ROUTING SLIP BRANCH OF WILDLIFE REFUGES DATE: _____ 195__

MR. SALYER YS

MR. KRUMMES

MR. DUMONT

MISS BAUM

SECTION OF HABITAT IMPROVEMENT:

~~MR. GRIESEN~~ REG

DR. BOURN

SECTION OF OPERATIONS:

MR. BALL

~~MR. REGAN~~ JDC

DR. MORLEY

SECTION OF LAND MANAGEMENT:

~~MR. ACKERKNECHT~~ CDA

STENOGRAPHERS:

NARATIVE REPORT

REFUGE: MEDICINE LAKE

PERIOD: SEPT - DEC., 1950

48

MEDICINE LAKE NATIONAL WILDLIFE REFUGE
MEDICINE LAKE, MONTANA

Narrative Report for the Period:

September 1 to December 31, 1950

REFUGE PERSONNEL

Gene H. Crawford, Refuge Manager

Bennie McEachern, Clerk-Typist

Norman Stringer, Maintenance-Man

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

TABLE OF CONTENTS

		PAGE
I.	GENERAL	
	A. Weather Conditions	1
	B. Water Conditions	1-2
	C. Fires	2
II.	WILDLIFE	
	A. Migratory Birds:	
	1. Population and Behavior	2-3
	2. Food and Cover	3
	3. Botulism	4
	B. Upland Game Birds:	
	1. Population and Behavior	4
	2. Food and Cover	4
	C. Big Game Animals	4-5
	D. Fur Animals, Predators, Rodents & Other Mammals	5-6
	E. Predaceous Birds	6
	F. Fish	6-7
III.	REFUGE DEVELOPMENT AND MAINTENANCE	
	A. Physical Development	7
	B. Maintenance	7
	C. Plantings	8
	D. Receipt of Seed and Nursery Stock	8
IV.	ECONOMIC USE OF REFUGE	
	A. Grazing	8
	B. Haying	8-9
	C. Fur Harvest	9
V.	FIELD INVESTIGATIONS AND APPLIED RESEARCH	9
VI.	PUBLIC RELATIONS	
	A. Recreational Uses	9
	B. Refuge Visitors	9-10
	C. Refuge Participation	10
	D. Hunting	10-11
	E. Violations	11
	PHOTOGRAPH SELECTION	12-16
	N. R. FORMS	

MEDICINE LAKE NATIONAL WILDLIFE REFUGE
MEDICINE LAKE, MONTANA

NARRATIVE REPORT FOR THE PERIOD:
September to December, 1950

- - - - - - - - - - -

I. GENERAL

A. Weather Conditions

We received a considerable amount of precipitation in the form of rain in September. Cool, cloudy weather with near freezing temperatures nightly followed the rains. Farmers in the county generally had completed their grain harvest and those remaining waited impatiently for warmer weather. Some did not complete their grain harvest operations until October 15th. Indian summer weather prevailed for the most part, during the month of October.

On the 7th of November the weather turned colder and by the 10th the entire water areas of the refuge were covered with a thin layer of ice. During the middle part of November the mercury climbed to above freezing temperatures. While the eastern half of the nation was digging out from one of the worst blizzards in history Sheridan County residents "basked" in the warm sunshine. Sub-zero temperatures followed this as the mercury skidded to 18 below on Thanksgiving night for the coldest day of the season. On December 6th the weather bureau thermometer at the office recorded a low of 31 below zero. The weather during the last three weeks of December continued its weekly turn from bitter cold one week to mild temperatures the next.

MONTH	PRECIPITATION	SNOWFALL	MAX. TEMP.	MIN. TEMP.
September	2.32	---	96	25
October	.50	---	75	16
November	.10	---	47	-18
December	.21	2"	39	-31
TOTALS:	3.13	2"	EXTREMES: 96	-31

B. Water Conditions

The run-off last spring from snow melt filled all impoundments to spill level. This, coupled with above normal precipitation and below normal temperatures during the summer months, assisted us greatly in maintaining the water levels at all impoundments and marsh areas.

Generally in these parts, September is an exceptionally dry period. This year during the month of September we were blessed with 2.32 inches of rainfall. This not only helped to maintain our water levels, but cooled off the atmosphere which lessened

evaporation.

As the year came to a close there were less than two inches of snow on the ground. While we are inconvenienced by deep snow, we are hopeful that before spring, we will have received sufficient snowfall to enable us to obtain an ample spring run-off so as to replenish our water supply.

The status of the present water levels for all units are as follows:

UNIT	DEC. 1949 LEVELS	DEC. 1950 LEVELS	APPROVED 1950 LEVELS
* Katy's Lake	Below Guage	Below Guage	1953.00
No. 12 Unit	1952.04	1953.40	1954.00
No. 11 Unit	Below Guage	1951.50	1952.54
No. 10 Unit	1943.64	1944.50	1945.50
No. 6 (Homestead)	1935.40	1936.70	1938.00
No. 4 (Medicine Lake)	1941.40	1942.20	1943.00

* Spring run-off held from Katy's Lake as a botulism control measure

C. Fires

The county commissioners established a closed fire season from May 15th to November 1st and this no doubt prevented many a prairie fire in the district.

We received far more rainfall than usual during the growing season and all range grasses and other plants made a tremendous growth. As this heavy growth of foliage cured, it presented us with quite a fire hazard. Early fall rains in September and an early freeze-up, no doubt assisted us in preventing fires.

The fire truck and other fire fighting equipment were maintained in A-1 condition. However, no fires occured on or near the refuge during this period.

II. WILDLIFE

A. Migratory Birds

1. Population and Behavior

The favorable warm weather ended abruptly on September 27th - 28th. At that time the following species put in an appearance this fall for the first time: White-fronted Geese, Lessor Scaup, Buffleheads and Sandhill Crane.

We experienced cloudy weather accompanied by rain, that brought one-half inch of moisture to the area on October 6th and 7th. Freezing temperatures nightly followed the rain. This brought in large numbers of ducks, especially Mallards from the North. Then too,

large flocks of Sandhill Crane started to appear. Five hundred of these remained over-night at the Homestead Area on October 11th. No Sandhill Crane were observed after the 22nd. As near as we could determine 7,000 Crane migrated South through here between September 28th and October 22nd.

