

BRANCH OF WILDLIFE REFUGES NARRATIVE REPORTS

MR. SALYER _____

MISS BAUM _____

MR. GRIFFITH PEG _____

Operations

MR. REGAN _____

MR. DuMONT _____

Land Management

MR. ACKERKNECHT _____

DR. MORLEY _____

Habitat Improvement

DR. ERICKSON _____

MR. STILES _____

MR. KUBICHEK _____

Stenographers

REFUGE TAMARAC _____

PERIOD JANUARY-APRIL 1956

TAMARAC NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

JANUARY, FEBRUARY, MARCH, APRIL

1956

U. S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

ROCHERT, MINNESOTA

REFUGE PERSONNEL

John M. Dahl Refuge Manager
James L. Stillings Refuge Maintenance Man
Donald L. Berg Refuge Clerk

TEMPORARY EMPLOYEES

Ned L. Larson Laborer
John Edwin Momb Laborer
John Bellanger Laborer
John Burnette Laborer
Francis P. Rock Laborer
Wilbur Wilkins Laborer
Ed Brown Laborer
Albert Basswood ; Laborer
Tom Jones Laborer
Charles Big Bear Laborer
Harry Smith Laborer
Charles Bunker Laborer
Simon Bunker Laborer
Manard Swan Laborer
Ruben Rock Laborer
Simon Bellanger Laborer

TABLE OF CONTENTS

I. WEATHER	
Weather Conditions1
Water Conditions1
Fires	2
II. WILDLIFE	
Migratory Birds	2
Upland Game Birds	3
Big Game Animals	4
Fur Animals, Predators, Etc.	5
Predaceous Birds	7
Fish	7
III. REFUGE DEVELOPMENT AND MAINTENANCE	
Physical Developments	8
Plantings	9
Collections10
Receipts of Seed and Nursery Stock10
IV. ECONOMIC USE OF THE REFUGE	
Grazing	11
Haying	11
Fur Harvest	11
Timber Removal	11
Other Uses	12
V. FIELD INVESTIGATION OF APPLIED RESEARCH	
VI. PUBLIC RELATIONS	
Public Uses	12
Refuge Visitors	12
Refuge Participation	13
Hunting	13
Fishing	13
Violations	13
VII. OTHER ITEMS	
Items of Interest	14
N/R Forms	

TAMARAC NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

JANUARY, FEBRUARY, MARCH, APRIL

1956

I. General

A. WEATHER CONDITIONS

There was about 20 inches of snow on the ground at the beginning of period which increased to 36 inches by March. The first snow fell during October with some snow still in the woods at the close of this period. From records it appears this was next to the coldest and longest winter in this area. In only one year since 1890 has the ice stayed on the lakes longer than this past spring. At the close of the period all the lakes were ice-bound with the exception of Chippewa Lake which was flooded by the Ottertail River. We had a few warm days in March and April but for the most part weather has been cold and damp with some high winds. We had a number of one day blizzards during February and March.

<u>Month</u>	<u>Precipitation</u>	<u>Maximum Temp.</u>	<u>Minimum Temp.</u>
January	.91	33	-26
February	.90	35	-35
March	1.80	45	-27
April	<u>2.38</u>	<u>65</u>	<u>11</u>
Total	5.99	65	-35

B. WATER CONDITIONS.

Nearly all the lakes on the refuge were at or near normal pool elevations. Upper and Lower Egg Lakes were 18 inches higher than normal because of a beaver dam which we left in during the winter to help the fish life. Pine Lake is at an all time high this spring with part of the county road on the west side under water. According to oldtimers in this area this is the highest the lake has ever been. Tamarac Lake has a good supply of water which was aquired from the 5 and 8 inch rains of last summer. The level ditching areas have a very good supply of water as we removed the drain tiles and plugged the ditches draining some of these areas. The marshes and potholes have a good supply of water this spring.

