Monomoy NWR - Narrative Report - 1969

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NARRATIVE REPORT

Calendar Year 1969

MONOMOY NATIONAL WILDLIFE REFUGE

No permanent personnel are assigned

to this station.

Temporary Personnel

Richard DeGraaf. Biological Technician*

* Period of Employment -- June 2, 1969 to September 2, 1969

UNITED STATES DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Bureau of Sport Fisheries and Wildlife

Concord, Massachusetts

(Under Supervision of Great Meadows Refuge)

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NARRATIVE REPORT

Monomoy National Wildlife Refuge

Calendar Year 1969

I. GENERAL

A. Weather Conditions:

11

MONTH		PRECIPITATION		TEMPE	RATURE
	Sportfall	Total Provinitation	Normal	Mostimum	Minimum
	Showrall	recipitation	Normar	Maximum	MINIMUM
January		1.29	2.26	48	11
February	7.0	6.53	3.28	46	13
March	4.0	3.37	2.97	53	19
April		5.51	3.39	69	20
May		1.02	3.66	74	35
June		1.62	2.64	86	48
July		1.84	1.54	90	52
August		2.01	3.23	91	51
September		7.11	3.93	90	44
October	1.5	2.43	2.40	74	28
November		6.77	5.23	63	22
December	1.8	8.36	3.76	59	20
EXTREMES				91	11
TOTALS	14.3	47.86	38.29		

The weather data was obtained from the National Park Service, South Wellfleet, Massachusetts.

The normal precipitation is the average from the years 1964-1969.

B. Habitat Condition:

- <u>Water</u>: Total precipitation was over twelve inches more this year than 1968. Although rainfall was not heavy in May through July, it was sufficient to maintain fresh water ponds at higher levels than 1968. Conditions were good for breeding and migratory waterfowl.
- Food and Cover: Continued use of the refuge by large numbers of migrant waterfowl and shore birds testify to the high quality of Monomoy's habitat. Food and cover was adequate throughout the year.

The four vegetation transects set up in 1968 were run again this year. The most obvious fact seen was that most changes were due to the difference in water levels between the two years. Water levels were higher in 1969.

Vegetative transect data and general observations revealed only a few significant changes in 1969. There was an estimated 80 percent reduction in smartweeds and a 50 percent reduction in spike rushes. However, there was several fold increase in the production of pondweed--especially sago pondweed. Dense mats of pondweeds occurred at Lighthouse Marsh and Little Station Pond.

In July Bayberry moth caterpillars denuded large areas of vegetation on the southern part of the island. Plants effected were bayberry, beach grass, poison ivy, black cherry, and beach plum. Even so, adequate cover remained available; and there was a good crop of beach plums and cranberries this year.

II. WILDLIFE

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A. Migratory Birds:

 <u>Waterfowl</u>: The total of 1,095,900 waterfowl use days for 1969 represents a substantial increase over the 820,411 waterfowl use days recorded for 1968. Although goose use decreased by 9 percent over last year, there was a 41 percent increase in duck use, largely attributed to increased numbers of black ducks, American eider, surf scoter, and white-winged scoter.

Goose production increased by 54 percent over 1968 while duck production declined by 23 percent. Green-winged teal production decreased greatly; however, increases were observed in mallard, black duck, and blue-winged teal production.

Bait trapping and banding of ducks was conducted from August 5 to September 1 with the following results:

Species	Number Banded
Black duck	76
Blue-winged teal	38
Green-winged teal	3
Wood duck	2

TOTAL 119

2. Shore birds, Gulls, and Terns: A large nesting population of herring and great black-backed gulls, estimated at 6,000-7,000 pairs, utilizes Monomoy Island. As many as 20,000 gulls use the island at night and as a loafing area between garbage flights. This expanding gull population has been of concern in recent years especially in regard to the alleged detrimental effects on the nesting populations of terns. Biological Technician DeGraaf observed gull behavioral activity which contributed to the suppressed production of all nesting colonies of least terns. A similar interaction resulted in nest abandonment in the common, roseate, and particularly

ð:

the Arctic tern colonies. The latter are most susceptible because they tend to nest at the periphery of the consolidated colony.

An estimated 3,000 common, roseate, and Arctic terns were produced this year with a preponderance of common terns. Two pair of black skimmers nested in the centers of each of two tern colonies.

As might be expected, an abundance of shore birds covering a wide range of species utilizes the refuge.

B. Upland Game Birds:

Ring-necked pheasant and bobwhite quail are present on Morris Island, the portion of the refuge which has become part of the mainland. In recent years there have been no reports of upland game birds on Monomoy Island; however, on October 4 Mr. Wallace Bailey of the Massachusetts Audubon Society observed 12 bobwhite quail on Monomoy.

C. Big Game Animals:

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A herd of approximately twenty white-tailed deer utilize Monomoy Island. In past years this apparently insular population has been reported as maintaining a relatively stable level; however, there is considerable evidence that movement does occur between the island and the mainland. Although gross observations suggest these animals are in apparent good health, virtually nothing is documented about the dynamics of this most interesting population.

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

Muskrats were observed in moderate numbers this year. Sightings of an unidentified weasel, a mink, and a harbor seal were recorded during the summer.

E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies:

Observations of the following species were recorded this year: marsh hawk, osprey, peregrine falcon, pigeon hawk, red-tailed hawk, sparrow hawk, barn owl, and short-eared owl. Common crows continue to be present in modest numbers.

F. Other Birds:

Mr. Wallace Bailey, Wellfleet Bay Sanctuary, Massachusetts Audubon Society, has recorded 314 species of birds, including 68 accidental species, which have been observed on Monomoy National Wildlife Refuge.

G. Fish:

This summer Biological Technician DeGraaf reported finding a considerable number of large mouth bass in Little Station Pond. Some bass were as large as seven pounds. Fresh water eels were also found in the ponds in Lighthouse Marsh.

H. Diseases:

21

None evidenced during the year.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development:

<u>Buildings</u>: Both front corners of the garage on the north end of Monomoy were undermined by wind and water action and had to be repaired. Snow fence was stretched around the entire building in an effort to prevent this type of damage.

All of the dormers on the Monomoy storage building and all window frames were painted inside and out. Broken glass was replaced in several windows.

Equipment and Maintenance: Extensive repairs were required on the OC3 tractor costing \$344.17. The tractor was cleaned and painted at Parker River National Wildlife Refuge.

Rust spots on the cab, the bed, bumpers and the entire undercarriage of the 1967 power wagon were painted.

Repaired the fire protection system pump to place the Morris Island water system back into service.

Servicing and tune ups were performed on all equipment as required or scheduled.

<u>Posting</u>: The entire 16 miles of posted boundary was checked requiring replacement of 80 posts and signs.

<u>Signs</u>: The Monomoy Island entrance sign was refurbished, as was the Morris Island entrance sign. Three public use signs were erected again this year. They are taken down each fall to prevent unnecessary weathering during the winter.

Additional Jobs Completed This Year:

- A dry well was constructed for the sink drain at the Monomoy storage building.
- 2. Several truck loads of debris were removed from the beach and inland points. This material was taken to suitable locations where it was burned and the remains buried.

3. Posts were driven in around the yard at the Morris Island building to prevent vehicle entrance onto the grass.

B. through F.

Not applicable this year.

IV. RESOURCE MANAGEMENT

A. through E.

Not applicable this year.

F. Other Uses:

Fees for cabins and beach buggy permits and one permit for storage of fish weir trap equipment are the only uses in this category.

Seventy-two dollars annually is collected from the fish weir trap equipment storage and over-the-sand vehicle permit. An additional \$217 per annum is collected from ten cabin permits at \$2.50 each and eight vehicle permits at \$24 each.

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V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. Progress Report -- Experimental Eider Trapping:

No additional experimentation was conducted on techniques of attracting and trapping American Eider this year.

B. Cooperative Research--Geologic Study on Monomoy Island:

Under a grant from the U. S. Corps of Engineers, Mr. Victor Goldsmith, Geology Department, University of Massachusetts is conducting a study of offshore sand bars and adjacent beaches. Part of the study area includes Monomoy Island.

