

BRANCH OF WILDLIFE REFUGES

NARRATIVE REPORT

ROUTING SLIP

DATE: May 11, 1954

Mr. Salyer _____

Mr. DuMont _____

~~Mr. Williams~~ WK

~~Miss Baum~~

Section of Operations:

~~Mr. Hall~~

Dr. Morley _____

~~Mr. Regan~~ MR

Section of Habitat Improvement:

~~Mr. Phillips~~ REG

Mr. Kubichek _____

~~Mr. Smith~~ WSE

Mr. Stiles WTS

Section of Land Management:

~~Mr. Brown~~ WB

~~Mr. Davis~~

Stenographers:

gmm, 9/15/54

REFUGE

MOOSEHORN

PERIOD

January-April, 1954

Moosehorn National Wildlife Refuge
January - April, 1954

Washington County, Maine
Hq. Calais
Sub. Hq. Dennysville, Maine

Personnel

Manager
Clerk
Biologist
Maintenance-Man (Equip't)
Maintenance Man
Refuge Aid
Tower Man

Merton Radway
Stanley McConvey
Eldon Clark
Harold Stanhope
Leslie Bagley
Arnold Davis
Guy Cook

Moosehorn National Wildlife Refuge

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Moosehorn National Wildlife Refuge

Calais, Maine

January - April, 1954

I GENERAL

A- Weather Conditions

The winter has not been as severe as the so-called "old fashioned" type, but temperatures have been lower and snowfall heavier than for the past several years. Zero or below temperatures were recorded on 13 days in January. Although most of our snow had melted in the fields by the end of March, the weather remained cold and disagreeable throughout most of April. At the end of the period an occasional patch of snow could still be found in heavily wooded sections. The lateness of the spring is shown by the fact that the lowest temperature of March, was a 0 reading on March 31. Only 8 readings about 60 were recorded in April.

Following is a summary of precipitation and temperatures data as recorded at refuge headquarters.

	Snowfall	Total		Extremes		Temperatures	
		Precipitation		Max.	Min.	Mean	
Jan.	30.00	4.14		47	-17	29	6
Feb.	19.50	5.26		60	-16	39	17
Mar.	16.50	3.67		56	0	42	20
Apr.	1.00	5.62		73	2	55	28
Totals	67.00	18.69	Extr.	73	-17		

B. Water Conditions

All impoundments were frozen until mid-March, when some channels and edges of marshes thawed. Ice was not completely out of all areas until late April. Little thawing weather occurred through January and February; however, there was enough to keep water levels relatively high. On April 16 - 18 a rainfall of 4.60 inches over a 36-hour period (extremely heavy for this locality), added to the run-off from melting snow, resulted in the highest floodwaters since 1923. Highway U.S. 1 was flooded to a depth of $2\frac{1}{2}$ feet. At Magurrewack marsh. For the first time in the history of the refuge, water at Barn Meadow also covered this highway to a depth of several inches. At both places the flooding was caused by high water on the St. Croix river backing into the marshes.

No appreciable damage occurred on the primary unit, but at Edmunds the bridges at Crane Meadow Brook and Cranberry Lake Stream washed out rather badly. Waters subsided quickly on the smaller streams to normal levels within a few days. However, the St. Croix waters kept Magurrewack and Barn Meadow high until the end of April.

All impoundments except Magurrewock were close to planned levels at the end of the period; at the latter all stop logs were removed in March to accelerate the spring run-off in preparation for the dike construction. Nevertheless, the water remained high due to the spring thaw and the mid-April flood. Dry weather the last ten days of April in a rapid lowering of Magurrewock levels at the end of the period.

C- Fires

There were no fires on the refuge during the period. During the last three days of April conditions became dry, and several small fires occurred from burning of debris or blueberry ground on nearby areas.