White-fronted Geese were not as numerous as last year. This fall the peak numbers of these birds were 3,500 registered on October 21st, while last year on October 25th the area had a population of 5,000. All White-fronted Geese disappeared this year on November 8th.

On November 7th we found the duck and goose population at its peak. At that time, we found 333,100 birds using refuge waters, of which 225,000 were Mallards. No Coot or Blue-winged Teal were observed. Apparently these two species had moved out the day before.

All Gulls, Double-crested Cormorant, White Pelicans, Shore Birds and Grebes, with the exception of a few Western Grebe, disappeared on November 2nd.

The water areas started to freeze over on November 7th and by the 10th all areas were covered with a thin layer of ice, except for a few holes 30,000 Mallards were keeping open on the south side of Medicine Lake and Homestead Lake. These late Mallards migrated during the night of the 19th when the minimum temperature registered 15 degrees below zero.

Comparing this year's fall migration with last years, we find that on October 30, 1949 the waterfowl concentration reached its peak with a population of 200,000 birds; whereas this year on November 7th the area had a population of 333,100 ducks and geese.

2. Food and Cover

Emergent vegetation made a splendid growth this year in all impoundments towards the east end of the refuge, Homestead area and the west end of Medicine Lake proper. Of the aquatic plants, Sago Pondweed was by far, in greater abundance than any other growth. This valuable food plant attracted thousands of early migrants to the area. This year due to increased precipitation and higher water levels, prairie bulrush beds in the Gaffney Lake area, Pond No. 10 and at Homestead, produced a large seed crop.

Growing conditions for grain crops were one of the best in many years and as a result farming operations on the refuge produced a bumper crop of corn, wheat and barley. Of this 963 bushels of corn and 2,450 bushels of barley were left in fields 1, 4, 14, 17, 19, 20, 21, 22 and 25 for fall migrating waterfowl and upland game birds.

3. Botulism

No botulism was observed on the area this year.

B. Upland Game Birds

1. Population and Behavior

The severe winter of 1949-1950 took a heavy toll of breeding birds in this general area. However, here on the refuge we carried on a heavy upland game bird feeding program and as a result, the birds came through the winter in good condition.

The cold, wet spring weather was unfavorable for nesting birds and early broods were much smaller than usual.

During the fall upland game bird season, large numbers of Pheasants, Sharp-tailed Grouse and a few Hungarian Partridge moved in to refuge areas where they were afforded protection and food.

On December 31st the refuge had a population of 1,800 Ring-necked Pheasants, 2,000 Sharp-tailed Grouse and 300 Hungarian Partridge. With scarcely any snow on the ground the Sharp-tails and Hungarian Partridge were for the most part, evenly distributed over the refuge. While the Pheasants were concentrated in such places as tree groves and sweet clover patches.

2. Food and Cover

The Russian Olive tree groves supplied both food and cover for the grouse and pheasants. Then too, large numbers of pheasants and partridge were attracted to the sweet clover and weed patches as a source of food and cover.

In addition to the natural food, we made available large quantities of eared corn and barley. The corn and barley was placed at all game bird shelters and tree groves.

C. Big Game Animals

White-tailed Deer have increased to such a degree in this part of the state that the Fish and Game Commission declared an open season in Sheridan, Roosevelt and Daniels Counties from October 15th to the 17th on antlered deer. Here on the refuge deer are a common sight. Hardly a trip is made over the area but what we see from two to half dozen deer.

In this general area, the White-tails seem to prefer the upland areas on the south side of the lake, east end of the refuge and the rough terrain of the Sandhills.

The 25 head of Antelope that we were supposed to receive from the State last winter for transplanting on the refuge, did

not materialize. We ended up transporting 20 head to the Desert Game Range and that was "it". Recently we were advised by the State Fish and Game Commission that they were scaling down their Antelope trapping this winter and that most of the animals captured in their traps would be liberated in the western part of the state. However, they did mention that if we were in a position to transport our quota of 25 head, most likely they would have them available for us some time before spring.

On December 13th two local game wardens brought us in a hand-reared 2 year old antelope doe. She has become quite a pet and an attraction to people visiting headquarters. The Fort Peck game warden has advised us that on his next trip over he will bring us a pet antelope buck from the Jordan country. Then we will be in the antelope business, but starting from "scratch", you might say!

D. Fur Animals, Predators, Rodents and Other Mammals

Mink are more numerous than we first thought. In some areas they have almost eliminated the muskrat population. Last winter a considerable number of muskrat froze-out in the shallow marsh areas. Late in the summer and fall months numerous rats moved in to refuge waters from Big Muddy Creek and other outlying districts. Beaver activity was observed during August and also September at the Homestead area. A considerable number of willows and cottonwood trees were cut down by them. They constructed a small dam in near by Big Muddy Creek. However, they moved down stream prior to the fall freeze-up.

We do have two large beaver cashes on the east end of the main lake. One in the north east arm and the other in the south east arm of the lake. These beaver are doing no damage in their present locations. But they should be removed by trapping in the near future as they will eventually move around to some of the cottonwood tree groves and do extensive damage.

Skunks, Badgers and Weasel are increasing very rapidly and some means of control are necessary. Trappers can not make expenses with the present low price of these furs so the only alternative is for refuge personnel to destroy them by shooting.

Only two coyotes have been observed on the refuge this period.

A trapping permit was issued a local trapper for the taking of 30 Mink and 150 Muskrats on a 50-50 share basis. As the state mink trapping season closed on December 31st, the trapper spent the major portion of his time during the month of December on mink. By the end of the month he had caught 28 mink and 66 muskrats.

During the months of January, February and March he should be able to catch his quota of 150 rats. However, we have found

the mink population much larger than we had first thought and in some areas the mink have practically eliminated the muskrat population. We are going to make a close check on the muskrat population during the month of January and if the muskrats are in short supply we shall cease trapping operations.

The estimated population is as follows:

Muskrat	800
Mink	60
Beaver	8
Skunk	1,000
Weasel	300
Badger	200

E. Predaceous Birds

Approximately 2,000 Crows migrated through during the fall migration. Magpies, while in very small numbers have been present all during this period. Golden Eagles have been quite destructive to the pheasant population along the Big Muddy Creek from Medicine Lake to Plentywood but only an occasional eagle has been observed on the refuge this period.