Based on observations between November 1, 1968, and March 16, 1969, the following preliminary conclusions have been reached:

- 1. There has been a permanent net retreat of Monomoy Island to the west due to beach erosion from storms. The retreat during this period amounted to a maximum of 40 feet on Monomoy.
- 2. The beach itself will maintain its former width at the expense of dune erosion.

Additional data has been collected, but results are not yet available.

VI. PUBLIC RELATIONS

A. Recreational Uses:

Monomoy attracted an estimated 9,235 visitors this year compared to 4,281 in 1968. The majority of the visits are for wildlife observation and salt water fishing on Monomoy Island which can be reached only by boat. Thousands of migrating shore birds feed and rest on Monomoy's brood tidal flats. Regularly scheduled "Beachbuggy Wildlife Tours" of the island are conducted by the Massachusetts Audubon Society at \$15 per person. Fifty-eight tours were scheduled this year from May 25, to October 5. Cape Cod is a major summer recreation area and Monomoy Island is a natural drawing card for boaters who are looking for some place to beach their boat and swim, fish, picnic, or just beachcomb.

B. Refuge Visitors:

Date	Name	or Address	Purpose	
7/21	Peter Suich	R. O., Boston Assistant Regional Supervisor, Planning	official business	

Refuge headquarters remained closed this year, and no visitor listing was maintained. The following persons made numerous visits to the refuge during the year:

Wallace Bailey	Massachusetts Audubon Society
James Baird	Massachusetts Audubon Society
Victor Goldsmith	Geology Department,
	University of Massachusetts

C. Refuge Participation:

W.

June 27--DeGraaf discussed Monomoy with Dr. William Sheldon, Leader of the Massachusetts Cooperative Wildlife Research Unit, and several of his guests. He also gave them a partial tour of the island.

- August 28--DeGraaf assisted Jim Baird of Massachusetts Audubon Society mist net warblers at Lighthouse Marsh.
- August 29--DeGraaf conducted a tour of Monomoy for George Lake of Chatham. Mr. Lake has done considerable work on coast survey maps of the area.
- September 25--Tibbs conducted a tour of Monomoy for Zack Taylor of "Sports Afield" magazine who was doing a story on Cape Cod National Seashore. He was interested in the island and may include it in his story.

Since no permanent personnel are stationed at Monomoy and it is over 100 miles from Great Meadows, slide talks and speaking engagements are few in the immediate area of the refuge. However, Monomoy is included in many of the presentations given in the vicinity of Great Meadows. In 1969, Monomoy was included in seven programs presented to various groups.

D. Hunting:

No hunting is permitted on the refuge.

E. Violations:

Biological Technician DeGraaf made twice-daily public use patrols of Monomoy Island. Occasional violation of recreation regulations occurred but were generally corrected on the spot when offenders were made aware of refuge regulations.

There were no major problems with camp permittees this year-probably largely as a result of the good relations established with the permittees by Biological Technician DeGraaf.

Several instances of vandalism occurred at the camps. In most cases the camps are broken into with minor damage. However, in August the sand tires were removed from a beachbuggy parked at the Albert Young camp and several windows broken.

F. Safety:

#1/

Although no formal safety meetings were held, Biological Technician DeGraaf was made thoroughly aware of the importance of safety through informal discussions.

Radio contact is maintained with the Chatham Coast Guard Station via a portable Coast Guard radio. Daily radio checks are made to be sure the equipment is working properly and personnel working on the island are having no difficulties since this is the only communication link with the mainland.

VII. OTHER ITEMS

A. Items of Interest:

\$1

- 1. <u>Personnel</u>: Richard M. DeGraaf began his duties as biological technician on Monomoy June 2, and worked throughout the summer until he resigned September 3, to work toward a Master's Degree in Wildlife at the University of Massachusetts. Dick graduated from Rutgers University and served two years in the Army as a biological science assistant before coming to Monomoy.
- 2. <u>Oiled Sea Ducks</u>: On a report from Wallace Bailey of the Massachusetts Audubon Society of a number of oiled sea ducks having been picked up along Nauset Beach, Refuge Manager Moses arranged a helicopter flight to Monomoy with the Coast Guard on March 5. Only four oiled birds were observed along Nauset Beach from Orleans to Chatham. No oiled birds were observed on Monomoy.
- 3. <u>Cooperation--Massachusetts Audubon Society</u>: In April the OC-3 tractor was transported from Monomoy Point to Tern Island. It was loaned to the Massachusetts Audubon Society to disc vegetated areas in an effort to encourage terns to begin nesting again on Tern Island.
- 4. <u>Boat Rescue</u>: On August 11, DeGraaf, assisted by a Monomoy camp owner, H. Jones, saved a carelessly beached Boston Whaler from being washed out into the ocean.

He also retrieved a canoe on August 23, and notified local police. It was claimed by its owner the following day.

- 5. Lost Light: The Coast Guard spent July 16, and 17, erecting a reference marker near the south end storage building to be used in locating a lost light off the south end of Monomoy Island.
- 6. "<u>Monomoy Wilderness</u>:" Bills were introduced again this year to designate the 2,600 acre Monomoy Island as wilderness. But, like last year, action was not

completed; and the island did not become part of the National Wilderness Preservation System in 1969.

- 7. Photographs: Appended.
- 8. <u>Payment to Counties</u>: Under the Revenue Sharing Act, a check for \$277.33 was delivered to the Barnstable County Treasurer on October 28. The money will be used on roads within the county.
- 9. Forms: The following forms are not applicable this year: NR-1C, NR-5, NR-7, NR-8, NR-8A, NR-11, and NR-12. All others are appended.
- 10. <u>Credits</u>: Assistant Refuge Manager Clarke prepared Section II, NR-1, NR-1A, NR-2, NR-3 and the photographs. Clerk-stenographer Brown prepared Section I A, VI B, VI C, Public Use Summary and typed the report. Refuge Manager Tibbs completed the remainder of the report and edited it.

Received by:

3%

Submitted by:

Signature

Arthur J. Jubbe Signature

N. R.'s checked in Regional Office by Alconer -

3-1750 Form NR-1 (Rev. March 1953) 5RF - 4/68

WATERFOWL

REFUGE Manapy	1				MONTHS	SOF J	nuary	TO	April	, 19 69
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(1) Species	1/1-7	1/8-14	1/15-21	1/22-28	1/29-2/4	2/5-11	2/12-18	2/19-25	•2/26-3/4 : 9	:3/5-11 : 10
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Gadwall							1.			
Baldpate			1							
Pintail										
GW teal			1							
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Shoveler		- water and	Tree level Sec.							
Wood										
Redhead										1.
Ring-necked	A MELLER STR		and server a							
Canvasback	and and	Augente and		No. P.C. P.L.R.			The second			
Scaup	50	50	50	50	50	100	100	100	100	100
Goldeneye	50	50	50	50	50	50	100	100	75	75
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Ruddy	a and a second	M. S. Mary	and the second second							attap?
Other	- 250	1.4.4			ean and	a state part of the				
R. B. Merganser	250	250	300	300	300	300	250	200	200	200
Coot: Am. Eider	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
W. W. Scoter	100	100	100	100	100	100	100	100	100	100

3 -1750a : . Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)

EFI

EFUGE MONOMOY						MON	THS OF Ja	nuary	TO Apri	1,	19_69
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* Geese	49,850	500	
Ducks	624,555	6,120	Principal nesting areas
Coots			
			Reported by Edward S. Moses, Refuge Manager
nemoti pr -x7:580	i teal (Mal		
edfactory Call	INS	TRUCTIONS (See Secs. 7531 through	7534, Wildlife Refuges Field Manual)
(1) :	Species:	In addition to the birds listed reporting period should be adde to those species of local and n	on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be given ational significance.
(2) 1	Neeks of		
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and the	Reporting Period:	Estimated average refuge popula	tions.
(3) 1	Reporting Period:	Estimated average refuge popula	tions.
(3) 1	Reporting Period: Estimated Waterfowl Days Use:	Estimated average refuge popula Average weekly populations x nu	tions. mber of days present for each species.
(3) 1 (1)	Reporting Period: Estimated Waterfowl Days Use: Production:	Estimated average refuge popula Average weekly populations x nu Estimated number of young produ breeding areas. Brood counts s breeding habitat. Estimates ha	tions. mber of days present for each species. aced based on observations and actual counts on representative hould be made on two or more areas aggregating 10% of the ving no basis in fact should be omitted.
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Interior Duplicating Section, Washington, D. C. 1953

