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# TULE LAKE REFUGE

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# NARRATIVE REPORT TULE LAKE NATIONAL WILDLIFE REFUGE January, February, March and April 1946

# I GENERAL

# A. Weather Conditions.

1946 January February March April	Totl Extremes	Precipitation .83" .54 1.19 <u>.13</u> 2.69"	Max. Temp. 52° 56 64 83 83°	Min. Temp. - 1° F. 0 23 25 - 1°
1945 January February March April	Total Extremes	•55" 1•42 •47 <u>•22</u> 2•66"	54° 51 65 75 75°	10° 20 18 23 10°

Snowfall was mostly light and melted rapidly, but froze immediately. In late January and early February several storms piled up about 6" of snow. Wind piled this up for three successive days and blocked a number of roads.

Except for small portions, the water area remained frozen over until late in February. Break-up commenced about mid-February.

# B. Water Conditions.

1946	High	Low	1945	High	Low
January	4033.63'	4033.44'		4034.05	4034.03
February	33.53	33.23		34.05	33.63
March	33.50	33.13		33.64	33.41
April	33.51	33.19		33.59	33.28
Extremes	40 33.63'	4033.13'		4034.05'	4033.28
Max. Diff.		.50'			•77'

The slightly lower levels prevailing in 1946 were due in part to Reclamation procedure of holding the sumps at a lower level to protect dikes under construction or in need of major repair.

In the Lower Sump, considerable mud flat was exposed by the lower level.

# C. Fires.

There were no fires on the refuge during the period. Hazard was high during most of April. During April, part of the area withdrawn from the Upper Sump for farming use was partially burned over preparatory to farming. Burning of this area was not completed during the period. Much of the stubble and many of the ditch banks on leased lands were burned during April.

# II WILDLIFE

# A. Migratory Birds.

# 1. Populations and Behavior.

Considering the limited water area open and inaccessibility of natural and stubble field feed, the waterfowl population was fairly high during the early part of the period and increased appreciably prior to the spring break-up. The January (26-28) inventory results for Tule Lake were: 24,400 ducks, 800 Coots, 1679 geese and 2,000 Whistling swans. By February 14, numbers of all had at least doubled, and several hundred White-fronted and Snow geese had come in.

Geese came in gradually from February 14. Migration of geese was heaviest between February 25 and March 25, with a few still straggling through at the end of April.

Duck migration was somewhat later starting. On March 18, the first Cinnamon teal were seen; on the 21st, the first White pelicans and cormorants.

On April 22, the first broods of Canada geese were observed; on the 24th, 7 broods seen had from 4 to 7 young; on the 30th, 20 broods were observed and on May 1, 32 broods were counted.

There were no serious losses from predation.

# 2. Food and Cover.

Melting snow and rain, followed by freezing, made grain in stubble fields inaccessible to waterfowl. Ice over most of thewater area, except in a few spots. kept open by heavy currents or by bird activity, made aquatic food, of which considerable was present, difficult to obtain. Winter irrigation by flooding of fields in the south end of the refuge made more feeding area available but these fields had been fed off and then disked and/or plowed during the fall and did not contain much feed.

For these reasons, rather heavy feeding of barley was commenced late in January, after some experimental feeding early in the month. Approximately 3,200 bushels were put out on Tule Lake. Of this, approximately 2,000 bushels were put out in and near the areas in which waterfowl were concentrated, including some dumped in the irrigation canals and carried by the water out into the flooded fields during the period January 24 - February 14. Another 1,200 bushels were scattered out along the south shore of the Lower Sump, primarily for migration use to keep birds on the refuge, thus reducing spring damage. This feeding was heavier than absolutely necessary but was done to utilize grain received from share-cropping operations to meet tentative shipping requests for 11 cars, of which only 9 cars were shipped.

All grain put out near concentration points was cleaned up by February 22, and by February 25, between 3,000 and 4,000 Swans moved in on the grain put out for migration use. The swans were soon joined. by Canada and Snow geese. The migration feed was cleaned up by March 14, except for a little farthest removed from the water, which was cleaned up by Canada, White-fronted and Snow geese, a few swans and by Pintails and Mallards prior to April 1. It was anticipated that a little of this grain might sprout and provide some green feed, but utilization was too complete.

- 3. Botulism. None.
- 4. Lead Poisoning and Other Diseases. None.
- B. Upland Game Birds.
  - 1. Population and Behavior.

Ring-necked pheasants came through the winter in good shape with only minor losses from predation. During the period, the State Division of Fish and Game released some cocks in the basin, mostly in the area east of the refuge. Twelve cocks were released along the hill on the west side. (Two of these were taken by an Okie the Sunday after release.)

Quail were in evidence early in the period, only in the vicinity of the headquarters. During April, several coveys were seen near Hotel Rock.

The Chukar partridges around headquarters wintered well.

#### 2. Food and Cover.

Ice and frozen snow rather reduced the food available. Pheasants in the south end of the refuge benefited from the grain put out for waterfowl. Some grain was put out primarily for pheasants in the southeast part of the refuge but was not heavily utilized. Grain was also kept out around the headquarters and was used by Chukars and to some extent by Quail. Some grain was supplied the Park Service for Quail feeding in the Monument.

3. <u>Disease</u>. None.

C. Big Game Animals.

## 1. Population and Behavior.

There were probably as many as 50 deer on and off the south end of the refuge during late March and early April. All indications were that 15 to 20 deer were making regular use of the refuge.

#### 2. Food and Cover.

There appeared to be a minor amount of feeding on standing rye and some weed growth but the principal use was for water and cover.

3. <u>Disease</u>. None.

# D. Fur Animals, Predators, Rodents, and other Mammals.

The muskrat population was not as high as in previous years, according to reports from trappers, checks on houses and other observations during the period. Much of the Upper Sump was frozen solid and there was not a great deal of activity. The Henzel lease and permit area continued to be drained. It was trapped as intensively as possible under prevailing conditions. Trappers had permission to trap the houses. This was to clean the area of 'rats in advance of burning preparatory to farming operations. A number of muskrats were brought in from the area east of the Lost River Channel. While many of these were large, all the skins were very light weight and a very light color. A check on this indicated that these conditions had been peculiar to muskrats from this small area for several years.

