ROUTING SLIP	BRANCH OF VILDLIFE R	EFUGES DATE: May 20 1949
MR. SALYER MR. KRUMMES M <u>R. DUMONT</u> MISS BAUM	PAD 8-4	SECTION OF HABITAT IMPROVEMENT: MR. GRIFFITH REG. 7-7 DE BOURN WSS 8-5 MISS COOK
SECTION OF OPERATI	<u>ONS</u> : <u>1</u> <u>1</u> <u>1</u>	SECTION OF LAND MANAGEMENT:
SECTION OF STRUCTU ME TAYLOR MR. JOHNSTON	<u>RES:</u> <u>2007 10/</u> 4	<u>STENOGRAPHERS</u> : ak 1-15-49
	NARRATIVE RE	PORT
REFUGE:	MOOSEHORN	
PERIOD:	JANUARY - APRIL	1949
+4684 **		

SUMMARY OF YEAR'S ACTIVITIES.

May 1948 to April 30, 1949.

We are again pleased to be able to report that this refuge has been protected against damage by fire and trespass the past year.

There were no losses of wildlife due to drought, lack of food or disease.

Our habitat improvement work has been so successful that it recieved very favorable comment from many States and Canadians. This refuge is surely one of the best examples of what wildlife management van really accomplish. It will take years for some of it to show its real benefits.

Again this spring it is gratifying to see all the small deer which is most interesting and mute testimony that they were provided with plenty of food and protection during the winter months.

The development work on the upper portion of Barn Meadow marsh was completed, and the area flooded late last fall.

Earle H. Dudley, the Refuge Manager on the Edmunds Unit of this refuge, died April 7th. as a result of an accidental discharge of a 12 gauge shot gun. It is thought Mr. Dudley met death whil attempting to shoot dogs chasing deer on the refuge.

New refuge boundry gences were built and posted so as to include new land acquired. Our refuge roads have been kept in repair and several culverts rebuilt.

The cabins at the former N. Q. A. Headquarters were occupied again this year by the Wildlife students from the University of Maine. This is another very smart move for our Service, permitting these wildlife students to study first-hand our management and habitat work on the refuge.

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MOOSEHORN NATIONAL WILDLIFE REFUGE JANUARY, FEBRUARY, MARCH, APRIL.

1949.

A. WEATHER CONDITIONS.

Temp	oraturo			Precipitation
	Mean	Normal	Mean	Normal
January	26.2	20.4	4.56	3.02
March April	31.7 (Not recieved	28.9 as yet.)	3.15	3.83

B. WATER CONDITIONS.

The early part of the winter we had no snow; I mean just that. Up until the first of January the ground was absolutely bare and many ferns were still green. We had a little snow through the winter, but in general there just wasn't any compared with other years. The deer did not yard in this section. We had one heavy rain which fromed a heavy crust. It was so heavy that deer walked over it for several days without breaking through. I killed several dogs chasing deer and as a result haven't had much trouble lately.

We had one heavy rainfall during the late winter and if it hadn't been for the fact that we could and did let off the rising water it would have done considerable damage to our muskrat population. Damage in areas where the water table could not be controlled must have been great.

During heavy run-offs of water backing up from dams during almost any season of the year causes tremendous damage to wildlife of one form or another.

C. FIRES.

We had one fire April 12th. on the side of Meddybemps road, State Highway No. 187. The fire was probably set to burn an area where deer could be shot from automobiles while driving through the area at night. The fire was put out before it could do any damage.

II. WILDLIFE.

A. MIGRATORY BIRDS.

a. Waterfowl: About the same number of waterfowl wintered at the Edmunds Unit as last year. The only change in these birds was a slight decrease in Golden-eyes and a corresponding increase in Buffleheads. As usual the Black ducks were most abundant wintering species comprising about 60 percent of the population, Golden-eyes 25 percent, Buffleheads 10 percent, Red-breasted Mergansers 4 percent and other species one percent made up the balance of the approximately 2000 wintering waterfowl.