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

WATERFOWL

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REFUGE Monomoy					MO	NTHS OF _	May	TO	August	_, 19 <u>69</u>
2		W	eeks	of re	porti	ng pe	riod			
(1) Species	: 5/1-7 : 1	5/8-14	: 5/15-21 : 3	: 5/22-28 : 4	5/29-6/4	6/5-11	6/12-18 7	6/19-25 8	: 6/26-7/2: : 9 :	7/3-9 10
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Geese.										
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Ducks:							·			
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Green-winged Teal	100	50	10	20	10		10	30	25	EQ
Blue-winged Teal	100		20	18 44			10			30
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Bufflehead										
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WATERFOWL (Continuation Sheet)

REFUGE Monomoy	April 1	Fir terisport	ty of again	<u>s as congo</u>	g miges (MONTHS	OF	May	_TO	August	_, 19 <u>69</u>
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(1) Species	7/10-16 11	7/17-23	7/24-30	: 7/31-8/ : 14	6 8/7-13 15	8/14-20 : 16	8/21-27 17	8/28-31	waterfowl	Broods : seen	:Estimated : Total
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ucks: Mallard	7	Toporti	R bearog			7	7	7.0	686		(
Black Gadwall	20	50	48	50	60	80	100	100	10,417	8	90
Baldpate Pintail		6			TURTUBOTT	3	2	1	634		
GW teal BW teal	15	25	25	25	<u>30</u> 9	25 40	<u>25</u> 50	<u>25</u> 50	3,439	3	20
Cinnamon teal Shoveler						or pag ph		>			
Wood Redhead	1	1							14		
Ring-necked Canvasback	Marcalle -	3		19.565					10-049-1789	0 0000000	inaper ·
Scaup Goldeneye											
Bufflehead Ruddy			-		in energy and the second	and and a	and the		01-010-1970		*
Other Am. Eider	10	50	10	25	25	25	25	25	14,009		
White-winged Sc	oter 1	(9)	1 1	(11		1	1		203		
Common Sc	oter	1							77		
	a second	1		1 10	ver)	1. 16 1. 19		1.	State of State		

	(6) :	(7)		and the second		sua		i sain
Total Days Use	Peak Number : To	tal Productio	<u>n</u>	1	SUMMARY	11.100	-	
Swans			_ Principal fe	eding areas	Station	and Light	house-n	arshes
teese <u>5,012</u>		20	-	e se la				
Ducks 31,898	1,652 -	120	Principal ne	esting areas	Station	and light	house n	arshes.
loots			_				• • • •	an an New States and States and States and St
Doreler Junamon teal		1	Reported by	Les Tibbs	Refuge	Hanagez		
W teal		1.1	NU NU	20.	20		14. I	
		Í Í Í Í	STRUCTIONS	8	d is in	2 - E341		
ee Wildlife Refuges Man	ual Section 3321	-24. "Wildlif	'e Records".		1			E and the second second
and the second s	14.1		and the second sec		1. Contraction of the Contractio			Statistica and a statistica and a
and the second sec	14.1		and the second sec		1. Contraction of the Contractio			
(2) Weeks of Reporting Period:	Estimated aver	age refuge po	pulations.					
 (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: 	Estimated aver Average weekly	age refuge po populations	pulations. x number of days	present for	each spe	cies.	2	20
 (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: (4) Production: 	Estimated aver Average weekly Estimated numb breeding areas breeding habit	age refuge po populations er of young p . Brood coun at. Estimate	pulations. x number of days roduced based on ts should be made s having no basis	present for observation e on two or s in fact sh	each spe s and act more area ould be c	cies. ual count: s aggrega mitted.	s on rep ting 10%	resentat: of the
 (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: (4) Production: (5) Total Days Use:	Estimated aver Average weekly Estimated numb breeding areas breeding habit A summary of d	age refuge po populations er of young p . Brood coun at. Estimate ata recorded	pulations. x number of days roduced based on ts should be made s having no basis under (3).	present for observation on two or in fact sh	each spe s and act more area ould be c	cies. ual count s aggrega mitted.	s on rep ting 10%	resentat: of the
 (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: (4) Production: (5) Total Days Use: (6) Peak Number: 	Estimated aver Average weekly Estimated numb breeding areas breeding habit A summary of d	age refuge po populations er of young p . Brood coun at. Estimate ata recorded of waterfowl	pulations. x number of days roduced based on ts should be made s having no basis under (3). present on refug	present for observation e on two or s in fact sh ge during an	each spe s and act more area ould be c	cies. ual count s aggrega mitted. of report:	s on rep ting 10% ing peri	resentat: of the
 (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: (4) Production: (5) Total Days Use: (6) Peak Number: (7) Total Production: 	Estimated aver Average weekly Estimated numb breeding areas breeding habit A summary of d Maximum number A summary of d	age refuge po populations er of young p . Brood coun at. Estimate ata recorded of waterfowl ata recorded	pulations. x number of days roduced based on ts should be made s having no basis under (3). present on refug under (4).	present for observation on two or in fact sh ge during an	each spe s and act more ares ould be c - y census	cies. ual count s aggrega mitted. of report:	s on rep ting 10% ing peri	oresentat: of the
 (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: (4) Production: (5) Total Days Use: (6) Peak Number: (7) Total Production: 	Estimated aver Average weekly Estimated numb breeding areas breeding habit A summary of d Maximum number A summary of d	age refuge po populations or of young p . Brood coun at. Estimate ata recorded of waterfowl ata recorded	pulations. x number of days roduced based on ts should be made s having no basis under (3). present on refug under (4).	present for observation e on two or s in fact sh ge during an	each spe s and act more area ould be c	cies. wal count s aggrega mitted. of report:	s on rep ting 10%	of the
 (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: (4) Production: (5) Total Days Use: (6) Peak Number: (7) Total Production: 	Estimated aver Average weekly Estimated numb breeding areas breeding habit A summary of d Maximum number A summary of d	age refuge po populations or of young p . Brood count at. Estimate ata recorded of waterfowl ata recorded	pulations. x number of days roduced based on ts should be made s having no basis under (3). present on refug under (4).	present for observation e on two or s in fact sh ge during an	each spe s and act more area ould be c	cies. wal count s aggrega mitted. of report:	s on rep ting 10%	of the
 (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: (4) Production: (5) Total Days Use: (6) Peak Number: (7) Total Production: 	Estimated aver Average weekly Estimated numb breeding areas breeding habit A summary of d Maximum number A summary of d	age refuge po populations or of young p . Brood coun at. Estimate ata recorded of waterfowl ata recorded	pulations. x number of days roduced based on ts should be made s having no basis under (3). present on refug under (4).	present for observation e on two or s in fact sh ge during an	each spe s and act more area ould be c	cies. wal count s aggrega mitted. of report	s on rep ting 10%	of the

· (OAGE)

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

WATERFOWL

.