II WILDLIFE

A- Migratory Birds

1. Populations & Behavior

(a) Waterfowl- The wintering population of black ducks, golden-eyes, and buffleheads around salt-water areas at Edmunds showed an increase over previous years. During the first week in March a few golden-eyes and black ducks appeared in the small open-water areas near Magurrewock bridge. Small numbers were present throughout March, but it was not until the very last of that month and early April that the number of individuals and species showed a marked increase. Green-winged teal, Bufflehead, and American Mergansers appeared in numbers. A few individuals of several other species also were recorded in April. It is believed that waterfowl populations are about the same as last year. However, the late spring made concentrations seem larger. During January and February the salt-water bays at Edmunds provided feeding areas. As the snow melted in the fields in March the buckwheat field at Nat Smith Marsh saw heavy usage. As more birds appeared at Magurrewock in April, the buckwheat fields there were used by black ducks. By the end of April the flocks were well broken up into pairs and were less in evidence on larger bodies of water. These pairs now are frequenting the small flowages and streams scattered over the area. Nesting undoubtedly has begun, although in Barn Meadow, our principal nesting area, water levels did not recede enough to uncover much nesting habitat until May 1.

(b) Other Waterbirds- Most abundant in this group were the double-crested cormorants on the salt water at Edmunds; these were present throughout the period. Pied-billed grebes were commonly observed during April. The first Great Blue Heron was recorded on April 5. One Holboell's Grebe was seen in the salt water at Edmunds on March 13.

(c) Shorebirds - From various reports it appears that woodcock arrived about March 22, a few days later than usual. During the ten days following that date, singing birds were abundant at the Edmunds unit. However, winter weather still gripped the primary unit, although only

20 miles from the coastal unit. The first woodcock at the former area was recorded on April 5. The weather warmed slightly after that date, and birds soon became abundant. Incidentally, a low reading of 2 degrees above zero was recorded on the morning of April 5.

As would be expected at the late date, the flight period was of short duration, and resident males soon settled on established singing grounds. Evening checks of these singing males are now in progress. It is too early for definite conclusions, but it appears that the refuge population of woodcock has changed little from last year.

The first winnowing Wilson's Snipe was heard on April 19. Since then they have been recorded on several occasions, although not nearly as commonly as woodcock. It is of interest that a Wilson's Snipe was flushed on the Charlotte road a mile below refuge Headquarters on Jan. 18. This was at noon with the thermometer registering 10 degrees above zero. During the preceding night the temperature went to 12 below zero. When flushed, this bird went over the ridge toward Howard Mill Stream. In mid-February a Wilson's Snipe, presumably the same bird, was flushed at that locality by Warden Supervisor Lloyd Clark.

Four Killdeer were observed just off the refuge on March 29. No other shore birds were recorded.

(d) Doves - In previous years single mourning doves have been seen from time to time. This year flocks of three, five, and seven have been reported from the vicinity of the Edmunds unit in mid-April. One was observed at the primary unit on April 20.

2. Food and Cover

Food and cover were sufficiently abundant for all migratory birds after their late arrival. The buckwheat fields at Magurrewock and Nat Smith Marsh ably supplemented the natural duck food. In fact, a relatively small portion of the buckwheat was consumed. Nesting cover was reduced by high water in April. However, this situation was greatly improved at the end of the period.

3. Diseases

No indications of lead poisoning or disease have been noted.

B. Upland Game Birds

Populations and Behavior

Ruffed grouse are observed in about the same number as for the past few years. Although no census has been made, we plan to renovate the two regular census areas and take a count during the coming summer. In addition, records will be kept of grouse flushed while making woodcock and deer surveys.

A few pheasants have been observed during the spring. One male bird stayed in the vicinity of a feed hopper placed near the entrance road throughout the winter. No spruce grouse have been observed this period. Although not much in evidence, these birds seem to maintain their small numbers on the refuge.

2. Food and Cover

Food and cover are ample for our upland game birds. Although snow covered the fields for extended periods, there was usually food available in the buckwheat fields for our few pheasants. Birch, aspen, and other hardwood species provided an abundance of winter buds for grouse.

3. Disease

No indication of any.

C- Big Game Animals

1. Populations and behavior

Our white-tailed deer seem to have declined somewhat from their peak population of about 1950. A number of groups are observed in the fields every evening since the snow left the fields. However, the group are smaller than in the peak years. The refuge deer herd has been studied rather intensively during the winter. A complete report of the findings, with recommendation for action to be taken, is being prepared and will be submitted in the near future.

