

ROUTING SLIP

BRANCH OF WILDLIFE REFUGES

DATE: 9/19 1949

MR. SALYER _____

MR. KRUMMES _____

MR. DUMONT _____

MISS BAUM _____

SECTION OF HABITAT IMPROVEMENT:

~~MR. GRIFFITH~~ REG 11-21

~~DR. BOURN~~ WES 10-314

MISS COOK _____

SECTION OF OPERATIONS:

~~MR. BALL~~ _____

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Dr. Morley

SECTION OF STRUCTURES:

MR. TAYLOR _____

MR. JOHNSTON _____

SECTION OF LAND MANAGEMENT:

MR. KENT _____

~~MR. ACKERKNECHT~~ Coe

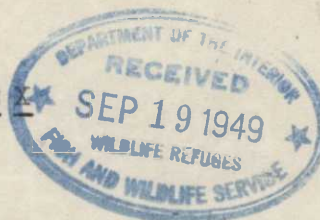
STENOGRAPHERS:

NARRATIVE REPORT

REFUGE: MONTANA EASEMENTS (FORT PECK)

PERIOD: MAY - AUGUST 1949

I N D E X



| | |
|---|---------------|
| WEATHER CONDITIONS - - - - - | 1 |
| WATER CONDITIONS - - - - - | 1, 2 |
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| MIGRATORY BIRDS - - - - - | 2, 3, 4, 5, 6 |
| UPLAND GAME BIRDS - - - - - | 7 |
| BIG GAME ANIMALS - - - - - | 7 |
| FUR ANIMALS, PREDATOR, RODENTS, ETC - - - | 7, 8 |
| PREDACEOUS BIRDS - - - - - | 8 |
| FISH - - - - - | 8 |
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| followed by | |
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1949

Miller Lake
June 2 - 52" below spill

| | | |
|-----------|---|--------------------------------|
| July 13 | - | 53 $\frac{1}{2}$ " below spill |
| August 10 | - | 59" below spill |

A rough check of the flow of the well which feeds this reservoir was made in June and found to be 120 gallons per minute, somewhat short of the necessary amount to maintain a constant level without some runoff.

| | | |
|-------------------------|---|--------------------------------|
| <u>Halfbreed Refuge</u> | | |
| June 5 | - | 6" below spill |
| July 12 | - | 13 $\frac{1}{2}$ " below spill |
| August 11 | - | 21" below spill |

| | | |
|-------------------------|---|------------------|
| <u>Hailstone Refuge</u> | | |
| June 6 | - | 86" below spill |
| July 12 | - | 96" below spill |
| August 11 | - | 101" below spill |

At 101 inches below spill only 30 acres of water area remain. The old creek channel running thru the reservoir runs to a depth of six feet in spots precluding the possibility of the area going entirely dry.

| | | |
|-------------------------|---|-----------------|
| <u>Lamesteer Refuge</u> | | |
| June 8 | - | 5" below spill |
| August 13 | - | 26" below spill |

The drop of 21" here has comparatively little effect on the water area.

C. Fires.

None.

II. WILDLIFE

A. Migratory Birds.

1. Population and Behavior.

Four of the five areas made an excellent comeback in waterfowl production this year over last, Lamesteer being the exception and remaining in the same category as in the past several years, namely the rearing of a brood or two.

Brood counts were made on Lake Mason, Miller Lake, Hailstone and Halfbreed Areas in mid July and again one month later.

It was deemed inadvisable to make more than one trip to the Lamesteer Refuge for this purpose. This was combined with other work there and made on August 13.

Data on both adults and broods follow:

Lake Mason

| | <u>June 3</u> | <u>July 14</u> | <u>August 9</u> |
|------------|---------------|----------------|-----------------|
| Mallards | 130 | 900 | 450 |
| Gadwall | 210 | 2900 | 1000 |
| Baldpate | 18 | 1800 | 300 |
| Pintails | 250 | 1500 | 750 |
| G. W. Teal | 5 | | 8 |
| B. W. Teal | 36 | 1050 | 150 |
| Shoveller | 190 | 400 | 150 |
| Redhead | 26 | 80 | 16 |
| Canvasback | 24 | 12 | 17 |
| Scaup | 36 | 30 | 350 |
| Bufflehead | 1 | | |
| Golden-eye | | 3 | |
| Ruddy | | 225 | 300 |
| TOTALS | <u>926</u> | <u>8900</u> | <u>3491</u> |

A lone Snow Goose was seen on June 3 and 650 Coots were present in July and August.

