PART IN THE REAL	1 mar 1			1.1.1.1.1		
LA MARKET	1.2.2	Sec. 1				

THOMAN INTALLIAN

The GELERG SLEEP	May 11 19 4
tre balyer	Mr. Daton (PAD)
To KINNERS	HISS BRUN
Sec	tion of operations:
Mr. ball	Dr. Morley
- togan NYPR	
Section	of Habitat Improvement:
REG	Mr. Kubichek
Source WSB.	LT. Dillos WISS
Lection	n of Lans Management:
Cera	The Trans
	Lbenographera.
	Laveran al
	at Carrow
REFUGE CALHOUN & BAT	CHTOWN sail of C. Thursday at
FRIOD January-April	, 1954

CALHOUN AND BATCHTOWN REFUGES NARRATIVE REPORT JANUARY, FEBRUARY, MARCH, APRIL, 1954

I. GENERAL

A. Weather Conditions:

The maximum temperatures in January and April were lower this year than for the same months a year ago. February and March had a higher reading. Minimum readings were lower in every month during the period. During the last part of March and the first part of April high winds occurred, reaching tornado proportions at times, and damage to private property was done.

Relative readings for this period and the same period last year are shown below:

Month	Year	Maximum	Minimum	Precipitation
January	1953	64	12	2.12
	1954	63	4	1.25
February	1953	64	19	1.38
	1954	74	15	1.04
March	1953	73	25	3.62
	1954	76	15	1.19
April	1953	90	34	3.09
	1954	87	22	3.58
			1953 Total 1954 Total	

Precipitation for the period was 7.06, compared to 10.19 for the same period a year ago. All months except April showed less rain this year than a year ago. It is considered very dry here.

B. Water Conditions:

The river was lower in all four months than for the same period a year ago. There is no high water in this portion of the river yet. Indications are that there might not be any high water this spring. The fluctuations of the dam were not bad in Pool 26. There was a drawdown in Pool 25 during the month of January which almost drained the Batchtown Refuge, but levels came back to normal in late February.

A comparison of pool levels in Pool 26, compared to the same period in 1953, is shown in the following table:

Month	Year	High	LOW	Difference
January	1953	15.1	14.6	.05
	1954	15.2	14.1	1.1
February	1953	15.5	14.5	1.0
	1954	15.3	14.2	1.1
March	1953	16.0	14.9	1.1
	1954	15.9	14.5	1.4
April	1953 1954	17.2 15.7	15.1 15.0	2.1

Maximum monthly variation in 1954 was 1.1, compared with 2.1 in 1953. The river never froze over during the period.

II. WILDLIFE

A. Migratory Birds:

1. Populations and Behavior:

(a) Waterfowl:

The duck population was higher this spring than last year. However, like last year, there was a big population at the beginning of the period. Throughout the period it was difficult to tell when new ducks came in or went out as there was a constant dribble of birds through.

On the Calhoun Refuge there were 203,150 ducks present the first week of the period, including 200,000 mallards and 200 blacks. This number dropped the second week to 22,500, but on the third week the number came back up to 103,700. From then on the population varied up and down the rest of the period. At the end of the period we had very few ducks in the area. The population of ducks we had here in January did not go south. Instead they went up to the Sny bottoms.

Mallards were present in numbers when the report period opened; peaked January 9 with 200,000; dropped to 500 birds on April 9; and there were 100 mallards at the close of the period. Blacks were also present when the report period opened; peaked at 400 on March 27; and 100 were present on April 9. Very few were left at the end of the period.

Gadwall were present only from March 27 to April 3; peaked at 200 twice on both dates; and were last seen April 3.

Pintails were first seen the week of January 9, with 2,000 birds. On March 27 this species peaked at 3,000, and they were last seen on April 3.

Green-wing teal were not seen throughout the period. Blue-wing teal made their appearance March 20, with 500 birds; peaked at 6,000 birds on April 3; and about that many birds were present on April 10. At the end of the period several were present in the area.

Shovellers arrived the week of March 27, with 200 birds; and peaked at 500 on April 19. It is estimated that 200 were present at the end of the period.

Redheads were first observed on February 6, with 100 birds, and never got higher than that through the period. They were last observed on March 27.

Scaup were here at the start of the period, with 500 birds. They peaked at 36,000 on April 3, and about 500 were here at the end of the period.

Goldeneye showed up January 2, and were here throughout the period, peaking at 200 February 6 and 13. They were last observed March 27, with 100 birds present.

Buffle-head were not observed during the period, compared with 800 last year.

Mergansers were present from the first week in January to April 3; peaked at 400 birds on February 13; and were last observed on April 3, with 200 birds.

It is estimated that 262,100 ducks used the Calhoun Refuge this spring, compared to 341,600 in the spring of 1953. The peak population for Calhoun occurred the week ended January 9, when numbers reached 203,150 birds. Peak numbers in 1953 were found the week ended February 21, with only 175,000 ducks present.

For the period, Calhoun registered 4,947,950 duck days use, compared to 8,668,800 days use for the same period in 1953. Thus, although the peak population was higher than a year ago, and while total waterfowl using the area was about 2/3 as great as 1953, it can be seen that duck days use amounted to only about half the use a year ago.

Mallards accounted for about 70% of total use, while all puddlers accounted for 3,900,400 days use. Divers, on the other hand, made up only 1,047,550 days use this spring.