REFUGE Monomoy

MONTHS OF September TO December _ 1969

\$			Weeks	of re	porti	ing p	eriod			
(1) Species	9/1-7	9/8-14	9/15-21	9/22-28	9/29-10/	5-10/6-12	10/13-19 : 7	10/20-26 8	:10/27-11/2 : 9 :	11/3-9 10
Swans:				1			- Martin State	1		
Whistling										
Trumpeter										
Conoda		1						The Manual I		
Cachling	50	50	50	50	50	50	100	100	300	300
Brant										
White_fronted										
Show							_			
Blue				-						
Other			and the second second							
hicks:						-				
Mallard	20	20	20	20	20	20	20	20	50	60
Black	100	100	100	100	100	100	20	20	1 100	1 100
Gadwall						100	01.0	OUU	1.100	1.100
Baldpate	10461164	1	a contraction			1	200	200	200	200
Pintail			A PART OF REAL							
Green-winged Teal	50	50	50	50	50	50	200	200	300	300
Blue-winged Teal	50	50	50	50	50	50				
Cinnamon Teal	1.9.6.6.6.6.6.6.6	a star a serie a s		a cara a sugar						A Product of the All
Shoveler		10.061.061								
Wood	12000000000	0.023			1.1.4					
Redhead	********			- Constant						No. Contraction
Ring-necked		19. 1. 1. 1. 1. 1. 1. 1.	11111111111							
Canvasback	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	al Martin St.			1. 20 A. 1. 1. 1.					
Scaup				and the second						
Goldeneye	100000000000		A CARLEN AND	。 一世主题: 出入题:						
Bufflehead									80	80
Ruddy	12 12 12 - 12 - 12 - 2 - 2 - 2 - 2 - 2 -	a sa sa pasa	A MAY SALAS	T Confight and	No. And State				Constant Story	
Other Am. Eider	400	400	400	400	400	400	400	400	400	400
Surf Scoter	400	400	400	400	400	400	400	400	400	400
White-winged Scoter	400	400	400	400	400	400	400	400	400	400
Coot	50	50	50	50	50	50	50	50	200	200

5RF 11/2/66

3 -1750a Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)

.

REFUGE Monomoy						MONT	THS OF Se	ptember	TO Decemb	er , 19 <u>69</u>
	11/10 16	Weeks	of	(2 repo	2) rting	per 1	lod	10/00 01	(3) : Estimated :	(4) Production
Species :	11 :	11/1/-23	13	14	15 :	16	17	18:	days use :	seen : total
Swans:	47 - X	antern I.A.	of Carts T	esorded v	ider (3).					
Whistling				1. 1. 1. 1.					Landerer Transfer	
Trumpeter		reeding h	pres	laturas tes	hsving n	b basis i	a fact an	buld be o	Mitted.	and the second
Geese:					610016		TO ONL	SOTS STREET	e averesetine l	M of the
Canada	300	600	600	1,100	1,100	1,100	1,100	1,100	52,300	presentative.
Cackling		A CASE OF THE			1.1.1.1.1.1.1.1	Think and				
Brant		TETARS TH	ikin born	Lations v		a reason the	and they	anoh dran	and an entry of the second	
White-fronted		E. State								
Blue			and all a	THE PAR	TRATAN		and the second			
Other	1994 A. 2			- Curre	al all and					
Ducker				All States			Constantine (A la sur a la		
Mallard	50	75	75	75	20	20	20	20	4 225	
Black	1,100	2,800	2 800	2,800	1 400	1 400	1 400	1 400	130,900	to pe Eraen
Gadwall	1,100	2,000	2,000	2,000	1,400	1,400	1,400	1,400	150,500	12 200
Baldnate	300	500	500	100	100	100			19,600	
Pintail	500		Te pece	DAT SUL	100	100	net dies	creye wad	19,000	
Green-winged teal	300	200	200	200	20	20			15,680	
Blue-winged teal									2,100	
Cinnamon teal			1011144							
Shoveler		B. B. B. B. C.			Repo	the page	Stephen	U. Clarke		
Wood		1.000	A CONTRACTOR							
Redhead	1.1		1. C. C. C.						Health Charles	
Ring-necked		1.1.1							and the second	
Canvasback		6,475	4		Prin	bipal mee	aing area			
Scaup						1			and the second se	
Goldeneye 25'200		.100	3						The State State	
Bufflehead	80	100	100	100	200	200	200	200	8,580	
Ruddy	1				Prin	stral for	12312 02.04			
Other Am. Eider	400	400	400	400	1,100	1,100	1,100	1,100	65,600	
Surf Scoter	400	400	400	400	200	200	200	200	44,000	
White-winged Scoter	400	400	400	400	100	100	100	100	41,600	
Coot:	200	100	100	100	100	100			10,500	

AP3	300 100	100 100	100 100	10,000
(5) Total Days Us	(6) e : Peak Number :	(7) Total Production	200 • 200 200	SUMMARY
Cher An. Elder	000 200	400 400 1	Principal feeding area	1,100 - 63,600
Will the ad	- CO TOO	100 100	Soo Soo Soo Soo	500 81260
Geese <u>52,300</u>				
Ducks 332,285	5,475		Principal nesting area	8
Coots				
lood		A State State State	Reported by Stephen	H. Glarke
Timemon test				\$700
The wind the	300 5 500	500 500	30 50 .	12,680
ke: ollard lack	20 to those spec	ies of local and n	a in appropriate spaces. ational significance.	Special attention should be give
(2) Weeks of Reporting Period	: Estimated ave	rage refuge popula	tions.	
 (2) Weeks of Reporting Period (3) Estimated Waterf Days Use: 	: Estimated ave owl Average weekl	rage refuge popula y populations x nu	tions. mber of days present for	each species.
 (2) Weeks of Reporting Period (3) Estimated Waterf Days Use: (4) Production: 	: Estimated ave fowl Average weekl; 300 Estimated num breeding area breeding habi	y populations x nu ber of young produ s. Brood counts s tat. Estimates ha	tions. mber of days present for cod based on observation hould be made on two or m ving no basis in fact sh	each species. s and actual counts on represent more areas aggregating 10% of the ould be omitted.
 (2) Weeks of Reporting Period (3) Estimated Waterf Days Use: (4) Production: (5) Total Days Use: 	: Estimated ave fowl Average weekl 300 Estimated num breeding area breeding habi A summary of	y populations x nu ber of young produ s. Brood counts s tat. Estimates ha data recorded unde	tions. mber of days present for ced based on observation hould be made on two or : ving no basis in fact sh r (3).	each species. s and actual counts on represent more areas aggregating 10% of the ould be omitted.
 (2) Weeks of Reporting Period (3) Estimated Waterf Days Use: (4) Production: (5) Total Days Use: (6) Peak Numbers 	: Estimated ave owl Average week; OO Estimated num breeding area breeding habi A summary of	y populations x nu ber of young produ s. Brood counts s tat. Estimates ha data recorded unde	tions. mber of days present for ced based on observation hould be made on two or m ving no basis in fact sh r (3).	each species. s and actual counts on represent more areas aggregating 10% of the ould be omitted.
 (2) Weeks of Reporting Period (3) Estimated Waterf Days Use: (4) Production: (5) Total Days Use: (6) Peak Number: 	: Estimated ave owl Average weekl; Constrained num breeding area breeding habi A summary of Maximum numbe	y populations x nu ber of young produ s. Brood counts s tat. Estimates ha data recorded unde r of waterfowl pre	tions. mber of days present for ded based on observation hould be made on two or m ving no basis in fact sh r (3). sent on refuge during an	each species. s and actual counts on represent more areas aggregating 10% of the ould be omitted. y census of reporting period.
 (2) Weeks of Reporting Period (3) Estimated Waterf Days Use: (4) Production: (5) Total Days Use: (6) Peak Number: (7) Total Production 	: Estimated ave fowl Average weekly Estimated num breeding area breeding habi A summary of Maximum numbe : A summary of	rage refuge popula y populations x nu ber of young produ s. Brood counts s tat. Estimates ha data recorded unde r of waterfowl pre data recorded unde	tions. mber of days present for cod based on observation hould be made on two or p ving no basis in fact sh r (3). sent on refuge during an r (4).	each species. s and actual counts on represent more areas aggregating 10% of the ould be omitted. y census of reporting period.

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

None I and

Form NR-1A (Aug. 1952)	Ainourius astro	M (Othe	IIGRATORY er than W	BIRDS Materfowl)	Janu	זדינפ	Apri	1	69
RefugeMonor	moy	90 <u>8/90</u> 99	Mc	onths of	, oanu	t	0	Dellage dui	19
(1)	(2)	(3 Pes	3) 1k	(4)	ing the	eesech con	(5)		(6)
Species	First Seen	Concent	Thelu-	Last S	een	Pr	oduction		Total
(2) First Seen:	he first plars	TOU LEGOL	sive		Det	Number	Total #	Total	Estimated
I. <u>Water and Marsh Birds</u> :	Number Date	Number	The lack during t accurate have no	of perso his perio species basis in	nnel at precl records fact.	the instal aded mainta Figures	Nests Lation ining yould	Toung	Use
II. Shorebirds, Gulls and Terns:									
III. Doves and Pigeons: Mourning dove White-winged dove	-			1					
(T)	(5)	-	(over)		(1)		(3)		58F-):/6

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(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove					
IV. <u>Predaceous Birds</u> : Golden eagle Duck hawk Horned owl Magpie Raven Crow					

INSTRUCTIONS

See Wildlife Refuges Manual Section 3321-24, "Wildlife Records".