C. FIRES

Snow in the woods, water in the marshes, and a cold damp spring have kept fires at a minimum. This is in sharp contrast to last spring when we would be on two or three fires a day. This spring we have checked only one fire which was off the refuge.

II. WILDLIFE

A. MIGRATORY BIRDS.

1. POPULATION AND BEHAVIOR.

The birds were late in arriving this past spring but we did have more of them and they were staying longer than in previous years. The first mallards arrived on April 4 with blue-winged teal arriving on April 26. Canada geese were flying over the area on March 25 but the refuge was covered with snow and ice at that time. Most of the ducks were in the Chippewa Lake area which was opened by the river flowing through.

The ring-necked ducks and scaup were more numerous than other years and there were more flights stopping at the refuge. The level ditches had an abundant supply of birds and it appears that we should have an excellent nesting population this year. We did not have as many woodduck or golden-eyes as usual. Canvasbacks and redheads were down in numbers. Coot which started to arrive on April 26 were very abundant.

The morning dove which is becoming more numerous each year arrived on April 2. The flickers arrived on April 2, the jackson snipe on April 27, meadowlark on March 19, starlings March 5, robins and slate colored juncos March 31. The blue heron and bittern arrived on March 27. This year we had no purple finches when we usually have thousands of them. The pine and evening grosbeak were present in large numbers as were also the hairy and downy woodpeckers. The shorebirds were much more abundant this spring than in past years.

2. FOOD AND COVER

Food and cover is varied and abundant on this refuge. This includes both aquatic and other types. With more emphasis being placed on the goose project we will have an abundance of corn, millet, sorghum, and grasses for spring and fall browsing. The level ditching that was completed in 1954 has considerable cover and should be an excellent nesting spot this year. There are thousands of acres of cover for waterfowl in the marshes, potholes, and the smaller lakes. There is an abundance of wild rice and other aquatic foods for

the fall flights.

3. BOTULISM

None on this refuge

4. LEAD POISONING AND OTHER DISEASES.

None has been observed on this refuge.

B. UPLAND GAME BIRDS.

1. POPULATION AND BEHAVIOR.

The ruffed grouse appears to be more numerous this spring and may be on the upward climb again. This is the only upland game bird present in any numbers in this area.

The sharp-tailed grouse which was once abundant on the refuge is now very scarce. It is possible that there numbers can be increased when the farm program will leave more standing grain and corn.

The ring-necked pheasant is occasionally noted along most of the refuge roads. This spring we expect to receive about 100 of these birds which will be liberated near the refuge headquarters.

The chuker partridge has been absent from this area for the past few years even though it was well stocked at one time.

The Hungarian partridge are usually seen during the winter near Balsam Lake on our west boundary.

This spring we received seven adult wild turkeys from the Dilworth Hook and Bullet Club. We expect to receive more birds this fall of the spring hatch. In order to give the turkeys and pheasants a chance to establish themselves it may be necessary to close the south part of the refuge to upland game hunting. Not too many people make use of this area for upland game hunting at present but some of the local meat hunters might wish to dine on wild turkey or pheasant.

2. FOOD AND COVER

There is an abundance of both food and cover for upland game birds on the refuge area. In the south part there are many grain fields both private and refuge which furnishes a good supply of food during part of the year. There are many abandon small acreages which are ideally suited for upland game birds.

For cover there are thousands of acres of shrubs and brush which is excellent for both food and cover. There are stands of coniferous trees on all parts of the refuge which should give cover during the colder part of the winter.

3. DISEASES.

No sign of disease noted.

C. BIG GAME ANIMALS.

1. POPULATION AND BEHAVIOR.

The last census in February showed a total of 264 deer as compared to 463 in 1955. The deer were fairly well scattered and not too much damage was done to the tree plantations except near the headquarters area. It will possibly be necessary to live trap the deer near the headquarters area and move them to the north part of the refuge.

Last fall the area east of the Boulevard Road and north of the Indian Service Road was open to deer hunting. There was some sign of overbrowsed younger trees on the area east of the Boulevard Road. It may be necessary to open this same area to deer hunting this fall in order to establish the younger trees. The area west of the Boulevard Road has quite a large amount of natural reproduction which has not been damaged.