For the first time in several years we had enough snow to cause the deer to concentrate in more confined wintering areas. Although no true "yarding" was found as in "old-fashioned" winters when we had several feet of snow throughout the winters, deer were not as free to wander about in search of food as they have been in the past three or four winters. The condition of the deer varies greatly; some appear quite sleek and well fed, while others are very thin.

No signs of bear or moose were observed during the period. A few bear are known to be present, but only an occasional wandering moose crosses the refuge.

2. Food and Cover

Summer deer food and cover are plentiful. But in most wintering areas the better deer food species are severely browsed. In places even the inferior browse species, - balsam, hazelnut, and sweetfern have been extensively utilized. The only places where good browse is abundant are in exposed areas such as Magurrewock Mountain, where protective cover is insufficient for wintering deer. These conditions will be discussed fully in the forthcoming deer report.

3. Disease

We have found no evidence of disease in deer during the period.

D. Fur Animals, Predators, Rodents and Other Mammals.

There is no significant change in numbers of animals in this group. The muskrat population in Barn Meadow built up to a point that a removal seemed advisable. This is discussed later under "Fur Harvest". Beaver are still abundant, although probably becoming more widely scattered as food supplies in the larger flowages become depleted. Otter signs are frequently seen. Mink and weasel tracks have been observed, but they are not abundant.

Several foxes have been observed during the past month. One dead fox was found in April, and nearby a live one was seen which appeared to be in advanced stage of some sickness, - it showed little fear of the observer. It should have been collected for examination, but the observer had no means of collecting it. Some local hunters believe that some disease has materially reduced the fox population in this vicinity.

Several bobcat tracks were observed during the winter. Although the local State Warden Supervisor killed a number of bobcats near the refuge, none were killed on the area.

More snowshoe hares were observed this year than in the past few years. In some small localities they seem quite abundant. No raccoons were observed, but they are known to be present in numbers. The population probably is about the same as last year. Porcupines still are very abundant. Skunks, red squirrels, and small rodents likewise are quite plentiful. Their numbers appear to remain static. Occasionally a gray squirrel is seen, but they are not plentiful.

Although predation is not believed to be heavy on any species, it undoubtedly takes its toll. Several dead deer found showed signs of being killed by bobcats. Raccoons and foxes are probably our worst predators on waterfowl and other small game. Otter, mink, and weasel also may destroy a few birds and nests.

Beaver, although not predators, are believed to be detrimental to woodcock in some areas. This is especially true where extensive alder runs which provide critical summer woodcock cover are inundated. On the other hand, beaver have greatly increased our waterfowl habitat. Nevertheless, it is believed they should be kept out of our better woodcock covers.

E. Predaceous Birds including Ravens and Crows

There is no change in our population of predaceous birds.

Ravens were most abundant during the winter; in March crows returned in numbers. Bald eagles are frequently observed, as well as an occasional Osprey. The latter two are primarily fish eaters and do little real damage. Marsh hawks and sparrow hawks are common. Several saw whet owls have been heard in the evening. Other hawks and owls are present but not abundant. Crows are believed to be first on the list of avian predators. Their damage is mainly confined to the duck nests they destroy.

F. Fish

There appears to be no change in refuge fish populations. Ice fishermen and spring brook trout fishermen report about the usual success.

III REFUGE DEVELOPMENT & MAINTENANCE

A- Physical Development did not include large jobs during this period, but consisted of the maintenance and repair of equipment, production and handling of materials, and improvements in shop and housing. Following is a brief summary of this work:

- Cut and had sawed 15,000 ft. of lumber.
- Cut 500 cedar posts
- cleared power line R/W.
- constructed 8 large special entrance signs and other small signs.
- constructed and oiled 6 fire ladders.
- Repairs to following equipment:

Truck Trailer

2 GMC Trucks

IH T-9 Tractor

A C HD-10 tractor

Caterpillar 22

Austin Western Dragline

Various other equipment

- cleaned and painted truck-tractor and Jeep pickup.
- constructed portable steel work bench and welding cart.
- constructed several truck tool boxes.
- Dodge power wagon delivered.
- Ford Courier delivered.
- Stewart house and shed sold.
- Property inventory and survey.
- Plowed snow from court and roads as necessary.
- Trip to Blackwater and return with geese and mallards for Missisquoi and Moosehorn.
- Two trips to factory to deliver above new vehicles.