If more space is needed for listing species in Group I, you can X out heading for Group II and continue listing. Retype heading of Group II below, or list Group II on a second page. Here, too, if the list is long, you can X out both headings and retype heading for Group II at top of form. This can eliminate the necessity for a third page of form.

Explanation of column headings:

(1)	Species:	Use correct names as found in the A.O.U. Checklist.
(2)	First Seen:	The first migration record for the species for the reporting period.
(3)	Peak Numbers:	Estimated number and inclusive dates when peak population of the species occurred.
(4)	Last Seen:	The last refuge record for the species during the season concerned.
(5)	Production:	Estimated number of young produced based on observations and actual counts.
(6)	Total:	Estimated species days use (average population X no. days present) of refuge <u>during the</u> reporting <u>period</u> .

3-1751 Form NR-1A (Aug. 1952)

MIGRATORY BIRDS (Other than Waterfowl)

Refuge Money	and in	Lines .		Mont	hs of _		Ney 1	to	Angust	19.69_	
(1) Species	(2) First Seen Co			(3) Peak Concentration		(4) Last Seen		(5) Production			
Common Name	Number	Date	Number	Inclu- sive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated	
I. Water and Marsh Birds: Common Loon Bared Grebe Fied-billed Grebe Cory's Shearwater Greater Shearwater Nilson's Petrol Double-created Coreorant Great Blue Beron Great Blue Beron Creas Beron Louisians Boron Boovy Egret Bl. Grouned Hight Beron	3 1 5 2 1 2 14 6 3 2 1 1 1 5	8/1 8/10 7/24 8/17 7/6 8/17 7/6 8/17 7/10 7/10 7/10 7/10	3 1 5 2 5 2 5 2 14 30 6 2 1 1 8	8/1-31 8/10 7/24-8/1 8/17 8/17 8/17 8/17 8/17 8/13 7/18-30 8/27 7/10-30 7/10-18 7/6-29 7/6-8/24	3 1 5 2 5 2 14 14 1 6 1 1 5	8/31 8/10 8/1 8/17 8/17 8/17 8/17 8/13 8/15 8/27 8/3 7/18 7/20 8/24			0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	90 7 35 2 60 2 14 40 40 40 40 40 8 14 110	
Terns: Semipelmeted Plover Piping Plover Killdeer	10 75 1	6/10 6/10 8/7	400 100 1	8/9- 8/17 6/10- 7/15 8/7	200 3 1	8/31 8/24 8/7	0	4	8-10 80	7,000 4,600 5	
Black-bellied Flover	5	6/10	1,200	8/26 8/13- 8/15 8/7-	700	e/31	•	•	•	10,600	
	(0)		(3	(over)	NR-1A	From	1	to		5RF-8/69	

	(1)		(2)		(3)	(1	+)		(5)		(6)
III.	Doves and Pigeons: Mourning dove White-winged dove	3	8/10	3	8/10-30	1	8/30	0	0	0	60
2			1	1.1	- PNI0*		03,000		-0		
	()) (particular)		1 9/3			5	mac		-		AND STREET
IV.	Predaceous Birds: Golden eagle	T.	53	100	10110-	2	8337			8	1.000
	Duck hawk Horned owl		10	1	A0-	500	11/10		4	0-10	2,000
ij	Raven Crow	-									
	Nersh Kevt	1	7/6	3	8/3-17	2	8/31	0	0	0	60
C	Sperrov Heve	1	7/18	•	7/18	1273-12/1	7/18	0	0	C. C. C.	1
	while-cripted Corrects	-	0 0113			00-01-01		601/4		8	

INSTRUCTIONS

See Wildlife Refuges Manual Section 3321-24, "Wildlife Records".

If more space is needed for listing species in Group I, you can X out heading for Group II and continue listing. Retype heading of Group II below, or list Group II on a second page. Here, too, if the list is long, you can X out both headings and retype heading for Group II at top of form. This can eliminate the necessity for a third page of form.

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(4)	Last Seen:	The last refuge record for the species during the season concerned.
(5)	Production:	Estimated number of young produced based on observations and actual counts.
(6)	Total:	Estimated species days use (average population X no. days present) of refuge during the reporting period.
		Harthand and the to the second of the

II. Shorebirds, Gulls and Terns:

SPECIES	FIRST	SEEN	CONC	ENTRATION	LAST	SKEN	PR	99999991091		TOTAL
Common Name	No.	Date	No.	Inclu- sive Dates	No.	Dete	Number Colonies	Total #	Total	Estimated Use
Whimbrel	4	7/6	25	8/17-	2	8/24	0	0	0	650
Spotted Sandpiper	10	6/10	30	7/15	9	8/24	0	0	0	1,100
Solitary Sandpiper	2	8/19	2	8/19	2	8/19	0	0	0	5
Villet	4	7/6	9	8/15-	2	8/24	0	0	0	120
Gr. Tellow-Legs	3	7/6	75	7/24-	60	8/31	0	0	0	2,500
Lesser Yellow-legs	1	7/6	32	8/9	4	8/24	0	0	0	750
Knot	4	7/10	500	8/17- 8/19	15	8/24	0	0	0	7,500
Pectoral Sandpiper	1	7/15	10	8/17-8/19	3	8/19	0	0	0	200
White-rumped Sandpiper	1	7/10	12	8/15	10	8/24	0	0	0	300
Least Sendpiper	28	7/6	400	7/18-	75	8/24	0	0	0	10,000
Dumlin	1	7/18	2	7/20	1	8/24	0	0	0	50
Sh. Billed Dowitcher	60	6/18	1,000	8/3- 8/6	40	8/30	0	0	0	18,000
Stilt Sendpiper	1	7/15	108	8/9	1	8/25	0	0	0	1,500

SPAR

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II. Shorebirds, Gulls and Terns:

10 M				PEAK			-14				
SPECIES	FIRST	SER	CONG	HER AND CH	LAST	SAL		PR	DEUCTION		TOTAL
Common Name	No.	Dete	No.	Inclu- sive Dates	No.	Date	<u>Co</u>	lozies	Total #	Total	Estimated Use
Samipalmated Sandpiper	15	7/1	2,000	8/4-	1	8/25		0	0	0	40,000
Western Sandpiper	2	7/20	2	7/20-	1	8/24	-	0	0	0	25
Marbled Godwit	36	8/3	36	8/3	1	8/25	1.3	0	0	0	200
Hudsonian Godwit	3	7/6	48	8/3- 8/9	17	8/24		0	0	0	1,200
Senderling	2	7/10	1,500	8/15	300	8/25		0	0	0	20,000
Northern Phalarope	1	7/30	1	7/30	- 1	7/30		0	0	0	5
Paresitic Jaeger	3	8/17	3	8/17	1	8/19		0	0	0	10
Gr. Black-Backed Gull	800	6/8	4,000	7/10-	4,000	8/31		2	1,000	2,000	250,000
Herring Gull	6,000	6/8	11,000	7/6-	11,000	8/31		2	4,000	80,000	500,000
Ring-billed Gull	1	7/6	100	8/19-	100	8/24		0	0	0	2,000
Laughing Gull	1	7/6	8	8/19	8	8/19		0	0	0	200
Common Tern	2,000	6/8	6,000	8/9	1,000	8/31		3	1,000	3,000	200,000
Arctic Tern		6/8	30	7/15	2	8/3		2	10	20	300

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II. Shorebirds, Gulls and Terns:

*

SPECIES	FIRST	SHE	CONCENTRATION		LAST SEEN		PR	TOTAL		
Compon Name	No.	Date	No.	Inclu- sive Dates	No.	Date	Runber Colonies	Total #	Total	Retinated Use
Roseate Tern	500	6/8	500	6/8- 8/10	200	8/31	3	200	300	20,000
Least Tern	140	6/8	280	7/6	1	7/19	2	70	144*	2,000
Bleck Tern	1	8/7	9	8/19	2	8/24	0	6	0	200
Black Skinner	2	7/6	4	7/10-8/19	1	8/24	0	0	0	300

* None survived to flight stage.