There were local reports of winter-kill because of low water and frozen conditions. There was no substantiation of any serious loss from this cause.

The coyote population did not change a great deal. There was some shifting within the refuge as sheep were moved and a little drift into the marsh after the water froze. As a consequence, a few muskrats were taken or damaged by coyotes. Two wild dogs were seen on several occasions in the Upper Sump. One coyote was taken by personnel.

House cats were pretty well under control by the end of the period. Either 10 or 11 were destroyed.

A very few weasels were active. Three were taken incident to muskrat trapping.

Jack rabbits were practically non-existent, and cottontails were very scarce.

E. Fredaceous Birds, including Crows, Ravens and Magpies.

Two to four Bald eagles were seen occasionally. Golden eagle population was constant at about 12 until April, after which date only one or two were occasionally seen. Both eagles fed to some extent on muskrats but did not do serious damage. Except for several crippled waterfowl, eagles did not do much damage to birds.

Marsh hawks, a few Swainson's, Rough-legged and Red-tailed hawks remained on the refuge all period.

There was no change in the number of Horned owls along the west side and several checks of roosting areas did not yield any evidence of serious predation on game birds.

There were a few Screech owls around off and on, and quite a few Short-eared owls most of the period.

A very few Ravens came through early in April. No Crows or Magpies were seen.

F. Fish.

\_ None.

#### III REFUGE DEVELOPMENT MAINTENANCE

## A. Physical Development.

The shop end of the equipment shed was rewired to specifications. Cupboards, work benches, interior siding of ship-lap, ceiling of celotex and other work in the shop were completed.

Considerable time was required to haul out grain for waterfowl feeding.

One man's time was required for the muskrat trapping program through February and shipping of furs and general cleanup extended the job into April.

Personnel changes kept the staff short handed most of the period.

Acquisition of WRA property required considerable time in April.

B. Plantings.

1.	Aquatics	and Marsh	Plants.	None.
		1000		

2. Trees and Shrubs. None.

3. Upland Herbaceous Plants.

#### None.

4. Cultivated Crops.

No farming was undertaken by refuge personnel.

The share-cropping program continued as in 1945, except that all of Lot 61A was to be farmed by George Frey.

Partly because of shortage of rye for seed and partly for experimental purposes, arrangements were made to have the food patches along the south side of the Lower Sump planted in part to wheat and barley as well as rye.

Except for the Henzel permit and lease area east of the Upper Sump, grain farming preparations were well along by the end of the period.

C. Collections.

1.	Seed and other Propagules.	None.
2.	Specimens.	None.

D. Receipts of Seed and Nursery Stock. None.

#### IV ECONOMIC USE OF REFUGE

A. Grazing.

None, except sheep on stubble, Reclamation lease lands. This was practically completed by March 15, and all sheep were off by April 1.

B. Haying.

None.

C. Fur Harvest.

Nineteen permits to trap muskrats were issued during the preceding period. Two of these were not used. Two others were not used the entire season.

The quota was set at 15,000; quota per trapper at 800, kits and severely damaged 'rats not to be charged to trapper's quota. Only one trapper made his quota.

Trapping conditions were difficult. The water and marsh remained frozen until late in February. While the ice was heavy enough to prevent use of boats, it was not safe for walking. There was a tendency - carried over from previous years - on the part of several

6.

trappers to defer operations until the spring "run". Unfortunately, this did not commence until about February 23, and trapping terminated on February 27. A total of 8,937 muskrats, including 459 kits and severely damaged, was taken on Tule Lake.

A few of the trappers who sold part of their skins early received \$1.95 up to \$2.25. All others received \$2.30 straight, plus a "fee" (for skinning and stretching) of \$0.10 to \$0.30 per skin. The price of \$2.30 plus was for every skin sold, including kits and damaged.

D. Timber Removal.

No timber on refuge.

E. Other Uses.

Mr. B. C. Schultz occupied the Tule Lake Boathouse concession, but did very little business.

V FIELD INVESTIGATION OR APPLIED RESEARCH

None.

#### VI PUBLIC RELATIONS

A. Recreational Uses.

None. There were a number of week-end visitors on the refuge "to look at the birds."

B. Refuge Visitors.

Kenneth F. MacDonald	Reg. Supervisor	WRA Property CCC camp transfer Inspection
Leo L. Laythe	Reg. Director	WRA Property
Alphonse Kemmerich	Ass't Reg. Dir.	WRA Property
Harry D. Willis	Reg. Engineer	Lower Klamath Work.
Refuge Participation.	None.	
Hunting.	None.	
Fishing.	None.	

F. Violations.

C.

D.

Ε.

One case: Two Pheasants in closed season, on refuge. \$100.00

bail and .22 rifle forfeited. Case initiated by B. C. Schultz.

#### VII OTHER ITEMS

A. Personnel.

Warren K. Leland, Refuge Manager SP-6, entered on Annual Leave on January 29, to be followed by Leave without Pay until May 31, 1946. Mrs. Leland's health failed and Mr. Leland desired to be near her in western Montana during her confinement in a sanitorium.

Mr. Donald M. Deidrich, Refuge Mechanic CPC-6, resigned effective April 19, to accept private employment at a much higher salary.

Mr. Baine H. Cater, Refuge Manager SP-6, returned to duty from military furlough on February 27.

