ROUTING SLIP	DIVISION OF WILDLIFE	E REFUGES DATE:	5-20 1947
MR. SALYER  MR. KRULLIS  MR. DUMONT  MISS BAUM	UK 9/4 PAD 5/21	Dr. Bourn W	PEG 5-20
SECTION OF OPERAT	CIONS: 2.6.3- 498 6/17/47	SECTION OF LAND MA_Mr. Kent	rK 6/16
SECTION OF STRUC	TURES: 5/22	STE OGRAPHERS:	
	SLADE REFUGE January - April 1947		
		Return to:	

# UNITED STATES DEPARTMENT OF THE INTERIOR FISH & WILDLIFE SERVICE

NARRATIVE REPORT

JAN: FEB: MAR: APRIL, 1947

FISH & WILDLIFE SERVICE

SLADE NATIONAL WILDLIFE REFUGE

DAWSON, NORTH DAKOTA

# SLADE NATIONAL WILDLIFE REFUGE

# NARRATIVE REPORT

# JAN., FEB., MAR., APRIL, 1947

## INDEX

I. General		
• Weather Conditions	Page	1
B. Water Conditions		2
C. Fires		2
LL Wildlife		
A. Migratory Birds		2
B.Big Game Animals		3
C Upland Game Birds		2
D. Fur Animals		4
E. Predacious Birds		4
F. Fish		4
III Refuge Development & Maintenance		
A. Physical Development		5
IV. Economic Use		
A. Grazing		5
B. Haying		5
C. Fur Harvest		5 5 5
D. Farming		
E.Other Uses		6
VI. Field Investigations		
A. Waterfowl census		6
B. Other		6
VI, Public Relations		
A. Recreational Use		6
B. Official Visitors		6
C. Violations		6
D. Miscellaneous		6-1
TITT The sheep was a least		

#### VII Photographs

A. Photographs None

Summary of Years Activities

A. Summary

PERIOD: January, February, March, April, 1947

#### I. General

## A. WEATHER CONDITION:

From the various natives about the refuge, the past winter months have been above normal. After January no appreaciable amount of snow lay upon the ground. Three decisive blizzards occured during this period. January 13th & 14th., February 6, 7, & 8th and on April 5. There were numerous days of high winds and no visibility and very cold. Storm of Feb. 6-8 began with 50-60 mile an hour winds, filling the air with 90% dust and 10% snow. Later changing to heavy snow and very cold. Road into and out of the refuge was at numerous times impassable. Great difficulty was had in breaking open a road to town and keeping it open. Fortunately a thaw in January removed most of the snow and at no time thereafter was there a great deal of snow upon the ground.

Spring breakup period began on March 25th. Thruout the month of April it was wet and cold. Blizzard occured upon April 5th. Farmers were unable to get into the fields until about April 15th and then only on high ground. Farmers state that it is the latest spring in 11 years. Ducks have been few about the grea, and they predominately pintails. Ice has not left Harker Lake, and the numerous potholes about the area have provided resting and feeding places for the ducks.

Winter, in general, above normal, Spring, definitely below normal.

#### DATA

Month Precipe Max. Temp. Min. Temp.

Jan.

Feb.

March

April

#### I. General

#### B. Water Conditions:

Water conditions, on the refuge, have been ideal for ducks. A cold, wet April has produced my potholes about the area and filling exisiting ones to optimum level. Harker Lake, still full of Ice, the pot-holes have provided ideal resting and feeding places for the ducks.

#### C. Fires:

None, to date.

#### II. Wildlife

## A: Migratory Birds:

l. Population and Behavior:

Cold, wet spring has retarded movement of migraory waterfowl. No ducks were observed upon the area until April 1st at which time the first Mallards and Pin-tails were observed. Pintails have been the predominate duck upon the area. Black ducks appeared April 3rd. Buffleheads and geese first appeared upon April 14th. On April 14th approximately 30 Canada Geese and Eight Snow Geese were upon the area, resting. Aproximately 450 Canada Geese were observed in flight on this same day.

