

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
MUD LAKE NATIONAL WILDLIFE REFUGE
HOLT, MINNESOTA

Narrative Report

January, February, March, April

1961

Personnel.

Herbert H. Dill	..	..	..	..	..	Refuge Manager
E. Marvin Mansfield..	..	..	..	..	..	Wildlife Biologist (Management)
Don R. Perkuchin	..	..	..	..	..	Assistant Refuge Manager (Tr.)
James M. Thompson	..	..	..	..	..	Refuge Clerk
Oliver T. Davidson	..	..	..	..	..	Wildlife Aid
Daniel C. Wehmeyer (Retired 4/15)	..	..	..	..	..	Maintenance Man
Virgil D. Erickson (TAPER 4/17)	Maintenance Man
Oscar A. Christenson.	Automotive Mechanic

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NARRATIVE REPORT

January - April, 1961

I. GENERAL.

A. WEATHER CONDITIONS.

Except for April the weather this period was mild. No severe storms of any kind plagued us and the snow depth never reached more than eight inches. According to several long-established weather stations, this March was the third warmest on record in Minnesota. April more than compensated for this and registered the lowest maximum since 1956.

Precipitation for the period was slightly less than the five year average with February and April exactly equalling the average.

B. HABITAT CONDITIONS.

1. Water.

Due to warm March weather, water started to run in a few of the ditches on the 20th of March. This was two weeks ahead of last year. However, because of a colder April the last ice did not leave Mud Lake Pool until April 24th; one day later than last year.

The runoff was gradual and soon over, but adequate to bring all pools to the desired spring levels. It was not until May 7th that any water was permitted to pass from the refuge when Ditch 11 control was opened eight inches. Webster Creek and Green Stump Pools are in two stages of reflooding. As usual beaver are assisting in "every possible way" at Webster Creek. This includes completely plugging the 4' X 4' concrete culvert!

2. Food and Cover.

Mud flats and margins were flooded in Green Stump, Webster Creek, Mud Lake, Mud River, Thief Bay, Tamarack and Headquarters pools. Smartweed, soft stemmed bulrush and sedge yielded seed in good quantities for the large concentrations of waterfowl using these areas. Controlled burning was used

Table No. 1. Precipitation and Temperature Recordings. Readings prior to April, 1957 were taken from the records of the weather station at KTRF Radio Station at Thief River Falls, Minnesota. Readings taken since April, 1957 are from records of weather station at Mud Lake Refuge.

	1961	1960	1959	1958	1957	5-Year Average
Month	Precipitation	precipitation	precipitation	precipitation	precipitation	precipitation
January	.25	.42	.25	.35	.37	.33
February	.23	.11	.41	.16	.25	.23
March	.31	.23	.35	.19	.50	.32
April	.82	1.29	.25	.50	1.24	.82
Period Total	1.61	2.05	1.26	1.20	2.36	1.70

Temperatures										5-Yr. Extremes		
Month	High - Low		High - Low		High - Low		High - Low		High - Low		High - Low	
January	40	-34	39	-28	32	-36	41	-17	28	-34	41	-36
February	42	-19	36	-21	35	-37	56	-28	33	-24	56	-37
March	56	1	42	-23	50	-16	53	7	54	-14	56	-23
April	65	6	69	8	71	18	78	4	77	16	78	4

Refuge Record of Extremes Since 1946

Month	High - Date		Low - Date	
January	41	1958	-37	1951
February	56	1958	-37	55 & 59
March	75	1946	-33	1948
April	78	47&58	- 8	1954

Month	High Precip - Year		Low Precip - Year	
January	1.85	1950	.16	1958
February	.85	1949	.0	1950
March	1.21	1956	Tr.	1954
April	2.17	1950	.0	'47 &

'49, '53
'55

last fall to remove some of the heavy vegetation and make more seed available. This proved highly successful.

The spring feeding program was expanded again this year. A total of 2,560 bushels of oats and barley were spread on the ice using a home-made spreader (see photo section). The grain was eagerly sought by all species except the ruddy duck and was again completely utilized. It is felt the results obtained this spring were the best yet and that this program plays an important part in management for our breeding population.

The grain apparently is also a factor in rotting the ice, as those areas where it was spread seemed to open up first. Thus it is available when the birds arrive and prior to the time when they can get at the natural food mentioned earlier. This frustrates the crows as well!

Because of the mild winter and lack of deep snow, food for resident game birds and mammals was ample. Ruffed grouse were seen "budding" on several occasions and always appeared to be in good condition.

Routine checks through moose and deer range indicate an abundance of browse species. Willow, aspen and alder were heavily utilized.

II WILDLIFE

A. Migratory Birds

The arrival dates for waterfowl will be found in the table on the next page. A comparison with the past 15 years is shown.

Canada geese, whistling swans, mallards, pintails, goldeneyes, gadwalls, canvasbacks, greenwings, bluewings, and redheads arrived earlier than usual this spring. The others were about on schedule.