At the end of the period, the following personnel were on duty at the Tule Lake Refuge:

Jean F. Branson	Refuge	Manager
Baine H. Cater	Refuge	Manager
Howard J. Sargeant	Refuge	Manager

Submitted by:

December 30, 1946 (Date)

Howard & Dargrant

Howard J. Sargeant

Approved:

	NR-1 1945)	Tule Lak	.0		ATERFOWL	January	to Apri:	<b>1</b> 19	<u>. noiteabers</u> 4.6	<u>Total i</u> Geo
	(1) Species	(2 First		(3 _ <u>Peak Conc</u>		(4) Last Se		Young P		(6) Total
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated <u>Total</u>	Estimated for Period
Ι.	<u>Swans</u> : Whistling swan	2,000	1/28 Win er	DATRAG SCI	2/15-3/1	1 5	4/30			7,500
II.	<u>Geese</u> : Canada goose Cackling goose	1,300 300	ted by	6,000 10,000	3/1 Avo.			20 (by 4/	30) 300 by 4/	30 7,800 15,000
	Brant White-fronted goose Snow goose Blue goose	500 Strays	2/10-14 Winterod	50,000	2/25-3/2	5 <u>30</u> - 9				150,000 125,000
III.	Ducks:	courring on Special a	species o spaces, roifices	orm, other appropriate Notional a	sted on added in occi, and	should be	tion to ag period o those s	report	pecies:	(1)
	Mallard Black duck Gadwall Baldpate	11,400 2,100	Wintered	25,000 10,000 2,500	3/1 3/15 2/28 3/1	Nested	3/31		irst Seen:	150,000 25,000 10,000
	Pintail Green-winged teal Blue-winged teal	7,200	bətimil	30,000	3/1 3/1	Resid	lent sets	a- The gro	eak Concent ion:	175,000 5,000 1,500
	Cinnamon teal Wood duck	berrae 2	3/18	es during	the spec	2,000	4/30	The las	ast Seen:	15,000
	Red head Ring-necked duck Canvas-back	700	Wintered 1/28	3,500	3/31 3/31	2,500	4/30 4/30 4/30	: Estinal sentati	ovng Produced	25,000 1,000 20,000
	Scaup Golden-eye Buffle-head Ruddy duck	1,400	ao baois refage g	5,000 1,000 4,000	3/1-15	1,000 100 3,000	4/30 4/30	Estima	otal:	25,000 500 10,000 25,000
	Shoveller	idep leuori	28 date	8,000 of waterfou	3/31 4/15	5,000	4/30	may or nature		20,000
IV	<u>coot</u> to test ed. 10	800	d. It in sed on an	6,000	period al	reporting e these da	le to the tion sinc	asoilgas an neith luter	The second s	15,000
			and the		(over)				form.	1),000

# Total Production:

(1)

(2)

(3)

(4)

330.0

(5)

(6)

Ducks..... Coots..... Areas used by concentrations.....Entire refuge Principal nesting areas this season Marsh in NE & E parts of refuge 20 (by 4/30) 300 by 4/30 7.800 15,000 Reported by ...... Howard J. Sargeant ... Refuge ...... sanna anne INSTRUCTIONS . Blue goose In addition to the birds listed on form, other species occurring on refuge during the Species: reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species. Peak Concentra-The greatest number of the species present in a limited interval of time. tion: The last refuge record for the species during the season concerned in the reporting. Last Seen: period. 200.01 Estimated number of young produced based on observations and actual counts on repre-Young Produced: sentative 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. Estimated total number of the species using the refuge during the period. This figure Total: may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement. Only columns applicable to the reporting period should be used. It is desirable that the Summaries

SUMMARIES

Note: receive careful attention since these data are necessarily based on an analysis of the rest of the 15,000 form.

3-1751 Form NR-1A (Nov. 1945). Refuge	Form NR-1A (Nov. 1945).				5), (other than waterfowl)						(1) 194.6 bas eevog .111		
(1) Species	(2) First Seen	(3) Peak Num		(4 Last		P	(5) roduction	on nogur «	(6) Total				
					Deen	Number 7	Cotal #	Total	Estimated				
Common Name	<u>Number</u> Date	Number	Date	Number	Date	Colonies	Nests	Young	Number				
I. <u>Water and Marsh Birds</u> : Eared grebe Western grebe Pied-billed grebe White Pelican Fara llon cormorant Treganza's blue heron American egret Brewster's egret Black-crowned night h American bittern	20 4/2 6 4/5 4 3/21 8 3/21 winter 1 4/30	200 100 500				•	lod hand loggod hunt	awk owl owl anglo on rod-tal ins rod-tal hash	25,000 3,000 2,500 1,500 600 600 500 200 1,000 100				
Hooded merganser	ported by Manual.	50			-			12-11-	150 250				
American merganser		NS	STRUCTIO	IN			1.1						
and list group in A.O.U.	ist, 1951 Edition, to. In addition 1		A edf al llugsee"				Use bio	pecies:	2 (1)				
II. Shorebirds, Gulls and	reporting period a			Surring o			TOT		4412				
Terns:	those species pl				Specia	ate spades	pri						
(eem Killdeer ne eemoliin					Groups:	n ficance.	sis		500				
Wilson's snipe . (300			birds,	II. Shor					50 10				
Long-billed curlew Western willet			and Pl aceous B	III. <u>Dove</u> IV. Pred					50				
Greateryellow-legs Long-billed dowitcher Avocet	. bemechoo noa 5 4/5	for the sea	species	a for the		N. S. S. S. S.		irst Seen	50 - 700				
Black-necked stilt	2 4/18	ent in a lui	Tes bies	the spec	umber of	greatest	rs: The	sak Numbe	100 300				
Nort ern phalarope	season concerned.	during the	seise	for the	broper ex	last refu	The	ast Seen:	• (4)				
California gull		3,000				-			6,000				
Ring-billed gull Forster's tern		2,000	oed base	ung pródu	per of yo	imua betami	: Est	roduction	4,000				
and the strength	2 4/2		it polos	of the s	Technic Li	imated tot		otal:	500				
	AN ANY ANY IND AMAI	as and Surg	(over)										