During April we did locate quite a number of deer that had died of starvation. One of these fawn had died beside an alfalfa stack with his mouth still full of alfalfa. The deer for the most part were not in very good condition when they started to move where they could be seen.

<u>Year</u>	<u>Spring Population</u>	<u>Fall Kill</u>
1947	1040	
1948	740	
1949	1314	
1950	1190	
1951	1029	690
1952	637	564
1953	405	333
1954	270	75
1955	463	387
1956	264	

2. FOOD AND COVER

We had five units where logging was being carried on and the deer moved in to feed on the slash. We did not find too many deer tracks when marking the trees but the

deer became numerous in a few days and did not migrate out of the cutting areas.

There is a shortage of good deer food on the refuge because it was heavily browsed during the 1940's. There are trees up to the four and five year age group with the next age group being from twenty to twenty-five years old. Because of this I think it will be necessary to keep the deer herd down in numbers for a few more years. The deer exclosures on the refuge are gradually convincing the people that deer do damage the younger trees.

3. DISEASE

The deer carcass that we located had the pink or red marrow in the bones which would seem to indicate death by starvation rather than disease.

D. FUR ANIMALS, PREDATORS, RODENTS AND OTHER MAMMALS.

1. FUR ANIMALS

Beaver are again becoming quite a nuisance by plugging the structures and culverts. We had expected to remove fifty or sixty but found only three trappers to take thirty. Beaver blankets are worth about \$15.00 each and few of the trappers felt it was worth while to give the refuge a share of the furs. The state license is \$2.50 with a dollar tag for each pelt including the refuge share. This does not leave the trapper too much for his time and efforts.

Mink appeared to be very numerous last fall but not too many were taken during the December trapping season. Quite a number were taken on Chippewa and Tamarac Lakes which were open to the public. We should have control of Chippewa this fall which will give us a good trapping program.

The muskrat population had built up somewhat last fall but because of the heavy snow and thin ice very few were taken either on or off the refuge. Because of the thin ice we probably had very little muskrat loss due to freeze outs.

We still have the otter colony on the river above Egg Lake. These animals usually move along the Egg and Ottertail Rivers but because of the deep snows they stayed near the old beaver dam which is their home.

Raccoon and skunk are at about the same numbers as last year but only about one-fourth as numerous as they were three or four years ago. The pelts are practically worthless and the trappers usually leave them in the fields when they do catch them. The Indians relish them as food and we may be able to reduce these numbers by trapping them for the Indians.

2. PREDATORS

There are very few wolves on the refuge or in the surrounding area. Three wolves were taken on the refuge during the winter and two during the deer hunting season last fall.

Fox appeared to be on the increase last year but very few have been noted or trapped during the past winter. These animals are most numerous in the south or farming part of the refuge and are probably taken by farmers and trappers in that area.

The bobcat population is very low with very few tracks being seen on any part of the refuge.

3. RODENTS AND OTHERS

Porcupine were on the increase and all the animals that have been seen during the past couple of years have been killed. This furnishes food for the Indians as well as saving the refuge timber. They have damaged numerous stands of white and jackpine as well as oak and aspen.

The cottontail and snowshoe hare have increased in numbers somewhat although they still are in the low part of their cycle. Jackrabbits which were in the west part of the refuge last year have not been noted this year.

The red squirrel has been building up slightly in numbers but is still far below our average population. The gray squirrels are very scarce and very few are seen in the south part of the refuge which seems to be their range. Fox squirrel are seen occasionally in the Chippewa Lake area.

Pocket gophers and moles appear to be quite numerous this year as many mounds were noted on the fields this spring. Mice are very numerous as during the past winter many runs could be seen in the grass and small shrubs had been barked.

E. PREDACEOUS BIRDS.

A few golden eagle moved into the refuge area during the early winter but left during the early part of February. Deep snow, cold weather, and lack of food may have forced them out earlier than usual.