3-1751 Form NR-1A (Aug. 1952)

Sr.

MIGRATORY BIRDS (Other than Waterfowl)

2	(1)	(2)		Aomie tri)	one end ac	(5)	is. Nure duritae	(6)
	Species	First	Seen	Concent	eak tration	Last	Seen	Pr	oduction		Total
and Per	Common Name	Number	Date	Number	Inclu- sive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated
I.	Water and Marsh Birds:	pe besdin		nonb 11	ae cob or	1 cmart -					
9992 21.9 999	The lack of personnel at this installation preclude maintaining accurate species records. Figures would have no basis	Section (Listing a		. WLALL	a secon T' log o Becond MBLBNG	a batter tu y chr tu	15 50 °	for Group	II ang da 1991 is j	ofinue lis pog, you d	17 7 28 -
	In fact.										
II.	Shorebirds, Gulls and Terns:										
1.A	Annual a resolution in the resolution										
	Doves and Figeons: Nourning dove White-winged dove										19
	(I)	(5)		(3			(I)	1	(2)		(0)

-	(1)	(2)	(3)	(4)	(5)	(6)
III.	Doves and Pigeons: Mourning dove White-winged dove					
授						
IV.	Predaceous Birds: Golden eagle Duck hawk Horned owl Magpie Raven Crow					
				一 1 1 1		
	in fact.					
	AORIG DUAS DO 05272				<u> </u>	

INSTRUCTIONS

See Wildlife Refuges Manual Section 3321-24, "Wildlife Records".

If more space is needed for listing species in Group I, you can X out heading for Group II and continue listing. Retype heading of Group II below, or list Group II on a second page. Here, too, if the list is long, you can X out both headings and retype heading for Group II at top of form. This can eliminate the necessity for a third page of form.

Explanation of column headings:

(1)	Species:	Use correct names as found in the A.O.U. Checklist.
(2)	First Seen:	The first migration record for the species for the reporting period.
(3)	Peak Numbers:	Estimated number and inclusive dates when peak population of the species occurred.
(4)	Last Seen:	The last refuge record for the species during the season concerned.
(5)	Production:	Estimated number of young produced based on observations and actual counts.
(6)	Total:	Estimated species days use (average population X no. days present) of refuge <u>during the</u> reporting period.

UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Monomov

out at bobly

3-1750b

Form NR-1B

5RF-10/64

(Rev. Nov. 1957)

For 12-month period ending August 31, 1969

Reported by A. L. Tibbe

hould be used if

Title _____ Refuge Manager____

(1)	(2		tidad .	(3)	(4)	(5)
Area or Unit	Habi	Itat		ed managemen	Breeding	
Designation	Туре	Acreage	adto wa	Use-days	Population	Production
of all units	Crops	estimated	Ducks	88.228	par	
bus gam balls	Upland	49	Geese	et Laups blu	oda	
to UNITED LAND	Marsh	40	Swans	ompanyi ag ve	058	
tial report	Water	hr Bebum	Coots	h unit should	080	
be submitted	Total	89	Total	88,228	101	
drinephine	Crops		Ducks	176,457		
The state of the second	Upland	304	Geese	66.831		
UNIT 2	Marsh	344	Swans	os include a	at: 020	(2) Habita
Central Erro Hrma	Water	6	Coots	green forsk	Bota .	
sin lying	Total	654	Total	243,288	VOT	
-den state	Crops	orintet v	Ducks	264,685	1900	
ANY DECKINGS	Upland	779	Geese	av 11,1380 a	180	
UNIT 3	Marsh	259	Swans	oding factld	- F10	
ton tori	Water	on 25 plan	Coots	ab extends f	er nem	the state of the s
the rela-	Total	,063	Total	275,823	100	
	Crops		Ducks	352 013	24	115
fire thin dapp	Upland	560	Geese	22 415	A R DE	20
INITE A	Marsh	100	Swans	tang bataba		
- ONLY 4	Water	52	Coots	freed the co	sort -	
low plays	Total	812	Total	386, 328	32 pr.	.135
	Crops		Ducks	992 393		118
anting (av	Upland 1	107	Geese	111 20/	24 pr.	20
TOTALS	Marsh	622	Swans	111,304	<u>a pr</u>	
- Distanti Bod	Water	033	Coots	increase days	and the	
mented by hese esti-	Total	2,618	Total	993,667	32 pr.	135
	Crops		Ducks	gre reinveler erg		
	Unland		Geese	man at arrat		199 Handle
TNOLLOIAN	Mersh		Swens	un the set state	1980 19V	BUNDOV (C)
03 IV 991	Water	nce neve	Coote			
	Total		Total			
	Grons		Ducks			Abered - (-)-
on of each	Unland -	<u>n rondera</u> l	Gaago			annor .
	Morch	aera dos	Suma	NULL TO VILLE	NU <u>80</u>	
	Waton		Coota			antiant (a)
flight age.	Total	Sunok 30	Total	Ted to ten	10 <u>Bill : 10 1</u> 7	SUDOTA (C)
		. c. 2758	(over)	tidaeW .molt	plicating Sec	Interior Du
Stor.			(0101)			

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.

 Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.

(5) Production: Estimated total number of young raised to flight age.

Interior Duplicating Section, Washington, D. C. 27580

(2)

n NR=13

Coordo	Tranning+	Tan	Feb	Man	Ann	Mar	Tuna	Tullar	Ang	Sant	Oct	Now	Dec	Totals
Geese	Trapping.	oan.	rev.	Trail .	Apr.	may	ouie	July	Aug.	Depu.	0000	101.	Dec.	100010
Canada										-				
Brant							100.000							
					2.2				•	See.				-
Ducks		•	•											
Mallard									7.5	1		-		76
BIRCK	Gage								= /2	- <u>1</u>				10
Dl Winged Teal	Cage								36	2.				38
Wood Duck	Cage								2					· 2
WOOD DUCK	Cage		1			1100								1
E.														1
														1
											1000			
		<u>.</u>				<u> </u>								
														-
Eider					1							_		
	· · · · ·				1.1.1.1									
		_												
Total Waterfowl					·				116	3				119
Other							4.5						•	·
Mourning Dove														
WOOdcock														· · · ·
		1												
	1													
														1 1 1
Quotas. Canada de	ese	: Mall	ard		Blacks	1	: Other	•						Salar Andre

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Form NR-1D

3.

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3-1752 Form NR-2 (April 1946)	Refuge	Monomo	y	UP TIONS	LAND GAM	E BIRD Mcnt	S hs of	J	anuary .	to April 19	9
(1) Species	(2) Density		(1 You Prod	3) ing luced	(4) Sex Ratio	Re	(5) moval	S	(6) Total	(7) Remarks	Form (1)
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods observed	Estimated Total	per- centage	Hunting	For Re- stocking	For Research	Esti- mated number using Refuge	Pertinent info specifically List introduct	(S) rmation no requested. ions here.
Pheasant	hanges occur in o furnish the den cture. Examples tomland hardwood dlife Management should be based o	lcant (nough (eral pi nd, bof in Wij nitted	signii iled e he gen ure la listed es sub	ktept as 1 be dets obscure agriculs symbols . Figu	peated e es shoul h as to everting ard type possibl	be n er ty so mu bds, r Stand wherv	t not Cov not stc. used	n nee ypes. h but und h rie, Lá be	informatic of cover t inforðatic swamp, upi grass prei No. 7 shou	Morris Is. only on Monomoy	none
Bobwhite Bobwhite	Survey method u emarks. ons and actual or	areas. under 1 servati	beted bon ob	l be ind:	as shoul as shoul produced habitat	re are roung reddug	r of :	nple numbe ntati	n 125 sta batani 134 statosi di	Morris Is. only on Monomoy	none (e)
ba on	etc. Include de	sants,	edg. eg	ad turie	ily to w	uning Light	i səfi əva 1	iqya i 1 asl	This column	SER LEATED:	(4)
	e report period.	ting th	ved. du	cory remo	ach cate	r in e	edium	fisto	indicate t	: STAVOMEN	(5)
ay include	t period. This a bg certain seasor	tofie.r e	ing the	ruge dur	ng the r nigratin	ir usi ihose	numbi Lua	botal irds	Retimated realdent b	TOPAL:	(3)
Also	vered in survey. uested.	urea ci Lly req	n and cifical	opulatic not spe	termine : formstig	to de mt 11	beau nim	sthod ar pa	a sistifal do sicioni	:-00184023	(11)
				. Deau e	should b	berev	io bo	i Ter	this to th	ly colums spile	ia0 *