							1201.2				
(1)	(2)	(3)				(5)	(6)				
III. <u>Doves and Pigeons</u> : Mourning dove	to	waterfowl) the of			oxiel al	R	(Nov. 1945) 006				
White-winged dove	een Produc	(4) Last 8	(3) Peak Numbers	пее	(2) . First 5	(1) pecies	2				
IV. <u>Predaceous Birds</u> :	Number Total Date Colonies Near	Number	Number Date	Date	Number	emsN dom	Com				
Golden eagle Duck hawk Horned owl Magpie Raven Crow Bald eagle Western red-tailed American rough-legg ha Marsh hawk Short-cared owl	hewk		5,000 300 500 500 300 300 300 300 300 300	4/2 4/5 3/21 3/21 dintered 4/30	1 10 10 10 10 10 10 10 10 10 10 10 10 10	nd Marsh Birds: grobe n grobe filled grobe tolicen den cornerant na's blue heren ar's egrot ar's egrot ar titters	10 				
150			50	Reported	l byHowa	rd J. Sargoant, Re	fuge mgr.				
(1) Species:	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 appro- priate spaces. Special attention should be given to those species of local and National significance. Groups: I. <u>Water and Marsh Birds</u> (Gaviiformes to Ciconiiformes and Gruiiformes) II. Shorebirds, Gulls and Terns (Charadriiformes)										
(2) First Seen:	The first refuge reco		Carlos and the second	4/5	2.		d-guo.t				
(3) Peak Numbers:	The greatest number				All he	ogormInnig. a	moulin .				
(4) Last Seen: (5) Production:	The last refuge reco Estimated number of ;		3,000			illing min	no Stall Tollead 13-gailt				
(6) Total:	Estimated total numb	er of the spec	ies using the	refuge <u>d</u>	uring the	period concerned.					

Form NR-2

UPLAND GAME BIRDS

1613

	Refuge <u>Tule</u>	Lake		Months of <u>January</u> to <u>April</u> , 194 <u>6</u>									
(1) Species	(2) Density	ned al	(3) Young Produced	ung Sex		(5) emovals	3	(6) Total	(7) Remarks				
Common Name	Cover types, total acreage of habitat		Number broods obs'v'd. Estimated Total	Percentage	Hunting	For Re- stooking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.				
Ring-necked pheasant	Sagebrush, grain fields, ditch bank	ind, bu	toul mre l bols lists Figures su ive sample	everting age ard type aye possible. represented	ita) Stan More	a ritero asa beau beau	d in ed i ed i	2,000	No nesting results observed during period				
California quail	Sagebrush, villow	water .	beted bat	ad blueds ba	TR. 1	2 794 0	ole	500	(3) ZOWIO PRODUCED:				
Chukar partridge	Sagebrush, upland grass (hillside back of hdqtrs.	adriaeau	tiq , vodust	haditat. ily to wild	nibe seite	o self Live 2	2244 975 2 96	100	10ITAR IZE (A)				
	solves period.	2. Burka	b have corr	adh category	at	nodan a	(ad	tridicate to					
	ri partos. Will en lige during verteka	oqex et ou etia	e during t stin, into	ng this refug a thread stage	e nist	pcianto brabil di	Lard mahl	Setimited 5 an abulan					
	wared in survey, warbad,	area d Uly re	bns ni Ital olitige d	servine pope formablee in	10 G. 11 J.	bert .	bodé g te	Indicate me indicate de	(2) BENARSI				
				r od hluoria )	OTEN	00 bc2	THAT .	und to alde	* (mly columns applie				

# 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 (June 1945)		0	SMALL M	AMMAI			0		304				
1. e., for		Tule Lake	i amall	ie ef	a non de		ending A					NR-4	Form
(1) Species -	(2) Density	in control	Rem	(3) Iovals	ene.	an no	nnoo • D:	( ispo <b>si</b> t	(4) tion of	Furs	1999 1991	IDZSE	(5)
Common Name	Cover Types & To Acreage of Habit	tal Acres Per	Hunting Fur Harvest	Predator Control *	For Re- stocking	ror ke- search	Share Permit Number	Trappers Share	Refuge	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	Total Popula- tion
ti ncur in nish vure. bottom d in es sub- tive	types: Anis inf (c manager as to the (ge; once submitted ifficant changes of the enough to fu (c the general pic) egriculture land type symbols listed (unts on represents) area or areas sho	i on the refi rcept as sign rould be deta as to obscur is, revecting b. Stanlard be used when itions and co	70. 76 755 558 82 23 26 70 59	ate are over lance lance bre date date date	ed by a sth cou lanct d lan bu tan bu t grees Serice st on a	aface in ee in ee tyr tyr taw base base base base base	4096 4084 4086 4087 4079 4081 4088 4088 4089 4083 4082 4078 4095	384 37 279 291 414 115 132 351 295 263 343	351 385 37 279 291 414 115 133 351 295 264 344	385 37 279 291 414 115 133 351 295 264 344			
	d since April 30 o Service Produtory adingelisted.	te refuge by		nder y tar valer	ns 2011	l'nu clµd w_an	4094 4091 4085 4093 4092	219 156 431 88 318	219 156 432 89 318	219 156 432 89 318		TONEL	(3)
Coyote tong Weasel	ter bas ends and red Total for because of total because of total or other s	market, inci in species de ited to insti	893	the size	or pelt Mer of Miran,	fure er o nun nun i th	trapped the numi Total amaged c shown 1	4466	1 4474 1 4	1 4474 1 4	1		
* List removals by REMARKS:	Predator Animal H	unter	ton apage	10 30	matin	Turro	u latos	ot ant:	50	TON:	IOPULI	INTO	(5)

Indicate inventory method(s) used, size of mample area(s), introductions, and any other pertinent information not specifically requested. 216007

Howard J. Sargeant, Refuge Mgr.

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#### INSTRUCTIONS

Form NR-4 (June 1945)

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, 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.) Cover Types & Total (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted. this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under 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.

Howard J. Sargaant, Refuge Mar.

116007

# REPORTS OF SALES

1945-1946	MUSKRAT SEASON	Poportod	
Permit No.	Trappers Share	Sales	Price
T-4096	350	350	\$805.00
4084	364 *	386 *	885.90
4086	37	19 ***	35.00
4087	279 *	277 *	637.10
4090			NY STATE
40779	291	291	669.30
4081	414	414	946.60
4080			
4088	115	115	264.50
4089	132	132	290.80
4083	351	351	786.50
4082	295	295	663.40
4078	263	263	604.90
4095	343**	386	859.80
4094	219**	177	374.90
4091	156	156	343.20
4085	431	431	991.30
4092	318	318	736.25
4093	88	No record.	
claiming pe	lts after division.	1361	989345
	Permit No. T-4096 4084 4086 4087 4090 40779 4081 4080 4088 4089 4083 4083 4082 4083 4085 4091 4091 4091	Permit No.         Trappers Share           T-4096         350           4084         364 *           4086         37           4087         279 *           4090            40749         291           4081         414           4080            4083         115           4089         132           4083         351           4082         295           4078         263           4095         343**           4091         156           4085         431           4092         318	Permit No.Trappers ShareReported SalesT-40963503504084364 *366 *40863719 ***4087279 *277 *409040779291291408141441440804083115115408913213240833513514083351351408326326340782632634095343**3864094219**177409115615640854314314092318318409388No record.