Four Great Horned Owls were shot around tree groves by refuge personnel during the period to prevent them from doing damage to grouse and pheasant population.

Limited numbers of American Rough-leg Hawks and Short-eared Owls have been present during the period. For the most part, their diet has been meadow mice.

F. Fish

A commercial Carp seining permit was issued to the Gray Fish Company of Madison, Wisconsin. This outfit moved in just before the Christmas holidays with their equipment, including 7,000 feet of seine and a six man crew. They made one haul on the south side of the lake in the neighborhood of Young's Island. Net results; 500 pounds of carp, some weighing ten and twelve pounds. Also in their nets were hundreds of small Crappies, some weighing 10 ounces. All of the Crappies were returned to refuge waters. After this, the seining crew moved over to the north east arm of the lake and started to cut holes in the ice for another haul. At that point they broke down their ice cutting machine so returned to Madison, Wisconsin.

All these people intended to do before Christmas was to make a test to determine the quantity and quality of carp in the lake.

On December 26th I received a letter from Mr. Gray to the effect that they would be back later in the winter.

During the month of January they will be busy moving fish from South Dakota to eastern markets. Mr. Gray advised that he would like to seine the lake in open water, but the only trouble is that the production in other parts of the country during the open water period is such that it just would not pay to try and move the carp from this section of the country to eastern markets. However, if they can move the carp during the months of February and March they will be all right.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

Two concrete auto gates were constructed during the month of September in the patrol trail near the Schmitz ranch. These auto gates replaced two wire gates which were somewhat of a nuisance. Then too, this trail is considered a county road by local residents and all have complained about them and would invariably leave them open allowing stock to enter the refuge.

During the month of October we obtained the use of a RD-8 Caterpillar tractor and angle dozer from the Soil Conservation District and a small motor patrol from a neighbor without charge and actually rebuilt portions of the patrol trail on the south side of the lake. This section of the patrol trail had been abandoned several years ago. In addition to filling in the washouts, culvert pipes were placed at those locations to prevent the reoccurance of washouts during periods of spring run-off. Now we can start at headquarters with our pickup truck and drive completely around the lake.

B. Maintenance

Other jobs accomplished this period consisted of repairing boundary fence, counting cattle out of grazing units, measuring hay stacks, grading patrol trails, hauling 40 tons of coal from the railroad station to headquarters, repairing rubble masonry spillway at the Homestead area and repairing and constructing refuge signs. In addition to this, we sacked and shipped crested wheatgrass seed to the following refuges:

Turnbull Refuge	1,000 Pounds
Tule Lake	1,000 Pounds
Deer Flat	300 Pounds
Bowdoin	200 Pounds
Minidoka	3,500 Pounds
TOTAL	6,000 Pounds

We still have on hand 4,000 pounds of crested wheatgrass seed that is surplus to our needs that could be shipped to areas having need for this seed.

C. Plantings

1. Aquatic and Marsh Plantings

None

2. Trees and Shrubs

None

3. Upland Herbaceous Plants

None

4. Cultivated Crops

Grain crops grown on the refuge under share-crop agreements produced far more than the average annual yield of corn, wheat and barley. Of the Government's share 3,470 bushels of barley was delivered to refuge bins, 510 bushels of wheat and 100 bushels of eared corn. Fort Peck and Bowdoin Refuges received 1,690 bushels of this for winter feeding of migrating waterfowl.

Two hundred and eighty acres of abandoned farm land were seeded this year to grain by share-croppers. This was in addition to our permanent fields. The Government received 20% of the crop. At the conclusion of the grain harvest, this land was seeded by the permittees to crested wheatgrass at 8 pounds of seed to the acre. We are pleased to report that all such plantings were completed this fall before freeze-up.

D. Receipt of seed and Nursery Stock

No seed or nursery stock was received during the period.

IV. ECONOMIC USE OF REFUGE

A. Grazing

This was a banner year for grass. Nineteen permits were issued for the summer grazing of cattle. This amounted to a total of 2,555 Animal Use Months utilized for a total income of $1,277.50. All grazing units showed no signs of being overgrazed. Matter of fact all units could have supported additional stock, but we were reluctant to do so, as we always want to keep a protective cover on the soil to prevent wind erosion and to afford cover for nesting birds.

B. Haying

This was a good year for farmers to wear out their old mowers; farmers and ranchers have all mentioned that they had

never seen such abundance of hay. Twenty-four hay cutting permits were issued and 890.75 tons of hay harvested for a total income of $1,705.77.

C. Fur Harvest

Our trapping operations have been mentioned previously in this report. No furs has been shipped to the Seattle Fur Exchange todate.

V. FIELD INVESTIGATIONS AND APPLIED RESEARCH

No field investigations or applied research were undertaken this period.

We are off to a good start with our Canada Goose nesting project. Last year the old hand-reared pinioned birds raised a "crop" of 29 goslings. This year they produced a crop of 32. Ten of this year's goslings moved out sometime between October 10th-15th with a flock of wild birds. The other 22 goslings remained with the old geese in the goose pen a short distance west of the service building until November 18th. At that time it became necessary to place them in their winter quarters at the barn. As we drove the old birds up to the enclosure at the barn, 15 of the 22 goslings winged their way south. The remaining 7 goslings flew up to the barn with the old adult birds. As they refused to leave, we later captured them and clipped their wing feathers in order to ground them.

It will be interesting to see how many of the 1949 and 1950 crop of geese that migrated south return to the lake nest spring.

VI. PUBLIC RELATIONS

A. Recreational Uses

After the first week in September cool weather with near freezing temperatures nightly discouraged picnicking, boating or swimming at either the Medicine Lake or Homestead recreational areas. As a result, very little use was made of them this period.