NR-2 Upland Game Birds. 5RF-1/69

UPLAND GAME BIRDS

INSTRUCTIONS

Monomoy

Refuge

3-1752 Form NR-2 (April 1946)

20

(1)	SPECIES:	Use Correct common name.
(2)	DENSITY: noini dueniduei n viisoitioeqa hissionini tali	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
none	Morris Is, only on Monomoy Morris Is, only n	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.

19 69

April to April

3-1752 Form NR-2 (April 1946)	Refuge Monomoy		PLAND GAM	to <u>August</u> 19 <u>69</u>					
(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals		(6) Total	(7) Remarks (1)		
Common Name	Cover types, Acres total acreage per of habitat Bird	Number broods observed Estimated Total	per- centage	Hunting	For Re- stocking For	Esti- mated number using Refuge	Pertinent inform specifically re List introduction	(S) mation not equested. ons here.	
the area sired Spruce b short ferles m actual sed, and timts ta on	<pre>loant Manges occur in nough o furnish the dra aral p oture. Examples in, bo touland hardwood in Wi diffe Management inted should be based wreas. Survey method in meen lemarks. No N N and actual in hervations and actual in hervations and actual in hervations and actual in hervations and actual in</pre>	be detailed of be detailed of becure the gen becure the gen by mbols listed rigues sub be ind cated be ind cated based upon oh based upon oh	pested en es shoul b as to everting and type possible represent a shoul broduced habitat	be r er typ so mus Siand Siand Miere Si ard or ard or ard seding Si fable	neet not pes. Cov but not id hirdwc le, stc. bie ste sant cou sant cou is sant cou satire br satire br	Thiorestrich of cover ty informatica grass prairs Wo. 7 should observation size of sen Satimated m in represent This column other specie	YOUNG PRODUCED: SEX RATIO:	(2)	
	ing the report period.	ry renoved du	ich catego	r in s	edmin Ls	Indicate to:	REMOVALS:	(5)	
av include	report period. This r e during certain season	uge during the	ig the ref ifgrating	ntau ri nose n	tal numb de plus	Estimated to resident bir	TOTAL:	(9)	
Also	res covered in survey. 1y requested.	pulation and a not specifical	ermine po formation	to det ni ini	hod used r purtin	Indicate mat include othe	REMARKS :	(*)	
		.beau	should be	vered	per.od c	able to the	aly columns applic	10 *	

5-7

NR-2 Upland Game Birds. 5RF-1/69

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UPLAND GAME PIRDS

Months of

damoral Of want

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.* (1) (s) Species Produced Density (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 Pertinent information not numbers. Density to be expressed in acres per animal by cover types. This specifically requested. information is to be prefaced by a statement from the refuge manager as to the List introductions here. 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. Estimated total number using the refuge during the report period. This may include (6) TOTAL: 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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Form JNR-2

(April 1946)

Refuge Monomog

UPLAND GAME BIRDS

Months of September to December 19 69

3-1752 Form NR-2 (April 1946)

Refuge Monomoy

(1) Speci	es	(2) Density		(3 You Prod	3) ing luced	(4) Sex Ratio	Re	(5) moval	s d	(6) Total	(7) Remarks	(1)
Common Na	ame	Cover types, total acreage of habitat	Acres per Bird	Number broods observed	Estimated Total	per- centage	Hunting	For Re- stocking	For Research	Esti- mated number using Refuge	Pertinent infor specifically r List introducti	(S) mation not equested. ons here.
Bobwhite qu	the ar single by serie ben act bed an	Manges occur in to furnish the de cture. Examples tomland hardwood dlife Management should be based Survey method u kmarks.	leant nough eral p ad, bo in Wi mitted areas. under	signi ble ger the ger ture is listed tample tosted	adegi ad d be deb obscure agricul symbols bi Figu d be ind	ipescal bes forsi th as to reverting and type possibj t represe as show]	ue r er ty so mu ods, Stan Wher nts o or ar	Cor Cor ardwc etc. used d cou	ypes: ypes: and but rie, Ld be ns an mple	of cerer informatic swamp, up grass prai Mo. 7 sho observatic size of se	First observation in recent years.	on (10-4-69
	ounte	ons and actual c	derveb	io noqi	besed .	produced habitat	young eedin	to u to bi	numbe ntati	Betimeted in represe	YOUNG PRODUCED I	(8)
	ata on	etc. Include d	ajnsas	big , yh	arut 611	tly to v	prime 11abl	lies f ave	n api tes 1	This colyn other spec	SEX RATIO:	(4)
	- 1-	e report period.	ring th	th bevo	gory rem	ach cate	r in	admun	Lato	Indicate t	REMOVALS :	(5)
clude	asy in 18.	t period. This ng certain seaso	e repor ge dur l	ing the	efuge du g into t	ng the n migratir	er us those	numb plus	total abri	Estimated resident b	TOUML :	(9)
	Also	vered in survey. uested.	area co 11y rej	m and cifical	populati a not sp	termine formatic	to d 1 Ans	beau nijre	ethod her p	Indicate m include of	REMARKS :	(7)
					e used.	bluoda	ienevo	o bol	isq a	it ot side	aly columns applie	0 #

NR-2 Upland Game Birds. 5RF-1/69

UPLAND GAME BIRDS

INSTRUCTIONS

3-1752 Form NR-2 (April 1946)

Refuge Monogoy

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Form NR-2 - UPLAND G	AME BIRDS.*	(4) (4) (4) (5) (4)	(s)	(1)
(1) SPECIES:	Use Correct common name.	Produced Ratio	Density	Species
(2) DENSITY:	Applies particularly to thunts, etc.). Detailed do numbers. Density to be end information is to be prefinumber of acres in each of information need not be refined.	those species considered tata may be omitted for species of a cres per an aced by a statement from over type found on the re-	in removal programs (pu pecies occurring in lin imal by cover types. I the refuge manager as efuge; once submitted, icant changes occur in	ublic nited This to the this
First observation (10-4-6) in recent years.	of cover types. Cover ty information but not so mu swamp, upland hardwoods, grass prairie, etc. Stan No. 7 should be used wher observations and counts of size of sample area or ar	pes should be detailed en the store obscure the generation of the symbols listed and type symbols listed the possible. Figures sub- on representative sample a reas should be indicated to	nough to furnish the de eral picture. Examples nd, bottomland hardwood in Wildlife Management mitted should be based areas. Survey method u under Remarks.	esired s: Spruce ls, short t Series on actual used and
(3) YOUNG PRODUCED:	Estimated number of young in representative breeding	; produced, based upon ob: g habitat.	servations and actual o	counts
(4) SEX RATIO:	This column applies prima other species if availabl	rily to wild turkey, phea.	asants, etc. Include d	lata on
(5) REMOVALS:	Indicate total number in	each category removed du	ring the report period.	
(6) TOTAL :	Estimated total number us resident birds plus those	ing the refuge during the migrating into the refug	e report period. This ge during certain seaso	may include
(7) REMARKS:	Indicate method used to d include other pertinent i	etermine population and a nformation not specifical	area covered in survey. lly requested.	. Also

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

Months of September to December 19 69

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3-1753 Form NR-3 (June 1945)