No great concentration of ducks has been observed upon the area. Forty pintails in a group has been the largest group seen. Mallards were second in predominance.

Franklin Gulls appeared late in March and now number hundreds.

Species suck as coot, redhead, teal arrived late in April and were never observed in great numbers.

No nests were found upon the area, but from actions of the ducks, especially the pintails, it is believed that nesting has started upon a limited basis.

# 2. Food and Vover:

Few mallards and pin-tails have been observed in the grain fields destroyed by hail, last year. These fields are pretty well gleaned, and give little food supply.

Most ducks have been concentrated upon the numerous pot-holes upon the area and appear to find most of their food there.

Cover is adequate for nesting. With a cold wet spring, nesting is delayed and may bring about the failure of early nests. No nests have been observed, but is believed that there are some ducks nesting.

#### II. Wildlife

#### 3. Botulism:

None .

#### B. Upland Game Birds:

## 1. Population & Behavior:

The pheasant population remains very good. They came thru the winter with little mortality. Hardest on them were the blizzard periods. After storm of Jan. 13-14th, numerous birds were found along North Dakota Highway No. 3, south of refuge. Upon refuge proper only one dead bird was observed.

Have observed upwards to 60 prairie chicken. A concentration of 30 birds used the marsh in the SE corner of the refuge, all winter, the remainder scattered about the area.

Only Might (8) sharp-tails, have been observed upon the area and they in the north half of the refuge. No Hungarian Patridge have been seen upon the area this past period.

Pheasant are now mating and nesting. Cold wet spring has retarded nesting and may destroy early nests.

#### 2. Food & Cover:

There is an adequate supply of food for our present pheasant population. During the blizzard periods they were fed near the headquarters site, at a feeding station. This was very well patronized.

With the increase of grain crops, this coming season, there shall be plenty of food for our growing pheasant population.

# C.BIG GAME ANIMALS:

# 1. Population & Behavior:

Deer remained upon the area until the Blizzard of January 13-14th., at which time they left the area. Presumably to the "sand hills" to the south of the refuge in the State Game Area.

The deer first returned to the area on March 29th. On April 1st 21 deer were observed upon the area. They now are observed frequently about the area in groups of from three to sevem. It is estimated that we have a deer population of approximately 30 head. There haunt, the brushy shores of take Isabelle and Harker Lake.

## D. FUR ANIMALS, PREDATORS RODENTS:

The number of predators upon the area, are few. Skunk have been observed and is beleived that we have a population of approximately six animals.Badger are present and the advent of spring weather has brought them to light. One coyote was observed upon the area, in the vicinity of Harker Lake. No sign of fox or mink have been observed.

During March a census of rat houses and the muskrat population was undertaken. A total of 66 muskrat houses were found within the area. The greatest concentration was found in the marsh in the NW corner of the refuge, where 47 houses were counted. Next in number was the SE side of Harker Lake, where 12 houses were found. With an average of four rats per house we have an approximate muskrat population of 225 indiviuals.

It is believed that no removal program is neccesary at this time. The population does not warrant it.

Jack - rabbits are upon the area, but not in great numbers.

# E. PREDACIOUS BIRDS, CROWS, RAVENS, MAGPIES, ETC.:

Bald sages eagles have been observed thrucut this period, from time to time. Usually in groups of from 2 to 5. Some were observed feeding on muskrat carcasses on the marsh North of the refuge.

Rough-legged hawks have been observed from time to time. It was observed to see a rough-legged hawk chase a mature pheasant. Pheasant eleuded the bird by soaring into wind- break near residence. Marsh-hawks have been present since spring s thaw began on March 20th.

First crow was observed upon the area on March 4th. Magpie observed first, on April 14th. The population of wither species is not great.