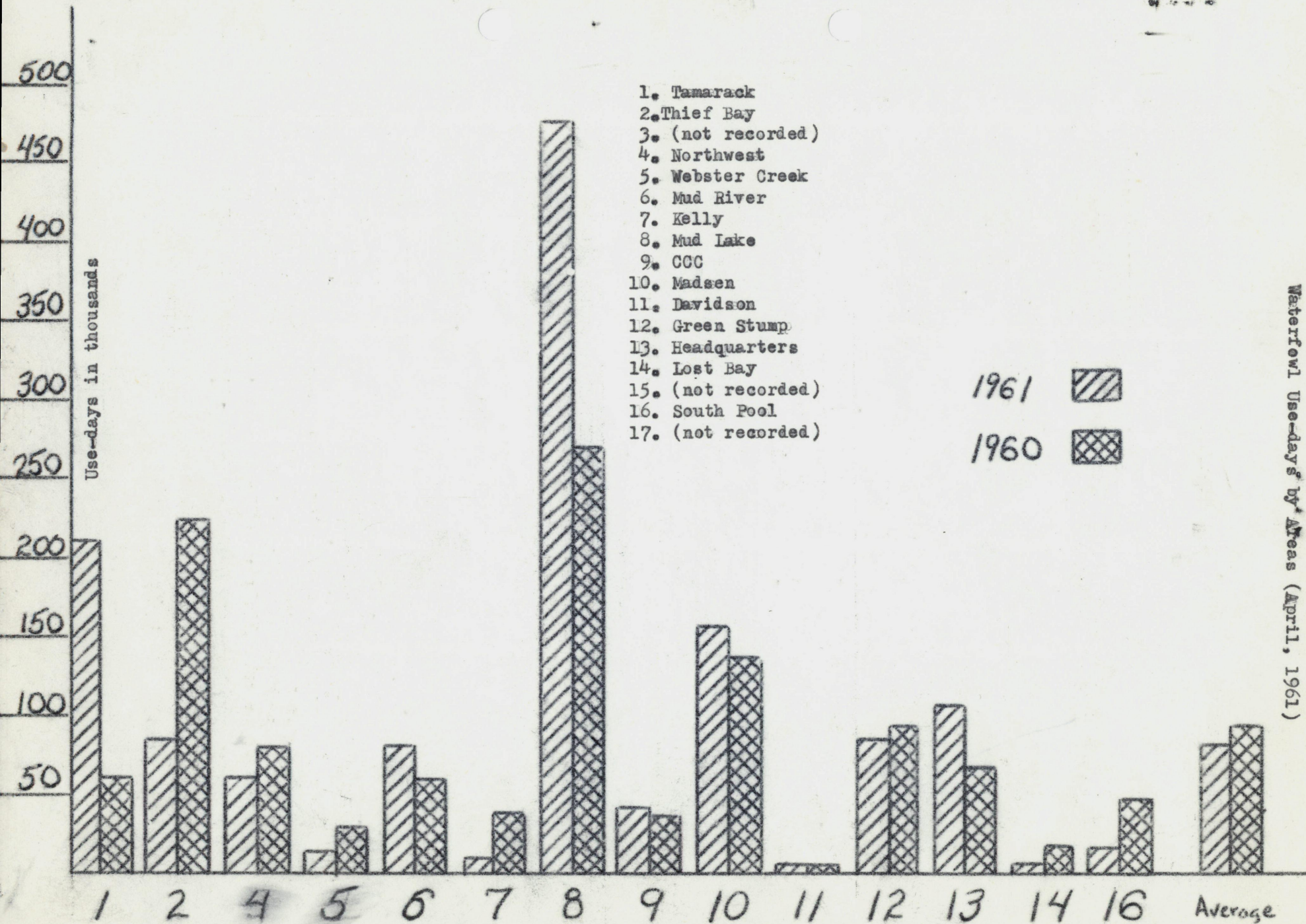
The accompanying map shows the location of 34 known pairs of Canada geese as compared to 22 in 1960. They are free-fliers which have been observed more than once at the same location and are believed to be nesting. In all probability we have at least 60 pairs of wild Canadas on the refuge. In addition, 11 pairs of wing-clipped geese are presently nesting in our goose pens. Canada goose production promises to be, by far, the best since the start of the goose project in 1950.

Total use by all species of waterfowl occurred from March 24 through the end of April. Gadwalls, shovellers and redheads were nearly double that of last spring. Mallards and bluewings were about the same as last year. Divers were about double that of last year's. The number of coots this year was about 10 times that of last year.

Total use days by all species of waterfowl was approximately 33,000 higher this year than in 1960. Total use days in April, 1961 was slightly lower than in the same month in 1960. (Please refer to the accompanying bar graph on the next page) Mud Lake and Headquarters pools increased in use over last year, probably as a result of the increased spring feeding (see photo section) in those units.

B. Upland Game Birds

Ruffed grouse appear to be up this spring. They could be heard nearly continuously drumming at times during April in the large aspen grove south of the Webster Y. Because the waterfowl and upland game seasons coincided with the ruffed grouse season in this area, hunting pressure is light on ruffed grouse. It is also noteworthy to mention that unhunted populations of ruffed grouse on the refuge have paralleled population trends in those hunted off the refuge.