| | <u>July 14</u> | | <u>August 9</u> | |
|------------|----------------|-----------|-----------------|----------|
| Mallards | 5 broods | 30 young | | |
| Gadwall | 7 broods | 37 young | 3 broods | 13 young |
| Baldpate | 6 broods | 43 young | 1 brood | 3 young |
| Pintail | 11 broods | 58 young | 2 broods | 9 young |
| B. W. Teal | 3 broods | 19 young | 1 brood | 7 young |
| Shoveller | 1 brood | 9 young | | |
| Redhead | 2 broods | 7 young | 2 broods | 11 young |
| Scaup | 7 broods | 43 young | 2 broods | 11 young |
| TOTALS | 42 broods | 246 young | 11 broods | 54 young |

On July 14 over an area 10 yards X 400 yards on the man-made island 83 nests were counted, principally Pintails, Gadwall and Blue-Winged Teal. Of these, 36 nests were being incubated and the remaining 47 had been abandoned, 50% of the later with all or a great deal of the eggs destroyed. Much thought has been given this with no definite conclusion reached as to the cause. Terns, gulls and skunks all are present on the area but none in any heavy concentration. Water fluctuation is automatically ruled out and no adverse weather conditions at this time have been learned of.

Miller Lake

| | <u>June 2</u> | <u>July 13</u> | <u>August 10</u> |
|------------|---------------|----------------|------------------|
| Mallards | 65 | 15 | 32 |
| Gadwall | 12 | 12 | 225 |
| Baldpate | 14 | | 35 |
| Pintails | 60 | | 175 |
| G. W. Teal | 6 | | |
| B.W. Teal | 10 | | 8 |

| | June 2 | July 13 | August 10 |
|--------|--------|---------|-----------|
| Ruddy | 5 | 2 | |
| Scaup | 0 | 2 | |
| TOTALS | 172 | 31 | 475 |

16 Canada Geese were present on June 2 and 8 on August 10, apparently the pinnioned flock is a drawing card. Four Coots were seen thruout the period.

| | July 13 | | August 10 | |
|------------|----------|----------|---------------|---------|
| Mallards | 2 broods | 11 young | Ruddy 1 brood | 3 young |
| Gadwall | 2 broods | 8 young | | |
| Baldpate | 1 brood | 3 young | 1 brood | 2 young |
| B. W. Teal | 2 brood | 12 young | 1 brood | 2 young |
| TOTALS | 7 brood | 34 young | 3 brood | 7 young |

Av. 4.86

Av. 2.33

Here too, the island was the favored nesting area. Vegetation was sparse but better than anything the shoreline had to offer. One Gadwall nest and 5 blue-winged teal nests were observed in an area of 60 square feet.

HAILSTONE REFUGE

| | June 6 | July 12 | August 11 |
|------------|--------|---------|-----------|
| Mallards | 23 | 12 | 27 |
| Gadwall | 50 | 12 | |
| Baldpate | 9 | 3 | |
| Pintail | 55 | 35 | 13 |
| G. W. Teal | 3 | 6 | |
| B. W. Teal | 11 | 15 | 20 |
| Shoveller | 8 | 21 | |
| Scaup | 7 | | |
| Ruddy | 2 | 3 | |
| TOTAL | 168 | 107 | 60 |

| | July 12 | | August 11 | |
|------------|-----------|-----------|-----------|----------|
| Mallards | | | 2 broods | 15 young |
| Baldpate | 1 brood | 12 young | | |
| Gadwall | | | 3 broods | 12 young |
| Pintail | 4 broods | 15 young | | |
| G. W. Teal | 3 broods | 16 young | | |
| B. W. Teal | 4 broods | 17 young | 1 brood | 3 young |
| Shoveller | 6 broods | 54 young | | |
| TOTAL | 18 broods | 114 young | 6 broods | 30 Av. 5 |

Nine Canada Geese were using the area in early June. Only 2 Coots were seen thruout the period.

HALFBREED

| | <u>June 5</u> | <u>July 12</u> | <u>August 11</u> |
|-------------|---------------|----------------|------------------|
| Mallards | 88 | 125 | 265 |
| Gadwall | 135 | 250 | 125 |
| Baldpate | 6 | 24 | |
| Pintail | 73 | 275 | 1600 |
| G. W. Teal | 5 | 3 | |
| B. W. Teal | 54 | 30 | 550 |
| Shoveller | 47 | 25 | 35 |
| Redhead | 31 | 6 | 5 |
| Scaup | 54 | | 25 |
| Ruddy | 2 | | 40 |
| Buffle-head | 1 | | |
| Canvasback | | | 1 |
| TOTALS | <u>496</u> | <u>738</u> | <u>2646</u> |

| | <u>July 12</u> | | <u>August 11</u> | |
|------------|------------------|------------------|------------------|------------------|
| Mallards | 6 broods | 41 young | 6 broods | 28 young |
| Gadwall | 5 broods | 31 young | 5 broods | 22 young |
| Baldpate | 2 broods | 12 young | - | - |
| Pintail | 8 broods | 43 young | 9 broods | 48 young |
| G. W. Teal | 1 broods | 6 young | - | - |
| B. W. Teal | 7 broods | 55 young | 8 broods | 36 young |
| Shoveller | 2 broods | 16 young | - | - |
| Redhead | 1 broods | 2 young | - | - |
| | <u>32 broods</u> | <u>206 young</u> | <u>28 broods</u> | <u>134 young</u> |
| | | Av. 6.44 | | Av. 4.78 |