There was a tremendous increase in ruddy ducks on the Calhoun Refuge this spring, when the peak reached 5,000 birds for a three week period. A year ago this species peaked at 800 birds. This spring there were 147,000 days use made by ruddies, compared to only 14,000 days in 1953, or only about 10% of the use made this year.

Scaup, too, showed an increase, with a peak of 36,000 this year, compared to 30,000 in 1953. However, total days use was down this spring, when only 632,100 days use was recorded, compared to 956,900 days use in 1953.

There was a movement of waterfowl in the area starting on January 16, when a lot of the birds from Calhoun Refuge moved north to the Sny bottoms. They continued to use the Sny until they finally moved north. Large numbers of birds were observed moving through, but not stopping on either Calhoun or Batchtown Refuges.

On the Batchtown Refuge an estimated 238,000 ducks appeared this spring, compared to 131,630 in 1953. The peak population on Batchtown this spring was 203,000 the week ended January 30.

On the Batchtown Refuge 150,000 mallards were present at the beginning of the report period, compared to 15,000 in 1953. This species peaked at 200,000 the fourth week of the period, and 100 were still present when the period closed.

Blacks were observed as the period opened, with 200 present. This number remained constant until the week ended April 3, when 500 were present for the peak numbers. There were 25 blacks present when the period closed.

Gadwall were first seen and peaked at 300 birds the week ended February 13; and they were last seen the week ended April 17, when 100 were counted.

Pintails arrived the first week of January, with 2,000 birds; they peaked at 10,000 the week ended March 27; and were last seen on April 3, when 300 were found.

No green-winged teal were seen this spring. Blue-winged teal, however, appeared the week ended March 20, when 500 appeared; peaked at 5,500 on April 10; and 500 were present as the period ended.

Shovellers were first observed the week ended March 27, with 200 birds present; peaked from April 3-10 at 1,000; and 200 were present as the period closed.

Wood ducks arrived the week ended March 20, when 200 birds came in; peaked at 1,000 the week ended April 3; and 300 were still present at the end of the period.

Redheads were present the first week of the period (100 present), but were not seen again until the week ended March 27, when the peak of 150 occurred. This was also the last occurrence of this species.

Scaup showed some increase this spring. As the period opened, 2,000 were present. The species peaked at 10,000 the week ended April 3, and 100 were present as the period closed. There was an estimated 244,300 days use by this species, compared to 210,350 a year ago.

Golden-eyes were present from the beginning of the period, when 100 were seen until the week ended March 27, when 200 were found.

Bufflehead were first observed the week ended March 20, with 100 birds. This represents the peak and last seen data too, for they were found only during that week.

Ruddies, first appearing the week ended February 27, when 400 birds arrived, showed quite an increase this spring. The peak of 2,000 this spring, compared to last year's peak of only 300, indicates the increase. Days use this year totaled 48,300, compared to only 6,300 days in 1953.

This spring an estimated 8,430,800 days use was made of Batchtown Refuge, compared to 2,253,825 days a year ago. Thus, we had almost four times as much use of Batchtown this year as last.

Mallards comprised 7,428,400 of the total days use, for a preponderant majority. Puddlers totaled 7,983,325 days use, compared to 447,475 days use by divers.

The following table shows peak concentrations of puddlers and divers, together with estimated duck days use, for the Calhoun and Batchtown Refuges:

	Peak Con	centrations	Duck	Day Use
	Calhoun	Batchtown	Calhoun	Batchtown
Puddle ducks:				
Mallard	200,000	200,000	3,535,000	7,428,400
Black	400	500	19,600	22,575
Gadwall	200	300	3,500	4,900
Baldpate	3,000	4,000	58,100	90,650
Pintail	3,000	10,000	112,700	256,200
B.w. teal	6,000	5,500	147,000	136,500
Shoveller	500	1,000	12,600	23,100
Wood duck	300	1,000	11,900	21,000
TOTALS			3,900,400	7,983,325
Divers:				
Redhead	100	150	3,850	1,750
Ring-neck	3,000	2,000	51,100	108,500
Canvas-back	4,000	400	179,900	14,525
Scaup	36,000	10,000	632,100	244,300
Golden-eye	200	200	9,800	11,900
Bufflehead		100	-	700
Ruddy	5,000	2,000	147,000	48,300
Mergansers	400	400	16,800	17,500
Other ducks	1,000	-	7,000	-
TOTALS			1,047,550	447,475
GRAND TOTALS			4,947,950	8,430,800

(b) Geese:

Canada geese were present on Calhoun Refuge all winter, with not less than 500 present. They peaked at 4,000 the week ended March 13; and were last seen the week of April 3, when 50 were still present. An estimated 71,750 days use was made by Canada geese.

No Canada geese occurred throughout the spring on the Batchtown Refuge.

Blue geese used both Calhoun and Batchtown Refuges this spring. However, while they were present throughout the spring on Calhoun, from the peak of 1,200 as the period opened to an average of 500 during the period, they were found only once on Batchtown, where 200 were found the week ended April 3. Goose days use of Calhoun by blue geese amounted to 56,000 days, compared to only 1,400 days use on Batchtown.

Snow geese followed pretty much the same pattern. As the period opened, 1,000 were present on Calhoun, remaining all winter at around 500 birds; and peaking at 1,500 the week ended March 13. Snow geese used Calhoun Refuge a total of 58,800 days. On Batchtown, however, only 200 were seen during the spring. These occurred the week ended April 3, the same week the blues were present. A total of only 1,400 days use was made of the Batchtown Refuge by snow geese. Probably the 200 each of snows and blues which were found on Batchtown were some which dropped in from the Calhoun flock.