B. Refuge Visitors

NAME	FROM	DATE	PURPOSE
Bill White	Ft. Peck, Mont.	9-5-50	Grain Transfer
Jack Owens	Helena, Montana	9-18-50	Fish & Game
K. F. Roahen	Billings, Mont.	9-26-50	Law Enforcement
Watson Beed	Ft. Peck, Mont.	10-2-50	Refuge Inspection
K. F. MacDonald	Portland, Oregon	10-2-50	Refuge Inspection
J. Clark Salyer,II	Washington, D.C.	10-2-50	Refuge Inspection

Refuge Visitors (Continued)

NAME	FROM	DATE	PURPOSE
H. Gartside	Sidney, Montana	10-6-50	Law Enforcement
K. F. Roahen	Billings, Mont.	10-11-50	Law Enforcement
Wm. E. DuBeau	Ft. Peck, Mont.	10-29-50	Law Enforcement
P. F. Quiring	Plentywood, Mont.	10-29-50	Law Enforcement
Eddie DuBeau	Ft. Peck, Mont.	11-6-50	Law Enforcement
P. F. Quiring	Plentywood, Mont.	11-6-50	Law Enforcement
H. Gartside	Sidney, Montana	11-8-50	Law Enforcement
Norman Haugness	Bowdoin Refuge	11-27-50	Equipment Trans.
Earl Sayler	Havre, Montana	12-6-50	P.& R. Control
H. Gartside	Sidney, Montana	12-9-50	Law Enforcement
Wm. E. DuBeau	Ft. Peck, Mont.	12-12-50	Law Enforcement
P. F. Quiring	Plentywood, Mont.	12-12-50	Law Enforcement

C. Refuge Participation

1. September 20th - I attended a sportsmen's meeting and party for Game Warden E. M. Krost in Plentywood, Montana, during the evening. Mr. Krost, long time Game Warden in this district retired October 1st.

2. November 20th - Showed wildlife films during the evening in Culbertson, Montana to the High School student body and local womens club.

3. November 28th - During the evening I attended a meeting of the local chapter of the Izaak Walton League in Plentywood, Montana.

4. December 17th - Attended a meeting of the north and eastern Montana Sportsmen's Association in Wolf Point, Montana in the afternoon.

D. Hunting

The 1950 migratory waterfowl hunting season consisted of two hunting periods of 18 days each. The dates for the two periods were: October 6th to October 23rd and November 17th to December 4th, both dates inclusive.

The first installment found duck hunting only mediocre. The early season waterfowl targets were local ducks, not the migratory birds. The first two days of the season we experienced cold, cloudy, rainy weather. Very few sportsmen failed to get in their shots. A number of hunters checked on the public shooting area and out lying districts connected for their limits of ducks.

After the first two days of the season the weather remained clear, calm and sunny to the end of the first half. This kept the birds winging at high levels, just out of reach of their "long toms".

Most hunters contacted were not disappointed with the poor shooting conditions. Most all mentioned that the "northerner's would be down during the second half of the season". However, this was not the case. We experienced cold freezing weather earlier than usual and as a result, the large migration of ducks and geese moved through these parts on the days between the split season.

As mentioned previously in this report, all water areas froze over with a layer of ice by November 10th. At that time all migratory birds winged their way south with the exception of 30,000 Mallards that kept holes open in the ice on the south side of Medicine Lake and the Homestead area. All of these moved out by November 19th. A hard blow to the local hunters.

E. Violations

At periods when time would permit from our heavy maintenance work load, all three members of the staff were out on patrol during the migratory waterfowl hunting season. Matter of fact, a considerable amount of time was spent on Saturdays and Sundays on law enforcement. We patrolled the public shooting area and areas adjacent to the refuge. It is a known fact that there are a few individuals in this district that will shoot a duck or a goose at any time or place. But the mere presence of refuge personnel, in the field on patrol, eliminated this. At no time did we find any hunters out of line.

Respectfully submitted,

Gene H. Crawford

Gene H. Crawford
Refuge Manager

Mail

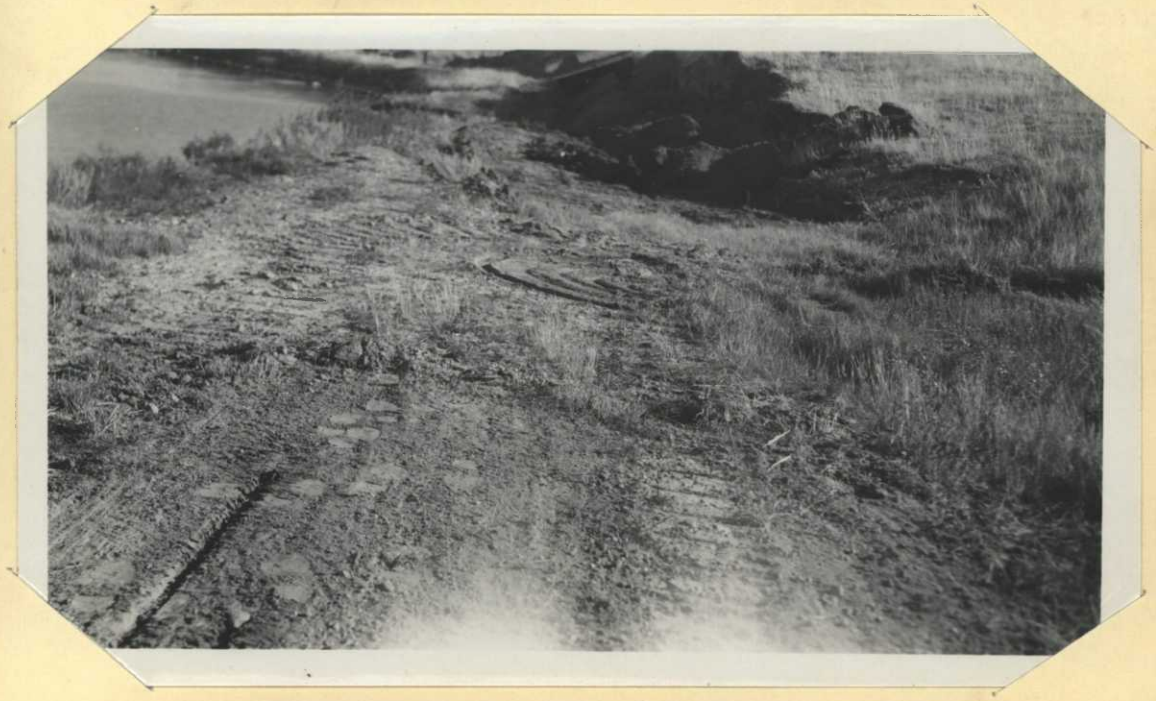
Report Submitted: January 5, 1951

Approved - Regional Office:

By: Samuel J. Hutchinson

Date: Jan. 11, 1951

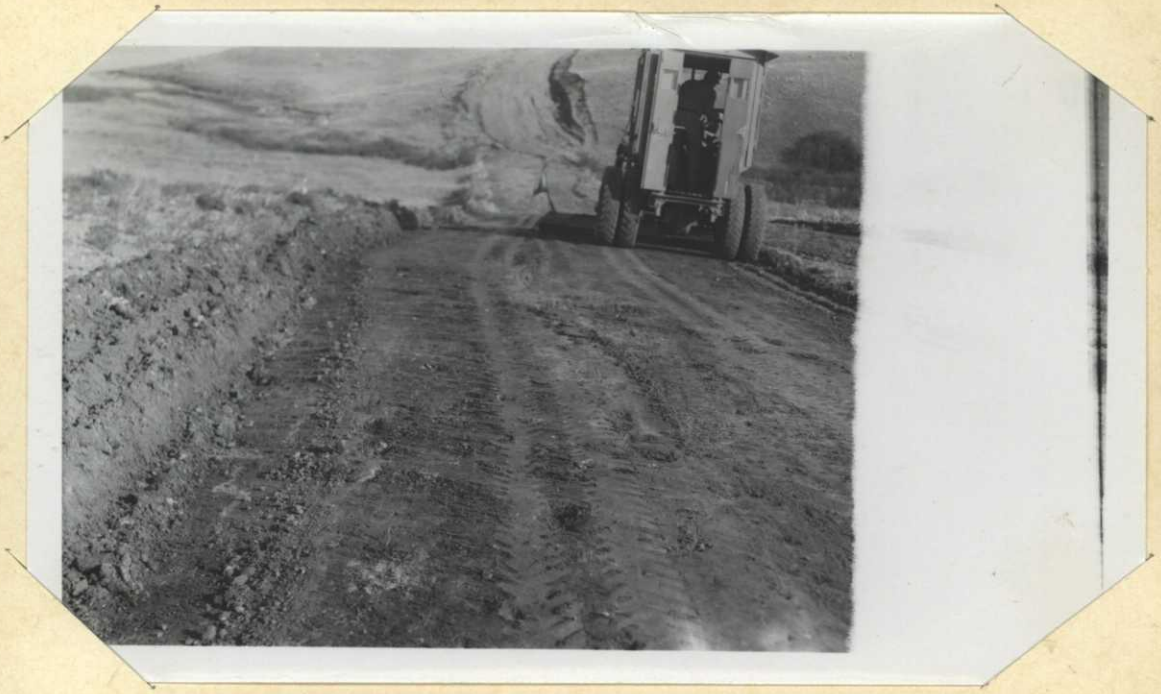
Part of this year's crop of goslings from our flock of hand-reared, pinioned geese.
No. 553 9-15-50



The Soil Conservation Districts RD-8 Caterpillar tractor & angle dozer filling in washouts and removing dirt slides in patrol trail.
No. 554 10-24-50