68 "Honkers", the largest number seen on any of the Easement Areas since the fall of 1945 were making themselves at home here in August and refused to leave although disturbed twice during one morning while making brood counts. This is unusual for our small areas, the rule being that when approached the first time they leave for distant resting places.

Lamesteer Refuge

| | <u>June 8</u> | <u>August 13</u> |
|------------|---------------|------------------|
| Mallards | 150 | 125 |
| Ruddy | 6 | 55 |
| B. W. Teal | | 20 |
| TOTALS | <u>156</u> | <u>200</u> |

As mentioned above and in previous reports, Lamesteer produces few, if any, waterfowl. One brood of five Class III Pintails were seen in mid-August.

Summarizing; On our July trip 99 broods were counted on four areas totaling 600 young for an average of a fraction below six per brood. In August 49 broods totaled 230 young giving an average of 4.69.

Peak concentration on all other migratory waterfowl observed will be found on N.R. Form 1A in the back of this report.

The Tri-County Sportsmens Organization released the flock of 24 pinnioned geese from the island in Miller Lake this spring. They now have the run of the entire lake and appear quite contented.

Grain is still supplied them on the island by the sportsmen of Roundup and vicinity. However, they now are able to secure for themselves the necessary browse.

2. Food and Cover.

Lake Mason

Although this area supports as many waterfowl as the other Easements combined there is still much more food and cover than is used.

An excellent stand of emergents in the north east portion of the lake together with aquatics over most of the remainder of the water area afford waterfowl all they desire.

Miller Lake

A small amount of emergents are spreading slowly, leaving much to be desired in the way of cover. Likewise the islands and shoreline are far from desirable as nesting covers.

The growth of Sago is ample for the number of birds using the area.

Hailstone Refuge

Excellent nesting cover to the waters edge surrounds the entire reservoir.

Halfbreed Refuge

With the area at spill elevation, as was the case this spring, food is everywhere. Principal cover used for nesting this spring was greasewood which surrounds the lake.

Lamesteer

Emergents continue to do very well but no sign of Sago was noted.

Refuge files show that a sago plant was made in 1945 and proved successful.

With a heavy fish population, especially carp, it is possible the fish have realized more benefit from the Sago than have waterfowl.

3. Disease.

Botulism:

A very mild outbreak of botulism was observed on the Lake Mason Refuge on August 9.

One sick and 8 dead ducks were found after an extensive search thru heavy cover on foot. Dead birds were removed from the water.

No evidence on any other area.

B. Upland Game Birds.

1. Population and Behavior.

Wallace Scott, the owner at Lamesteer reports seeing a brood of 12 pheasants in early August as well as 25 "Huns" and a "few" Sharp-tailed Grouse.

The former are possibly the offspring of one of the five birds released on the refuge in the spring of 1948 by the tenant there.

Nothing more to report under this topic for other areas.

C. Big Game Animals.

1. Population and Behavior.

Miller Lake

In early June, 19 Antelope were counted as we approached the Refuge and 7 more within the boundary.

Fawns are dropped in the cover bordering Willow Creek and antelope are almost always on or around the Miller Lake tract.

Halfbreed

Seven antelope were using the area on June 5.

Hailstone

The antelope seem to run in sevens. There were that many here in June, two of which were twins, fawns, of about one week.

Six weeks later 5 large bucks and 4 does were on the west side of the reservoir and in August five does were seen.

Lamesteer

Two mule deer does came down for a drink while we were repairing the spillway in June. These are the first seen here since 1943 when six used the area but "mysteriously" disappeared one by one to the accompaniment of rifle fire.

In summary, the antelope population is growing by leaps and bounds and promises to become a problem to the State before much longer.

2. Food and Cover

Every animal seen was in splendid shape, proving that they have everything they need in the way of food and water.

D. Fur Animals, Predators, Rodents and others.

The average muskrat population for all Easements is not over six.

One coyote was heard at Hailstone and one dead was found along the east shore of Miller Lake.