\*\* Arnold Schrank sold one division of pelts for his brother during the latters illness, and received credit for the sale; on the Report of Sales.

\*\*\* Incomplete Report.

REFUGE GRAIN REPORT

Months of January thru April 1946 ...

Refuge Tule Lake

(1)	(2) ON HAND	(3) RECEIVED	(4)	WIEDEI .	GRAIN DI	5) SPOSED (	OF	(6) ON HAND	PI	(7) ROPOSED US	SE
VARIETY	BEGINNING OF PERIOD	A CONTRACTOR CONTRACTOR	TOTAL	TRANS- FERRED	SEEDED	FED	TOTAL	END OF PERIOD	SEED	FEED	SURP.
i. Soy	te-50 lb	i 1bs., 0 -50 1bs.	Rya-5		Barler Sowpeas-	-60 lbr	bs., Whea Millet-5	ear)-70 ! -60 lbs.	Corn Beans-		
Barley	6,724	shels.	6,724	ou. Tt.		3,600	3,600	3,124	of gra	1,000	2,124
Oats vino ebs	280	millet,	280	orn, wh	ately: (	iin sopa	ing lo equ	280	(1) 1		280
Rye	146	on NR-9.	146	iliw abu	146 30	tic and	ups 146	None	2	I - Maria	
Wheat -elade	1918 24 T	s, such a	24	d from a	ine 24 di	ived du	24	None	(3) 1		
									- The second		
						and 3.	Columns 2	l total of	(4) 1		
						5.	sa Column	tolumn 4 10	(9)		
	.Ə nut	ed in Col	tail nist	10 201	by varie	eakdown	beacqoi	his is a l	(7) 3		
			iving.	and reol	shipping	ion for	lroad sta	learest ra.	(8)		
			y", etc.	s gráina	idquarter	юН!" : ø;	d on refu	Mere store	(e)		
rrad, data	in transfe	n of gra	destinati	, ni beq	rain shi	i io epi	re the so	ndicate h	(10)		

(8) Indicate shipping or collection points. Merrill, Gregon

(9) Grain is stored at ..... Headquarters and warehouse

(10) Remarks Report covers Tule Leke and Lover Klamath grain.

3-1570 NR-8a

#### REFUGE GRAIN REPORT

#### NR-8a REFUGE GRAIN REPORT

2,124

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

<u>Report all grain in bushels</u>. 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, sharecropping, 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.

(8) Indicate shipping or collection points....

10) Remarks Henore Sovers Tole Lake and Lover Elevatin as

# LOWER KLAMATH REFUGE

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# NARRATIVE REPORT LOWER KLAMATH NATIONAL WILDLIFE REFUGE January, February, March and April 1946

# I GENERAL

# A. Weather Conditions.

Refer to Tule Lake Report.

B. Water Conditions.

1946	#3				#4
	High	Low		High	Low
January	4077.88'	4077.75'		4077.78'	4077.58'
February	77.98			77.83	
March	78.26	78.10		78.17	77.98
April	78.24	78.04		78.12	78.00
Extremes	4078.26'	4077.75		4078.17'	4077.58
Max. Diff.		.51'			•59'
1945					
January	4077.72'	4077.04		4077.22'	4077.04'
February	78.02	77.64		77.76	77.52
March	78.04	77.80		78.10	77.72
April	77.78	77-58	14	77.76	77.66
Extremes	4078.04	4077.04!		4078.10'	4077.04!
Max. Diff.		1.00'			1.06'

Elevations

Elevations of Unit #4 reflect elevations in all refuge units except 2 and 3.

All indications were that levels would remain high for a time and possibly become a little higher, due to pumping from Tule Lake and Klamath Drainage District lands.

# C. Fires.

One small fire occurred just on the refuge west line, south of the State Line Dike. It started in peat as a result of stubble field burning. Refuge personnel trenched it as a precautionary measure.

# II WILDLIFE

A. Migratory Birds.

1.

# 1. Populations and Behavior.

There was little open water on Lower Klamath during the first part of the period and snow was much more heavily drifted than on the Tule Lake side, consequently making considerable field feed unavailable. As a result, not many birds wintered on Lower Klamath.

In proportion to fall flight use, geese did not use Lower Klamath heavily during the spring flight. Some of the ducks, Mallards and Pintails especially, used it more heavily.

Canada goose nesting was less than that in 1945 and less than that on Tule Lake in 1946.

There was not a great deal of waterfowl nesting in evidence on Lower Klamath during the period.

# 2. Food and Cover.

There was very little open water on Lower Klamath during the first part of the Period. Much of the aquatic food present was not available for this reason. Snow followed by windstorms made a great deal of the grain field feed unavailable. The January inventory count indicated upwards to 1,000 waterfowl on Lower Klamath, including over 500 Whistling swans. These were bunched on two or three small areas of open water. To supply these birds with ample feed during the most severe part of the winter, approximately 400 bushels of barley were dumped and spread as close to the concentration areas as possible. This was completely utilized by the end of February. The first few loads were used up almost over night. Heaviest use was by swans. After the ice went out of the pools and off the stubble, there was ample food.

Cover for nesting was lacking. The pool margins, particularly in Units 4 and 9, were fairly good. Units 2 and 3 on the whole were the best off for cover. The interior units did not have any nesting cover except the remains of washed-out dikes.

3. Botulism.

None.

4. Lead Poisoning and Other Diseases. None.

B. Upland Game Birds.

1. Population and Behavior.

No Quail or Sagehens were observed on the refuge during the period.