(c) Swans:

None were observed on either area this period.

(d) Egrets:

Three egrets were observed on Stump Lake April 20, compared with none last year.

(e) Shorebirds and Other Water Birds:

Wilson snipe are increasing in this area. About 100 birds have been observed this spring, compared with 12 last year. Killdeer and plovers are here in good numbers; sandpipers are here in good numbers; and a few yellow-legs were observed.

Blue heron are here in good numbers, with an estimated 200 birds in the area. They are back at their old nesting place on the Missouri shore and offshore Helmbolt Island. There are an estimated 175 birds in the same area as last year.

2. Food and Cover:

The food conditions were the best in several years, as there was open water all winter and the sharecropping fields had plenty of corn for ducks to feed on. The cornfields adjacent to the refuge were a big factor in feeding the duck population during this period. The ducks and geese fed throughout the Mississippi River bottoms from Alton, Illinois, to Hannibal, Missouri, and up the Illinois River bottoms. Lots of blue-wing teal were reported using the inland ponds this spring.

B. Upland Game Birds:

No upland game birds are present on either the Batchtown or Calhoun Refuges.

There is ample food and cover present on both areas to sustain fairly high population of these birds in event any should become established in the areas. The high water in the spring discourages upland game from using the bottomlands.

C. Big Game Animals:

No big game animals are present on either area.

D. Fur Bearers: (a) Muskrat:

> The muskrat population is looking better in both areas due to the low water the last two years. Commercial fishermen working in the refuge report that lots of muskrats were observed nesting in old stumps this spring. They all report that we have an increase over last year. More pushups have been seen this spring than last year.

(b) Mink:

The mink population is at a standstill. No more signs have been observed this spring than last year, and fishermen report no increase in this species. They have been trapped more than any other animals as the price was better, and this may be holding them down.

(c) Skunk:

No skunk signs have been noted on either area this spring.

(d) Beaver:

Beaver are increasing on all islands on the Mississippi and Illinois Rivers. In some areas a considerable amount of timber is being cut by them each year. None were reported caught last fall by trappers, who reported the price was too low to pay for the time and effort.

(e) Otter:

No otter sign has been noted on either area.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development:

During the period the west line of the Calhoun Refuge was surveyed out and reposted to bring the boundary back where it belongs. Several boundary lines in the Calhoun area were brushed out and the posting gone over. In the Batchtown Refuge area the exterior boundary line in the Blackwell area was taken out to conform to the current land status. This was also done in the Gilead Club area. The signs removed were stock-piled on Maple Island for use when the new refuge line is surveyed out and reposted.

B. Planting:

4. Cultivated Crops:

During the period farm plans for the agricultural lands around Batchtown and Calhoun Refuges, which was made available to the Service under the recently consummated General Plan and Cooperative Agreement, were worked out on a tentative basis.

There were six agricultural units, with 105 acres, set up on the Batchtown Refuge, and 14 units, with 300 acres, set up on the Calhoun Refuge. Permits for sharecropping these lands have been issued, and working of the lands has started.

Farm plans for the two refuges were submitted and tentatively approved by the Regional Office during the period.

VI. PUBLIC RELATIONS

A. Recreational Use:

During the period the following recreational use was estimated for the two refuge units

	Day	s Use
Refuge	Fishermen	Miscellaneous Use
Batchtown Calhoun	2,390 2,515	1,135 1,550
	4,905	2,685

B. Refuge Visitors:

Superintendent Steele was here on January 16 to discuss routine refuge matters.

Refuge Management Biologist Green was here during the period February 9-14. While here he assisted in mapping farm units on the two refuges and in gathering necessary information for preparing the farm plans. He also assisted in surveying out the west boundary of Calhoun Refuge and in reposting the same. Missouri Conservation Warden Robert Bright visited the areas on February 20.

E. Fishing:

Pole and line fishing started in February and was going good by the middle of March. Boat livery operators were doing good business by the end of the period. There have been some good catches of crappie and bluegills, and some large bass have been caught.

Commercial fishing was very good this period on the Mississippi River. Good catches of big catfish were taken; and excellent catches of buffalo and carp were taken on both the Mississippi and the Illinois Rivers.

F. Violations:

No cases were made during the period. No violations were observed, nor were any violations reported to the Refuge Manager this spring.

VII. OTHER ITEMS

A. Items of Interest:

During the period the 1948 Chevrolet sedan delivery, which served faithfully for many years, was exchanged for a new Ford sedan delivery. This is one of the new cars with glass windows cut in the sides, which will make it much safer to operate than the old solid bodies.

uperintendent of Refuges

May 3, 1954

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

WATERFOWL

:					(2)				~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	
:			Weeks	of r	eport	ing pe	riod			
(1)	:		:	1		:		8 :		10
Species : Swans:	1 :	2 :	3 :	4 :	5 :	6 :	7 :	8 :	9 :	10
Whistling Trumpeter										
Geese:						1				
Canada								1		
Cackling Brant		1				1				
White-fronted			-							
Snow									1	
Blue						1	1		1	
Other							1	1		
Ducks:		1		-				-	-	-
Mallard	150,000	160,700	175,000	200,000	150,000	100,000	40,000	10,000	25,000	10,000
Black	100		200	200	200	200	200	200	200	200
Gadwall						\$00				
Baldpate							100	100	2,000	2,000
Pintail	500		1		300		5,000	500	5,000	5,000
Green-winged teal								1	1	
Blue-winged teal							1	1		
Cinnamon teal	1 1		1							
Shoveler								1	1	
Wood	1							1	1	
Redhead	100	-		12	*		· ·	1		
Ring-necked	1,000	2,500	2,000	2,000	2,000	2,000	1,000	300	200	500
Canvasback		50	100	200	200	200	300	200	100	100
Scaup	300			200	300	500	1,000	500	500	3,000
Goldeneye	100	100		100	200	200	200	200	200	
Bufflehead										
Ruddy								400	500	500
OtherMerganser	100	100	200	500	300	400	400	200	100	100
Coot:				. 1						
int. Dup. Sec.,	·	1	1	1			1	1	1	