Toward the end of March, as the small ponds and streams began to open up, birds began moving from the salt water and appeared on all the little areas of fresh water. These are more noticeable on the Baring unit where there is much more fresh water area. The largest number of waterfowl at Baring were observed during the last week of March and the first week of April. Some of these birds were migrants and some will remain and nest on the refuge. During that period the composition of the flocks changed. Golden-eyes made up about 50 percent of the birds observed. Black ducks 30 percent, Ring-necks 10 percent and Wood duck, Buffle head, Hooded Mergansers and Canada geese 10 per cent made up the balance. Later in April Green-winged Teal, Blue-winged Teal and a pair of Mallards were observed. Toward the end of April fewer waterfowl were noted on Barn Meadow and Magurrewock marshes; some had migrated north but many, expecially Black ducks and Tael had moved into the beaver flowages and small ponds which dot the refuge. As beaver have increased their flowages have become a very important factor in the number of nesting waterfowl on the refuge. We have many of these flowages and some are so inaccessible that it is difficult to get a good estimate of the number of birds using the area.

An interesting feature of our waterfowl behavior is the increase in birds noted in Magurrewock marsh just before sundown. It is believed that they come in there from nearby small flowages to feed.

b. Shorebirds: Woodcock were first noted at Baring on March 24 about one week later than last year. The first woodcock reported at Edmunds was three days **later** on March 27th. Usually these birds are seen at Edmunds a few days before they are noted at Baring, but this year the reverse was true. On March 29th. a large flight of robbins appeared The following day large numbers of woodcock were present and it is believed the heavy flight of woodcock for the season occurred on the night of March 29th. Woodcock and robbins usually arrive at about the same time. A Brood of three woodcock were noted April 29th.

Preliminary spot checks of male woodcock on their singing grounds indicate about the same population of these birds present as last year. The actual census is now in progress and when completed will give a fairly accurate picture of the breeding woodcock present.

Wilson Snip are becoming more numerous each ywar. This year quite a number of these birds have been heard in flight around the marshes. Also the muddy perimeters of the marshes and streams and flowages show increased borings by Snipe and Woodcock.

c. Other Water Birds: The only other Water birds observed during the period were two Pied-billed Grebes and, of course, the ever-present Herring Gulls at Edmunds.

2. Food and cover.

Few changes have been made in the amount of food and cover for migratory Birds. Some small areas have been cut over making slightly more woodcock cover available. Also the marsh development at Barn Meadow has provided considerable more water areas for waterfowl. Food conditions remain about the same as in previous years. In general food and cover are considered adequate for the numer of migratory birds using the refuge.

B. UPLAND GAME BIRDS.

1. Populations and Behavior.

Ruffed grouse, our only upland game bird of consequence, appeared to be slightly more numerous than during the same period last year. Although not many birds were flushed, more tracks were observed on new snow in winter than in previous years. Nowever, these birds are still far from the high point in their population of several years ago. It is believed that the great number of red foxms present play a big part in keeping these birds down.

No spruce grouse were observed during the period but there is no reason to believe that there is any change in their numbers. There are only a few on the area and they are seldom observed.

On family of Ringnecked Pheasants was observed at Edmunds in April. This is believed to be one of the birds released by the state Fish and Game Department in this vicipity last fall.

2. Food and Cover.

There is ample food and cover for a much larger population of upland game birds that we have on the refuge. Predation is believed to be the chief limiting factor on these birds.

S. Disease.

No evidence of disease in upland game birds has been observed in this vicnity.

C. BIG GAME ANUMLAS.

1. Population and Behavior.

Due to the lack of deep snow our white-tailed deer did not go into winter yards this year as normally occurs. Therefore, no census of these animals was taken. Observations made during the latter part of this winter indicate a slight reduction in our deer herd. However, this may have been due to the weather conditions, allowing animals to spread out so that no concentrations were observed as in previous years.