B- Plantings

1- Aquatic and Marsh - None.

2- Trees & Shrubs - None.

3- Upland herbaceous - None.

4- Cultivated Crops - about 20 acres of winter wheat

appears not to have survived, although we may get a light crop in some fields. Winters are severe, and long periods of exposure are not favorable for winter grains. Some of these areas will probably be disced up and sowed with buck-wheat.

C- Collections - None this period.

D- Receipts of Seed & Stock- None

IV ECONOMIC USE OF REFUGE

A- Grazing - None.

B- Haying - None.

C- Fur Harvest- Two trapping permits were issued to remove a total of approximately 280 muskrats from Barn Meadow marsh. Due to a late spring the ice did not go out sufficiently to allow trapping until about April 10. Only about 4 days were effective before flood conditions halted the operation. However, one trapper took 51, the other 58 muskrats. Locally the hides were selling for about \$1.30.

D- Timber Removal has been aimed at several objectives. Mature and deteriorating fir is being cut for pulp to reduce the fire hazard and the attraction to the spruce budworm, as well as to salvage such products. Mature popple is also sold for pulp. In some cases clearings are used by woodcock or succeeding stands of hardwood will provide proper habitat. Sawlogs of white and Norway pine are cut selectively to harvest mature trees and supply the local demand for personal use. Firewood, consisting mostly of white and gray birch, is cut largely to produce clearings of several acres each to produce woodcock singing grounds and potential second-growth habitat. The local demand for firewood is thus supplied. Limited sales are possible of straight birch poles for weir brush, which helps to thin some of the stands.

Approximate total sales of the above products are summarized as follows:

1200 weir brush spears	25.00
135 cords firewood	169.00
397 cords pulpwood	1750.00
15 M logs.	225.00
Approx. total	\$2169.00

E- Other Uses- Small quantities of gravel, individual poles for TV antennae, lots of small stakes for garden plants, and other small lots of products are dispensed on a free use basis.

V FIELD INVESTIGATIONS OR APPLIED RESEARCH

A- Deer Project

During the winter months the Biologist and Refuge Aide directed their main efforts toward the deer study. All members of the staff assisted on this work at times. In an effort to get an approximate population

figure, line-track intersect counts were made on upwards of 30 miles of line. On some sections these counts were repeated one or more times.

In January a trapping and tagging program was initiated; the purpose of this was to collect data on age and condition of the herd and especially on deer movements. Eight live traps and a tagging crate were obtained from the states Swan Island Refuge. The traps were set up on Jan. 21 and operated about six weeks. Trapping success was poor, only five deer were tagged. Although weather partly influenced this, the principal reason was the fact that the deer had not become accustomed to the sight of the traps. If the latter had been set up during the summer in an inoperative condition so that deer could go in and out of them freely, the animals would have lost much of their fear of the traps. Then when the actual trapping operations started, it would be much more successful.

Considerable travel was done during the latter part of the period to get information on browse conditions, mortality, size and location of wintering areas, and any other general data which might be of value to the deer study. This work is nearly completed, and the report is being prepared; it will be submitted shortly.

B. Woodcock Project

In early April a two-acre woodcock development plot was cleared with refuge labor. About 70% of this was in a low wet area, which should produce good summer feed cover. The plot extends up on the slope adjoining the low land; the latter area will make a good singing ground for several years to come. The plot was clear cut by two men, while a third man dragged the trees and brush off the plot using the Caterpillar 22. Figuring labor at \$1.00 per hour and tractor operation at \$.50 per hour, this operation cost \$84.00 per acre. In future cuttings of this kind this figure probably can be reduced to \$60. to \$70. per acre as short-cuts and improvements in techniques develop.

Other work on woodcock consisted of cutting out a few permanent census lines and reviewing and assembling material in the files in order to plan a comprehensive program for woodcock development work. Two days were spent at the University of Maine Wildlife Research Unit assembling information on early woodcock developments both on and off the refuge. At that time information also was obtained both from literature and state and University officials that will be of value in preparing the deer report.