Predactions bird population is not too great and fits in with wildlife's society of birdlife. Marsh hawks are quite numerous but are not a determining factor in destruction of wildlife. Sparrow hawks have been observed, but are not many of them.

## F: FISH:

No fish present in thewaters of this refuge. The presence of numerous gulls upon the waters may indicate there is some small fishes present. Further study is needed.

## III. Refuge Physical Development and Maintenance:

## A: Physical Development:

No development work carried on during this period. Road to town was patched with gravel after the spring thaw. The manufactur of two signs for directional purposes, was completed. They need be assembled and erected upon the road leading into the refuge.

Sheet-piling for Lake Moraine Spillway repair has been made up, except for few pieces.

Development of this area will depend upon Service's appropriation during the coming years. Access road, power and telephone kine are very essential. The erection of a Service Bldg and office is desirable. The removal of the present farm type buildings, should be indertaken. They serve no purpose. The assignment of more personnel and equipment is most desirable, to begin some of the proposed work, on a limited scale.

The past five months have proven the inadequacy of the facilities of this station. No proper access road. Present road is always blacked with snow and in the spring impassable because of mud holes. A 3-4 foot grade should be constructed to the area. Te erection of a power line would greatly enhance the maintenance ability of the personnel, thru the use of electrically powered machinery.

## IV. Economic Use of the Refuge

#### A: GRAZING:

No grazing during this period, nor is any anticipated.

# B: HAYING:

No haying during this period. Permits are being processed to cover haying on numerous areas for this coming summer.

## C: FUR HARVEST:

No fur harvest during this period. None is required at this time because of small fur bearing animal population.

#### D: FARMING:

No farming carried out during this period. Increases utilization of the lands for farming have been set up for the comi g summer. Amendments to the present Economic Use Paln, will increase the agricultural use of the area 100%. Applications for permits and Farming agreements have been submitted to the Regional Office for approval and issuance. It is anticipated that all permits and amendments shall be approved and will provide more grains for duck and bird feeding as well as grains for other refuges. It also will improve the lands as some have been idle for years and are a matted mass of dead grasses.

## E. OTHER USES:

No other uses.

V. Field Investigations or Applied Research

#### A. Waterfowl Census

Spring migration of migratory waterfowl was observed about the area. It seems to indicate a decline. While 6800 ducks were stated to be using the refuge last spring only between 2,000 to 3,000 ducks are using the area this spring. This may be because of the late spring and the peak of the migration may have not been reached or the ducks just passed over this area. At any reason the ducks are not present in the numbers as of previous years.

## B. Other:

No other work of this type was carried on during this period.

VI. Public Relations:

## A, RECREATIONAL USES:

No recreational uses was made of the area.

#### B. OFFICIAL VISITORS:

An official of the American Wildlife Institute and an agent of P\*R project visited the area in January to inspect the Lodge and its component bldgs. and facilities.

Mr. Jensen, Game Management Agent, visited her on a Sunday in March and discussed violations and procedure of reporting, as he would be out of Jamestown.

Mr. Huey, Regional Engineer, payed a call in February and discussed the repair work to be undertaken upon the Easement Refuge.

Ms. Gillett, Regional Supervisor, called on April 25th and again on April 29th. Discussed the transfer of myself to a minor capacity to Seny Refuge, Inspected Refuge, Inspected, Lake Moraine, Canfield Alake and Hutchinson, Easement Refuges.

#### C. VIOLATIONS:

None observed.

#### D.MISCELLANEOUS:

After a hectic winter, induced by a seriously ill, wife, and inconviences of the attion, I submitted a resignation to RO. This they graciously refused to accept. Mr. Gillett called in April and the situation was discussed at length. An attempt shall be made to transfer

# MISCELLANEOUS: (Cont'd)

me in a minor capacity to the Seney Refuge, Germfask, Michigan, In event it does not materialize my resignation shall become effective.

VII. Photographs

No photographs, during this period. No photographic equipment assigned to this station.