2 Skunks were "given a bad time" at Lake Mason and there is one less badger to destroy duck nests at Miller.

E. Predaceous Birds, Including Crows and Magpies.

The predator gun, with the able assistance of Refuge Managers Hazeltine and Wolf, accounted for five magpies and a crow at Miller Lake. 7 additional crows and 2 magpies escaped. Apparently the tree plot is the attraction here for these birds to nest in.

F. Fish.

Two "passes" were made with a seine at the lower end of Lamesteer Reservoir last month (see photo #12) showing the following:

| <u>Fish</u> | <u>Percent</u> | <u>Average Length</u> |
|----------------|----------------|-----------------------|
| Carp | 20 | 8" |
| Sucker | 10 | 10" |
| Brown Bullhead | 10 | 4" |
| Crappie | 14 | 3 $\frac{1}{2}$ " |
| Bluegill | 1 | 3" |
| Shinner | 45 | 4" |

While checks were not extensive enough to give a definite picture the above figures do reveal that rough fish comprise a high percent of the total population. Fish are not present in any of the other Easements.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.

Lake Mason.

Cracks in the spillway were chiseled to a "V" and filled with concrete.

Levels were run from the spillway to the lake ($\frac{3}{4}$ of a mile) and a water gauge installed to replace the one lost last winter.

All wooden portions of the diversion structure were creosoted.

Miller Lake.

Repairs to the well house roof were made and all trim on the building was painted specification green. (See photo #13). Excess wire and steel posts located outside of the tree plot fence were salvaged and stored, two water gauges installed, cracks in the rubble masonry headgate made weather proof. (See photo #14) and the canal given a thorough cleaning including the removal of willows along either side. (See photo #15) As on each trip over this area, the trees were irrigated.

Hailstone.

Fencing was repaired around the dam and the patrol cabin to

make these areas stockproof, excess fencing removed around the former and a new gate installed at the latter.

Cracks in the spillway were tarred and a water gauge installed.

Halfbreed.

Two posts at the north east corner of the refuge were set in concrete.

Again a water gauge was installed, repairs made to the spillway, and trash around the spillway burned. The wire gate at the entrance to the refuge was made useable.

Lamesteer.

Only minor repairs were necessary on the spillway this year. These were completed during the period. A water gauge installed and boundary posts checked and straightened where necessary. (See photo #17)

The "No Fishing" signs were removed from around the south portion of the reservoir which has an open season.

B. Plantings.

2. Trees and Shrubs.

Fifteen willow shoots from the Miller Lake area were transplanted to Hailstone, but due to excessive hot weather while enroute little success was experienced.

IV. ECONOMIC USE OF REFUGE

None: Privately owned lands.

V. FIELD INVES. OR APPLIED RESEARCH

B. Bird Banding

Refuge personnel in cooperation with Montana Fish and Game employees banded the following ducks on Lake Mason in early August. (See photo # 16)

| <u>Number</u> | <u>Species</u> | <u>Age Class</u> | <u>Number</u> | <u>Species</u> | <u>Age Class</u> |
|------------------|----------------|------------------|---------------|----------------|------------------|
| 2 | Pintail | A. | 9 | Scaup | J. |
| 2 | Pintail | J. | | | |
| 4 | Gadwall | A. | 1 | Mallard | A. |
| 2 | Gadwall | J. | 1 | Shoveller | J. |
| 1 | Baldpate | A. | 1 | B. W. Teal | A. |
| 1 | Baldpate | J. | 1 | B. W. Teal | J. |
| 25 total banded. | | | | | |

It is regrettable that time did not allow this work to be accomplished one month earlier when 500-600 flightless birds were in the marsh area and could have been herded into a banding trap with comparative ease.

VI. PUBLIC RELATIONS

E. Fishing.

Local residents of the Lamesteer area eased that "urge" to catch a fish when the season opened July 15 on the south portion of the reservoir.

Success was only fair and interest died away rapidly.

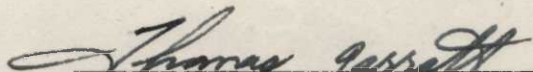
VII. OTHER ITEMS

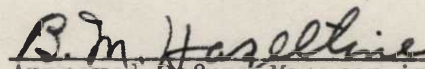
A. Items of Interest.

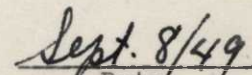
Ken Roahen, Game Management Agent, siezed five Canada Geese from one Rose Watts of the Crow Reservation on July 13, 1949.

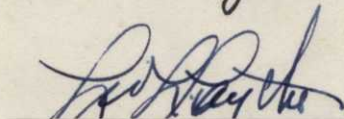
These were pinnioned and released at Miller Lake and so the flock there has grown to a total of 29 birds.