C. Minor Projects

1. A refuge weather station was put into operation on Jan. 1. This consists of a maximum-minimum recording thermometer, rain gauge, and snow measuring box. This will give us data more applicable to the main portion of the refuge than that formerly obtained from the Eastport weather station. The latter is only 25 miles distant, but its location on the coast results in somewhat different conditions than prevail here.

2. Photos were taken at all permanent camera sites on the two natural forest areas. Both summer and winter photos are taken each year to record changes in the natural succession.

3. In January 100 Canada geese and 50 mallards (all wing clipped) were brought from Blackwater refuge. Due to snow and ice conditions, these could not be released until April 8. The geese wintered very well, but the mallard fared poorly. Only seventeen of the latter survived to be released. Nine mallards, including two females, were released at Magurrewock, and five, including one female, were released at Cranberry Lake. Three male mallards and seven geese were kept for the display pool at Edmunds. Of the geese, 46 were released at Magurrewock, 24 at Cranberry Lake, and 22 at Nat Smith Marsh at Edmunds.

4. During the muskrat trapping program weight and sex data were kept on all rats. The skulls and female reproductive organs were saved for studies by a Syracuse University graduate student. Copies of his finding will be supplied the refuge.

VII PUBLIC RELATIONS

A- Recreational Uses have consisted of limited bird study, hiking, photography, and Boy Scout hikes during this period.

B- Refuge Visitors .

- April 5 - Gene Tussing of the Soil Conservation Service visited the refuge to discuss refuge farm plans for the coming year.
- April 8-10 - Regional Refuge Supervisor Arthur Miller visited the Refuge on a regular inspection tour.
- April 5 - U.S. Game Management Agent Wellington White of Plymouth, Mass., visited the refuge. White working in the area in the intent of waterfowl, especially the annual Brant migration in the Lubec - Eastport region.
- Jan. 21 - Biologist Stephen Powell of the Swan Island Wildlife Refuge in Richmond, Me, and Harold Blanchard, Biologist for the State Dept. Inland Fisheries and Game - working out of Dennysville, visited the refuge to help refuge staff in starting a deer tagging program.
- Feb. 8 - William Peppard of East Eddington, State Biologist for Dept. of Inland Fisheries and Game, visited the Refuge with U.S. Game Management Agent Edward Baker of Freeport, Me.
- Apr. 21-22 - Richard Murphy from the Regional Office of the U.S. Fish and Wildlife Service and William Pennie from the U.S. Civil Service Commission made a two-day inspection tour of the refuge, interviewing personnel and reviewing the work program primarily in connection with position classifications.

C- Refuge Participation

The usual requests for movies and discussions of the refuge program have been coming in during this period. The following appearances were made by Refuge Management Biologist Eldon Clark and Refuge Aid Arnold Davis.

Jan. 6	- Lions Club, Calais, Me.	- Eldon Clark.
Jan. 19	- Baptist Men's Club, Calais, Me.	Eldon Clark.
Jan. 24	- Lubec Parent Teacher Association	- Arnold Davis
Feb. 10	- Boy's 4-H Club, Dennysville, Me.	- Arnold Davis
Mar. 13	- Cooper Grange	- Eldon Clark
Mar. 17	- Women's Club	- Lubec, Arnold Davis
Mar. 25	- Woodland Paper Mill	- Eldon Clark
Apr. 2	- Jonesboro Grange	- Arnold Davis
Apr. 12	- Woman's Club Princeton,	Eldon Clark.
Apr. 16	- Rural School	- Moose River - Arnold Davis

During the period a series of 7 or 8 news releases were prepared and distributed to the daily and weekly newspapers over a wide area of the State. Several of these publicized special programs, such as the first muskrat trapping, while others focused on the specific work being done by one or two employees. Photographs of one or more employees at work on a seasonal job were taken by the reporter for the Bangor News and used in connection with several of these releases.

D- Hunting is not as yet legal on the refuge.

E- Fishing was rather limited thru the winter months due to the heavy snow. However, during the periods without snow on the ice fishing was fairly successful.