Repairing patrol trail on the south side of the lake.
No. 555 10-24-50

Filling in washout in patrol trail.
No. 556 10-24-50

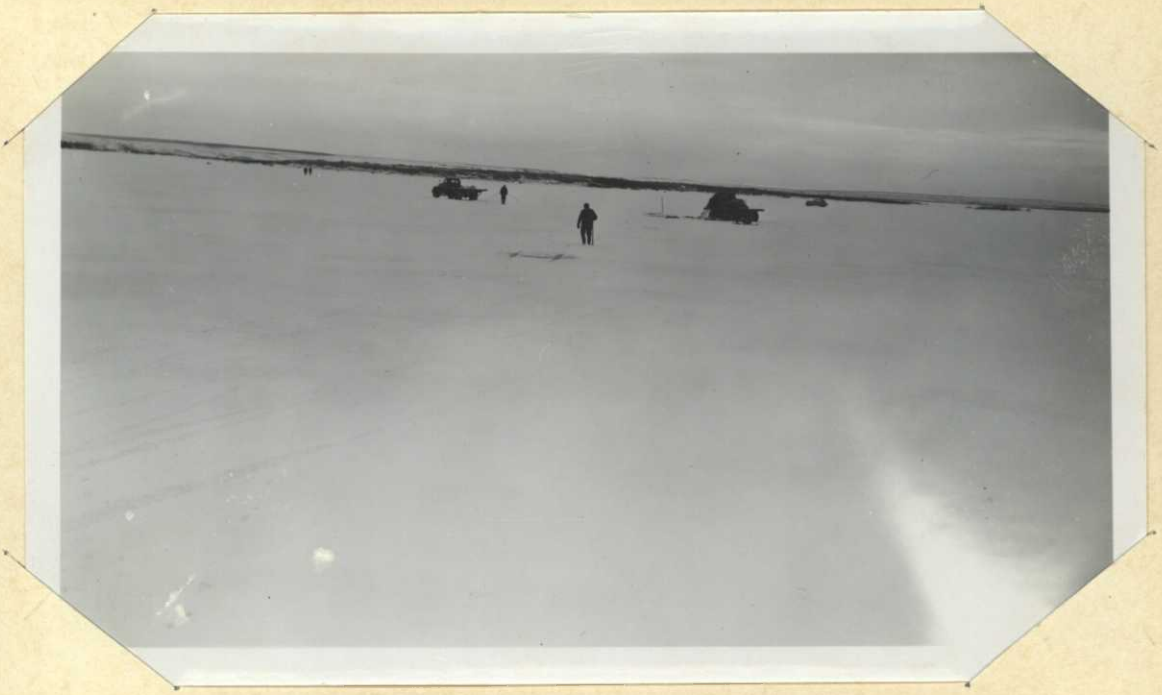


Blading patrol trail on the South side of the Lake.
No. 557 10-26-50

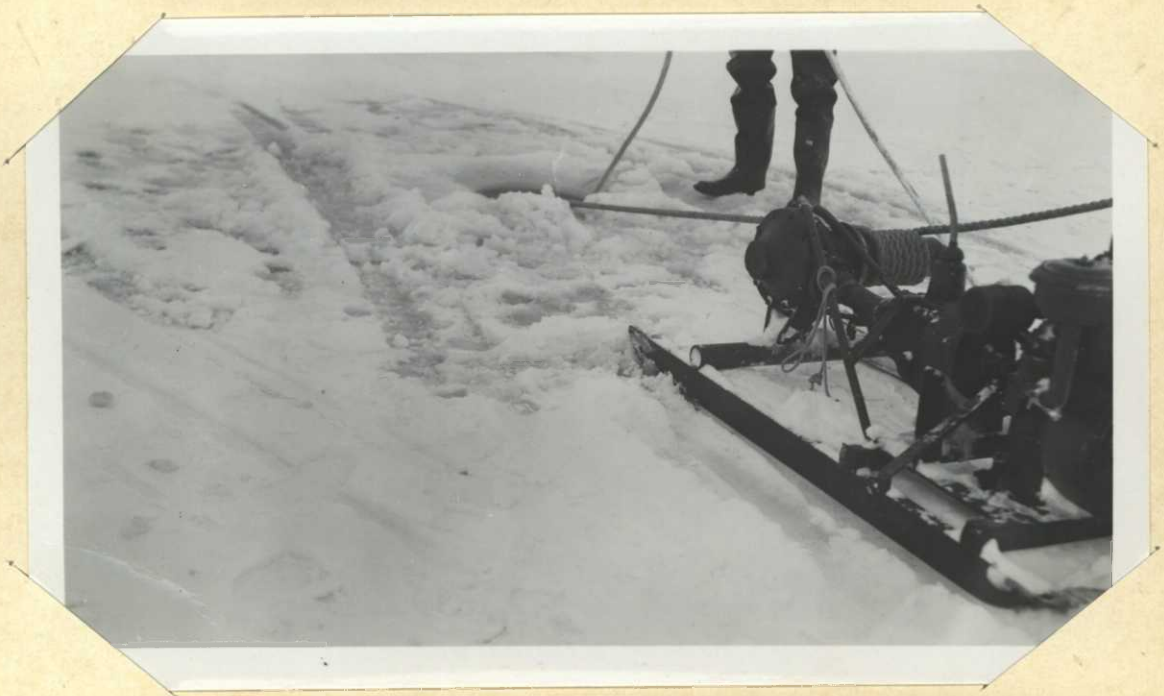
Harvesting prairie bulrush seed.
No. 558 11-16-50

The hand-reared pinioned geese in their winter quarters at the barn.
No. 559 11-18-50

Three crappies which we removed from the carp seiners nets. Each of these weighed 10 ounces.
No. 560 12-12-50



Carp seining crew placing their nets under the ice. No. 561 12-12-50



The carp seining crew machine drilled 18 inch holes through the 20 inch layer of ice and pulled their nets with the use of a small gasoline motor & winch.
No.562 12-12-50

WATERFOWL

Refuge Medicine Lake Months of September to December 1950

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan			none						
II. Geese:									
Canada goose	200	10-5	2000	11-7	2000	11-9			3000
Cackling goose									
Brant									
White-fronted goose	1200	9-27	3500	10-31	50	11-8			5000
Snow goose	200	10-5	200	10-5	100	11-6			500
Blue goose									
III. Ducks:									
Mallard			225,000	11-7	30,000	11-19			300,000
Black duck									
Gadwall			30,000	11-7	30,000	11-8			50,000
Baldpate			15,000	11-7	15,000	11-8			25,000
Pintail			35,000	11-7	35,000	11-8			60,000
Green-winged teal			5,000	10-5	1,000	11-8			7,500
Blue-winged teal			22,000	9-28	100	10-31			22,000
Cinnamon teal									
Shoveller			12,000	9-17	10,000	11-8			25,000
Wood duck									
Redhead			5,000	10-5	1,000	11-8			5,000
Ring-necked duck									
Canvas-back			5,000	10-5	3,000	11-8			5,000
Scaup	3	9-27	1,000	10-21	500	11-7			1,000
Golden-eye	50	~~10-8~~ 9-27	100	10-31	100	10-31			100
Buffle-head	50	10-5	100	10-31	100	10-31			100
Ruddy duck			5,000	10-5	5,000	11-7			5,000
IV. Coot:									
			3,000	9-28	2,000	11-6			3,000

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 516,200

Peak waterfowl numbers 333,000

Areas used by concentrations No.12 Pond, Medicine Lake proper & Homestead Lake.

Principal nesting areas this season _____

Reported by Gene D. Crawford

INSTRUCTIONS

(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) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: 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 in the reporting period.

(5) Young Produced: 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.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

2338

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Medicine Lake Months of September to December 1950

(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. Water and Marsh Birds:										
Sandhill Crane	50	9-27	1500	9-27	75	10-22				7000
White pelican			1000	9-30	3	11-2				1000
Great Blue Heron			50	9-30	1	11-2				100
Black Crowned N. Heron			500	9-30	20	11-2				500
Western Grebe			1000	9-30	2	11-6				1000
Eared Grebe			2000	9-30	50	11-2				2000
Pied Billed Grebe			200	9-30	10	11-2				200
- Double Crested Cormorant			300	9-30	10	11-2				300
II. Shorebirds, Gulls and Terns:										
Western Willet										500
Gt. Yellow Lwgs										2000
L. " "										2000
Long billed Dowitcher										1500
Avocet										2000
Ring billed Gull										5000
Franklin's Gull										20000
California Gull										1000
Herring Gull										100

(over)

(1)	(2)		(3)		(4)	(5)	(6)
III. Doves and Pigeons:							
Mourning dove			300	8-15			500
White-winged dove							
IV. Predaceous Birds:							
Golden eagle	2	12-1	2	12-1			2
Duck hawk	2	10-20	2	10-20			2
Horned owl							6
Magpie							20
Raven							
Crow							2000
Artic Owl	1	11-30	2	12-1			4
Marsh Hawk							300
Am. Rough-Leg Hawk							100
Short eared owl							200

Reported by Gene H. Crawford

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 Gruiiformes)
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.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Medicine Lake Months of September to December, 194/50

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sharp-tailed Grouse									2000	
Hungarian Partridge									300	
Ring-necked pheasant									1800	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

Form NR-3
(June 1945)

BIG GAME

Refuge Medicine Lake Calendar Year 1950

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
Deer, white-tailed		6 to 8										25	12	

Remarks:

Reported by Lene H. Crawford

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each</u> <u>species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

116008

Form NR-5 DISEASE 1616

Refuge Medicine Lake Year 1950

Botulism

Period of outbreak _____

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		

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 None observed

Lead Poisoning or other Disease

Kind of disease _____

Species affected _____

Number Affected Species	Actual Count	Estimated

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks None observed

3-1756
Form NR-6
(April 1946)

FISH

Refuge Medicine Lake Year 1950

Species	Relative Abundance	Sport Fishing		Commercial Fishing		Restocking		Number removed for Restocking
		Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	

REMARKS: Refer to page (6) of this report.