Ring-necked pheasants tended to congregate in the weed patches in the east side grain fields and in the marsh and meadow growth in the Sheepy Lake - Coyote Butte area.

2. Food and Cover.

Food and cover were ample for the birds wintering on the area and for nesting use.

3. Disease. No indications.

C. Big Game Animals.

1. Population and Behavior.

No big game animals (antelope and mule deer) were observed on the area during the period.

D. Fur Animals, Fredators, Rodents, and other Mammals.

Except in the Sheepy Lake area, muskrats were scarce. Little detailed observation of this area was made. There were no indications of disease among muskrats, and no damage of consequence to structures.

Rabbits were practically non-existent.

Coyotes increased in numbers during the early part of the period and continued to travel in small packs in the north part of the refuge.

E. Predaceous Birds, including Crows, Ravens and Lagpies.

Golden eagles and occasionally a Bald eagle were seen during the period. Attempts to take ducks off the small open water areas were observed but none seen were successful. There were a very few indications that a few attempts had succeeded.

There were a very few Rough-legged and Red-tailed hawks on the area. Marsh hawks were present all period, gradually increasing in numbers during March and April.

A number of Short-eared owls were seen.

No Crows, Ravens or Magpies were seen.

F. Fish.

Minnows were the only fish seen. Indications after the ice went out were that there was moderately heavy winter kill of minnows.

## III REFUGE DEVELOPMENT MAINTENANCE

## A. Physical Development.

One crew operated the dragline most of the period on the PlA lateral and dike construction. Minor repairs were made on other roads and dikes, mostly by truck and dozer.

# B. Plantings.

1.	Aquatics and Marsh Plants.	None.
2.	Trees and Shrubs.	None.
3.	Upland Herbaceous Plants.	None.

#### 4. Cultivated Crops.

All operations continued as in 1945, except for a few of teh State Line lots, on which permits expired. Adjoining Reclamation lands, previously leased in large tracts for long terms, were broken down into smaller tracts and leased out for 1 year with 2 annual options to renew. Preference went to veterans. In order to continue policy of combining operations on refuge lands and adjoining Reclamation lands, some delay ensued in handling permit matters.

## C. Collections.

	1. Seed and other Pr	opagules. None.
	2. Specimens.	None.
D.	Receipts of Seed and N	ursery Stock. None.

#### IV ECONOMIC USE OF REFUGE

A. Grazing.

Grazing of sheep continued into January on the south end of Unit 4 and the north end of Unit 9. A total of 2,003.2 sheepmonths were utilized.

An on-and-off permit for 96 A.U.M.'s of cattle grazing west of Sheepy Lake was issued.

Except for breaking down heavy weed growth, it is doubtful if any benefits accrue to wildlife from grazing. There was and is very little pasture land in even fair condition on the refuge and there are few means of controlling stock on the refuge. In consequence, any use by cattle or sheep tends to be on stubble or marginal marsh and weed growth. In the one instance food is taken and in the other food and cover are taken from waterfowl.

B. Haying.

There was no haying on the refuge.

C. Fur Harvest.

A total of 457 muskrats were taken by two trappers on the refuge. Most of these were taken early in the period. Trapping conditions were not very good. 230 of the 'rats accrued to the refuge and were shipped to the Seattle Fur Exchange. These were sold at the April sale with the Tule Lake skins, the entire lot bringing an average of \$2.03, or a total of \$466.90 for the 230 Lower Klamath skins.

D. Timber Removal. Not applicable.

E. Other Uses.

Surveys were continued during the period for construction of a secondary state highway to be located for the most part on the refuge State Line Dike.

## V FIELD INVESTIGATION OR APPLIED RESEARCH

None.

#### VI PUBLIC RELATIONS

None.

A. Recreational Uses. None.

B. Refuge Visitors.

See Tule Lake report.

C. Refuge Participation.

See Tule Lake Report.

D. Hunting.

E. Fishing. None.

F. Violations.

No arrests made.

None.

Submitted by:

December 30, 1946 (Date)

Amard Jargeant

Howard J. Sargeant Refuge Manager

Approved:

3-1750 Form NR-1 (Nov. 1945) Refug	eLower Klamath		WATERFOWL nths ofJa	muary		p <b>ril</b> 19	roduction: 4	<u>Total I</u>
(1) Species	(2) First Seen		3) centration	Last Se		( Young P	5) roduced	(6) Total
Common Name	Number Dat		Date	Number	Date	Broods _Seen	Estimated Total	Estimated for Period
I. <u>Swans</u> : Whistling swan	508* Uint	ered 1,000	3/1					1,000
II. <u>Geese</u> : Canada goose Cackling goose Brant	196* " 2*	10,000 bet 0002,000	3/1					12,000 6,000
White-fronted goos Snow goose Blue goose	θ	20,000	3/1 3/1 13/1					50,000 35,000
III. <u>Ducks</u> : Mallard Black duck	bies courring of r noes. Special a te ficance *221	ppropriate sp	and the second sec	he birds li should be pecies of l	ng period	report	pecies:	(I) 50,000
Gadwall God Gadwal Baldpate Pintail	21* *	15,000	3/15 3/1	record for number seen	and the	period	irst Seen:	30,000 15,000 45,000
Green-winged teal Blue-winged teal Cinnamon teal Wood duck	nited interval of t		species pr	ber of the			eak Concenti ion: ast Seen:	2,500 100 500
Red head Ring-necked duck Canvas-back	tions and sotual o	10,000	3/31 3/31 3/31 3/31 3/31	of young p	ed number	period. d: Estimat	oung Produce	30,000 1,000 1,500
Golden-eye Buffle-head	ade on two or more basis in fact shoul Gage ourses the per	2.000	· · · · · · · · · · · · · · · · · · ·	ng areas. ing habitat number of 1	the breed	10% of	otal:	6,000 500 1,000
ing upon the	sentrations, depend slugog *	tion on duck	count 1/28	e more than grational n	may not b of the mi	may or nature		10,000
IV. <u>Coot</u>	It is desirable the	bee d 5,000		reporting these dat				Note 10,000

# SUMMARIES

# Total Production:

form.