The four pair of bald eagle came back this spring and appear to be using their old nesting sites near Egg, Two Island, and Flat Lakes. These birds were quite an attraction for bird lovers and photographers last year.

The horned owls were absent until late in the spring when their numbers increased and they could be seen and heard in all parts of the refuge. These birds have been rather scarce the past few years.

The hawk flight through the refuge was not very large this spring. Very few red-shouldered, coopers, or swainsons have been noted. Marsh hawks were here for a couple of weeks and appear to have left. We used to have a large nesting population of these birds.

The crow population started to build up very early as there were tons of dead fish on the lakes and rivers. The population kept building up until the last part of the period when some of the birds started moving out.

The great blue heron is apparently losing a little ground as fewer birds stay here each year. A few years ago these birds could be noted flying nearly any time of the day but now they are seen only occasionally.

F. FISH

Our first snowfall came in October and kept building up to about three feet during January. On the lakes the snow accumulation was deep but the ice was not too thick. We checked the lakes with the State Fisheries crew during the winter and on March 7 Egg Lake dropped to 0.6 ppm of oxygen. Tamarac Lake was about in the same condition and was opened to promiscuous fishing. A later check on Egg Lake found the bottom covered with dead fish. The oxygen content on Wauboose Lake was good the last time it was checked in February and fish may have survived the winter. On the other refuge lakes there was probably a terrific fish kill.

III. REFUGE DEVELOPMENT AND MAINTENANCE.

A. PHYSICAL DEVELOPMENT

During the early spring we started using workers from the welfare board but it did not turn out too well. The Indians furnished their own transportation and at least half of their time was spent repairing tires, overhauling engines, or trying to borrow gas. They did brush out three miles of telephone lines from the Flat Lake outlet to the State Lookout Tower.

During the winter two outhouses were constructed which were moved and set up on the picnic area on the north shore of Tamarac Lake. Much of the dead timber was picked up and piled for future use.

The Indians treated about a thousand fence posts with penta solution mixed with diesel fuel. The interior of the three residences were painted. The one residence was two years over-due for a paint job, it was the right year for one building and the clerk's residence the color scheme was not of the best.

We ordered 83,000 trees for this spring planting of which 38,000 were planted in April. These were all pine with the exception of a few thousand caragana which were planted as a windbreak.

We cut a number of large spruce to be used for rebuilding the bridge at the inlet to Upper Egg Lake. These were sawed into 12" x 12" x 14' for stringers and 4" x 12" for bridge planks.

No farming operations were carried on during this quarter as the ground was still frozen with large snow banks in the woods and along the roads at the end of April.

MISCELLANEOUS

There were five timber cutting areas on the refuge with considerable time being spent marking the spruce and balsam to be cut and scaling logs and pulp. Considerable time was spent removing snow from the trails to check on our wildlife and look over the lakes and timber tracts.

During the winter we usually do the repair work required on the trucks and tractors and other equipment. We also make repairs on the interiors of the various buildings.

B. PLANTINGS1. AQUATICS

None during the past period.

2. TREES AND SHRUBS

During the past quarter we planted 25,000 red pine, 10,000 scotch pine and 3,000 caragana. Deer damage has been sever on the plantings on the headquarters area and will be replanted again this spring. Previous years roadside plantings in the southpart of the refuge are excellent.

3. UPLAND HERBACEOUS PLANTS

None this period but we do expect to plant about 100 acres of alfalfa and red clover.