Respectfully submitted,

DATE: May 1, 1947

James H. Bell Refuge Manager

Approved: \*\*

REGIONAL DIRECTOR

Date:

MAY 1 3 1947

#### SUMMARY OF THE YEARS ACTIVITIES

It is with great feeling that I must submit a almost neagtive report for the years activities. Little or no development was accomplihed. Lack of funds, changes in personnel are contributing factors to this state of affairs.

Mr. Rognlie, former manager, resigned in October of 1946 after being here since February. Mr. LAwson, in chagge prior to this, transferred to Lower Souris Refuge. I assumed care in December of 1946, at that time a Mr. Hill from Arrowwood had been in temporary care of the area. At this writing I am leaving here, because of serious illness in the family and it is hoped that I may be assigned to Seney in a minor capacity. This will releive me the burden of continual worry over my wife and children and still let me continue with the Service, for which I do so desire to do, very much.

During my tenure here, I have had the Electric system overhauled, the water system repaired and the sewer system functioning properly. Have manufactured two directional signs, claened up about the place and mostly paper work. Have authored a Development Plan for the area which has been approved by the Central Office. Have increased the utilication of the area for agricultural use by 100%. This has resulted in seven amendments to the Slade Economic Use Plan. At the time they are approved a new Economic Use Plan should be drawn up and the amendments incorpaorated within it.

During Mr. Rogalie's tenure, he constructed fire lines all about the area. Supervised the waterproofing of the Lodge Basement. Carried out a waterfowl and brood survey of the Easement Refuges. Work of administrative nature.

Numerous items for the office have been procured, with which to more efficiently carry out office procedures. Many articles, necessary, to the maintenance of the area have been purchased, mostly small hand tools and repairs necessary.

Inventory of the whole years works reveals little accomplished other than the administrative work. This past year has divorced Slade from Long lake Refuge and is now operated as a single unit together with Easement District No. 1.

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APPROVED:

MAY 1 3 1947

REGIONAL DIRECTOR

Refuge Slade National Wildlife Refugenths of Jan. to April 30, 194 7

	(1)	(2)		I Iwolies (3		(4)			(5) axi	(6)
	Species	First S	Seen	Peak Conc	entration	Last Se	en		roduced	Total
	les about the area.	ons. Pot-he	ncentrati	used by co	Areas			Broods	Estimated	Estimated
	Common Name	Number	Date	Number	Date	Number_	Date	Seen	Total	for Period
	Swans: Whistling swan Geese:	his season.	r asers g	ipal nestir	Princ					
	Canada goose	30	4/14/47	30	4/14/	47				100
	Cackling goose Brant White-fronted goose Snow goose	8 400	4/14/47 4/15/47	8 (Flying o	4/14/4	7				25 Unknown
	Blue goose	36,1435					940			
	refuge during the tention should be			orm, other appropriate	ni bebbs	he birds li should be	ing period		pecies:	
III.	<u>Ducks</u> : Mallard	5	4/1/47	200		pecies of	to those s	given		200
	Black duck Gadwall	3 bencerned to residen	4/3/47	gnino sel		record for			irst Seen:	(R) F
	Baldpate Pintail	io Lavreini	4/1/47	1000		7edf to red	200		sak Concentra	1200
	Green-winged teal Blue-winged teal	8	4/15/47	50	4/23/4				ion:	100
	Cinnamon teal Wood duck	concerned	ne season	es during t		record for		The lan	ast Seen:	
	Red head	6	4/20/47	100	4/23/4	7				100
	Ring-necked duck	and actual	ervations	sed on obs	d beoubon	of young p			oung Produced	(5) Y
	Canvas-back Scaup	om 2 owl d	4/25/47	25	4/29/4	7	ive breedi the breed	sentati		50
	Golden-eye Buffle-head	2 2 2012	4/14/47	25	4/20/4	1 10 Jedmin	Latot bed		otal:	25
	Ruddy duck Shovelers	edels anoi:	4/18/47	150	4/23/4	7 edf erom	nay not b	may or		250
	that the Summaries	eldarizeb.	at JI .	ould be use	de boltec	reporting	ent of eld		Only column	
IV.	Coot:	o a 2 ylan	4/22/4	250	4/23/4	705 045			receive car form,	250
					(over)					