Int. Dup. Sec., Wash- D. C-37944

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

- Interior Ductice

WATERFOWL (Continuation Sheet)

(1)	1001 V	Weeks	of	(2 repor		peri	o d	:		: (4) : Production :Broods:Estimate
Species ::	11 :	12 :	13	The Thorn	.15 :	16 :	17 :	18 :		: seen : total
Swans:		1			11					1 1
Whistling	1	stimus : T	11 47428 1	soorded u	ange (3)	1 15				
Trumpeter			j		1 A	4				
Geese:	- p	Langit N 13	WCCCCC 1	Standte -	The state of	Dear a T	a fact "s	Dalle le e	NET PERC	1 1
Canada	p	LUSOTDE N	neer ga	nog oumi	Further a	A STREET	s two ar	TTA FLAM	- 416189 MI 708	1 2 OL 5 M
Cackling	2	7.767.500	Ter Inches	A and a	bomptic net	00 1 00 M	and street	and set	mal counter an :	SALES STAT
Brant				-71	1.12	$j \in [$				
White-fronted		HALL DRIVE MAR	sy's bobs	5 M L	ühimen o	C LINL H ME	THERE LES	Aact spo	514E.	
Snow			200		1	10			1,400	
Blue			200	1 1	1				1,400	
Other		Decised 11	LAND TAYLOR IN	and's you	1 Hart cours				2,200	
Ducks:	a		-	-/ 1	<u> </u>	14.				
Mallard	15,000	15,000	8,000	2,000	250	150	100		7,428,400	
Black	300	400	500	200	50	50	25		22,575	
Gadwall	- 1	100	100	100	100	observice and			4,900	and the survey
Baldpate	5,000	4:000	1,000	200	300	200	50	accession and	90,650	2.02 3.04
Pinteil	10,000	10,000	300	200	000				256,200	
Green-winged teal	(Constant		10.000	Cont Apro	111 153 M.	MITTELLA	Reinies	Flaid Nam	100 00 00 00 00 00 00 00 00 00 00 00 00	
Blue-winged teal	500	2,000	5,000	5,500	4,000	2,000	500		136,500	
Cinnamon teal				0,000			000		100,000	
Shoveler		200	1,000	1,000	500	400	200		25,100	
Wood	200	400	1,000	500	300	300	300	#ATA	21,000	
Redhead		150	-,			000	000		1,750	
Ring-necked	1,000	1,000							108,500	
Canvasback	200	400	25						14,525	
Scaup	5,000	8,000	10,000	5,000	300	200	100	59.	244,500	
Goldeneye	200	200	20,000	0,000	000		200		11,900	
Bufflehead	100	200	1 .						700	
Ruddy	500	2,000	2,000	1,000					48,500	
Other Mergansers	100	100	100		1.4.14	11 1 43 1 1 40	arer	0	17,500	
Outside B	200	200	200						11,000	
Total Days	Ves : Pe	The Main part	1000	Producto		4		TINNYI	-	
Coot:	200	2,000	2,000	4,000	1,500	1,000	1,000			
				(07			.,		1	

(5) Total Days Use	(6) (7) : Peak Number : Total Production	SUMMAR	r
Swans None	100 100	Principal feeding areas	Ta ³ Ka
Geese 2,800	400	A second state of the seco	100
Ducks 8,430,800	203,000 20'000 20'000	Principal nesting areas	344,300
Coots 81,900	4,000		108,800
	200 2,000 1,000 150 1,000 500	Reported by Edw. A. Davis	51,000
Chanamon teal			the family
(1) Species:		d on form, other species occurrined in appropriate spaces. Species	ng on refuge during the al attention should be given
(1) Species:	In addition to the birds lister reporting period should be added	d on form, other species occurrined in appropriate spaces. Species	ng on refuge during the
 Species: Weeks of Reporting Period: 	In addition to the birds listed reporting period should be adde to those species of local and the Estimated average refuge popula	d on form, other species occurrined in appropriate spaces. Species national significance.	ng on refuge during the al attention should be given
(1) Species:(2) Weeks of	In addition to the birds lister reporting period should be adde to those species of local and r Estimated average refuge popula	d on form, other species occurrined in appropriate spaces. Species national significance.	ng on refuge during the al attention should be given
 Species: Weeks of Reporting Period: Estimated Waterform 	In addition to the birds lister reporting period should be adde to those species of local and r Estimated average refuge popula Average weekly populations x no Estimated number of young productions and the second	d on form, other species occurrin ed in appropriate spaces. Specia national significance. ations.	ng on refuge during the al attention should be given becies. ctual counts on representative eas aggregating 10% of the
 (1) Species: (2) Weeks of Reporting Period: (3) Estimated Waterfor Days Use: (4) Production: 	In addition to the birds lister reporting period should be adde to those species of local and r Estimated average refuge popula Average weekly populations x no Estimated number of young productions and the second	d on form, other species occurrin ed in appropriate spaces. Specia national significance. ations. umber of days present for each sp uced based on observations and ac should be made on two or more are aving no basis in fact should be	ng on refuge during the al attention should be given becies. ctual counts on representative eas aggregating 10% of the
 Species: Weeks of Reporting Period: Estimated Waterfor Days Use: Production: 	In addition to the birds lister reporting period should be adde to those species of local and r Estimated average refuge popula wl Average weekly populations x no Estimated number of young produ- breeding areas. Brood counts a breeding habitat. Estimates has A summary of data recorded under	d on form, other species occurrin ed in appropriate spaces. Specia national significance. ations. umber of days present for each sp uced based on observations and ac should be made on two or more are aving no basis in fact should be	ng on refuge during the al attention should be given becies. In tual counts on representative eas aggregating 10% of the omitted.