4. CULTIVATED CROPS

UNIT NO.	ACRES	OATS	MISC.	ALFALFA & OATS	CORN	WHEAT	HAY
1A	53	21	2	15			15
2A	4	4					
3A	10	10					
4A	10	10					
5A	14						14
6A	5						5
7A	5						5
8A	30	8					22
9A	41	27					14
10A	50	15		14		4	17
12A	29	19		10			
13A	10						10
14A	30	10		4			16
15A	10		4				6
16A	40	30		10			
17A	12						12
18A	13	2					11
19A	30		16		10		4
20A	18						18
21A	53	20					33
22A	24	16		8			
23A	4	4					
24A	28		6				22
25A	40						40
26A	38						38
27A	48	33		15			

UNIT NO.	ACRES	OATS	MISC.	ALFALFA & OATS	CORN	WHEAT	HAY
28A	6						6
29A	29						29
30A	44	11		22			11
31A	15		15				
30A	48	33	6	9			
32A	28		28				
33A	4		4				
34A	5		5				
35A	1		1				
36A	<u>50</u>	<u>—</u>	<u>25</u>	<u>—</u>	<u>25</u>	<u>—</u>	<u>—</u>
Totals	879	241	112	107	35	4	326

The table shows the acreages of the different units and the amounts of land and different crops. The corn acreage will be all put in by refuge personnel this year but for next year there are three of our permittee's that are going to plant corn. More acres will also be put into spring and winter wheat rather than the present oats crop. In the last column where we have listed hay the most of this is now alfalfa compared to a few years ago when it was all wild hay.

In the column labeled miscellaneous we have potatoes, rye and millet. The last part of this column includes lands which have not yet been placed in cultivation.

C. COLLECTIONS

1. SEED AND OTHER PROPAGULES

None collected this period.

2. SPECIMENS.

None collected this period.

D. RECEIPTS OF SEED AND NURSERY STOCK

The following table lists the receipts of seed and nursery stock during the past period. This will all be planted this spring.

<u>KIND</u>	<u>AMOUNT</u>
Red Clover	300 lbs
Alsike	500 lbs
Alfalfa	400 lbs

<u>KIND</u>	<u>AMOUNT</u>
Millet	500 lbs
Corn	200 lbs
Sorgum	200 lbs
Sweet clover	150 lbs
Caragana 8"	3,000
Red pine 6"	35,000
Scotch pine 6"	10,000

IV. ECONOMIC USE OF THE REFUGE.

A. GRAZING

No grazing units set up on this refuge.

B. HAYING

None during the past period.

C. FUR HARVEST

Three trappers took 30 beaver during the April beaver season. One trapper took one bobcat and three wolves during the past quarter. With the exception of the beaver the entire fur harvest in this state is usually in November and December.

D. TIMBER REMOVAL

Our timber management program was put into operation last fall and permittee's were cutting in five units. One of these units was in the extreme southeast part of the refuge, two were east and northeast of Chippewa Lake, one was northeast of Little Flat Lake and one was west of Lost Lake. The heavy snows prevented the permittee's from working much of the time. These units will each be completed before cutting is done on other units.

<u>S.U.P.</u>	<u>ASPEN</u>			<u>SPRUCE</u>			<u>BALSAM</u>			<u>TAMARACK</u>		
	<u>Cords</u>	<u>Bd</u>	<u>Ft</u>	<u>Cords</u>	<u>Bd</u>	<u>Ft</u>	<u>Cords</u>	<u>Bd</u>	<u>Ft</u>	<u>Cords</u>	<u>Bd</u>	<u>Ft</u>
26861				47 $\frac{1}{2}$			503/4					
28097										10		
28096			9,800									
28098	18	1,600		57			144 3/4					
28099				12 $\frac{1}{2}$			54 $\frac{1}{2}$					
28100										Not scaled		
Total	18	11,400		117			250			10		

In our timber cutting we have the permittee cut all the merchantable aspen with spruce and balsam being marked by refuge personnel. There is an excellent market for all types of timber this year so timber cutting will be carried on throughout the summer.

E. OTHER USES

No other uses this period.

V. FIELD INVESTIGATION OF APPLIED RESEARCH.

None carried on this period

VI. PUBLIC RELATIONS.

A. PUBLIC USES

Both Tamarac and Many Point Lake had numerous dark houses on them during the winter. Tamarac Lake was open to promiscuous fishing during March and hundreds of people hauled northerns and bullheads from this lake. No other refuge lakes are open to winter fishing.