3-1757
Form NR-7
(April 1946)

PLANTINGS
(Marsh - Aquatic - Upland)

Refuge Medicine Lake Year 1950

Species	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount & Nature of Propagules	Date of Planting	Survival	Cause of Loss	Remarks

Note: No plantings were made this year.

TOTAL ACREAGE PLANTED:

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

3-1758
Form NR-8
(April 1946)

CULTIVATED CROPS

Refuge Medicine Lake Year 194 50

Permittee (If farmed by refuge personnel, so indicate)	Permit No.	Unit or Location	Crops Grown	Avg. Yield per Acre	Permittee's Share		Government's Share or Return				Compensatory Services, or Cash Revenue
							Harvested		Unharvested		
					Acres	Bu. Harvested	Acres	Bu.	Acres	Bu.	
Kinley Bolstad	18559	#22	Barley	30	31.60	948			1.40	42	
		#22	Corn	50			2.00	100	15.25	763	
Curt Haase	18558	#23	Barley	40	40.24	1610	13.61	544			
		#25	Barley	30	17.39	522			8.69	261	
Chester Paulson	18557	#20	Oats	20	22.23	445					
			Barley	30					11.12	335	
		#21	Oats	20	19.91	398					
			Barley	30					9.95	299	
Harry Jensven	18560	#24	Barley	40	18.93	757	6.32	253			
Nels Lodahl	Med-46	# 1	Wheat	17	26.63	452	8.87	150			
George Sohmitz	Med-43	# 6	Barley	30	20.63	619	6.87	206			
		#15	Barley	30	25.31	759	8.44	253			
		#16	Barley	30	14.36	431	4.79	144			
		#17	Barley	30	14.53	436			7.26	218	
		#18	Barley	30	7.50	225	2.50	75			
		#19	Corn	20	4.00	80			2.00	40	
Marlin Grandahl	Med-41	# 2	Barley	30	28.86	866	9.62	288			
Ervin T. Stringer	Med-42	# 3	Wheat	30	26.67	800					
			Barley	40					13.33	533	
		# 4	Barley	20	6.50	130			3.50	70	
		# 7	Barley	30	27.66	829	9.22	277			
		# 9	Barley	20	28.80	576	9.60	192			
		#10	Barley	20	30.83	616	10.27	205			
		#14	Barley	15	38.88	583			19.44	292	

Summary of Crops Grown:

Crop	Acreage	Permittee's Share		Government's Share				Total Revenue
		Acres	Bushels	Harvested Acres	Harvested Bu.	Unharvested Acres	Unharvested Bu.	$
Barley	507.95	352.02	9907	81.24	2437	74.69	2050	
Wheat	62.17	53.30	1252	8.87	150	- - -	- - -	
Corn	23.25	4.00	80	2.00	100	17.25	803	
Oats	42.14	42.14	843	- - -	- - -	- - -	- - -	

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

Permittee - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the Permittee column.

Permit No. - List the number of the Special Use Permit issued to the individual.

Use or Location - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

Crops Grown - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. Unharvested - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the Bushels column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

3-1758
Form NR-8
(April 1946)

CULTIVATED CROPS

Refuge Medicine Lake Year 194 50

ONE YEAR FARMING AGREEMENTS

Permittee (If farmed by refuge personnel, so indicate)	Permit No.	Unit or Location	Crops Grown	Avg. Yield per Acre	Permittee's Share		Government's Share or Return				
							Harvested		Unharvested		Compensatory Services, or Cash Revenue
					Acres	Bu. Harvested	Acres	Bu.	Acres	Bu.	
Walter Norbo	Med-19	Special Plots	Corn	20	32	640			8	160	40 Acres to C.W. Grass
Gordon Snellman	Med-20	Special Plots	Barley	16	24	384	6	96			30 Acres to C.W.
Marlin Grandahl	Med-21	Special Plots	Wheat	40	8	320	2	80			10 Acres to C.W.
Ervin Stringer	Med-22	Special Plots	Barley	20	72	1440	18	360			90 Acres to C.W.
Frank Reuter	Med-23	Special Plots	Barley	38	30.4	1155	7.6	288			38 Acres to C.W.
Clarence Eamon	Med-24	Special Plots	Wheat	33	33.6	1109	8.4	277			42 Acres to C.W.
Mike Schmitz	Med-25	Special Plots	Barley	38	30.4	1155	7.6	288			38 Acres to C.W.

Summary of Crops Grown:

Crop	Acreage	Permittee's Share		Government's Share				Total Revenue
		Acres	Bushels	Harvested Acres	Harvested Bu.	Unharvested Acres	Unharvested Bu.	$
Corn	40	32	640			8	160	
Wheat	52	41.6	1429	10.4	357			
Barley	196	156.8	4134	39.2	1032			

DIRECTIONS FOR PREPARING FORM NR-8

CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

Permittee - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the Permittee column.

Permit No. - List the number of the Special Use Permit issued to the individual.

Use or Location - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

Crops Grown - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. Unharvested - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the Bushels column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

3-1758
Form NR-8
(April 1946)

CULTIVATED CROPS

Refuge Medicine Lake Year 1950

Permittee (If farmed by refuge personnel, so indicate)	Permit No.	Unit or Location	Crops Grown	Avg. Yield per Acre	Permittee's Share		Government's Share or Return				Compensatory Services, or Cash Revenue
							Harvested		Unharvested		
					Acres	Bu. Harvested	Acres	Bu.	Acres	Bu.	
Refuge Personnel	Special Plot	Hdqtrs. Tree Grove	Barley	40					10	400	
		(Barley crop cut with hay mower and left on ground for upland game bird feed.)									

Summary of Crops Grown:

Crop	Acreage	Permittee's Share		Government's Share				Total Revenue
		Acres	Bushels	Harvested Acres	Harvested Bu.	Unharvested Acres	Unharvested Bu.	
Barley	10					10	400	$

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

Permittee - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the Permittee column.