Interior Duplicating Section, Washington, D. C. 37944

3-7350A Comt - 4774-1

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

WATERFOWL

Whistling Trumpeter Soo 500 500 500 500 500 500 500 1,000 4,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000 2	1		1	Weeks	of re	(2) porti	ng pe	riod			
Swame: Whistling Trumpeter Source		2		3 :	· · ·	5 :	6 :	7 :	-		10
Trumpeter Jack Sou		1 1	1	1	1	.	1		1	1	
isees: 500 500 500 500 500 500 500 1,000 1,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 500 500 500 500 500 1,000 4,000 4,000 4,000 4,000 500 500 500 500 1,000 4,000 4,000 500 500 500 500 500 1,000 4,000 4,000 500 500 500 500 1,000 1,				1							
Canada 500 500 500 500 500 500 1,000 1,000 4, Cackling Brant White-fronted Snow 1,000 600 500 500 500 700 700 700 1, 000 1, 000 600 500 500 500 500 500 1, 000 1				1				1			
Cackling Brant White-fronted Sow 1,000 600 500 300 700 700 700 1,000 2,000											4 60
Brant White-fronted 1,000 600 500 200		500	500	500	500	800	500	500	1,000	1,000	4,00
White-fronted											
Snow 1,000 600 500 500 300 700 700 700 700 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 500 200 <						1	-		ł	i	
Blue 1,200 900 700 400 400 500 500 500 500 1,000 Other Imallard 200,000 20,100 100,000 75,000 30,000 20,000 25,000 10,000 8,000 5,000 Black 200 200 200 200 200 200 200 100 100 Gadwall 0 1000 1000 1000 1000 200 200 100 3,000 2,000 1,00 1,00 1,00 1,		-					-				0
Other Jucks: Jucks: </td <td></td> <td>1,000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1,50</td>		1,000									1,50
Nucks: 200,000 20,100 100,000 75,000 30,000 20,000 25,000 10,000 8,000 5, Baldpate 200		1,200	900	700	400	400	500	500	500	500	1,00
Mallard 200,000 20,100 100,000 75,000 30,000 20,000 25,000 10,000 8,000 5, Black 200 300 200 200 200 300 200 100 100 100 200 200 100 200 100 100 100 200 200 100 200 <										1	
Black 200 300 200 200 200 300 200 100 Gadwall Baldpate 100 100 100 100 200 100 3,000 2, Pintail 2,000 2,000 200 200 500 500 500 3,000 2, Green-winged teal 100 200 200 500 500 500 500 500 2, Green-winged teal 100 100 100 100 100 2,								and the second second			*
Gadwall IOO IOO <thioo< th=""> <thioo< <="" td=""><td></td><td></td><td>20,100</td><td></td><td>75,000</td><td></td><td></td><td></td><td></td><td></td><td>5,00</td></thioo<></thioo<>			20,100		75,000						5,00
Baldpate 2,000 2,000 2,000 200 100 100 100 200 200 2,000 1,00 </td <td></td> <td>200</td> <td></td> <td>300</td> <td>200</td> <td>200</td> <td>200</td> <td>300</td> <td>200</td> <td>100</td> <td>10</td>		200		300	200	200	200	300	200	100	10
Pintail 2,000 2,000 200 200 500 500 500 500 500 2,000 1,000	Gadwall			1							1
Green-winged teal Blue-winged teal Blue-winged teal Cinnamon teal Shoveler Wood Redhead 100 50 Ring-necked 200 200 200 Canvasback 50 50 2,500 2,500 3,000 5,000 1,000 Scaup 300 100 100 100 200 200 200 1,000<											2,00
Green-winged teal Blue-winged teal Blue-winged teal Cinnamon teal Shoveler Wood Redhead 100 50 Ring-necked 200 200 200 Canvasback 50 50 2,500 2,500 3,000 5,000 1,000 Scaup 300 100 100 100 200 200 200 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 100 100 100 100 100 100 1,000 <	Pintail	2,000	2,000	200		500	500	3,000	300	500	2,00
Cinnamon teal Shoveler Shoveler Wood Redhead 100 50 Ring-necked 200 200 200 3,000 500 1,000 Canvasback 50 50 2,500 2,500 3,000 3,000 5,000 1,000 Scaup 500 100 100 100 200 200 200 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 10	Green-winged teal		-		1						
Shoveler Wood 100 50 10	Blue-winged teal	1 1					1			1	
Wood 100 50 100 <td>Cinnamon teal</td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td>1</td> <td></td>	Cinnamon teal	1		1			1			1	
Redhead 100 50 200 3,000 3,000 500 1,000 1,000 1,000 1,000 1,000 100 100 100 200 200 200 2,000 1,000 400 10,000 100 100 100 200 200 200 200 200 100<	Shoveler	1 1	1							1	
Ring-necked 200 3,000 3,000 3,000 3,000 1,000 1,000 1,000 1,000 100 100 100 100 100 100 200 200 200 200 100 100 100 100 100 100 100 100 100 100 200 200 200 200 200 100	Wood			1			1				
Ring-necked 200 100 100 100 100 100 100 200 200 200 200 200 100 100 100 100 100 100 100 100 100 200 200 200 200 200 200 100	Redhead	100	50	1		100	100	100			
Canvasback 50 50 2,500 2,500 2,500 3,000 3,000 3,000 3,000 1,000 1,000 1,000 1,000 1,000 100 100 100 100 100 200 200 200 200 200 100 <th< td=""><td>Ring-necked</td><td></td><td></td><td>200</td><td>200</td><td></td><td></td><td>7</td><td>8,000</td><td>500</td><td>1,00</td></th<>	Ring-necked			200	200			7	8,000	500	1,00
Scaup S00 100 100 100 200 400 1,000 400 10,000 Goldeneye 100 100 100 100 200 200 200 100			50				3,000	8:000			1,00
Goldeneye 100 100 100 100 200 200 200 100 100 Bufflehead Ruddy 2,000 2,000 2,000 1,00											10,00
Bufflehead Ruddy 2,000 2,000 1,			100								
Ruddy 2,000 2,000 1,											2
		1 1							2 000	2 000	1,00
Conce MetBattears 200 200 200 200 200 200 700 700		200	200	200	200	200	400	800			10
	o mor Moreupere	200	200		200	200	200	000	200	200	20