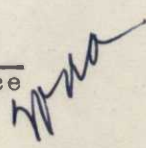
Respectfully submitted,


Thomas Garratt
Refuge Manager


Approved Refuge Manager in Charge


Date


Approved Regional Office



WATERFOWL

 Refuge Hailstone Months of May to August 1949

| (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 | | | | | | | | | | |
| II. Geese: | | | | | | | | | | |
| Canada goose | | | | 9 | 6/6 | | | 0 | 0 | 9 |
| Cackling goose | | | | | | | | | | |
| Brant | | | | | | | | | | |
| White-fronted goose | | | | | | | | | | |
| Snow goose | | | | | | | | | | |
| Blue goose | | | | | | | | | | |
| III. Ducks: | | | | | | | | | | |
| Mallard | | | | 27 | 8/11 | | | 2 | 20 | 65 |
| Black duck | | | | | | | | | | |
| Cairn | | | | 50 | 6/6 | | | 5 | 15 | 80 |
| Baldpate | | | | 9 | 6/6 | | | 1 | 15 | 20 |
| Pintail | | | | 55 | 6/6 | | | 4 | 25 | 300 |
| Green-winged teal | | | | 6 | 7/12 | | | 3 | 12 | 12 |
| Blue-winged teal | | | | 20 | 8/11 | | | 4 | 16 | 125 |
| Chimney teal | | | | | | | | | | |
| Shoveller | | | | 21 | 7/12 | | | 5 | 45 | 60 |
| Wood duck | | | | | | | | | | |
| Ruddy duck | | | | | | | | | | |
| Ring-necked duck | | | | | | | | | | |
| Canvas-back | | | | | | | | | | |
| Scaup | | | | 7 | 6/6 | | | 0 | 0 | 15 |
| Golden-eye | | | | | | | | | | |
| Buffle-head | | | | | | | | | | |
| Ruddy duck | | | | 3 | 7/12 | | | 0 | 6 | 10 |
| IV. Coots | | | | 2 | 7/12 | | | 0 | 0 | 20 |

SUMMARIES

Total Production:

Geese 0

Ducks 154

Coots 0

Total waterfowl usage during period 716

Peak waterfowl numbers 209

Areas used by concentrations entire water area

Principal nesting areas this season channel at west end

of reservoir

Reported by Thomas Garrett

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.

Refuge Lanestor

Months of May

to August

194

[illegible]

SUMMARIES

Total Production:

Geese 0
 Ducks 5
 Coots 0

Total waterfowl usage during period 275

Peak waterfowl numbers 231

Areas used by concentrations East one-half

Principal nesting areas this season _____

Reported by Thomas Garratt

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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.

WATERFOWL

Refuge Miller LakeMonths of Mayto August1948

| (1) Species Common Name | (2) First Seen | | (3) Peak Concentration | | (4) Last Seen | | (5) Young Produced | | (6) Total |
|---|-------------------|------|---------------------------|------|---------------------------------------|------|-----------------------|-----------------|----------------------|
| | Number | Date | Number | Date | Number | Date | Broods Seen | Estimated Total | Estimated for Period |
| I. <u>Swans:</u> Whistling swan | | | | | | | | | |
| II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose | | | 16 | 6/2 | (In addition to the 29 geese planted) | | | 0 | 25 |
| | | | 1 | 6/2 | | | 0 | 0 | 1 |
| III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck | | | 65 | 6/2 | | | 2 | 10 | 175 |
| | | | 225 | 8/10 | | | 5 | 10 | 300 |
| | | | 55 | 8/10 | | | 2 | 5 | 55 |
| | | | 175 | 8/10 | | | 0 | 0 | 250 |
| | | | 6 | 6/2 | | | 0 | 0 | 10 |
| | | | 10 | 8/10 | | | 2 | 9 | 50 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | 2 | 7/13 | | | 0 | 0 | 40 41 |
| | | | | | | | | | |
| | | | 5 | 6/2 | | | 1 | 3 | 55 |
| IV. <u>Coot:</u> | | | | | | | | | |
| | | | 3 | 6/2 | | | 0 | 0 | 25 |

SUMMARIES

Total Production:

Geese 0

Ducks 37

Coots 0

Total waterfowl usage during period 968

Peak waterfowl numbers 543

Areas used by concentrations N.W. end of lake.

Principal nesting areas this season Island

Reported by Thomas Garratt

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- (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.