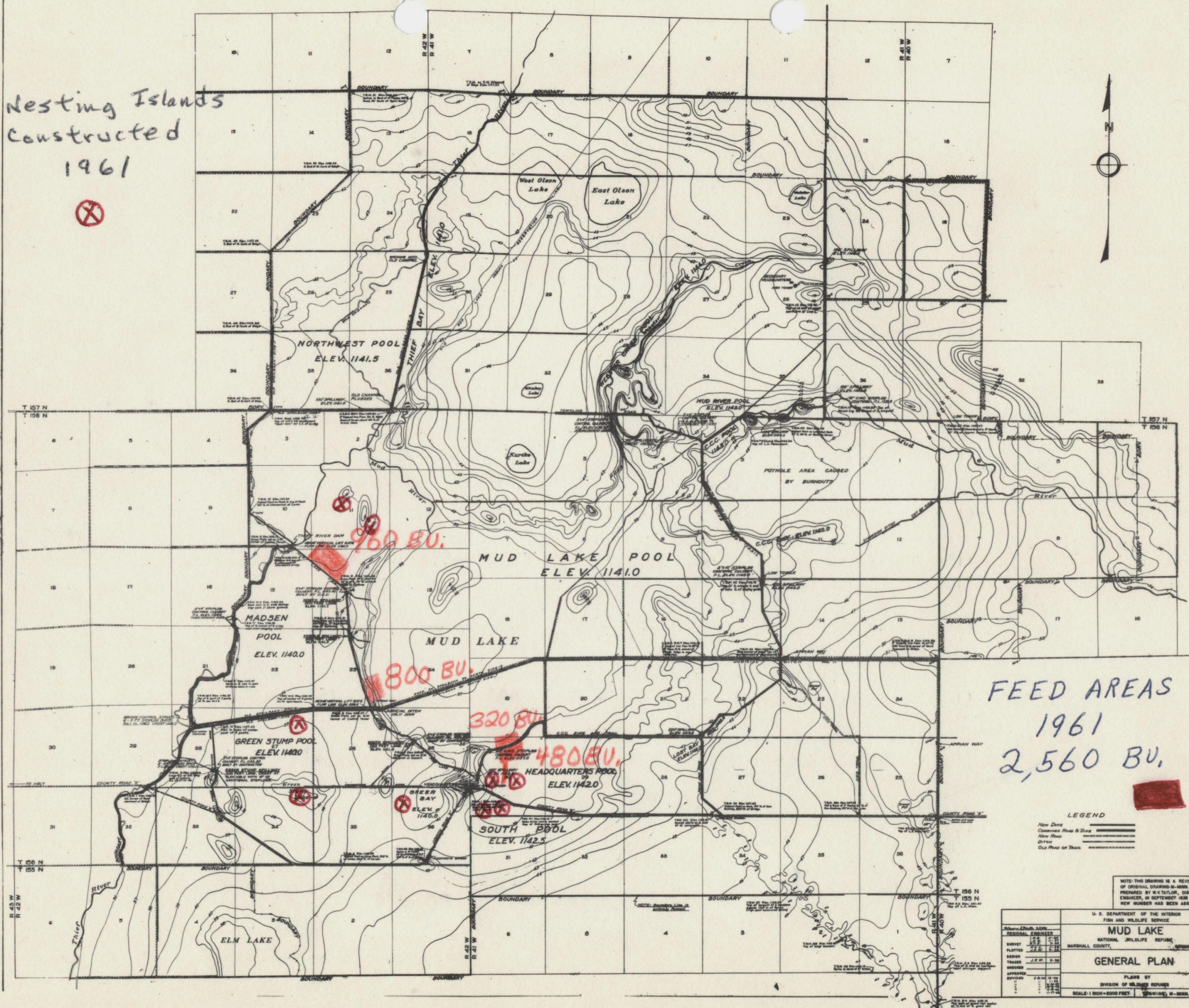


Waterfowl Use-days by Areas (April, 1961)

Table No. 2. Distribution of arrival dates from 1946 thru
 1958. (Numbers indicate previous years. X indicates this year.)

Species	17-21	22-26	27-31	1-5	6-10	11-15	16-20	21-25	26-30	Total Years Rec'd
Canada Goose	2x	3	5	2	2	1				16
Mallard	3	1x	2	7	2					16
Pintail	1	x	4	5	2	2	1			16
Goldeneye		3x	2	2	5	1	2			16
Scaup			2	1	6x	2	2	2		16
Ringneck				4	5x	1	4	1		16
Bufflehead			1	2	1	4x	4	3		16
Gadwall			1	1	3x	4	4	2		16
Widgeon				2	6x	1	5		1	16
Shoveler			1	3	3x	2	4		1	15
Canvasback				2	2x	3	4	2	1	15
Wood Duck				1	3	3x	4	1		13
Black				4	2x	1	4	1		13
Greenwing Teal			1	1	2x	4	3	2		14
Bluewing Teal			1		3x	3	7	1		16
Redhead					3x	3	4	4		15
Ruddy Duck								5	5x	11
Whistling Swan					2x	5	3	3	1	15
Coot		1	1	1	2	6x	2	2		16

Nesting Islands
Constructed
1961



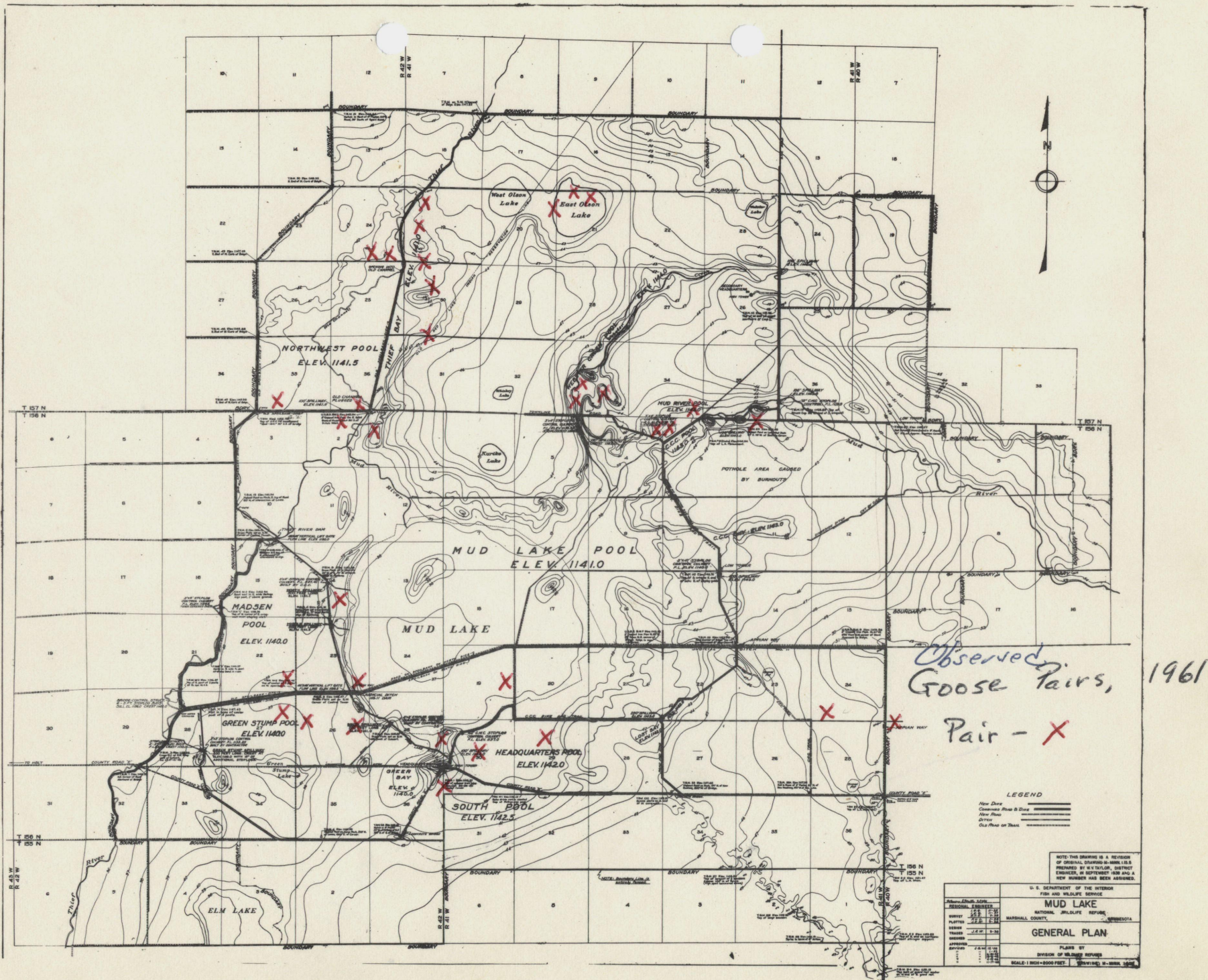
FEED AREAS
1961
2,560 BU.