Wash .. D. C. 37011

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

(7) Toust Product	rau: v	Weeks	of	(2 repor		peri	od	:	121	: (4) : Product:	ion
(1) : Species	11	manager and the same	:	:	:	:	:	18		:Broods:E	
Vans:	11 :	12 :	13 :	14 :	15 :	16 :	17 :	10 :	days use	: seen :	total
Whistling	81 13	diamers).	1.0000	personal (expens (3)		I				
Trumpeter											
ese:		1.000 1 100 100	ALL AND A	ERITOR	PRATUE I	o pasts ;	I THE P	0171 00	witeren.		
Canada	700	LADID DR. M	50	and county	p spontde e	Di warpe	C 1995 35	and state	71,750	102 Th 100	
Cackling		p that was the d	DAMEN'S DI	Acting 63	section pe	neers out its	1-1-1-1-1	67 mmg area	HOT SOUTH OF	a los haras	TATAS
Brant	_			_							
White-fronted	-	ACLASS ME	arth. Lobs	Sectors 4	illimi pe c. V	a carle in	CANNEL T-S	approx and	orept .		
Snow	1;000	200	200						58,800		
Blue	1,000	200	200						56,000		
Other	2,000	PDT DAG	TAC LEGO	arata bal	mit of part				00,000		
icks:		-									
Mallard	4,000	5,000	2,000	500	200	100	100		5,535,000		
Black	200	400	200	100	50	25	25		19,600		
Gadwall		200	200	DATA DE	100	APROPER W	e ubrasi	theorem	3,500	075 PA	
Baldpate	- 500	1,000	500	OTAGE TTO	400	200	100		58,100	100 500	
Pintail	2,000	3,000	100		200	200	200		112,700		
Green-winged teal	2,000	0,000		1217 - 1114	11 1 1 10	MITTER	inst dee	LIGTO RES	Treston		
Blue-winged teal	500	1,000	6,000	6,000	4,000	2,500	1,000		147,000	1 1	
Cinnamon teal	000	2,000	0,000	0,000	2,000	8,000	1,000		121,000		
Shoveler	-	200	400	300	500	300	100		12,600		
Wood	100	200	300	300	300	300	200				
Redhead	200	100	200	000	000	000	200	N	11,900		
Ring-necked	1,000	1,000			-				3,850		
Canvasback	1,000	4,000	100						51,100		
Scaup		15,000	36,000	10,000	500	200	100		179,900		
Goldeneye	15,000		30,000	10,000	500	003	100		632,100		
Bufflehead	100	100			-				9,800		
Ruddy	3 000		5 000	E 000							
	1,000	5,000	5,000	5,000	1117	crier to	TTOR STAT		147,000		
Other Mergansers	100	100	200						16,800		
TOSAT DEAS	1.00 : 14	STAT WITH DAY	19537	120000000	77	-					
ot:	100	1.01	2,000	5,000	1,000	500	500		49,700		