WATERFOWL

Refuge Halfbreed Months of May to August 1949

| (1) Species Common Name | (2) First Seen | | (3) Peak Concentration | | (4) Last Seen | | (5) Young Produced | | (6) Total |
|---|-------------------|------|---|--|------------------|------|--|---|---|
| | Number | Date | Number | Date | Number | Date | Broods Seen | Estimated Total | Estimated for Period |
| I. <u>Swans:</u> Whistling swan | | | | | | | | | |
| II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose | | | 68 | 8/11 | | | 0 | 0 | 73 |
| III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck | | | 265 250 24 1600 5 550 47 21 1 54 40 | 8/11 7/12 7/12 8/11 6/5 8/11 6/5 6/5 8/11 6/5 8/11 | | | 10 7 2 13 1 11 2 1 0 0 0 | 55 35 10 65 4 48 12 6 0 0 0 | 300 300 75 2000 13 850 90 80 20 120 100 |
| IV. <u>Geese:</u> | | | 30 | 8/11 | | | 2 | 15 | 70 |

SUMMARIES

Total Production:

Geese 0

Ducks 250

Coots 15

Total waterfowl usage during period 4095

Peak waterfowl numbers 2965

Areas used by concentrations entire area

Principal nesting areas this season Island

Reported by Thomas Garrett

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.

WATERFOWL

Refuge Lake Mason Months of May to August 1949

| (1) Species | (2) First Seen | | (3) PBak 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 | | | | | | | | | |
| II. Geese: | | | | | | | | | |
| Canada goose | | | | | | | | | |
| Cackling goose | | | | | | | | | |
| Brant | | | | | | | | | |
| White fronted goose | | | | | | | | | |
| Snow goose | | | 1 | 6/3 | | | 0 | 0 | 1 |
| Blue goose | | | | | | | | | |
| III. Ducks: | | | | | | | | | |
| Mallard | | | 900 | 7/14 | | | 5 | 65 | 1500 |
| Black duck | | | | | | | | | |
| Gadwall | | | 2900 | 7/14 | | | 10 | 115 | 3500 |
| Baldpate | | | 1800 | 7/15 | | | 7 | 90 | 2400 |
| Pintail | | | 1500 | 7/14 | | | 13 | 125 | 3500 |
| Green-winged teal | | | 8 | 8/9 | | | 0 | 0 | 25 |
| Blue winged teal | | | 1050 | 7/14 | | | 4 | 75 | 1500 |
| Cinnamon teal | | | | | | | | | |
| Shoveller | | | 400 | 7/14 | | | 1 | 20 | 600 |
| Wood duck | | | | | | | | | |
| Redhead | | | 80 | 7/14 | | | 4 | 35 | 180 |
| Ring-necked duck | | | | | | | | | |
| Canvas-back | | | 24 | 6/3 | | | 0 | 0 | 75 |
| Seaup | | | 350 | 8/9 | | | 8 | 90 | 500 |
| Golden-eye | | | 3 | 7/14 | | | 0 | 0 | 3 |
| Buffle-head | | | 1 | 6/3 | | | 0 | 0 | 1 |
| Ruddy duck | | | 300 | 8/9 | | | 0 | 20 | 450 |
| IV. Coots: | | | | | | | | | |
| | | | 650 | 7/14 | | | 5 | 25 | 800 |

Coots 25-

Peak waterfowl numbers 9967

| Areas used by concentrations | Entire Area |
|------------------------------|-------------|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |
| 11 | 11 |
| 12 | 12 |
| 13 | 13 |
| 14 | 14 |
| 15 | 15 |
| 16 | 16 |
| 17 | 17 |
| 18 | 18 |
| 19 | 19 |
| 20 | 20 |
| 21 | 21 |
| 22 | 22 |
| 23 | 23 |
| 24 | 24 |
| 25 | 25 |
| 26 | 26 |
| 27 | 27 |
| 28 | 28 |
| 29 | 29 |
| 30 | 30 |
| 31 | 31 |
| 32 | 32 |
| 33 | 33 |
| 34 | 34 |
| 35 | 35 |
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| 38 | 38 |
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| 41 | 41 |
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| 46 | 46 |
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| 93 | 93 |
| 94 | 94 |
| 95 | 95 |
| 96 | 96 |
| 97 | 97 |
| 98 | 98 |
| 99 | 99 |
| 100 | 100 |

[illegible]

Thomas Garratt
Thomas Garratt

| Species | Count |
|-------------------|-------|
| Ducks | 635 |
| Coots | 25 |
| Geese | 100 |
| Swans | 50 |
| Loons | 10 |
| Grebes | 20 |
| Storks | 15 |
| Herons | 30 |
| Wading birds | 40 |
| Waterfowl | 120 |
| Wild ducks | 80 |
| Wild geese | 60 |
| Wild swans | 40 |
| Wild loons | 20 |
| Wild grebes | 10 |
| Wild storks | 5 |
| Wild herons | 15 |
| Wild wading birds | 25 |
| Wild waterfowl | 75 |