5-1750-

# Total Production:

	Geese V Met		Total waterfowl usage duri	ng period 2325
(6) Total	Ducks	(4) Last Seen Young	Peak waterfowl numbers	
timated r Perion	000 00	Number Date Seen	Areas used by concentratio	ns Pot-holes about the area.
			Principal nesting areas th	is season nowe nailteidW
COL		17	4/14/47 80 4/14/	
	The Market		Reported by Jan	es H. Bell , Refuge Manager
				.White-fronted goose
25 Unknown			INSTRUCTIONS	Show goose 400
(1)	Species: First Seen:	reporting period should be given to those species of .  The first refuge record for	sted on form, other species oc added in appropriate spaces. ocal and National significance the species during the season	curring on refuge during the Special attention should be . concerned in the reporting
		period, and the number seen	. This column does not apply	to resident species.
(3)	Peak Concentra- tion:		species present in a limited i	Green-winged teal
(4)	Last Seen:	The last refuge record for	the species during the season	
(5)	Young Produced:	sentative breeding areas.	produced based on observations Brood counts should be made on . Estimates having no basis i	two or more areas aggregating
(6)	Total:		the species using the refuge du that used for peak concentrat ovement.	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention si the data are necessarily be don a malysis of the rest of the form.

3-1751 NR LA Form NR-1A MIGRATORY BIRDS (other than waterfowl) (Nov. 1945) Months of Jane to Ar. 30. 194 7 Refuge Slade National Wildlife Refuge (6) (5)(1)(2)(3)(4)First Seen Species Peak Numbers Last Seen Production Total Number Total # Total Estimated Number Colonies Young Common Name Number Date Number Date Number Date Nests Water and Marsh Birds Water and Marsh Birds: Sandhill Cranes 27 Apr. 24 (Passing over, attempted to land but passed on) i e'ima Dr. 4 \*TOTA deported by .... smes H. Bell Refure Meneger :seioed .U. Checklist, 1951 Editio A edi n Shorebirds, Gulls, Terns
II. Shorebirds, Gulls and etc. In addition "maj" Terns: priate spaces species attenti Frankline Gull Mar. 30 900 Apr. 5 1200 signl umbiforme Strigiformes and predaceous ds (Falconiformes The first refuge record for the species for the season concerned. irst Seen The greatest number of the species present in a limited interval of eak Numbers: The last refuge record for the species during the season concerned ast Seen: Estimated number of young produced based on observations and actual counts (over)

(1)	(2)	(3)	(5)	(6)
Doves Pigeons  III. Doves and Pigeons:  Mourning dove	.05.1 A 05	(other than waterfowl) fs lefuge Months of Jan.	Refoge Slade Jational Tild i	(Nov. 1945)
White-winged dove Predaceous Birds	sen Pr	Peak Numbers Last S	(1) (2) secies First Seen	8
IV. Predaceous Birds:	Number T	Number Date Number	on Name Number Date	Сощ
Golden eagle Duck hawk Horned owl Magpie Magpie Raven Crow Crow	Apr. 14 1	10 Apr. 15	and Marsh Birds  d Marsh Birds:  Cranes 27 Apr.	50 250
			ported by James H. Bell Re	Puga Managa

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 Gruliformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (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 rouge during the period concerned.