Geese	to to the test of test	Total waterfow	l usage during period.	307,600	
(a) (c) (c) (c)	(4) Last Seen - Young	Peak waterfowl	numbers	115,800 (1)	
0.1.	Number Date Seen	Areas used by	concentrations Entire	refuge water area	
					.I
1,000		Principal nest	ing areas this season.	Whistling swan	
12,000				Geese: Canada googo	.II
6,000		Rep	orted by Howard J.	argeant, Refuge ligre	
000,02.		20,000 3/1		White-fronted goose-	
000 ECC		INSTRUCTIONS		Blue goose	
(1) Species:	In addition to the birds 1 reporting period should be				. 111
50,000	given to those species of	local and National :	significance.	Mallard Black duck	
(2) First Seen:	The first refuge record fo period, and the number see				
(3) Peak Concentra-	The greatest number of the	species present in	a limited interval of	Pintail Creen-winged togmin 1	
tion:				Blue-winged teal Cinnamon teal	
(4) Last Seen:	The last refuge record for period.	the species during	the season concerned	in the reporting boom been been	
(5) Young Produced:	Estimated number of young	produced based on of			
6,000	sentative breeding areas. 10% of the breeding habita	The second secon			
(6) Total:	Estimated total number of				
	may or may not be more that nature of the migrational		x concentrations, depe	ending upon the	
	applicable to the reporting Cul attention since these da				

(leve)

3-1751		-		1					
Form NR-1A (Nov. 1945)	Lover Klamath	(other	RATORY B than wa Months	terfow])	uary	to April		94 <b>6</b> .	II. <u>Doves</u> Mournl
(1) Species	(2) First Seen	(3 Peak Nu			4) Seen	F	(5) Productio	n	(6) Total
Common Name	Number Date	Number	Date	Number	Date	Number Colonies	Total # <u>Nests</u>	Total Young	Estimated Number
I. <u>Water and Marsh Birds</u> : Eared grebe Western grebe Pied-billed grebe White pelican Farallon cormorant Treganza's blue heron American egret Elack-crowned night her American bittern Western least bittern Hooded morganser	on bettoge	3,900 300 500 1,000 750 300 250 150 300 50 10 50					seed ball	kwa Iwo Iwo alga inga inga inga inga inga inga inga in	5,000 1,000 2,000 2,500 1,500 750 500 300 750 150 10 50
American merganser Sora II. <u>Shorebirds, Gulls and</u> <u>Terns:</u> Killdeer Wilson's snipe Long-billed curlew Western willet	list, 1951 Edition etc.; In addition reporting period to those species Gaviformes to Ci erns (Charadrifo mbiformes)	D.U. Cheo "tern", furing th be given <u>h Birds</u> <u>1115 and</u> reons (Col	"seagpil' a refege on should r and Man sbirds, ( a and Pij	IN as found berms, as curring o l attenti I. <u>Wate</u> III. <u>Shor</u> IV, <u>Pred</u>	general			:861000	50 50 600 50 20 10 50
Greater yellow-legs Long-billed dowitcher Avocet	ason concerned.							lrst Seen	300 100
Black-necked stilt Wilson's phalarope Northern phalarope	lo Invienni belim. .beniegnog nosses							eak Numbe ast Seen:	30 100
California gull Ring-billed gull Forster's tern	attons and sotual	on observ	oed based	ung produ	er of yo	caug beta	Esti	roduction	1,500 750 150
Caspian tern	Tuge during the p	in edf, gais	(over)	a edt 10	tedano 1	mated tota	Esti	otal;	10 (010

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	(1)	(2)	(3)-	(5.	La mainte de la mainte	(5)	(6)
III.	Doves and Pigeons: Mourning dove		than waterfowl) Months of	rother)	lanir SteenSt	Refuge	(Nov. 1945) 002
I.	White-winged dove	een Produ	(4) bers Last S	(3) Feak Num	(2) Ffrst_Seen	(1) peoles	8
IV.	Predaceous Birds: Golden eagle	Number Tota Date <u>Colonies</u> Nes	DateNumber		Number Date	non Name	10
	Duck hawk Horned owl Magpie Raven Crow- Bald eagle Western red-tailed Am. rough-legged ha Marah hawk Short-eared owl			3,900 3,900 1,000 3,00000000	Reported by	nd Marsh Sirds: probe i grobe siled grobe a obmer a obmer b ogret bine scron pomet ni stron h bittor h	2 10 10 150 100
00	(1) Species:	Use the correct names order. Avoid general	terms as "seagul.	A.O.U. Check 1", "tern",	etc. In addition	to the birds lis	sted on
		significance. Groups	al attention shou : I. <u>Water and Ma</u> II. <u>Shorebirds</u> , III. <u>Doves and P</u> IV. <u>Predaceous</u>	ld be given arsh Birds Gulls and S igeons (Colu Birds (Falco	to those species (Gaviiformes to Ci <u>Terns</u> (Charadriifo umbiformes) oniformes, Strigif	of local and Nati coniiformes and ( rmes)	ional Gruiiformes) Pous
	(2) First Seen:	The first refuge reco			And States - U.S.	Ted dented bell	teresta teresta
	(3) Peak Numbers:	The greatest number of	of the species pre	sent in a l	imited interval of		
	(4) Last Seen:	The last refuge record	rd for the species	during the	season concerned.	anganalaidi : Muj mu	
	(5) Production:	Estimated number of 3	oung produced bas	ed on obser	vations and actual	counts.	garanta garanta
	(6) Total:	Estimated total number	er of the species	using the r	efuge <u>during the p</u>	eriod concerned.	