F- Violations - While there were no new cases, McConvey, Clark, and Stanhope served as witnesses in State Superior Court in Machias for night hunting violations apprehended last fall. A total of \$1500. in fines were levied against 6 men. Several served time for part of their sentence.

VII OTHER ITEMS

A- Items of Interest

An Eastern Meadow Lark was seen within a mile of the Refuge on Jan. 26 during a snow storm.

A male Indigo Bunting stayed around in the vicinity of Dennysville for two or three days in April. This species is very rare in this region.

During the winter an increase of Otter usage was noted on both units of the refuge.

During the winter Black Ducks continually came to buckwheat fields on both units to feed. Of special interest is the fact that at Nat Smith Marsh, the new impoundment on the Edmunds Unit, Black

Ducks were repeatedly seen to land on the ice where there had been heavy usage in open water until late in November.

Brant came back to the Lubec, Eastport area much earlier this year, the earliest arrivals being in February. The population was much greater than during the past few years.

Mourning Doves have been seen in greatly increased numbers this spring. One flock of five was seen, which is very unusual, lone birds having been the occurrence in the past. Two other flocks of three birds were observed. Single birds are still being seen, but the migration is nearly over at this time.

Refuge Biologist Eldon Clark observed a lone American Coot in Barn Meadow Marsh in April. This is the first record of the species since the establishment of the refuge.

Refuge Biologist Eldon Clark found one dead red fox and observed another very sick animal in the same area. This is very unusual and is being studied, but no answer to the problem has been found at this writing of this report.

Greater Snow Geese have been appearing in unusual numbers along the Maine coast this spring. A flock of 25 made a stop-over in the Machias River, which is less than twenty miles from the refuge.

At the time of this writing there are at least two Belugas, or small white whales, visiting the Penobscot River where it passes through the city of Bangor. Never before have whales of any kind been recorded in that vicinity.

During April a circular with map and lists of birds and mammals was prepared on the refuge and is now in the Regional Office for reproduction. Such a circular has been in great demand, and we hope this will partially fulfill their needs.

On January 7 a meeting of the refuge staff and laborers was called in connection with safety. Hazards and prevention were discussed, as well as reporting procedures and purpose of the Employees Compensation Com. On April 7 at a meeting of the staff operations, policies, cooperation, duties, plans and programs were discussed. A definite line of authority was set up.

B- Photographs - showing pertinent activities and conditions are shown on the following pages.

C- The General and Wildlife sections of this report have been prepared by Refuge Biologist Eldon Clark, Development and Economic by the Manager, and most of the Public Relations and Items of Interest by Refuge Aid Arnold Davis.

D- Signature

May 4, 1954

Merton Radway
Merton Radway, Refuge Mgr.

Date 5/7/54.

W.F.
Regional office.



Moosehorn South Trail - Feb., 1954



Deer Trap and handling crate - Feb., 1954



Near limit of
snow for Willys
on Refuge bull-
dozed road.



Biologist Eldon Clark releasing tagged deer.



• Flood of April, Magurrewock Marsh at right.



• Flood damage on Edmunds main trail.



. Part of 15 MBM harvest for summer's jobs.



! First Atlantic salmon to return to Hobart Stream 10-19-53.



Cranberry Lake control at peak of flood.

WATERFOWL

REFUGE Moosehorn

MONTHS OF Jan. TO Apr., 19 54

(1) Species	(2) Weeks of reporting period									
	1/2 1	1/9 2	1/16 3	1/23 4	1/30 5	2/6 6	2/13 7	2/20 8	2/27 9	3/6 10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard										
Black										
Gadwall	40	110	75	100	150	180	180	75	100	150
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye	25	60	75	40	25	20	35	30	10	5
Bufflehead	5	4	5	2	5	4	5	5	2	4
Ruddy										
Other										
Coot:										

3-7150a
 Cont. NR-1
 (Rev. March 1953)

WATERFOWL
 (Continuation Sheet)