Our worst predators on deer are dogs. They do not always kill the deer but prolonged chasing injures the deer. This is especially true in spring jsut before the fawns are dropped. Smith shot several dogs while in the act of chasing deer on the refuge.

Tracks of one moose were observed at Edmunds during February. It is probable that other moose were present on more inaccessible parts of the Baring Unit but none were observed during this period.

No black hear signs were seen during the priod but there is no resenn to believe there is any change in our bear population. This stays fairly constant at two or three at Edmunds and five or six at Baring.

2. Food and Cover.

34

Food and cover are adequate for the big game animals using therefuge. It is believed that the deer population is about as large as the winter food supply will support. Much of the white cedar growth shows a definite browse line but no indication of starvation was seen.

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

1. Fur Animals. The muskrat and beaver populations remain high Both appear to be slightly more abundant than last year. More houses were noted during the early winter and a number of mushrat bankd dens were noted on Barn Meadow marsh. The recent marsh development work there has created more water area and ideal conditions for bank dens. There is no evidence of over-population in either species although it is doubtful if Magurrewock marsh will support a larger number of muskrats. We hope these rats will spread out and provide natural stocking for surrounding areas. If the Magurrewock population keeps increasing, some damagesto our planted waterfowl food plants may result. At present both muskrat and beaver are beneficial to our waterfowl by making more nesting and resting cover available to them.

It is believed that Bald Eagles took a toll of our muskrats in the ea ly spring. It is also very likely that Red Foxes killed a few 'rats during the winter. No definite proof of predation was found.

Other fur animals; including weasels, mink, raccooon, otter and wkunks are present in about the same numbers as last year. These animals are seldom observed but signs of their presence were noted about as frequently as in other years.

2. Predators. Domestic dogs and cats and Red Foxes are our worst predators, the fromer do most damage in our deer herds, but the foxes are instrumental in keeping down the populations of all our small animals and birds. The domestic cats prey heavily on small birds and occassionally on young snowshoe rabnits. Foxes are by far the most abundant and do the most damage. Bobwats also do some damage, especially to our deer herd However, they are not present in sufficient numbers to cause serious concern. There appears to be no notable change in our predator population or in conditions affecting them.

3. Rodents. Rodents are not a serious factor on this refuge. The mice and rats are probably beneficial in that they relieve predator pressure on other species.

4. Other Manmals. The Snowshoe have population showed a slight increase over last year. The come-back of these animals from the low point of their cycle has been very slow. This is believed to be caused by very heavy predator pressure. Food and cover are more than adequate for the number of Snowshoe haves on the refuge.

E. PREDACEOUS BIRDS (Including Crows and Ravens.)

There appears to be no change in the number of Predaceous birds. Bald Eagles and Crows are our worst offenders. It is believed that they do considerable damage on our marshes, especially to waterfowl. Sparrow Hawks are fairly abundant and there may be a slight increase in their numbers. However, they do little damage to desirable species of wildlife. Other predators observed during the period included a Barred Owl, Saw-whet owl, Marsh Hawk and several ravens.

G. FISHING.

The water is low on all of our streams this spring. In

mid-April it was about at the normal mid-June level. Unless heavy rains occur the water will be dangerously low by late summer. The resulting lack of food and cover from predators would be hard on our fish. Trout, our most popular fish, are not as plentiful as they formerly were. Heavy fishing pressure is probably the main factor in this decline.

III. REFUGE DEVELOPMENT AND MAINTENANCE.

A. PHYSICAL DEVELOPMENT.

About one acre of land was cleared for woodcock cover by refuge personnel. The wood obtained from this cutting will be used for firewood at the recreational area.

Several acres were cleared through the sale of stumpage. The exact acreage has not been ascertained because some of the cuttings have not been completed.

Two tracts of gray birch type, one of about three acres and one of about ten acres were burned over in an attempt to condition it for woodcock cover. Before burning these areas firelines were plowed around themby the use of the Bulldozer and heavy brush plow.

