6	:	0	:	0	:	0	:	0	:	0	:	6	:	4	:	0	:	Nothing
15	:	0	:	0	:	0	:	0	:	0	:	0	:	0	:	0	:	0	:	0	:	0	:	Nothing
16	:	8	:	4	:	12	:	0	:	1	:	0	:	0	:	0	:	20	:	4	:	5	:	Sharptail Grouse
17	:	4	:	0	:	8	:	4	:	1	:	12	:	0	:	4	:	24	:	4	:	5	:	Sharptail Grouse
18	:	4	:	4	:	8	:	0	:	1	:	10	:	0	:	4	:	22	:	4	:	5	:	Sharptail Grouse
19	:	0	:	16	:	1	:	1	:	1	:	0	:	0	:	0	:	1	:	17	:	3	:	Sharptail Grouse
20	:	8	:	4	:	3	:	1	:	0	:	0	:	0	:	0	:	11	:	5	:	4	:	Sharptail Grouse
21	:	8	:	8	:	12	:	6	:	3	:	4	:	0	:	2	:	24	:	14	:	5	:	Sharptail Grouse
22	:	8	:	8	:	9	:	9	:	6	:	6	:	0	:	2	:	23	:	17	:	8	:	Sharptail Grouse
23	:	14	:	12	:	12	:	4	:	0	:	2	:	0	:	6	:	28	:	16	:	14	:	Sharptail Grouse
24	:	10	:	8	:	12	:	3	:	3	:	12	:	0	:	12	:	34	:	11	:	19	:	Sharptail Grouse
25B	:	8	:	4	:	13	:	6	:	3	:	5	:	0	:	0	:	26	:	10	:	7	:	Sharptail Grouse
26	:	8	:	20	:	16	:	18	:	0	:	14	:	0	:	24	:	38	:	38	:	24	:	Sharptail Grouse
27	:	16	:	16	:	20	:	20	:	2	:	18	:	0	:	24	:	54	:	36	:	30	:	Sharptail Grouse
28	:	10	:	10	:	12	:	12	:	2	:	2	:	0	:	13	:	24	:	22	:	17	:	Sharptail Grouse
29	:	Not installed			:	5	:	6	:	0	:	0	:	0	:	0	:	5	:	6	:	0	:	Sharptail Grouse
30	:	Not installed			:	4	:	6	:	2	:	0	:	0	:	0	:	4	:	6	:	2	:	Sharptail Grouse
31	:	Not installed			:	6	:	4	:	0	:	12	:	0	:	16	:	18	:	4	:	16	:	Sharptail Grouse & Hungarian Partridge
32	:	Not installed			:	4	:	6	:	0	:	12	:	0	:	16	:	16	:	6	:	16	:	Sharptail Grouse
33	:	Not installed			:	12	:	6	:	4	:	0	:	0	:	0	:	12	:	6	:	4	:	Sharptail Grouse
36	:	Not installed			:	0	:	0	:	1	:	0	:	0	:	0	:	0	:	0	:	1	:	Pheasants
39	:	4	:	4	:	10	:	4	:	4	:	0	:	0	:	0	:	14	:	8	:	8	:	Nothing
41	:	0	:	0	:	4	:	4	:	0	:	0	:	0	:	0	:	4	:	4	:	0	:	Nothing
42	:	0	:	0	:	6	:	4	:	1	:	0	:	0	:	0	:	6	:	4	:	1	:	Hungarian Partridge
19A	:	Not installed			:	6	:	1	:	1	:	0	:	0	:	0	:	6	:	1	:	1	:	Nothing
Totals	:	138	:	142	:	64	:	233	:	148	:	54	:	129	:	12	:	500	:	302	:	255	:	

Where food has been taken from unused shelters and feeders rabbits are probable cause.

well as the shelters used by birds and species using same.

TRUCK TRAIL CONSTRUCTION:

Approximately one half mile of road was graveled during the month. This small amount was due to the moving of the shovel and the opening of a new pit, the overburden of which was used in the construction of artificial islands on the east end of Medicine Lake near the secondary headquarters lookout tower.