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Form NR-2

UPLAND GAME BIRDS

1613

Sagohen Brush and grassland A l,000 A. Ring-necked grass and brushland, weedy fields, dry marsh	(1) Species		2) sity	in ren apoolas	(3 Your Produ	) ng ced	g (4) (5) Sex Removals ed Ratio				(6) Total	(7) Remarks	
Ring-necked grass and brushland, weedy fields, dry marsh Californic quail	ommon Name	Cover types	, total	per ·	Numb <b>er</b> broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	number using	specifically requested	1.
pheasant     weedy fields, dry marsh     500     Use casual       Californic guail     50     Use casual     100	Invros brar I	<b># 1,0</b>	00 A.		liste liste res su cated	loul bola rigo ind	possible.	ties Stan Moer Ce. or F. azi	ton ton ton ton ton ton ton ton ton ton	nd ha Le, é d be pie and pie a	None		
<ul> <li>(5) HEXDVALS: Indicate to all a rade and and and a the end of the target a report period.</li> <li>(6) TOTAL: State to all and and a rade and a the rade at the target a report period. This rade at the rade</li></ul>		weedy fiel			a nom	bes		gine	t 10 916 8	unber vites	500	(3) KOUND PRODUCTOR	
<ul> <li>(6) TOTAL: SetLeated total subset on a respect to a respect period. This ration is a respect to the respect to th</li></ul>		lib ahvlodl	\$2d8	ej mes le	N . W	Natura	bits of yit	Idal	g bad baya	appl 11 as	50	Use casual	
<ul> <li>(7) REMARKED: Indicate mained and and on the familie population and area downed to survey.</li> <li>(8) REMARKED: Indicate mained and and a domain on the specific and area downed to survey.</li> </ul>			todai et	a surra	b bere	rees	ach sategory	3.m	usdau	i Lei	Indicate to	(5) HEMOVALES	
inclute other pertinent information is appointing if requested.	.enosaes					e du	ng the relay	ins a	odipud biled	otal Ident	t bedeeldes sei ebuloite	(6) TOTALI	
	081	in anever.	t bernivt ,bernivt	elly re	003-01 0.19.10	tini ga it	derediae popr Rometica e	10 00 11 01	beet eatte	berti er pe	em edaolbel do etaleni	(?) REMARKES	
						, bes	ed bierode )	67257	oo bo	pert	able to the	* Only colours applie	

# 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.

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Reported by Howard J. Sargeant, Refuge Mgr.

#### INSTRUCTIONS

Forn NR-4 (June 1945)

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.)

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

Cover Types & Total | Acres

(3) REMOVALS:

Haward J. Sargeant, Refuse Mar.

(2)(1)

(2)

SPECIES:

DENSITY:

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.

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# REPORT OF SALES

# 1945 - 1946 MUSKRAT SEASON

Trapper	Permit No.	Trappers Share	Reported Sales	Price
Hamilton, Marshall	м. т-4098	130	107 *	\$225.50
McKay, Andrew L.	4099	110	No record.	

\* Incomplete record.

# NARRATIVE REPORT CLEAR LAKE NATIONAL WILDLIFE REFUGE January, February, March and April 1946

# I GENERAL

A. Weather Conditions.

1946	Precipitation	1945 Precipitation
January	.96"	•54"
February	No record	3.37
March	1	•79
April	11	•35
Totals	-	5.05"

Data are from Reclamation Service, Clear Lake Dam.

# B. Water Conditions.

Elevations - Clear Lake Reservoir.

1946	High	Low	1945 High	Low
January	4532.31'	4531.52'	4531.03'	4530.75'
February	32.10	31.60	33.35	31.03
March .	33.44	31.78	33.54	33.35
April	34.25	33.40	33.95	33.55
Extremes	4534.25	4531.52'	4533.95'	4530.75'
Max. Dif:	f.	2.73*		3.20'

Storage was comparable to that in 1945.

C. Fires.

There were no fires on the refuge or adjoining Forest Service lands. Hazard in April was high.

## II WILDLIFE

#### A. Migratory Birds.

The reservoir was frozen over into late February. There was no waterfowl use early in the period and only very moderate resting use during the last part of the period. Several trips over part of the area, dating from late March on, indicated little nesting use in prospect.

Pelicans and some gulls were back by mid-April.

B. Upland Game Birds. No data.

C. Big Game Animals.

From mid-February through March, transient use of the south and west parts of the refuge by mule deer was quite heavy.

Antelope were not seen during the period.

There are no data or observations on other classes of wildlife. There are no data on other items of the report.

Submitted by:

December 30, 1946 (Date)

Howard Jangeand .... Howard J. Sargeant ......

Refuge Manager

Approved:

# NARRATIVE REPORT UPPER KLAMATH NATIONAL WILDLIFE REFUGE January, February, March and April 1946

# I GENERAL

# A. Weather Conditions.

No data are available on temperatures and precipitation.

#### B. Water Conditions.

# Elevations

1946	High	Low	1945 High	Low
January	4141.13'	4140.07'	4138.13"	4137.66'
February	41.29	41.14	39.96	38.15
March	41.28	41.17	40.70	39.98
April	41.79	41.17	41.00	40.72
Extremes	4141.79'	4140.07'	4141.00'	4138.15'
Max. Diff		1.72'		2.85'

#### - II WILDLIFE

There are no data for any of these items.

# III REFUGE DEVELOPMENT MAINTENANCE

#### None.

## IV ECONOMIC USE OF REFUGE

A. Grazing.

Part of the north end and part of the south end of the refuge are included in Reclamation leases which allow grazing. There was little or no grazing on these areas during the period.

B. Haying. None.

C. Fur Harvest.

There were Reclamation permits to trap muskrats in effect on nearly all lands within the refuge. There are no data on take, condition or value of skins taken.

D. Timber Removal.

None.

E. Other Uses.

None.

# V FIELD INVESTIGATION OR APPLIED RESEARCH

None.

# VI PUBLIC RELATIONS

None.

# VII OTHER ITEMS

A. Items of Interest.

There were reports to the effect that the Forest Service intended to log some 30 million feet BM of timber from lands lying just west of the refuge.

Submitted by:

December 30, 1946 (Date)

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Howard J. Sargeant Refuge Manager

Approved:



E. Other Uses.

None.

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# V FIELD INVESTIGATION OR APPLIED RESEARCH

None.

# VI FUBLIC RELATIONS

None.

# VII OTHER ITEMS

# A. Items of Interest.

There were reports to the effect that the Forest Service intended to log some 30 million feet BM of timber from lands lying just west of the refuge.

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Submitted by:

December 30, 1946 (Date)

Howard J. Sargeant Refuge Manager

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