Five hundred wild celery pods recieved from Missisquoi Refuge last fall were planted at Barn Meadow. These seeds were stored in a cold spring brook all winter. The pods were clay-balled and planted in the stream at the upper end of the meadow. At that point there is one to four feet of water and a sluggish current. The water is reasonably clear with little or no silt. Conditions appear to be favorable for the growth of this plant with two exceptions; the bottom may be too mucky or the water may be a little too acid. However, it is believed that neither condition is so extreme as to seriously affect the growth of the celery. It is too early to know how successful last fall's plantings of wild rice, three-square and pond weed will be. Conditions appeared favorable for all three and it is hoped we will get a good growth of these plants.

IV. ECONOMIC USES OF THE REFUGE.

- A. GRAZING. None this period.
- B. HAYING. None this period.

2%

C. RENTALS. All farm buildings are rented.

E. CHRISTMAS TREES. None sold this period.

F. CRANBERRIES. None sold this period.

G. TIMBER REMOVAL. We were able to sell a little pulp wood from blocks where the cutting would accomplish the greatest amount of good to wildlife.

V. FIELD INVESTIGATION AND APPLIED RESEARCH.

1. Forest Management Plan. Type maps are nearly completed and data is being assembled for the forest management plan. Seasonal observations on woodcock and waterfowl and routine refuge duties which cannot be pospone leave little time for this and other reports. However, it is hoped that the work on the forest Management Plan, Forest Study Plot Report and Woodcock Development Report will be completed soon.

2. Biological Observations. The census of woodcock singing grounds is in progress and will be completed by mid-May. Meanwhile checks of woodcock cover usage are being made. General waterfowl checks have been made and waterfowl nest checks will be started soon.

VI. FUBLIC RELATIONS.

My observations are that there is no activity of our Service so important from a public relations standpoint than our refuge system. This is especially true of refuge areas that have big game species, such as deer. Car loads of people, adults and children, are ma,king special trips to see the wildlife on this refuge, expecially the deer.

I am informed by people of importance that a public demand is being built up for the establishment of refuge areas developed and maintained in Canada similar to this refuge. And it is also true in this state. It is of paramount importance to protect the wildlife on this area, and this Service has just got to change its attitude towards the law enforcement angle in running this refuge or they are going to regret it.

At this time of the year the refuge is very popular and it can remain that way provided it is given the cooperation of both our Service and the Court.

The New York Conservation Department is sending several men here May 20th. to see our woodcock development cover area with the idea of carrying on similar activities in that state.

Our waterfowl development areas are also causing a lot of favorable comments and out management policies of these waterfowl areas are being copied. I have been very active this period speaking beforeSchools, College, Sportsmen's Club and Rotary Clubs. I was again invited to address the Forestry and Wildlife Students at the University of Maine and spoke there the evening of April 6th. On the 11th. I addressed the Rotary Club at St. Stephens, N. B, Canada, and it will be noted at no expense to the Government for any of these meetings, except I did use the Government automobile to travel in this year.

One of the most difficult jobs of a Refuge Manager, especially at one of the type of Moosehorn where it is so close to a city and towns, is its public relations work.

We have several very nice trout streams as well as other good fishing waters on this Refuge. Hundreds of persons fish these waters under permits each year. We have to issue permits for persons to fish or lost control of the refuge. People after fishing permits, cutting wood, hay, pasturing stock, picking berries, cu ting Christmas trees, hauling gravel and seeing wildlife knock at the Refuge Manager's door at all hours of the day and night and he must either make out the permits with a smile or be criticized. Mrs. Smith aptly calls our residence "The Gold Fish Bowl" because we just do not have any privacy. We just cannot eat a meal without interruptions and we are lucky for the time to change our pants.