REFUGE <u>Moosehorn</u>		MONTHS OF <u>Jan.</u> TO <u>Apr.</u> , 19 <u>54</u>									
		(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production : Broods: Estimated seen : total
(1) Species		3-13	3-20	3-27	4-3	4-10	4-17	4-24	4-30		
		11	12	13	14	15	16	17	18		
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada					47	11	100	66	67	1827	(Mainly released wing clipped birds.)
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard					11	5	10	6	2	238	
Black	500	420	225	706	793	343	311	391	34613		
Gadwall											
Baldpate											
Pintail					2	3				21	
Green-winged teal					3	41	20	25	23	784	
Blue-winged teal								2	6	50	
Cinnamon teal											
Shoveler											
Wood						10	10	16	18	404	
Redhead											
Ring-necked						6	29	69	57	1127	
Canvasback											
Scaup							2				
Goldeneye	85	8	12	59	93	14	33	33		14	
Bufflehead			4	12	24	20	46	45		1379	
Ruddy											
Other											
Am. Merganser				13	24	11	10	12		480	
Red Breasted Merganser				3	3			4		70	
Coot: Hooded Merganser					6					42	
							1	1		14	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese	1827	100	
Ducks	39222	1008	
Coots	14	1	

SUMMARY

Principal feeding areas Burnt Cove, Nat Smith Cove and Marsh, Magurrewook and Barn Meadow Marsh.

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).

3-1751

Form NR-1A
(Nov. 1945)MIGRATORY BIRDS
(Other than waterfowl)

Jan.

April

4

Refuge Moosehorn

Months of _____ to _____ 195

(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>											
Holboell's Grebe	1	3/13	Only observation							1	
Pied-billed Grebe	1	4/16	Several single observation							6	
Double-crested cormorant			15	3/13	permanent residents					50	
Great Blue Heron	1	4/5	Several single observation							5	
American Bittern	1	4/23	Only observation							3	
II. <u>Shorebirds, Gulls and Terns:</u>											
Herring Gull			Always present in about constant numbers								500
Killdeer	4	3/29	only observation							10	
Woodcock	1	3/22	25	3/10						1500	
Wilson's Snipe	1	4/19	Several single observations							100	

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> :	1	4/10	3	4/15	20
Mourning dove					
White-winged dove					
IV. <u>Predaceous Birds</u> :					
Golden eagle					
Duck hawk					
Horned owl					
Magpie					
Raven					
Crow					
Great Horned Owl					
Saw-whet owl					
Barred Owl					
Sharp shinned Hawk	1	4/30	None	only observation	5
Bald Eagle				Permanent resident	8
Marsh Hawk	1	4/5		Several single observations	10
Osprey	1	4/15	"	"	10
Sparrow Hawk	1	4/10	"	"	20
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.

UPLAND GAME BIRDS

1613

Refuge Moosehorn

Months of Jan, to April, 19454

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed Grouse	Timber 19,000 A. Brush & edge 2000A.	23.3							900	
Spruce grouse	Coniferous Forest 2000 A.	50							40	
Pheasant	Brush 1000 A. Old Field 800 A. Dry Marsh 200 A.	200							10	

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.

Refuge MoosehornApril 30, 19454

(1) Species	(2) Density	(3) Removals						(4) Disposition of Fur						(5) Total Popula- tion	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control	For Re- stocking	For Research	Share Trapping			Total Refuge Furs Shipped	Refuge Income	Furs Donated	Furs Destroyed	
								Permit Number	Trappers' Share	Refuge Share					
Muskrat	Northern heath type 70 acres (Barn Meadow)	7		109				T-4451 T-4452	26 29	25 29	54	-	-	-	300

REMARKS:

A total house count was taken during the winter.

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. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)
 - (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, 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. Also show any removals not falling under heading 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 and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness 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 Moosehorn Months of Jan. thru April 1954

(1) VARIETY	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED USE		
				TRANS- FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Wildmillet	30		30					30	30		
Corn	70	15	85			35	35	40		40	
Winter Wheat	25		25					25	25		
Winter rye	12		12					12	12		
Red Clover	25 lb.		25lb.					25lb.	25lb.		
Ladino clover	5 lb.		5 lb.					5lb.	5lb.		

- (8) Indicate shipping or collection points.....
- (9) Grain is stored at Moosehorn Hq......
- (10) Remarks No surplus.....

NR-8a

REFUGEE GRAIN REPORT

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

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

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.