The gravel from this pit is running fairly fine and it is doubtful if the gravel will set up any too good and may have to be supplemented with a light coat of heavier gravel.

UPLAND GAME BIRD SHELTERS AND FEEDERS:

The upland game bird shelters and feeders have worked satisfactorily during the winter with the exception of some of them getting snowed under several times. This, however, happened with only a few of the shelters thus leaving the majority to take up the extra duty until the covered shelters could be cleaned out.

CONSTRUCTION OF ARTIFICIAL ISLANDS:

Small island construction has been completed in the Dam No. 11 area and description of same appears in the January Narrative.

With the moving of the graveling operation to the new location just west of the secondary headquarters tower all over-burden was used in the construction of elongated islands along the shore of Medicine Lake, far enough out from the shore so as to be surrounded with water when the lake is partially filled. At the present water level the islands are surrounded with water. These islands will not have a great deal of freeboard when the lake is full but it will be a rare occasion to see this lake full of water for any length of time. ✓ zwc

PREDATOR CONTROL:

A few traps were set for coyotes during the month with the result that one animal was caught. It has been so cold that the operation of traps has been difficult to say least. The use of poison was considered but due to the fact that this is a more or less densely populated section it was decided that it would be inadvisable to do so. Coyotes have been thinned out considerably during the winter, however, with considerable trapping on the edges of the refuge by private trappers. Some hunting by airplane has been resorted to in the vicinity bordering the boundary of the area and other outside territory, thus eliminating some of the migration of coyotes into the area.

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BUILDING OF SNOW FENCE:

Some few snow fence sections from salvage lumber were constructed during the month but salvage lumber soon ran out and construction was then limited to the piling up of snow with the blade grader along the edges of the truck trail. Several miles of the truck trail proved impassable without the aid of tractor and grader to clean it off. Considerable snow was piled up around the headquarters where the sodding operation will take place this spring. By this means considerable moisture was stored up in the soil which would have otherwise not been available.

AGRICULTURAL CROP PLAN FOR THE REFUGE:

Plans are being made to place the agricultural crop plan in operation this spring. Equipment is being overhauled and cleaned up. Seed tests are being run in order to determine germination percentage of the seed available for planting.

ACQUATIC PLANTING PROGRAM:

An aquatic planting program has been compiled and consists of the planting and transplanting of native marsh and aquatic species such as prairie bulrush (*S. paludosis*), smartweed (*Muhlenbergia* Spp.), Cordgrass (*Spartina michauxiana*),

hardstem bulrush (*S. acutus*), sago pondweed, (*P. pectinatus*), and wild millet (*Echinochloa Crus-gali*).

VEGETATIVE MAPPING PROGRAM:

A vegetative mapping program is being planned for the summer months. All needed equipment is being negotiated for as well as picking the CCC boys who will do the work. It is also planned to give these boys one afternoon per week instructions on the use of their equipment, rudiments of surveying necessary and all basic work such as will be necessary to know when they start field work. To date we have seven prospects for the work with a final crew of four in mind.

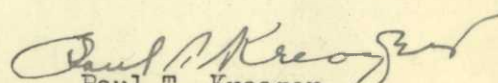
PLANT SPECIMENS:

Vegetative plant specimens collected during the summer of 1937 were prepared and shipped to the experiment station at Bozeman, Montana for indentification. This station kindly offered its services in this matter.

CCC PROJECTS DURING FEBRUARY:

<u>Job No.</u>	<u>Class No.</u>	<u>Description</u>	<u>Man-days</u>
5403	112	Garage (Fireproof partitions)	129
5403	112	Garage (Addition)	16
5408	131	Fencing	15
5408	131	Fencing (Snow)	178
5428	153	signs, markers and Monuments	90
5414	157	Loading Ramps	27
5411	202	Truck Trails (Graveling)	472
5412	703	General deanup	215
5426	706	Moving and Planting Trees	150
5415	703	Demolition Birdge	50
5405	903	Lake & Pond Development	697
5406	1023	Surveys	2
5431	907	Wild Life Feeding	54
5416	1026	Equipment Repair and Const- ruction	<u>118</u>
		Total Man-days	2213

Respectfully submitted,


Paul T. Kreager,
Refuge Manager.