Most appointments are made for a Saturday or Sunday. Wildlife enthusiasts usually call in the evening, that's when they can see the deer the best, and if you are a good host you must either fusnish food, drinks, candy or ice cream, which is all very wonderful if one can afford it. Refuge Managers with their small **salaries** just cannot afford this run on the bank. Special funds to carry on public relations work should be made available to Refuge Managers for the entertainment of guests.

A Refuge is a clearing house for every kind of activity connected directly or indirectly with wildlife, and it's a major task. A manager must be very clever indeed to run a refuge, develop it successfully and satisfy both the public and the members of our own Service. Everybody wants domething special done and if it is some member of our Service it must be done immediately. I have seen that word used tso often I despise it.

E. Violations. We have none to report this period.

SPECIAL NOTE.

March 6th. our Refuge Manager Earle H. Dudley on the Edmunds Unit of this refuge died as a result of the accidental discharge of a shot gun while on duty. It is thought the accident occurred while Mr. Dudley was attempting to shoot dogs that were chasing deer. Refuge work in all of its varieties is very dangerous.

APPROVED

11

Irthur Smull Regional Refuge Supervisor

79-49. Date

Regional Director

Date

WATERFOUL

(A)

Refuge MOSSIHORN HATTOHAL WILDLIFE Months of MANHART TO to MAY 194 9 COLOR TO LOW

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II.	Ducks: Mallard Black duck	2 8714	4/18 3/28	2 90	4/18 4/6	(Saw pair (Ducks su	at Barn M	adow last	year 4/15) uiokly)	eang .
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	Cenvas-back Scaup Golden-eye	003	3/20	500	Principal nesting areas this season Barn Mondow March and
	Wood duck Bedhead		14	¢	Boaver Flownges
	Cinnamon teal Shoveller				Reported byBertrend E. Smith
r	Green-winged teal	- 7	4/8	INS	TRUCTIONS
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II*	(5) Young Produced:	Estimated sentative 10% of th	number o breeding e breeding	of young pro g areas. Bung habitat.	oduced based on observations and actual counts on repre- brood counts should be made on two or more areas aggregating Estimates having no basis in fact should be omitted.
	(6) Total:	Estimated may or ma of the mi	total m y not be grational	mber of the more than the l movement.	e species using the refuge <u>during the period</u> . This figure that used for peak concentrations, depending upon the nature

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form. 2338

MY LESLONT

3-1751 Form NB-14	(5)		(h) MTC	CRATORY R	TRDS		(2)		(1)	
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II. <u>Shorebirds.</u> Gu	ills and borrog	reporting	during the	eguler n	ourring or	becies oc	other s	liniol	1. · · · · · · · · · · · · · · · · · · ·	
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	(3)	Peak Numbers:	The	greatest	number o	f the spe	cies pres	ent in a 3	limited i	interval o	f time.	*
	(4)	Last Seen:	The	last refu	ge record	d for the	species	during the	e season	concerned		
	(5)	Production:	Est	imated num	ber of y	oung prod	uced base	ed on obse	rvations	and actua	l counts.	
	(6)	Total:	Est	imated tot	al numbe:	r of the	species u	sing the	refuge <u>di</u>	iring the	period concerned.	

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Form NR-2	•			UPLA	IND GAME DIRD	0				
	Refuge	<u>) Igo (10.</u>	WILD.I	PS.	Month	s of	JAS	ALC.	to	, 194
(1) Species	(1) (2) Species Density				(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 To tal	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Roffed Ground	9000 seres uplead woolland and revert- ing agricultural lands.		linro J siter set av signal signal	ing b Code Colifs with with	reverting ag iard type ag b possible. tepresents bis should b	ieb skie skie skie s	tono 60. 1000 1000 1000 1000	nt he te, t d ba e and ple a	17150	
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DOTATO CALLE DIDO

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INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY:

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

- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

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

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

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

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

Form NR-4

SMALL MAMMALS

Refuge recommendation attaining Baseds April 30, 194

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zeez	Cover Types & Total	Acres	ting	vest	date tro]	Recklin	Bar	Dormit	ppe1	nge	s Sl	one	DO	D	tion
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	Ty requested.	16911108	da 1	on no	CJ SWY	info	Jriog L.	ther part	any o						

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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.)