B. REFUGE VISITORS

<u>NAME</u>	<u>TITLE</u>	<u>LOCATION</u>
Emil Frank	P. R. Supervisor Minn. Cons, Dept.	Red Lake Falls, Minn.
Norman Ordal	Area Game Manager	Fergus Falls, Minn.
Grady Mann	Wetlands Biologist, FWS	Fergus Falls, Minn.
Norman Zauche	State Forest Ranger	Osage, Minnesota
D. D. Centerwall	State Warden	Detroit Lakes, Minn.
Carl Stone	State Warden	Osage, Minnesota
Custer Smith	State Warden	Park Rapids, Minn.
DeWitt Clason	Co. Land Commissioner	Detroit Lakes, Minn.
Harry Basford	State Representative	Wolf Lake, Minnesota

John Carlson	Mud Lake Refuge	Holt, Minnesota
James Thompson	Mud Lake Refuge	Holt, Minnesota
Art Smith	Mud Lake Refuge	Holt, Minnesota
Robert Jorgenson	Branch of Lands, FWS	Minneapolis, Minn.
Sgt. Newton	Ground Observer Corps.	Detroit Lakes, Minn.
Jennie Modey	Co. 4H Club Leader	Detroit Lakes, Minn.
Carmie Thompson	Alcohol Tax Unit	Grand Forks, N. D.
Ernest Skog	Alcohol Tax Unit	Fargo, North Dakota

C. REFUGE PARTICIPATION

Refuge personnel attended most of the meetings of the Becker County Sportsman Club in Detroit Lakes.

Refuge personnel also attended the Gun Safety Meeting and are qualified instructors for teaching the ten to sixteen age group.

Considerable work was done with the various groups sponsoring the Becker County Conservation Day to be held on the refuge June 6. The refuge manager was chairman of the committee for both 4H and the Kiwanis Club.

Refuge personnel also attended many of the adult farm classes in Richwood and Detroit Lakes where they taught welding and the latest farm practices.

Refuge manager also attended many planning meetings for the Soil Conservation, the extension service, 4H council and the Sportsman Show.

D. HUNTING

None this period

E. FISHING

Darkhouse fishing was a popular sport on Tamarac and Many Point lakes but the take was very small after the first of the year. No other fishing is permitted on the refuge lakes.

F. VIOLATIONS

None this period.

VII. OTHER ITEMS

A. ITEMS OF INTEREST

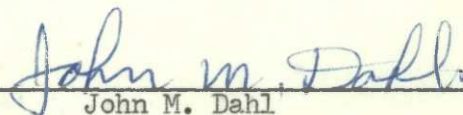
During the past period we received seven wild turkeys which were liberated on the refuge. We expect to get a much larger stocking this fall when the spring birds reach the four month age. These birds are from stock originally received from the North Dakota Badlands.

Deep snows and icebound lakes prevented us from moving the goose flock to the pen as early as anticipated. Fifty of the birds were turned loose on Chippewa Lake outside of the pen to see if they would have better nesting success. Many of the birds were paired up this spring and we should have some nesting. The captive duck flock has done some nesting but the crows have destroyed the nests.

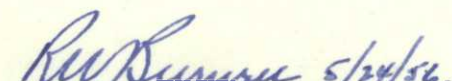
During the past spring we installed outhouses and cleaned up the public picnic area on the north shore of Tamarac Lake. Two picnic tables were installed there last year. Boy Scout Troop No. 49 built and put up fifteen woodduck houses and planted some trees in this area.

During the winter we had a meeting with the Minnesota Conservation Department where it was decided that the Fish and Wildlife Service should acquire all the lands in the south part of the refuge including Pine and Tamarac Lakes. It is hoped that some of these lands where the owners wish to sell to the Federal Government can be acquired.

This report respectfully submitted,



John M. Dahl
Refuge Manager


Regional Office Approval.