Permit No. - List the number of the Special Use Permit issued to the individual.

Use or Location - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

Crops Grown - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. Unharvested - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the Bushels column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

3-1570
NR-8a

REFUGE GRAIN REPORT

Refuge Medicine Lake Months of September thru December 194/ 50

(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 USE		
				TRANS-FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
WHEAT	105	75	180			40	40	140	20	120	none
BARLEY	2092	30	2122			275	275	1847		347	1500
CORN, eared	none	100	100			50	50	50		50	none

(8) Indicate shipping or collection points Medicine Lake, Montana

(9) Grain is stored at CCC Camp buildings and at barn at headquarters.

(10) Remarks

NR-8a REFUGE GRAIN REPORT

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

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)--55 lbs., Corn (ear)--70 lbs., Wheat--60 lbs., Barley--50 lbs., Rye--55 lbs., Oats--30 lbs., Soy Beans--60 lbs., Millet--50 lbs., Cowpeas--60 lbs., and Mixed--50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.

(3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.

(4) A total of Columns 2 and 3.

(6) Column 4 less Column 5.

(7) This is a proposed breakdown by varieties of grain listed in Column 6.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters grainary", etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

3-1759
Form NR-9

COLLECTIONS AND RECEIPTS OF PLANTING STOCK
(Seeds, rootstocks, trees, shrubs)

Refuge Medicine Lake Year 1950

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period or Collection	Method	Unit Cost	Amount	Source		
Prairie Bulrush seed	200 lbs.	11-16	Harvested w/ combine				200 lbs.	100 lbs.

Form NR-10
(April 1946)

[redacted] GRAZING

Refuge Medicine Lake Year 194/50

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
W. Anderson	MED-29	Unit #5	1260	270		5/1/50-11/30/50	.50	$135.00	
W. Anderson	MED-57	Unit 3&4	1540	226		7/16/50-11/30/50	.50	$113.00	
Mrs. Frank Ator	MED-30	Unit #1	580	53		5/1/50-11/30/50	.50	26.50	
George Base	MED-36	Unit #9	360	80		5/1/50-11/30/50	.50	40.00	
Ernest Bolstad	MED-27	Unit #8	450	129		5/1/50-11/30/50	.50	64.50	
Kinley Bolstad	MED-34	Unit #8	1436	378		5/1/50-11/30/50	.50	189.00	
Ove Nelson	MED-51	Unit #15	232	48		7/16/50-11/30/50	.50	24.00	
A. W. Nyquist	MED-35	Unit #9	260	63		5/1/50-11/30/50	.50	31.50	
James Olson	MED-67	Unit #15	310	84		7/16/50-11/30/50	.50	42.00	
Carl Paulson	MED-39	Unit #14	2600	387		7/16/50-11/30/50	.50	193.50	
Ervin Stringer	MED-37	Unit #12	120	23		7/16/50-11/30/50	.50	11.50	
Ervin Stringer	MED-28	Unit #6	300	80		5/1/50-11/30/50	.50	40.00	
Wayne C. Tyler	MED-31	Unit #13	400	92		5/1/50-11/30/50	.50	46.00	
Wayne C. Tyler	MED-32	Unit #10	400	106		5/1/50-11/30/50	.50	53.00	
Myron Waller	MED-60	Unit #15	278	56		7/16/50-11/30/50	.50	28.00	
George Schmitz	MED-26	Unit #7	440	103		5/1/50-11/30/50	.50	51.50	
A. H. Jensven	MED-68	Unit #15	300	72		7/16/50-11/30/50	.50	36.00	
Floyd Martini	Med-33	Unit #8	434	137		5/1/50-11/30/50	.50	68.50	
Carl Laursen	MED-65	Unit #2	780	168		7/16/50-11/30/50	.50	84.00	

Totals:

Acreage grazed 12,480 Animal use months 2555 Total income Grazing $1277.50

Acreage cut for hay ..... Tons of hay cut ..... Total income Haying .....

3-1760
Form NR-10
(April 1946)

HAYING

Refuge Medicine Lake Year 1950

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
Mrs. F. Ator	Med-47	Strip F#3	7		15.00	7/16/50-10/31/50	2.00	30.00	
Kinley Bolstad	Med-53	3 & 12	40		74.00	" "	2.00	148.00	
E. Grandlund	Med-63	5	2		4.00	" "	1.50	6.00	
C. Laursen	Med-66	7	10		15.00	" "	1.50	22.50	
C. Laursen	Med-66	8	20		40.50	" "	2.00	81.00	
Ove Nelson	Med-50	10	10		15.75	" "	1.50	23.63	
Ove Nelson	Med-50	10	4		6.75	" "	2.00	13.50	
Walter Norbo	Med-55	9	90		169.00	" "	2.00	338.00	
Jens Nyby	Med-64	7	7		10.75	" "	2.00	21.50	
Carl Paulson	Med-69	4	22		40.00	" "	2.00	80.00	
G. Schmitz	Med-49	4	60		121.50	" "	2.00	243.00	
G. Schmitz	Med-49	4	16		28.50	" "	1.50	42.75	
Frank Reuter	Med-54	4	40		82.50	" "	2.00	165.00	
Frank Reuter	Med-54	4	17		31.25	" "	1.50	46.88	
Lief Sunwall	Med-52	11	15		26.50	" "	2.00	53.00	
F. Snellman	Med-59	1	12		16.25	" "	2.00	32.50	
H.Skillingberg	Med-48	10	20		38.50	" "	2.00	77.00	
E. Stringer	Med-38	9	25		46.25	" "	1.50	69.38	
M. Waller	Med-61	10	12		16.00	" "	2.00	32.00	
Wayne Tyler	Med-56	1 & 2	28		55.00	" "	2.00	110.00	
Wayne Tyler	Med-56	1 & 2	12		20.75	" "	1.50	31.13	
J.Niederhauser	Med-40	1	12		9.75	" "	2.00	19.50	
G. D. Snellman	Med-62	5	None		0.00			5.00	No Hay Cut-Down Payment forfeited
J.Christensen	Med-58	6	5		7.25	" "	2.00	14.50	

Totals:

Acreage cut for hay 486.00 Tons of hay cut 890.75 Total income Haying $1,705.77

HAYING