> Use correct common name. Example: Striped skunk, spotted skunk, shorttailed 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 referencé, is now out of print, although a revision is scheduled for publication in the near future.)

(2) DENSITY:

SPECIES:

(1)

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.

REMARKSI

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

Form NE-4

(1)

Species

3-17 Form (Nov	50 NR-1 . 1945) Refuge			W/	ATERFOWL ths of	Jonuncy	.to	1111	roduction:	<u>Total</u> Ge
	(1)	(2)	(3)	Peals	(4)		17	(5)	(6)
	Species	First ;		<u>_Peak_Conce</u>	entration	Last Se	<u>en</u>	Broods	Estimated	Estimated
	Common Name	Number	Date	Number	Date	Number	Date	Seen	Total	for Period
I.	<u>Swans</u> : Whistling swan	nożsez siń	e seas a	ilteen issi	Princ				in the second	
II.	<u>Geese</u> : Canada goose Cackling goose	5	4/22		4/22	6	4/22			50
	Brant White-fronted goose Snow goose	/	ted by	Repoi			Ha in the			
	Blue goose		1.1.1.1.1.1.1	SN	NSTRUCTIO					
111.	edi gainub egulen <u>Ducks</u> : bluede actinei Mallard	ceurring or Special at	spaciās d spaces; gnificano	orm, other appropriate National si	sted on added in ocal and	he birds li should be pecies of l	tion to ng period o those s	In add report given	pecies:	· · (1)
	Black duck Gadwall Baldpate	to resider	the seasc not apply	ies during olumn does	the spec . This c	record foi number seen	et refuge and the	The fli period.	irst Seen:	1 (\$)
	Fintall Green-winged teal Blue-winged teal	interval of	limited	resent in a	species p	ber of the	atest nun	- The gre	eak Concentra- ion:	(8)
	Wood duck and the Red head	concerned	he seasor	es during t	the speci	record for	eguler j	The las period.	ast 'Seen:	(4) (*)
	Canvas-back	and actual	ervations	ased on obs	i becubor	of young p	redmun be	Estimat	oung Produced.	(5)
	Scaup 301338 85016 01	n two_or mo	be made c	bluode eta	Brood coo	ng areas.	ve breedi	sentati		
	Golden-eye Buffle-head	Elater res	dent	150	1/3	B B	4/11	10/0 01		1500
	Ruddy duck for boling	tions, depe	reiuge g concentra	s using the d for peak	ne specie that use ovement.	number of t e more than grational m	ad total may not b of the mi	natura nature	1010	
	that the <u>Summaries</u>	desirable	ai, JI .b	ould be use	is boired	reporting	le to the	applicat	Only column	Note
IV.	Coot d lo daer ent 1	analysis o	sed on an	essarily ba	a are nec	e these da	DULE UOIT	iells This	170 extered	1

(over)