100-443887-100

3-1751

Form NR-1A
(Nov. 1945)Refuge Lake MasonMIGRATORY BIRDS
(other than waterfowl)Months of May to August1949

| (1) Species | (2) First Seen | | (3) Peak Numbers | | (4) Last Seen | | (5) Production | | | (6) Total |
|----------------------------------|-------------------|------|---------------------|------|------------------|------|-------------------|---------------|-------------|------------------|
| Common Name | Number | Date | Number | Date | Number | Date | Number Colonies | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u> | | | | | | | | | | |
| Eared Grebe | | | 950 | 8/9 | | | 1 | 60 | 100 | 1050 |
| American Bittern | | | 3 | 8/9 | | | | | | 5 |
| Blue Heron | | | 4 | 8/9 | | | | | | 8 |
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| (1) | (2) | (3) | (4) | (5) | (6) |
|-----------------------------------|-----|-----|------|-----|-----|
| III. Doves and Pigeons: | | | | | |
| Mourning dove | | | | | |
| White-winged dove | | | | | |
| IV. Predaceous Birds: | | | | | |
| Golden eagle | | | | | |
| Duck hawk | | 1 | 6/3 | | |
| Horned owl | | 6 | 7/14 | | |
| Magpie | | | | | |
| Raven | | | | | |
| Crow | | | | | |
| Sparrow Hawk | | 2 | 6/3 | | |
| Marsh Hawk | | 7 | 8/3 | | |
| Swainson's Hawk | | 1 | 8/9 | | |
| Reported by <i>Thomas Garrett</i> | | | | | |

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

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

MIGRATORY BIRDS
(other than waterfowl)

Refuge Lanester

Months of May to August

1949

| (1) Species Common Name | (2) First Seen | | (3) Peak Numbers | | (4) Last Seen | | (5) Production | | (6) Total Estimated Number |
|---|-------------------|------|---------------------|------|------------------|------|--------------------|------------------|-------------------------------------|
| | Number | Date | Number | Date | Number | Date | Number Colonies | Total # Nests | Total Young |
| I. <u>Water and Marsh Birds:</u> Blue Heron | | | 9 | 8/13 | | | | | |

II. Shorebirds, Gulls and Terns:

Ring Billed Gull

Wilson's Phalarope

Killdeer

1

6/8

3

6/8

2

6/8

| (1) | (2) | (3) | (4) | (5) | (6) |
|-----------------------------------|-----|-----|------|-----|-----|
| III. <u>Doves and Pigeons:</u> | | | | | |
| Mourning dove | | 4 | 8/13 | | |
| White-winged dove | | | | | |
| IV. <u>Predaceous Birds:</u> | | | | | |
| Golden eagle | | 1 | 8/13 | | |
| Duck hawk | | | | | |
| Horned owl | | | | | |
| Magpie | | | | | |
| Raven | | | | | |
| Crow | | | | | |
| Marsh Hawk | | 2 | 8/13 | | |
| Reported by <i>Thomas Garrett</i> | | | | | |

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
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3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge Miller Lake

Months of

May

to

August1949

| (1) Species | (2) First Seen | | (3) Peak Numbers | | (4) Last Seen | | (5) Production | | | (6) Total |
|---|-------------------|------|---------------------|------|------------------|------|-------------------|---------------|-------------|------------------|
| Common Name | Number | Date | Number | Date | Number | Date | Number Colonies | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u> | | | | | | | | | | |
| White Pelican | | | 18 | 6/2 | | | | | | 25 |
| Eared Grebe | | | 100 | 8/10 | | | | 2 | | 150 |
| Western Grebe | | | 2 | 6/2 | | | | 1 | 2 | 4 |
| Blue Heron | | | 3 | 8/10 | | | | | | 6 |
| | | | | | | | | | | |
| II. <u>Shorebirds, Gulls and Terns:</u> | | | | | | | | | | |
| California Gull | | | 35 | 7/13 | | | | | | 75 |
| Common Tern | | | 15 | 7/13 | | | | 6 | | 25 |
| Long Billed Curlews | | | 9 | 7/13 | | | | | | 12 |
| Wilson's Phalarope | | | 12 | 7/13 | | | | | | 12 |
| Killdeer | | | 14 | 6/2 | | | | | 4 | 50 |
| Avocets | | | 2 | 8/10 | | | | | | 10 |
| Semipalmated Plover | | | 1 | 6/2 | | | | | | 2 |

(over)

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

MIGRATORY BIRDS
(other than waterfowl)