LEGEND

New Date
Current Date & Date
New Date
Old Date or Date

NOTE: THIS DRAWING IS A REVISION
OF ORIGINAL DRAWING NO. 100-100
PREPARED BY W. T. TAYLOR, DISTRICT
ENGINEER, IN SEPTEMBER 1958 AND A
NEW NUMBER HAS BEEN ASSIGNED.

REGIONAL OFFICE REGIONAL ENGINEER DISTRICT PLANNED DESIGN DRAWING APPROVED DATE	U. S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE MUD LAKE NATIONAL WILDLIFE REFUGE HARRIS COUNTY, MINNESOTA GENERAL PLAN PLANS BY DIVISION OF WILDLIFE REFINES SCALE: 1 INCH = 2000 FEET DRAWING NO. 100-100
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Large coveys of sharptails were seen last fall near the refuge. Refuge observations of sharptails were 15% lower than past years.

No pinnates were reported seen this period.

Only a covey of four grey partridge were observed this period. a hen pheasant was again observed off and on feeding at the refuge goose feeders this winter. Three or four roosters have been observed in the Madsen Pool and west boundary area.

No spruce grouse were seen this period. The most recent observation was made during the refuge deer season last fall.

C. BIG GAME ANIMALS.

Snow cover never exceeded a foot in the woods and averaged around six to seven inches. Travel by moose and deer was unrestricted this winter.

The aerial census was made on February 15 by pilot-biologist Art Brazda and Marv Mansfield. The estimated refuge populations of white-tailed deer was 690 and of moose was 104. An additional 262 deer and 26 moose were estimated in the area adjacent to the refuge. Total population estimates are practically equal for both species this year and last. Animals observed were in good condition and no large concentrations were noted.

Mr. Brazda estimated that a minimum of 35 moose calves will be born this spring based on sex and age ratios obtained. To date 12 calves have been observed with but a little aerial search.

A heave browsing on dogwood has been noted in certain areas. This indicates that a larger havest is required to keep the deer population within desirable limits.

Twelve elk were sighted eight to ten miles east of the refuge by Brazda and Mansfield during the big game aerial survey.

D. FUR ANIMALS, PREDATORS, RODENTS AND OTHERS.

Refuge pools were again frozen to a depth of about five feet last winter. Snow cover was light. These conditions appear to have decreased our dwindling population of muskrats even more.

Few mink observations were made this period. Based on trapping results and observations, the mink population is much lower than last year's.

Forty-six beaver were trapped this spring. Twenty-four pelts were sold for an average price of \$6.72 to a local buyer. Beaver are not a serious problem at their present population level.

One fox den was found this spring (see front picture and picture section). A few adults have been observed, but the refuge population appears low.

E. HAWKS, EAGLES, OWLS, CROWS, RAVENS AND MAGPIES.

American rough-legged hawks were common again this winter. Magpies, snowy owls, golden eagles and most of the ravens left with the disappearance of the snow. Sparrow hawks were numerous this spring. Four or five different duck hawks were observed this spring. Maintenceman Virgil Erickson observed a duck hawk swooping up underneath a bluewinged teal and capturing it. Mansfield and Perkuchin also saw another duck hawk hit a blue-winged teal broadside and knock it out of the air.

Seven great-horned owls were caught in pole-traps set up in the goose pens.

Large numbers of crows were noted migrating through the refuge in early April. A turkey vulture was observed at the end of this period.

Of interest is the osprey (see photo section) which spent about two weeks at the refuge feeding on suckers running up to the Ditch 11 control.

F. OTHER BIRDS.

Four or five bluejays have been seen in the residence area. Chickadees, hairy and downy woodpeckers, juncos, five or six species of sparrows were seen feeding at residence feeders this spring, as well as a white-breasted nuthatch.

G. FISH.

Winter-killed sticklebacks and fathead minnows provided food for gulls and crows. Grebe populations shouldn't be lacking in food this year, based on the number of live minnows seen. The usual runs of suckers have been noted this spring.

H. REPTILES AND AMPHIBIANS.

A few garter and red-bellied snakes have been seen. The frogs and toads are in good voice again this spring. Wood frogs, chorus frogs, leopard frogs, possibly spring peepers, grey tree frogs, Dakota toads and American toads have been seen and/or heard this spring. Tiger salamanders are seen occasionally.

I. DISEASE.

Nothing to report.

III REFUGE DEVELOPMENT AND MAINTENANCE.

A. PHYSICAL DEVELOPMENT.

A pole and post project was conducted from January through March. The project resulted in approximately 1100 fence posts (to be used for refuge fencing) and 50 - 75 tamarack logs were cut for rough lumber and timbers for bridge repairs and construction.

Hauled gravel and rock for Thief Bay spillway.
Did some spot gravelling on refuge roads and Greenstump spillway.

Hauled and spread about 2,560 bushels of oats for spring feeding.

Picked up Chevrolet pick-up at Swan Lake.
Hauled two cables from Mark Twain to Union Slough, Rice Lake and Tamarac.
Hauled seven geese from Rice Lake to Mud Lake.
Removed five strands of old barbed wire from two miles along west boundary.