Total Production:		SUMMARIES	New sector in the sector	5-1750 Form NR-1
Iotal Production.	well an Arimstoff	to offer	Refure Manual Marth and	(NOV. 1945)
Geese	Contraction of the second s	Total waterfowl usa	ge during period	150
(a) (a) (a) (a) (a)	(4) Last Seen Young	Peak waterfowl numb	ers	(1)
Estimated Estimated	Number Date Seen	Areas used by conce	ntrations Selt motor 1	·
and the second second				I. <u>Span</u> g.
	N A A	Principal nesting a	reas this season	Whistling swa
				II. <u>Geese</u> : Canada googo
		Reported	by Sidon &	Cackli strato os Brant
			goose	White-fronted Snow roose
	I A A A A A A A A A A A A A A A A A A A	INSTRUCTIONS		Blué goose
(1) Species:	In addition to the birds li reporting period should be given to those species of 1	sted on form, other spe added in appropriate sp ocal and National signi	cies occurring on refuge aces. Special attention ficance.	during the should beard .III bislish
(2) First Seen:	The first refuge record for period, and the number seen	the species during the This column does not	season concerned in the apply to resident specie	reporting bed es. etcolst
(3) Peak Concentra- tion:	The greatest number of the	species present in a lin	mited interval of time.f	Green-winged Blue-winged t
(4) Last Seen:	The last refuge record for period.	the species during the s	season concerned in the	Cinnamon.teal reporting Red bead
(5) Young Produced:	Estimated number of young p sentative breeding areas. 10% of the breeding habitat	roduced based on observa Brood counts should be r . Estimates having no b	ations and actual counts made on two or more areas basis in fact should be o	on repre- s aggregating omitted.
(6) Total:	Estimated total number of t may or may not be more than nature of the migrational m	he species using the re that used for peak con- ovement.	fuge <u>during the period</u> . centrations, depending u	This figure
Note: Only columns receive caref	applicable to the reporting ul attention since these dat	period should be used. a are necessarily based	It is desirable that the	e <u>Summaries</u> est of the
form.		(JOVGT)		

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3-1751 (2) Form NR-1A (Nov. 1945) Refuge	COSENORN NATIONAL . EDMINIS UNIT	MIGRATORY I (other than wa	BIRDS aterfowl) s of	to 1940 yob	III. <u>Doves al</u> Mourning
(1) Species	(2) First Seen	(3) Peak Numbers	(4) Last Seen	(5) Production	(6) Total
Common Name	Number Date	Number Date	Number Date	NumberTotal #TotalColoniesNestsYoung	Estimated Number
I. Water and Marsh Birds:				Yk	Duck has
Herring Gulls	Unshanged t	woughout the year			010800
000					CTOW
					N. A.
A class					
	Reported by				
. and list group in A.O.U.	bitet 1931 Editio	STRUCTIONS	IN Dames former t	annon add anti-	
The Shorehirds, Gulls, and	eto. In addition	."niet" ."ilugae	general terms as "	order. Avoid	
Terns:	e reporting period	refuge during th n should be given	eòles occurring on Special attentic	fora, other s priate spaces	
American Noodoook	Garage Takes	ette and	Groups: I. Water	significance.	200
	umbiformes)	and Pireons (Col	III. Doves		
Prmes and preudpous Passeriformes)	riginic , semioino	COOUS BITES (Fale	IV. <u>Preda</u>		All such
	eason concerned.	species for the s	ige record for the	rat Seen: The first refu	(2) 11
time.	inited interval of	es present in a l	ipeds of the speci	ak Numbers: The greatest r	(3) 18
\square	season concerned	pecies during the	te record for the s	st Seen: The last refug	· (4) · Ia
counts.	vations and actual	ed based on obset	ber of young produc	oduction: Estimated num	(ē) Ir
eriod concerned	efuge during the p	ectes using the	a off lo redmun fr	Estimated to	at tak
	and a second light	(over)			