(5) Total Days Use :	(6) (7) Peak Number : Total Production	SUMMARY	
Swans None		Principal feeding areas	7 1
Geese <u>186,550</u> : Ducks <u>4,947,950</u> : Coots <u>49,700</u> :	6,500 203,150 3,000	Principal nesting areas	11,200 ·····
anti- 10 anti- 10 ana	00 5 200 - 200 - 200 180 - 200 - 200	Reported by Edw. A. Davis	11,900
INST	The second secon	7534, Wildlife Refuges Field Ma	ITS' NOO
1m4.m4.2 2, 50, 50	50 \$ 000 TOO		113 109
(1) Species:	In addition to the birds listed	on form, other species occurrin d in appropriate spaces. Specia	g on refuge during the
 Species: Weeks of Reporting Period: Estimated Waterfowl 	In addition to the birds listed reporting period should be adde	on form, other species occurrin d in appropriate spaces. Specia ational significance.	ng on refuge during the L attention should be given
 Species: Weeks of Reporting Period: 	In addition to the birds listed reporting period should be adde to those species of local and n Estimated average refuge popula	on form, other species occurrin d in appropriate spaces. Specia ational significance.	ng on refuge during the Lattention should be given
 Species: Weeks of Reporting Period: Estimated Waterfowl 	In addition to the birds listed reporting period should be adde to those species of local and n Estimated average refuge popula Average weekly populations x nu Estimated number of young produce breeding areas. Brood counts st	on form, other species occurrin d in appropriate spaces. Specia ational significance. tions.	ecies. tual counts on representatives as aggregating 10% of the
 Species: Weeks of Reporting Period: Estimated Waterfowl Days Use: Production: 	In addition to the birds listed reporting period should be adde to those species of local and n Estimated average refuge popula Average weekly populations x nu Estimated number of young produce breeding areas. Brood counts st	on form, other species occurring d in appropriate spaces. Specia ational significance. tions. mber of days present for each sp ced based on observations and ac hould be made on two or more are ving no basis in fact should be	ecies. tual counts on representations aggregating 10% of the
 Species: Weeks of Reporting Period: Estimated Waterfowl Days Use: Production: 	In addition to the birds listed reporting period should be adde to those species of local and n Estimated average refuge popula Average weekly populations x nu Estimated number of young produce breeding areas. Brood counts as breeding habitat. Estimates has A summary of data recorded under	on form, other species occurring d in appropriate spaces. Specia ational significance. tions. mber of days present for each sp ced based on observations and ac hould be made on two or more are ving no basis in fact should be	ecies. tual counts on representations aggregating 10% of the omitted.

Interior Duplicating Section, Washington, D. C. 37944 1953

STEP WITT

5-1751 Form NR-1A Nov. 1945) Refuge BATC	arown	-0		GRATORY B than wate Months	erfowl)	T J	to Apri	L 19	94.54	
(1) Species	(2) First Seen		() Peak N	3) umbers		4) Seen		(6) Total		
Common Name I. Water and Marsh Birds:	Number	Date	<u>Number</u>	Date	Number	Date	Number Colonies	Total # <u>Nests</u>	Total Young	Estimated
Great Blue Heron	8	1/8/54	75	4/20/64		Still pr	and a moved			150
American Egret	1	4/20/54	50			Still pr	esent			100
Pied-billed Grebe	15	8/15/54	100	4/9/54		Still pr	esent			200
n.tani .e. b	20	Reported								
	*			- SHOLL	DUTESKI					e
I. <u>Shorebirds, Gulls and</u> <u>Terns</u> :		ote. Di ote. Di e report 1 to threa	"met" transf" transf	"I Logent" ogsf en u blaonr bo		asan Israal Aasta oo Bisela	anni Contain Incore of			
Gulls	2,000	1/3/54	15,000	2/12/54	I. Cal	Still pr	esent		-	20,000
Terns combine bar source	500	1/3/54	5,000	2/12/84		Still pr	esent			10,000
	. bernat	and Dones	a 1982, 999 	Colog in	0 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	10061 BB	191 20121			

1.1.2

3650

100012000

, strand Courts i

9.67

2.2 1 27

1112

	(1)	(2)	(3)	(4)		(5)		(6)
Mou	es and Pigeons: rning dove te-winged dove	None observed	Television of the				orattic 1	an a	New 16-00
	ac) 1	(4) =uba:1	12-1 10-1 (mm.)	121	200	15) E den 17-			
TV Pre	daceous Birds:	Int. T. Soliday		-					
Gold	den eagle k hawk ned owl						- de	(metab	a nan a
Mag Rav		durberr; LL		10 9/30/3	18/84	3		Berline an	dram.
Cro	W	Crows are here	all year around	t and plenty o	of them as	the are	8.5.0	Singer 1	anitura 1
		111 products		and Anyres	4.0,73 V	15		adward tool	10-1-1-
				24					
					Reported	i by Edw	ard A. De	vis	
(1) 035 e -	Species:	Use the correct nam order. Avoid gener form, other species priate spaces. Spe significance. Grou	al terms as "se coccurring on a cial attention ps: I. <u>Water a</u> II. <u>Shorebi</u> III. <u>Doves a</u>	the A.O.U. Ch eagull", "tern refuge during should be giv	", etc. 1 the report ren to thos d Terns (C columbiform	In additi ting peri se specie ormes to Charadrii nes)	on to the od should s of loca Ciconiifo formes) iformes a	birds li be added al and Nat ormes and and predace	sted on in appro- ional Gruiiformes eous
(2)	First Seen:	The first refuge re	cord for the sp	becies for the	season co	oncerned.	Pass	eriformes)
(3)	Peak Numbers:	The greatest number	of the species	s present in a	limited i	interval	of time.		
(4)	Last Seen:	The last refuge rec	ord for the spe	ocies during t	he season	concerne	đ.		
(5)	Production:	Estimated number of	young produced	l based on obs	ervations	and actu	al counts		
(6)	Total:	Estimated total num	ber of the spec	ies using the	refuge <u>du</u>	ring the	period c	oncerned.	