Overhauled engine in Willys 4WD pick-up.
Other equipment repairs and overhauls were carried out.

From the standpoint of time consumed, preparation of the new budget forms and revision of the 10-year development plan were major items.

B. PLANTINGS.

Farming and grazing for 1961 were discussed with all permittees.

1. Aquatics and Marsh Plants.

None.

2. Trees and Shrubs.

None.

3. Upland Herbaceous Plants.

None.

C. PLANNED BURNING.

None.

IV. RESOURCE MANAGEMENT.A. GRAZING.

None this period.

B. HAYING.

None this period.

C. FUR HARVEST.

Two permits were issued for beaver trapping. A total of 46 beaver were taken. The harvest was intended mainly to control nuisance animals.

D. TIMBER REMOVAL.

The Engstrom brothers removed 54.5 cords of aspen at the old secondary headquarters area. The refuge received \$81.75 from this operation.

E. COMMERCIAL FISHING.

None.

F. OTHER USES.

None.

V. FIELD INVESTIGATION OR APPLIED RESEARCH.

A. PROGRESS REPORT.

1. Captive Goose Flocks.

At the close of the period 32 canadas remained in the 1959 Swan Lake Flock. Seven, trapped in 1958, were released into the wild on April 21. Orange leg bands were placed on the birds. They have been observed since being released in Webster Creek Pool. No pairing or nesting was noted.

Seven geese were received from Illinois on February 2nd. One mated pair was included in this group.

Thirteen mated pairs were separated out of the barn pen. Seven pairs were placed in the newly constructed west pen. To date four pairs brought off a total of 16 young (two broods of five, one of four and one of two) and two more pairs are due to bring off broods shortly. The three pairs placed in the north pen produced a total of 15 young (broods of six, five, and four). One of the three pairs placed in the middle pen hatched four young. A total of nine eggs were not hatched in four of the nests to date. Two eggs were partially hatched, one had a full term embryo, and the remaining were spoiled due to freezing in various stages of development.

Of interest was the death of a gander in the west pen due to observed injuries on and about the breast plus exhaustion from a battle royal with another goose or a pair.

Only two of the 11 nesting pairs nested on the nesting mounds constructed with the dragline.

Another item of interest is the acceptance of the 20% egg mash pellets by the geese this spring. In previous attempts the geese refused to eat the egg mash put before them.

2. Experimental Nesting Islands.

Nine nesting islands were constructed with sheet aluminum. The sheets were bolted together to form a round crib 10 feet in diameter and three to four feet high. They were then heaped with gravel and capped with straw and a split tire.

JAN-APRIL 14.
1961

Approximate total cost per island was \$11. See photo section and enclosed map.

3. Predator Control Study.

Live trapping commenced in late March. The state used approximately 92 National rigid type traps

In February poison drop baits were placed around large meat chunks and placed at 13 stations. Thirteen red foxes were taken in this manner. In addition, trapper, Carl Burrell, took 15 red foxes in steel traps this spring.

Poisoning in the study area began on April 22nd and will be reported next period. A total of 134 nests have been placed in this area. The formula of 20 parts of mineral oil to one part of strychnine is again being used. This formula has been found to be more effective on raccoons and skunk.

To date the number of animals trapped (18 woodchucks, 23 skunks, 12 raccoon and 6 other mammals) and poisoned (4 skunks and 2 raccoon) indicate a much reduced predator population in the refuge study area. It looks as though the program is finally getting some results.

State personnel set out 100 dummy nests in the study area and 100 in the remainder of the refuge. They will be checked the first week in June and the results will be reported later.

VI PUBLIC RELATIONS.A. RECREATIONAL USES.

None.

B. REFUGE VISITORS.

Following pages.

C. REFUGE PARTICIPATION.

See page

D. HUNTING.

None this period.

E. VIOLATIONS.

Nothing to report.

F. SAFETY.

Four safety meetings were held this period. Movies were seen on safe driving practices, safe handling and use of tools, and safe handling of heavy equipment. A memorandum on personal protective equipment was discussed at one meeting.

B. REFUGE VISITORS.

Date	Name	Address	Purpose
1/31	Harry W. Ernst	Des Moines, Iowa, Gen. Chemical Div.	Demo. Weed killer
1/31	Forrest Lee	St. Paul, Minn. Minn. Conserv. Dept. Waterfowl Biologist	Predators
1/31	Bob Farmes	Minn. Conserv. Dept. Area Manager Thief River Falls, Minn.	Predators
2/7-8	Donald Balser	Minn. Conserv. Dept. Research Biologist Forest Lake, Minn.	Predator Control
2/12	Herman Anderson	Refuge Manager, Norris Camp, Roosevelt, Minn.	Visit
3/2	Earl Anderson	Editor, Middle River Record, Middle River, Minn.	Depredation
3/2	Norman Anderson	Farmer, Middle River, Minn.	Depredation
3/2	Ervin Peterson	" " " "	"
3/26	Charles Kinsey	Biologist, Minn. Conserv. Dept, St. Paul, Minn	Predator Control
3/28	Prof. J. L. McMahon with 34 area teachers	Professor, Bemidji State College	Wildlife Cons.
4/5	Dave Fischer	U.S.G.M.A.	Depredations
"	Flick Davis	Chief, U.S.G.M.A.	"
"	Bill Ellerbrock	U.S.G.M.A. St. Paul, Minn.	"
"	Merrill Hammond	Biologist, Upham, N. Dak.	"
"	Clair Rollings	Asst. Supr. Refuges, R.O. St. Paul, Minn.	"
"	Elmer Lenzen	Area Supvr. Warden Serv., Crookston, Minn.	"
"	Con Olson	Game Warden, Crookston, Minn.	"
"	Ted Znajda	" " Warren, Minn	"
"	Don Fern	" " Hallock, Minn.	"
"	Ed Johnston	" " Roseau, Minn	"
"	John Parker	" " Warroad, Minn.	"
"	Carl Sundstrom	" " Thief River Falls, Minn.	"
"	Jay Haroldson	Refuge Manager, Thief Lake Refuge	"
"	Bud Gerrish	Patrolman, Thief Lake Refuge	"
"	Robert Farmes	Area Game Manager, Thief River, Falls, Minn.	"