3-1750
Form NR-1
(Rev. March 1953)

W A T E R F O W L

REFUGE _____

MONTHS OF Jan TO April, 19

(1) Species	(2) Weeks of reporting period										March
	Jan	Jan	Jan	Jan	Jan	Jan	Jan	Jan	Jan	Jan	
	1-7	8-14	15-21	22-28	29-4	5-11	12-18	19-25	26-3	4-10	
	1	2	3	4	5	6	7	8	9	10	
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard											
Black											
Gadwall											
Baldpate											
Pintail											
Green-winged teal											
Blue-winged teal											
Cinnamon teal											
Shoveler											
Wood											
Redhead											
Ring-necked											
Canvasback											
Scaup											
Goldeneye											
Bufflehead											
Ruddy											
Other											
Coot:											

No Waterfowl Present

(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Tamarac National Wildlife Refuge

MONTHS OF January TO April, 19 56

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	March 11-17 11	18-24 12	25-31 13	1-7 14	8-14 15	15-21 16	22-28 17	April 28 18		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard			25	300	7,000	10,000		120,000		
Black										
Gadwall										
Baldpate					50	100		1,000		
Pintail					500	400		6,000		
Green-winged teal						100		500		
Blue-winged teal					200	800		7,000		
Cinnamon teal										
Shoveler						100		500		
Wood				30	200	400		4,000		
Redhead						100		500		
Ring-necked					1,000	3,000		25,000		
Canvasback										
Scaup						200		1,000		
Goldeneye				50	100	200		2,000		
Bufflehead				50	50	50		1,000		
Ruddy				50	100	50		1,000		
Other										
Coot:							300	2,000		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese			
Ducks	169,000	15,500	
Coots	2,000	300	

SUMMARY

Principal feeding areas Chippewa Lake, marshes and
level ditching. Some in open rivers. Lakes frozen.

Principal nesting areas _____

Reported by _____

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).

Form NR-1A
(Nov. 1945)

(other than waterfowl)

Refuge Tamarac National Wildlife Refuge Months of January to April 1956

(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>										
Common Loon	2	4-15								
Pied-billed grebe	5	4-17								
Horned Grebe	1	4-17								
Eared Grebe	4	4-20								
Great Blue Heron	7	3-27								
American Bittern	1	3-27								
Holboells Grebe	6	4-27								
Doublecrested Cormorant	12	4-20								
	1	3-28								
	1	4-10								
	3	4-10								
	3	4-2								
	1	3-30								
	10	4-30								
	3	4-10								
	3	3-3								
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	2	3-28								
Wilson Snipe	12	4-27								
Greater Yellowlegs	10	4-27								
Herring Gull	5	4-28								
Ringed-bill Gull	30	4-28								
	1	4-3								

(over)

(0441)

(1)	(2)		(3)	(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>								
Mourning dove	4	4-2						
White-winged dove								
IV. <u>Predaceous Birds:</u>								
Golden eagle		Winter resident		1	3-10			6
Duck hawk								
Horned owl		Permanent resident						20
Magpie		" - "						15
Raven		Winter resident		10	3-2			100
Crow	2	3-2	2000					3000
Bald Eagle	2	4-10						8
Turkey Vulture	10	4-20						30
Snowy Owl	1	2-20						2
Coopers Hawk								40
Red-tailed Hawk	2	4-5						40
Red-shouldered Hawk	2	4-10						40
Swainson's Hawk	1	4-10						20
Marsh Hawk	4	3-28						50
Osprey	2	4-20						10
Sparrow Hawk	4	4-15						60

Reported by.....