Refuge Hallstone

Months of May to August

1949

| (1) Species | (2) First Seen | | (3) Peak Numbers | | (4) Last Seen | | (5) Production | | | (6) Total |
|---|-------------------|------|---------------------|------|------------------|------|-------------------|---------------|-------------|------------------|
| Common Name | Number | Date | Number | Date | Number | Date | Number Colonies | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u> | | | | | | | | | | |
| Eared Grebes | | | 70 | 6/6 | | | 1 | 4 | - | 90 |
| II. <u>Shorebirds, Gulls and Terns:</u> | | | | | | | | | | |
| Long Billed Curlews | | | 4 | 7/12 | | | | | | 6 |
| Avocets | | | 30 | 6/6 | | | | | 12 | 50 |
| Killdeer | | | 23 | 6/6 | | | | | 8 | 45 |
| Wilson's Phalarppe | | | 45 | 8/11 | | | | | | 50 |
| California Gulls | | | 10 | 7/12 | | | | | | 30 |

(over)

| (1) | (2) | (3) | (4) | (5) | (6) |
|-----------------------------------|-----|-----|------|-----|-----|
| III. <u>Doves and Pigeons:</u> | | | | | |
| Mourning dove | | 1 | 8/11 | | |
| White-winged dove | | | | | |
| IV. <u>Predaceous Birds:</u> | | | | | |
| Golden eagle | | | | | |
| Duck hawk | | 1 | 11/8 | | |
| Horned owl | | | | | |
| Magpie | | | | | |
| Raven | | | | | |
| Crow | | | | | |
| Marsh Hawk | | 2 | 6/8 | | |
| Reported by <i>Thomas Garrett</i> | | | | | |

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
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- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge HalfbreedMonths of Mayto August1949

| (1) Species | (2) First Seen | | (3) Peak Numbers | | (4) Last Seen | | (5) Production | | | (6) Total |
|----------------------------------|-------------------|------|---------------------|------|------------------|------|--------------------|------------------|----------------|---------------------|
| Common Name | Number | Date | Number | Date | Number | Date | Number Colonies | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u> | | | | | | | | | | |
| White Pelican | | | 2 | 8/11 | | | | | | 6 |
| Blue Heron | | | 14 | 8/13 | | | | | | 20 |
| Rared Grebe | | | 65 | 8/11 | | | | | | 80 |
| Western Grebe | | | 3 | 7/12 | | | | | | 5 |
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| III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove | | 2 7/12 | | | |
| IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow Marsh Hawks | | 1 5 7/12 8/11 | | | |
| Reported by <i>Thomas Garrett</i> | | | | | |

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1756
Form NR-6
(April 1946)

FISH

Refuge.....Lanester.....Year 1949

| 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 | |
| Common Bullhead | Moderately abundant | | | | | | | |
| Apple | Moderately abundant | | | | | | | |
| Musgill | Rare | | | | | | | |
| Shiner | Moderately abundant | | | | | | | |
| Crappie | Abundant | | | | | | | |
| Minnows | Very abundant. | | | | | | | |

REMARKS:

Mild interest is shown in sport fishing the first few days of the open season. No other Easement Area has fish of any kind.

(April 1946)

UPLAND GAME BIRDS

1613

| Refuge | Easement Areas |
|--------|----------------|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
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| 97 | 97 |
| 98 | 98 |
| 99 | 99 |
| 100 | 100 |

Months of July to August, 1941

| (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'd. Estimated Total | Percentage | Hunting | For Re- stocking | For Research | Estimated number using Refuge | Pertinent information not specificioally requested. List introductions here. |
| <u>Lamesteer</u> | 250 acres of wheat stubble. | | | | | | | | |
| Ring-neck Pheasant | 15 acres alfalfa. | 0 | 10 | | | | | 15 | The land owner reported seeing one brood the morning we in- spected this area in August. |
| Small numbers of Sharptails and Sage Hens make off and on use of the Lamesteer Refuge. No upland game birds observed during this period on any other Easement Areas. | | | | | | | | | |

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.



#12

Sample of fish present in
Lamesteer Reservoir.

(Approximately 75% are
undesirable species)

8/13/49

GARRATT

#13

Miller Lake well house
being painted.

6/2/49

HAZELTINE





#14

Repairing masonry at Miller Lake headgate (note cracks at right
of structure) 6/2/49 ELLINGSON



#15

Clearing willows etc. from Miller Lake well canal.
6/3/49 HAZELTINE



#16
Duck banding on Lake Mason.
8/9/49

GARRATT



#17
Minor repairs were made on Lamesteer Spillway.

6/8/49

ELLINGSON



#18

Small part of flightless ducks on Lake Mason.
(Note heavy growth of emergents)

7/14/49

GARRATT



#19
Western Grebe nest on Miller Lake.
7/13/49 WOLF



#20
Coot nest on Lake Mason, 1 out, 2 to go.
7/14/49 WOLF



#21
Avocet over Halfbreed Lake.

7/12/49

WOLF