B. REFUGE VISITORS, Continued.

Date	Name	Address	Purpose
4/5	Jack Jensen	Manager, Roseau Refuge, Roseau, Minn.	Depredation
"	Joris Daniels	Patrolman, Roseau Refuge	"
4/15	Dave Vesall	Chief, Section of Game, Minn. Conserv. Dept. St. Paul, Minn	Visit
4/15	Vern Gunvaldson	Area Supvr. Minn. Conserv. Dept, Bemidji, Minn.	Visit
4/15	Robert Farmes	Area Game Mgr. Thief River Falls, Minn.	Visit
4/19	Berkeley Peterson	Dist. Agent, PARC, St. Paul, Minn.	Predator Control
4/24	Edmond Doeling	Hydraulic Engineer, R O	Pools & Ditches
4/27	Leon Conover	U.S. Weather Bureau, Bismarck, N. Dak. Inspector	Station
5/2-11	Kermit Wilhelm	Engineer Aid, Minneapolis R O	Surveying
"	Phillip O. Muller	" " "	"
"	Alvin T. Feddema	" " "	"
5/10	Howard Kraemer	Exec. Sec., C.C. East Grand Forks, Minn.	Visit
5/10	Tim Smallinburg	Mgr., Sewage Plant, East Grand Forks	Visit
5/10	Gordon Saul	Area Forester, Grygla, Minn.	Fire & Talk
5/15	Ralph Rundell	Conserv. Aid, Grygla, Minn.	Farm program
5/22	Doug Teigmeir	KNOX-TV Grand Forks, Minn.	Film
"	Dave Schroeder	" " "	"
"	Leo Kielizewski	" " "	"
5/22	Edward A. Weiland	Section of Game (Minn.) Crookston, Minn.	Visit

C. REFUGE PARTICIPATION.

Date	Material	Organization	Address	By	Attendance
1/19	Slide-talk	Methodist Men's Club	Thief River Falls	Mansfield	35
2/21	talk	Penn. Co. Sportsman's Club,	Thief River Falls	Mansfield	50
2/27	Talk	Marsh. Co. Zoning Comm.	Thief River Falls	Dill	25
2/28	Talk	N.W. Assn. Sportsmens Club.	E. Grand Forks	Dill	50
3/5	Talk	Greenbush Lutheran Church	Greenbush, Minn.	Mansfield	65
3/17	Slide-talk	Dist. Soil Meeting	Twin Valley, Minn	Dill	150
3/20	Slide-talk	Holt Grade School	Holt, Minn	Perkuchin	80
3/21	"	Penn. Co. Sportsman Club	Thief River Falls	Dill	50
3/21	"	Lincoln High School	Thief River Falls	Perkuchin	1000
3/21	"	Strandquist School	Strandquist, Minn	Perkuchin	210
3/22	"	Sportsman's Club	Middle River, Minn	Dill-Mansfield	20
3/22	"	Viking School	Viking, Minn	Perkuchin	80
3/22	"	Goodridge School	Goodridge, Minn	Perkuchin	250
3/23	"	Koochiching Spts. Assn.	International Falls	Dill	320
3/24	"	Newfolden High School	Newfolden, Minn	Perkuchin	200
3/27	Talk	Boy Scout Meeting	Grand Forks, N. D.	Dill	25
3/28	Slide-talk	Elementary Teachers Class			
		Bemidji State College	Bemidji, Minn	Dill	32
3/29	Talk	Lion's Club	Thief River Falls	Dill	45
4/8	Judging8	High School Science Fair	Thief River Falls	Dill	1000
4/27	Slide-Talk	4-H Knox School	Thief River Falls	Mansfield	350

VII. OTHER ITEMS.A. ITEMS OF INTEREST.

D. C. "Carl" Wehmeyer retired effective April 15. A dinner given in his honor in Thief River Falls was well attended by refuge personnel and friends.

Carl was presented with appropriate tackle for catching up on his fishing. He also received the Departmental Award for Commendable Service. He had a total of about 14 years Government service, of which more than six years was spent at this refuge.

Virgil Erickson, Holt replaced Mr. Wehmeyer as Maintenance man. Virgil has worked at the refuge from time to time for several years and is well known locally.

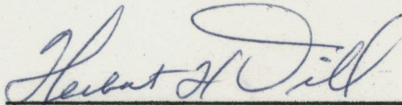
SIGNATURE PAGE

Credits:

Mansfield I
Perkuchin II, III, IV, V, VI
Dill VIII plus editing & Misc.

Photos by Dill and Thompson
Photo-processing by Thompson

Submitted by:

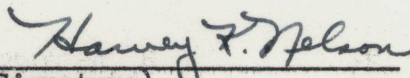

(Signature)

Date: June 2, 1961

Refuge Manager
Title

Approved, Regional Office:

Date: 6-5-61


(Signature)

ACTING
Regional Refuge Supervisor

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
MUD LAKE NATIONAL WILDLIFE REFUGE
HOLT, MINNESOTA

NEWS RELEASE: February 16, 1961

DEER AND MOOSE COUNTED AT MUD LAKE REFUGE

The annual inventory of big game animals was taken at the Mud Lake National Wildlife Refuge February 15, 1961, according to Herb Dill, Refuge Manager. Pilot-Biologist Art Brazda and Ass't. Manager Marv Mansfield made the count from the air.

Separate counts were made on the State Wildlife Management Areas which adjoin the refuge, and which are managed by the Minnesota Department of Conservation. These are: Eckvöll Unit, approximately 6,000 acres east of Mud Lake Refuge, and Elm Lake Unit, approximately 14,000 acres south of Mud Lake.

The combined acreage of big game habitat, exclusive of open water areas, is approximately 60,000 acres.

The following table shows the results of the count this year in comparison to the one made February 11 - 12, 1960.