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 Tamarac National Wildlife Refuge Months of January to April, 1946

(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 specifically requested. List introductions here.
Ruffed Grouse									3,500	Have passed decline
Sharptailed grouse									50	Scarce
Ring-necked pheasant									20	Scarce
Hungarian pheasant									12	Winter residents
Wild Turkey									7	Recently stocked

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 Tamarac National Wildlife Refuge Year ending April 30, 56

(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				
Beaver				30					18	12	0			250
Muskrat				76					38	38	38			600
Mink				12					6	6	6			200
Skunk				10					10	10	0			100
Weasel														150
Badger														30
Raccoon				10					10	0	0			200
Wolves					4				4	0	0			10
Fox					5				5	0	0			20
Bobcat					2				2	0	0			15
Otter														10
Woodchuck														100
Cottontail														600
Snowshoe														300
Porcupine			15											130
Gray Squirrel														1000
Red Squirrel														1000
Fox Squirrel														50

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Reported by _____

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 unprime-ness 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.

REFUGE GRAIN REPORT

Refuge Tamarac National Wildlife RefugeMonths of January through April, 1956

(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 OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Oats	1,020		1,020			300	300	720	50	320	350
Rye	262		262	10			10	252			252
Mixed Corn Wheat & Millet	0		270			170	170	100		100	

(8) Indicate shipping or collection points D. L. or Callaway, Minnesota(9) Grain is stored at Refuge Headquarters

(10) Remarks _____

*See instructions on back.

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 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. 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 break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

6
BECKER COUNTY CONSERVATION DAY JUNE 12, 1956

Tamarac National Wildlife Refuge

Land Judging

Roger Harris in charge

In this event contestants carefully study several field areas by observing a cutaway section of the area's soil. They classify each area as to color of surface soil, texture, depth favorable to root growth, the internal drainage, slope, erosion, and the run-off or percolation possibilities. Next they determine the capability group into which each area falls--that is, whether the area can be considered crop land or non-crop land. They determine the amount of sod needed in rotation as a basic practice for good soil and water conservation and finally select supporting practices for the land. The supporting practices involve fertility, special cropping such as green manures, and simple contouring, contour strips and terracing.

4H and FFA teams with three members each, will be competing in this event along with adult, but the adult section will be an individual rather than a team competition.

Contour Line Staking

Wayne Rouna in charge

In this event (open to 4H and FFA teams, each composed of two members) the contestants are judged largely on the accuracy of the contour line which they stake out. Consideration is given location of the stakes and time taken in placing. One member handles the land level and the other places the stakes as directed. Halfway through the course they change jobs so that each demonstrates his ability to handle the level and direct staking.

Queen Of The Furrow Contest

Mrs. Rodney Lindstrom in charge

Participants in this contest must be residents of Becker County and must be between the ages of 15 and 21. Participants in this contest are judged on homemaking ability in 4H or Future Homemakers' work or helping in the home. Community, church and school activities, good grooming, personality, conservation knowledge and tractor driving also are part of the contest. This event is a different type of "queen" contest and highly interesting to spectators.

4H and FFA winners in land judging and contour line staking will be eligible to compete in the State Plowville Contest this fall. Winner of the Queen of the Furrows contest will also be eligible to compete in the State Plowville contest this fall.

6
BECKER COUNTY CONSERVATION DAY JUNE 10, 1956

1. Land judging. All boys and girls can enter. The three highest in 4H in the County contest will go to the State Plowville contest this fall. Adults are encouraged to enter as the instructor, Roger Harris, Soil Scientist of the University of Minnesota is adept in teaching the basic principles of soil management. This contest is for everyone. List names of entrants from your club or others that will be here and take part.

2. Contour Liner Contest or Line Staking. This is composed of two man teams from 4H or FFA. The winners from both organizations will be eligible to compete in the State Plowville Contest this fall. List the names of the teams below.

3. Queen of The Furrows Contest. This is open to any Becker County girl between the ages of 15 and 21. Judging is on school, church and community activities, personality, club work, grooming as well as tractor driving. List entries below.

Dinner and lunches will be served on the grounds. First contest start at 10:00 a.m. There will be foresters, biologists, wild life management specialists and soil conservation personnel on the grounds all day and will take tours of different areas to explain their programs. Conservation of our remaining soils is a necessity. This should be the biggest day in the County for persons interested in the soils and life in Becker County.