Form NR-1A (Nov. 1945) Refuge	r		MI (other	GRATORY B: than wate Months	IRDS erfowl) of	ary	to April		94.54	
(1) Species	(2 First		(Peak N	3) umbers		4) Seen		(6) Total		
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total #	Total Young	Estimated Number
I. Water and Marsh Birds:				tana ta ang tanang Yapan		and the state of the	and assessment of white		na na kala na k La kala na kala n La kala na kala	Purchase M
Great Blue Heron	3	1/8/54	125	4/20/84		still pr	esent	1		Deven 250
American Egret	2	4/20/54	50	4/27/54	than end	still pr	esent			1.00
Pied-billed Grebe	15	3/15/54	100	4/9/54		still pr	esent			200
area . Josta	dia	bataogaA								
and list group in A.G.U		el stal/D	bedg JU.C	ELONS COLUNE A	DUSTRMI Devol se	eenan ti		teal	the band	
I. <u>Shorebirds, Gulls and</u> <u>Terns</u> :	nation 30 Salista Species	etc. In steports to ficus	"tem" dt gainst dt gainst de given	"Iluguse" ogulan h bloode no	terme so surring n i alteori	inning Social Co Social	vthor.e	nino intel i		
Gulls	8,000	1/8/54	15,000	2/12/54		still pr	esent	-A ca		20,000
Terns	700	1/3/54	5,000	2/12/54	01 . 73	still pr	esent			10,000
(00,001110063)	berned	sason bon	e eut ret	80100q8	sult sot the	topet og		od7 (nees Iron <mark>.</mark>	(2)
	ternel of		l a nt di	orrend and	onde ja (4	do zeduni	7 /16373	es: The	odo <mark>nil</mark> Xae	
	berread		eds patri	a setado	5 11 201	onxinn or	and had	. • at	int Seen:	
			i	i		i			רסלגוק צ' קבו	
. partaerno Fortes	n.ett. x.u	ing alling	a out and	(over)	4 641 70	re-forte di	ral instan	l hell	21043	

	(1)	(2)	(3)	(4)	(5)		(6)
III.	Doves and Pigeons: Mourning dove White-winged dove	None observed	inertine of the second s	a sudacy	ETOBLA	8	(2>91 .vc#)
	al indire	a)		(2) Information	E Pre 13	1.1	
IV.	Predaceous Birds: Golden eagle	ante de la contra	1000 P				
	Duck hawk Horned owl		1				
085	Magpie Raven Crow	Grows are here al	l year around, and	plenty of them us	the area.	nouni agi	
01.0	CIOW	strikery Lits	120/00/	- 03° 387/14/			Dittant
		till protect	1 32/0/	/15/04 1222	1. 1.	edetal LaCI	io- Ein
	(1) Species:	Use the correct name order. Avoid genera		A.O.U. Checklist,		d list group	
		form, other species priate spaces. Spec significance. Group	occurring on refug	e during the repor ld be given to the	ting period should be species of loc	ld be added cal and Nat:	in appro- ional
	.92	during fild	II. Shorebirds,	Gulls and Terns (igeons (Columbifor	Charadriiformes)		
	10,	dynamic 111	IV. Predaceous	Birds (Falconiform		and predace sseriformes	
	(2) First Seen:	The first refuge rec	ord for the specie	s for the season o			
	(3) Peak Numbers:	The greatest number	of the species pre	sent in a limited	interval of time		
	(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 count	ts.	
	(6) Total:	Estimated total numb	er of the species	using the refuge <u>d</u>	uring the period	concerned.	

3-1752 Form NR-2

(April 1946)

Refuge_CALHOUN and BATCHTOWN

Months of January

to April

___, 194**54**

(1) Species	(2) Density	(3) Young Produced		(4) Sex Ratio	R	(5) emova	ls	(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	Fur Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
	· · · · · · · · · · · · · · · · · · ·		1		Are granded	3.9.1		. 7		
Nothing	to report under thi	s								
	an partier and									
					1		1			
		_								
		-				-				
							-			

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

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

- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

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

3-1754 Form NR-4

(June 1945)

SMALL MAMMALS

Refuge CALHOUN and BATCHTOWN

Year ending April 30, 1956

(1) Species	Density				(3) ovals	ge riti	89 Jo	no i sa i no D:		(5)				
i, etc. of Forth	lddarabae, beflet eilde net bleit edt ti bt.	ferthug Lota of			eant p c/	For Re- stocking	ng . Aca	Share Trap		Share Trapping				Tota
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control "		For Re-	Permit Number	Trappers' Share	Refuge share		Furs Donated	Fure Destroyed	tion
-archite	hy cover trains, Inte	lactes 7	ad	(05.24	32		CIR	d 03 73	Derra				/	1
	and to have a second and	mon't Ja	na a	350	1	1000	100	in to be	an is Centa				1.8	~ ~
hing to report in	der this.	ipenan bi Turnin ta	1.1.1	-1.1	5 .14			intorne.	9 2 1 2 8 1 1 2				18 4	
	anappy and stands of	-	-	1.1	ind :			Centerst	<u>41 .</u>				aller all	225
		1.1	1	Arg.	0 V 1 0 0 0 1								ave a	
	entre et alleres bes et	0.1 *****		10.07 B	a	locare		and In		-			×	14-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
						1150		ter lister	that					
	Itted a shirt former of				~	ana a			25.1					
	and the second second	President				100			1005					
	The state of the set of				Car.		-		6 21	2.0			· · ·	
	er star with the last		100	1.	140	1		end all the	12-1					
	Predator Animal Hunte		-					to be a					1	

the remittances of the barries of said of the contract of any later of the second of t

REMARKS:

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, 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.)

(2) DENSITY:

MAY 7 - 1954 WILDLIFE REFUGES

MAY

AND WILDLIFE SER

SPHTMENI OF IHE INT.

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.

116007