Refuge Slade National Wildlife Refuge Months of Jan. to April , 1947

(2)	(0)	(3)	(4)	(5)	16)	(7)
(1) Species	(2) Density	Young Produced	Sex Ratio	(5) Removals	(6) Total	Remarks
Common Name	Cover types, total per acreage of habitat Bird	Number broods obs'v'd. Estimated Total	Percentage	Hunting For Restocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Pheasant	Bromegrass, 2.4 Phragmites, native grasses, 3,000 A res	in eur inni bola liatel Vigue es evi ind cated	everting egr and type sys possible. representat as should be	d hardwools, I e, etc. Stand be used when and course of the area or are	1100	Area observations
Prairie Chicken	Tan to has ano 3 50	do moqu bes	produced, be hebitat.	named to made	60	Area Observations
Sharp-tail Grouse	Herbacious plants 300 buckbrush, ohokecherry weeds.			applies primar aldaliava li a ni recont in	foeqs 8 doo	Area Observations
ancases	e report period. This ma	e during to	ng the refug a those migr	las tedmin las Equiptio snab	set bedeelds?	sagrot (a)
	area covered in survey.					*ERRORR (T)
		boo	e ed bleads	perilod coveres	eds of mids	* Only columns applic
2464				•		

#### INSTRUCTIONS

· Hale 'See arthrold

Form	NR-2 -	UPLAND	GAME	BIRDS.*
------	--------	--------	------	---------

(1)	SPECIES:	Use	correct	common	name.
-----	----------	-----	---------	--------	-------

- 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.

<sup>\*</sup> Only columns applicable to the period covered should be used.

#### SMALL MAMMALS

Year ending April 30, 1947

Refuge Slade National Wildlife Refuge

MAMALS (Include data on all species of importance in the management program

	l) cies	(2) Density	in cont	110		(3) ovals		each	D	ispo <b>si</b> t			des des		(5)
Commo	n Name	Cover Types & Total  Acreage of Habitat	Acres Per Animal	Hun ting	Fur Harvest	Predator Control *	For Re- stocking	For Re-	Share Permit Number	Trappers Share	Refuge on share	Total Refuge Furs Shipped	Furs Donated	Fure	Popula- tion
Muskra	d,	Lakes-Potholes Phragmite and Bulrush	210 20	0	0	0	ed in	0	te ed of	ones ty	A MAY	20 to RDS A	AB O	O	225
Skunk	ture.	marsh 300 acres		iommi musci	typ so		not es. on bu	r tyr	ormation of covered infe	ni ain de are des tamples	AND W	THE IN	TERIO SERVI		6
Badger	ed in res sub-	dard type symbols list where possible. Figured and counts on represent	c. Star	e .	drie 7 ab	No.	grae	ent :	, aboowb	and has	ŭ M				5
Coyote		ample area or areas el					ks.	urve, Rema	Tebnu be						l (Transient)
		emoved since April 30 ge by Service Predator; er headingslisted.	the refu	no	meni	ny to	ing s	nolu	year,		q H		:24	RESTOR	(8)
	by Service f unprime- agencies	es destroyed because of their contract tractions or other	market ach spec assed to	d b	ilppe	ts si f pe and	f pel ber o tion,	her in not cond.	the number of the state of the	desibrations of the season of	I q	E EO 1	OITI	DI SPO	(4)
List	removals by	Predator Animal Hunter					.00 5	TIL.	HACHE OF	01001					

REMARKS: No mink or weasel observed, or any sign, nor raccoon or fox. Presator control no problem.

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

Reported by

- 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.)

SMALL MARMALS

SPECIES:

moth 4

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.)

SNOILVOINNIMMODERATIES particularly to those species considered in removal programs.

SNOILVOINNIMMODERATIES data may be omitted for species occurring in limited numbers.

ONV SOMOON Density to be expressed in acres per animal by cover types. This information of acres in each cover type found on the refuge; once submitted, number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occurred the area of cover types. Cover types should be detailed enough to furnish ADMINI THIS TO the desired information but not so much as to obscure the general picture.

Year ending April 30, 1947

Disposition of Mare

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.

derslauk!

Badger.

(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 headingslisted.

(4) DISPOSITION OF FUR:

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS:

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

Reported by