Year	Eckvöll		Elm Lake		Mud Lake		Grand Total	
	Deer	Moose	Deer	Moose	Deer	Moose	Deer	Moose
1960	78	18	220	36	620	74	918	128
1961	72	8	200	18	690	104	962	130

In addition to these animals, 12 elk were observed east of the refuge.

The men reported that all animals seen appeared to be in excellent physical condition, and were well distributed over available habitat. The largest group of deer seen was six, and of moose, four was the largest.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES & WILDLIFE
MUD LAKE NATIONAL WILDLIFE REFUGE
HOLT, MINNESOTA

NEWS RELEASE: For release March 14, 1961

More Feed to be Raised at State and Federal Refuges.

Cooperative use of equipment between the Thief Lake State Refuge and the Mud Lake National Wildlife Refuge should result in increased production of feed for wildlife, according to Robert Farnes, Area Game Manager for the State Department of Conservation. He explained that an agreement has recently been made with the U. S. Fish and Wildlife Service whereby equipment at the Mud Lake Refuge will be used for developing additional croplands at the Thief Lake Refuge.

The two services will also cooperate in solving water management problems in the new Eckvold and Elm Lake game management areas, Farnes stated.

Mr Farnes said that the Conservation Department plans to eventually provide access roads into these areas. Lands suitable for grazing and other economic uses may be leased to nearby farmers in a program similar to that at Mud Lake and Thief Lake. Fifty percent of all revenue reverts to the County in lieu of taxes.

No large impoundments are planned. The areas will be maintained largely in their present condition.

Commenting on the arrangement, Herb Dill, Manager of the Mud Lake Refuge stated, " There is an urgent need to make better use of rapidly diminishing wildlife habitat. This agreement is a major step toward solving some of our more difficult local problems".

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
MUD LAKE NATIONAL WILDLIFE REFUGE
HOLT, MINNESOTA

NEWS RELEASE: March 20, 1961

CANADA GEESE ARRIVE AT MUD LAKE REFUGE.

March 20th was a big day at Mud Lake National Wildlife Refuge as six Canada geese were observed landing with the captive goose flock. Mrs. Marvin Mansfield, wife of the Assistant Manager, was the first to observe them as they circled the area in preparation for a landing.

Mr. Mansfield stated this is the earliest arrival date since 1948. Last spring they reached the refuge on March 31st, several days ahead of the first ducks. Geese are usually the first to return to Mud Lake Refuge and seem very anxious to set up housekeeping.

Because of the scarcity of good goose nesting sites at the refuge a program of nesting island construction was started last winter when sixteen were built. Nine more were added this winter and should result in an increase in goose production.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
MUD LAKE NATIONAL WILDLIFE REFUGE
HOLT, MINNESOTA

NEWS RELEASE

FOR RELEASE: April 7, 1961

MALLARDS Banded AT MUD LAKE REFUGE SHOT IN 12 STATES AND CANADA

A total of 167 bands have been recovered from 1372 ducks banded at the Mud Lake National Wildlife Refuge last fall, according to Herb Dill, Refuge Manager. Dill said that banding was done in September, just prior to waterfowl hunting season.

As in 1959, a special "Dew Line" banding program was in force at the refuge. Important information is obtained from this work which is used to determine recommendations for waterfowl management. The main objective was to band 1,000 mallards.

A total of 1,209 mallards were banded from which 163 bands have been sent in to date.

Other species banded were: Black duck, American Widgeon, green-winged teal, blue-winged teal, wood duck and pintail.

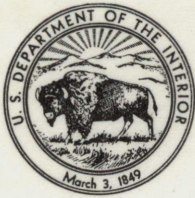
One hundred and eight bands were recovered from mallards shot in Minnesota. Of these, 31 were taken in the vicinity of Mud Lake Refuge.

Bands recovered from mallards in other states and Canada were:

South Carolina - 1	Iowa - - - 6
Ohio - - - 1	Illinois - - - 19
Indiana - - - 2	Wisconsin - - - 8
Arkansas - - - 6	Louisiana - - - 1
Missouri - - - 6	Mississippi - - - 2
	Ontario - - - 1

Dill noted that in 1960 Minnesota duck hunters accounted for approximately 65 percent of the bands recovered from mallards. Of the bands recovered in Minnesota, approximately 29 percent were sent in by hunters who hunted in the vicinity of Mud Lake Refuge. Again this year, a band was recovered in Canada indicating that the mallard flew north after being banded in September.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
Mud Lake National Wildlife Refuge
Holt, Minnesota

May 8, 1961

News For Immediate Release:

Picture Caption:

Virgil Erickson, ^(L) Holt, Minnesota and Glenn Bernstein of Thief River Falls display part of 46 beaver pelts taken at the Mud Lake National Wildlife Refuge during April. The largest beaver weighed 68 pounds. Game Warden Carl Sundstrom states that he has tagged a total of 196 beaver in the Pennington - Marshall County area this spring.



3 -1750a

Cont. NR-1
(Rev. March 1953)WATERFOWL
(Continuation Sheet)

REFUGE		Mad Lake		MONTHS OF										January		through April		1961	
		(2)										(3)		(4)					
		Weeks of reporting period										Estimated		Production					
(1)		: 3/19-25 : 3/26-4/1 : 4/2-8 : 4/9-15 : 4/16-22 : 4/23-29 :										: waterfowl		: Broods: Estimated					
Species		: 11 : 12 : 13 : 14 : 15 : 16 : 17 : 18 :										: days use		: seen : total					
Swans:																			
Whistling							116		346		464			6,482					
Trumpeter																			
Geese:																			
Canada			40	450	582	836		550		802			22,820						
Cackling																			
Brant																			
White-fronted						8							56						
Snow								300		150			3,150						
Blue								100		50			1,050						
Other																			
Ducks:																			
Mallard			300	3,000	2,930	24,860		13,610		4,620			345,240						
Black						6		10		20			252						
Gadwall						138		2,190		5,570			55,286						
Baldpate					2	656		4,730		3,650			63,266						
Pintail			75	300	1,218	4,478		2,560		5,690			100,247						
Green-winged teal					4	330		4,660		6,660			81,578						
Blue-winged teal						84		4,700		7,250			84,238						
Cinnamon teal																			
Shoveler						364		2,420		2,660			38,108						
Wood						40		20		20			560						
Redhead						8		1,620		850			17,346						
Ring-necked						642		2,620		3,360			46,354						
Canvasback						4		600		1,180			12,488						
Scaup						2,080		16,320		13,210			221,270						
Goldeneye			20	30	133	1,700		1,580		60			24,661						
Bufflehead						40		190		730			6,720						
Ruddy										10			70						
Other								10					70						
H. Merganser																			
C. Merganser						40		20					420						
Coot:						244		14,680		18,800			236,068						
		(over)																	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	6,482	464	
Geese	27,076	1,002	
Ducks	1,098,174	57,860	
Coots	236,068	18,800	