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NO WERE ADDRESS OF

	(1)	(2)	(3)	(4)		(5)	3-17(6)				
1			ATORY BIRDS	MIGH	X State		Form NR-1A				
III.	Doves and Pigeons:	to to	Months of	Tenjoj Meranje Janori	ing minoration	Refure	(Nov. 1945)				
	Mourning dove			Carlos a Station	and exercise	8					
	WIII CO-WIIIGOG GOVO	6) (6	(4)	(3)	(2)	(1)					
hat	ction Did Total	en Produ	pers Last S	en Peak Num	First S	occies	8				
IV.	Predaceous Birds:	Date Colonies Nea	Date Number	Date Number	Vumbor	amell and	men				
	Duck hawk	and the second			Toumpt	TAL DATE THE MELTING					
	Horned owl					nd Marsh Birds:	I. Water a				
	Magpie		the second bill	ducelyne wid Bayes	Sector .	ello	· Horefac 1				
	Raven		a a a				25				
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13		the straight of the			RIA	E. Clavic	Adda a				
4				Reporte	d by						
INSTRUCTIONS											
the life	(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 genera	1 terms as "seagul]	.", "tern", etc.	In addition	n to the birds lis	in appro-				
		priate spaces. Spec	ial attention shoul	d be given to tho	se species	of local and Nat:	ional				
1	ma la state de	significance. Group	s: I. Water and Ma	ursh Birds (Gaviif	ormes to C:	iconiiformes and (Gruiiformes)				
L	II. Shorebirds, Gulls and Terns (Charadriiformes)										
		APPEND 在1883年	III. <u>Doves and Pi</u> IV Predaceous F	<u>geons</u> (Columbilor) Sirds (Falconiform	mes) es Strigi:	formes and predace	20115				
		211 51 12 142 21			,	Passeriformes					
	(2) First Seen:	The first refuge rec	ord for the species	s for the season c	oncerned.						
	(7) Pools Numberg	The greatest number	of the species pros	ont in a limited	interval o	ftime	×				
	(5) Feak Numbers:	ine greatest number	or the sheeres bles	ent in a timited	Interval 0.	t ormo.					
	(4) Last Seen:	The last refuge reco	rd for the species	during the season	concerned						
	(5) Production:	Estimated number of	young produced base	ed on observations	and actual	l counts.					
	and the second			· · ·							
	(6) Total:	Estimated total numb	er of the species u	ising the refuge <u>d</u>	uring the p	period concerned.					

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Form NR-2

UPLAND GAME BIRDS

1613

Refuge Moschorn, Edmunds Unit Months of Jan to April, 1949

(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	Forest land 4532 Brushtedges 1200	191	erne broit delle Liste Slippe en dimension erne trace bro	reverting ag and type ap e possible. represents as about b	day Stan What the c	rdund ta, used cour ros_c	nd ha d ba d ba a and pla a	30				
Spruce Grouse	Forest land 4532	453	turier, pr	produced, b g haidtat, clip to wild b,	antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes antes	(10 mai si (and (ave	tednu ridad Vqqa Ni se Ni se	10	(3) TOURD PRODUCED: (4) SEE HATTO: (5) REMOVALES			
secaona, Mao	rb period. This is fuge during certain overed in survey. quested.	he repo the re area o ally re	is dering in mains inter-	ing the rote	an a	idaadi bird basu basu	otal ident bbod	Setimates f an inde rec Indicate w	(5) TOTALE (7) REZEARCE			
tat	and a second		Joan	ed filmons i		50 bo	pero	inte or elece	Curla colusors anglas			

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.

34) 5732

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

Form NR-4

SMALL MAMMALS

Refuge HOCSENORN NATIONAL WILDLING READER April 30, 194

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(1) Species	(2) Density	(3) Removals					n nom	oo Joe Di		(5)					
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	fur Jarvest	Predator Control	for Re- stocking	for Research	Share 1 Permit Number	frappers ' Share	Refuge K	rotal Refuge Furs Shipped	Refuge Income	Furs Donated	furs Destroyed	Total Popula- tion
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INSTRUCTIONS

Form NR-4

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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.)

Use correct common name. Example: Striped skunk, spotted skunk, short-SPECIES: Spectes 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 referencé, is now out of print, although a revision is scheduled for publication in the near future.) Common Mame Acreage of Habitat

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:**

(1)

(2)

Indicate the total number under each category removed since April 30 of the previous year. Also show any removals not falling under heading listed,

On share-trapped furs list the permit number, trapper's share, and refuge share. **DISPOSITION OF FUR:** (4)refuge by species, including share-trapped furs and furs taken by Service on personnel. Total number of pelts of each species destroyed because of un- co primness 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 30,5

REMARKSL

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

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