SUMMARY

Principal feeding areas Mad Lake, Green Stump and

Headquarters pools.

Principal nesting areas _____

Reported by Don R. Perkuchin

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (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) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: 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.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

MIGRATORY BIRDS
(other than waterfowl)

Refuge Mud Lake

Months of January through April 1946

(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>										
Great B. Heron	1	3/26								
B.C. Night Heron	1	4/28								
Sandhill Crane	30	4/21								
Pelican	1	4/21								
D.C. Cormorant	2	4/25								
Pied-billed grebe	1	4/19								
Red-necked grebe	3	4/21								
Eared grebe	1	4/25								
Horned grebe	1	4/28								
American Egret	1	4/26								
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	2	4/5								
Lesser Yellowlegs	many	4/9								
Greater "	"	4/9								
Herring Gull	"	4/9								
Ring-billed gull	"	4/9								
Franklin's gull	1	4/19								

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	1	4/4			
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle	Winter resident (not common)				
Duck hawk	1	4/28			
Horned owl	Resident				
Magpie	Winter resident				
Raven	"	"			
Crow	1	2/28			
Snowy Owl	Winter resident (not common)		1	4/3	
Rough-legged hawk	"	"			
Marsh Hawk	1	3/6			
Sparrow Hawk	2	3/17			
Bald Eagle	1	2/27			
Osprey	1	4/25			
Reported by <u>Don R. Perkuehin</u>					

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.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Mud Lake

Months of January through April, 1946

(1) Species	(2) Density	Acres per Bird	(3) Young Produced	(4) Sex Ratio	(5) Removals	Hunting	For Re- stocking	For Research	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat		Number broods obs'd. Estimated Total	Percentage					number using Refuge Observed	Pertinent information not specifically requested. List introductions here.
Ruffed Grouse									15	
Sharptailed Grouse									34	
Gray Partridge									4	
Pheasant									3	

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

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.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Mad Lake

Year ending April 30, 1961

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total Popula tion
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed
								Permit Number	Trappers Share	Refuge share			
Mink								T-9393	6	6			
								T-9394	8	8			
								T-9395	3	3			
								T-9396	9	9			
								T-9399	7½	7½			
								T-9400	2	2			
Muskrat								T-9393	9	9			
								T-9394	10	10			
								T-9395	3	4			
								T-9396	5	5			
								T-9397	2	1			
								T-9398	8	8			
								T-9399	4	4			
Beaver								T-9451	24½	0			
								T-9452	21½	0			

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Reported by Don R. Perkuchin

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. 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, bottom land 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) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Manager Dill presents retiring Carl Wehmeyer with a casting rod and reel. Carl has purchased a small resort at Pequot Lake, Minn. where he will make his new home and catch up on his fishing. M. L. #299-11 JMT



Red fox pups soon become accustomed to the clicking of shutters and intrusions by burly photographers like Jim Thompson. Mother Fox is more wary, however, and refuses to cooperate with photographers. M.L. 235-12 JMT



A rare visitor is the osprey. Intent on grabbing a sucker at Ditch 11 Control, it permitted the photographer a fair shot at about 150 yards. M.L. # 233-8 HHD



A "tin-can" nesting island made from excess aluminum sheeting filled with gravel. It is topped with straw and an old tire casing. Total cost about \$11.00. M.L. #227-1 JMT



Canada goose, redheads, scaup and mallards inspect one of the new islands (metal sides covered with fill). The picture was taken at about 400 yards. M.L. #233-11 HHD



Manager Dill demonstrates a "duck-out" or "Sitting-stick" with built-in adjustment for fluctuations in water levels. The materials were salvaged from old posts and the scrap pile. These were immediately used by breeding pairs; loafing spots are an integral part of waterfowl habitat. M.L. #225-1 JMT



Our sometimes "Friend" the beaver, makes his spring appearance in April.

M.L. #228-9 HHD



This large beaver dam is in the Whiskey Lake area and bothers no one. Marv Mansfield surveys the situation. The dam is over 100 feet long. M. . #233-1 HHD



A melanoid beaver caught by Glen Bernstein was sent to the Minnesota Museum of Natural History; weight approximately 22 pounds. The animal on the right is of normal color. M. L. #232-2 HHD



Five beaver over 50 pounds weight were taken by Virgil Erickson (left) and Glen Bernstein. Total catch was 46. M.L. # 236-4 JMT



A home made broadcaster facilitated spreading grain on the ice in March. Oliver Davidson, the inventor. M.L. #228-5 HHD



Grain broadcast on the ice soon disappeared. Radiation created rapid melting which not only frustrated migrating crows, but hastened break-up of the ice over the area where the grain was spread. M. L. #227-7 JMT



We estimated that from 3,500 to 4,000 mallards fed on the grain that was put out. There was also a liberal sprinkling of other species of waterfowl. Most of the mallards in the picture are paired. Undoubtedly they constitute the bulk of our breeding population. M. L. #231-18 HHD



Scaup, goldeneyes and Canada geese also fed on the grain that was broadcast.

M. L. #231-21 HHD



Hundreds of whistling swans stopped by this spring. They are an attractive addition to the spring migration. M. L. #232-14 HHD