BIG GAME

Refuge Monomov

Calendar Year 1969

* (1) Species	(1) (2) Species Density		Re	(4) mova	ls	Lo	(5) osses	5	(6) Intro- ductions	(7) Estima Total R Popula	(8) Sex Ratio	
Common Name	Cover types, Total Acres Habitat	Number	Hunting	Restocking	Research	Predation	Disease	Winter Loss	Number , and Source	Period of Peak Use	As of Dec. 31	(2)
White-tailed Deer	50 acres of scrub pine, oak. 2,648 acres bay- berry, beach plum, poison ivy, sand dunes, and fresh ans salt water marshes.	4						1	ota jehn bodi s tron bo s tron bo s of bijorts bijorts	20 100 191 20015 10	19 .989 - 000/0	50 percent males 50 percent females
	in the sear soft active	an ing mangang sa			2.5.5	al.	(k-5)		act altheim		PMOVATE:	(#)
	acti Lanci ronozoli, soca						ni ta	405	essention Algodist ober		103666	
	, berrinan and sive a dolf. E-1	eart ch					1	feati. t	all strate.	1 200 	and they offering	(a)
	alahar or againe ana s	100 - 976 Antonio - 100 - 10		inder Notes		1.4.10	С В	girsi NG	chin en riefter unle diction		n Extension A	
- mui he.	entas de las altestas altestas.	solam)	isti 14 tu	687 91			lini. D		til sleath arrea fiat		utrui xr	(3)
Remarks:					*					*		

NR-3 5RF 1/69

(1) Species	(2) Density	a telar	Esci	Rem	ovale		ntos es	Dis	(4) position	n of F	urs	(1)	(5)
Book of North ebrate Animals	are found in the "Field d the "Manuel of the Ver	rrent us minony an	100 1 1	nes 11 y H.	on na Ia ⁿ b	50	Sha	re Tra	pping	uge ped	ted		
Common Name	Cover Types and Total Acres of Habitat	Acres Per Animal	Hunting	Fur Harvest	Control	Restockin For	Permi Bese Numbe	Trappers	Blare Refuge Share	Total Ref Furs Ship	Furs Dona	Furs Destroyed	Tota Popula tion
anges occur in anges occur in anges occur in to furmish reland, bottom is listed in Figures sub- presentative	234 acres fresh water marsh		doven doven Con Con Con Set apla se apla se thod	eed og eich o goes. yoes. wump, wump, sei on sei o er met	sienera sin ver ty forma , sho suent Surv Retur	i a rei a rei mitto of con of con pro pro pro f Matage iou.d b udder	umber of the info the area the desin camples and herd ifdlife suple an odicated	in the state of					400
stil 30 of the edatory Animal sted.	category removed since An the refuge by Service Pn falling under headings 1	hir each aken oi mle not	n whi any nemor	number uling any r	otal i incl show	the to year, Also s	ndicate revious unter.	I I I I I		VALS.	REM	(8)	
, and refuge share. s taken by Service shause of unprime- c other agencies	number, trapper's share, to market, including fur- each species destroyed be onated to institutions on d.	n permit nhipped nits of n furs o provide	st.ta slta of j unu oi	nt if of pa unber dition	ed fu mber tal n 1 con 1 n	trappe the nu Tot lane.ged slown	o share- ndicate ersonrel ess or d hould be	UR: 0 I I I I I I I I I I I I I I I I I I I	HO NO	OSTT	DIS	(4)	

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NR-4 Small Mammals. 5 RF-1/69

INSTRUCTIONS

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

Use correct common name. Example: Striped skunk, spotted skunk, shorttailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

3-1754

Form NR-L

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 headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, 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.

(1) SPECIES:

DENSITY:

(2)

Bureau of Sport Fisheries and Wildlife Division of Wildlife Refuges

MONTHLY RECI	REAT	IONAL	USE REP	ORT Refuge	name onomoy		<u>e</u>
State C Code 21 D (1-2)	ongressionistrict C	onal ode 12 (3-4)		Refuge Code 5 6 8 (5 - 7)	Report Y Period	r. Mo. 6 9 (8-11)	
(Card Columns)	(12-13) (14-18) <u>VISITS F(</u>	(19-25) YEAR R THE MONT	(Card Columns)		3) (14-18) VISITS FO	(19-25) YEAR R THE MONTH Total
Uniting.		Number	Hours	-		Number	Hours
Big Game	01			On-Site Programs	22		
Upland Game	02			*Miscellaneous Wildl	ife 23		
Waterfowl	03						
Other Migratory	04			Swimming	24	400	1,400
Other	05			Boating	25	455	910
Bow	06			Water Skiing	26		
Fishing: Salt Water	07	3,375	13,460	Camping	27		
Warm Water	08			Group Camping	28		
Cold Water	09			Picnicking	29		
Environmental Education	10	595	2,975	Horseback Riding	30		
Wildlife Photography	11	285	470	Bicycling	31		
W fe Observation	12	4,935	19,240	Winter Sports	32		
Conducted Programs	13			Fruit, Nut and Veget Collecting	able 33	30	30
Field Trials	14			•Miscellaneous Non-W	ildlife 34	230	530
Wildlife Trails	15			Average - Peak boad Day	35	51	
Wildlife Tours/Routes	16	620	3,100	Actual Visits	36	9,235	
Visitor Contact Stations	17						
Camping (wildlife related)	18			Fee Area Use	37		
Picnicking (wildlife related)	19	55	110	Number of Fee Areas	38	(14-	18)
Wildlife Interpretive Center	20		<u> </u>	Fee Collections	39	\$	
Off-Site Programs	21			Collection Costs	40	\$	

11: 1 .

Form 3-123 (Revised July 1969) *Use reverse side to indicate types of activities summarized under miscellaneous codes 23 and 34. MAKE NO OTHER ENTRIES ON FACE OF THIS FORM.

If the off point Faberles and Wildhie
 If the off point Faberles and Wildhie

Code 2 1

MONTHLY RECREATIONAL USE REPORT

3,375 13,460

2,975

19,240

3,100

1,935

6,20

34

Beachcombing, hiking, and picnicking.

			(0-8)
SARY .			
Larol Encor	tore".		
1,400			
910	455		Boasting
	0Ē		Fruit, Nut and Vegetable. Callecting
500	230		
	51		AVALASS Day
	9.235		
		35.	
			formities of File Areas
			For Collection

Rom 2-123 (Revised July 1333)

10

Childucted-Programs-

Discribing the to indicate speece or ecovities tormicalized under infecciazions cades 23 and 34, Nation NO OTHER ENTREE OF FACE OF THE THE STREET.

#11



Refuge Manager Tibbs (left) and Biological Technician DeGraaf (right) banding a blue-winged teal at the trapping site on August 5, 1969.



Poised on a sand dune, a robust and apprehensive male surveys intruders on his atypical white-tailed deer habitat.



made structures on the Island and is now • maintained by the Massachusetts Audubon Society as a research station.

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

WATERFOWL

REFUGE Monomoy						MONTHS OF	September	TO	December	, 19 <u>69</u>
*		IJ				å				
(1) : Species :	9/1 - 7 1	*9/8-14 : 2	9/15-21 3	9/22-28 : 4	9/29-10/	1 ng p 5 10/6-12 : 6	10/13-19 7	10/20-26	10/27-11/	2 11/3-9 10
Swans: Whistling Trumpeter										
Geese: Canada	50	50	50	50	50	50	100	100	300	300
Brant White-fronted										
Snow Blue	energeren Frenzenergi	* * * * * * * * * * * * *	<u>.</u> 							
Other Ducks:	20	20	20	20					50	50
Black Gadwall	100	100	100	100	100	100	800	800	1,100	1,100
Baldpate Pintail	50		50			50	300	300	300	300
Blue-winged Teal Cinnamon Teal	50	50	50	50	50	50	200	200	300	300
Shoveler Wood Redhead	na ser an san Na atagina ata Na atagina ata									
Ring-necked Canvasback	e e a ser a se a se e e e e e e e e e e e							-		
Scaup Goldeneye Bufflehead									80	80
Ruddy Other Am. Eider	400	400	400	400	400	400	400	400	400	400
Surf Scoter White-winged Scoter	400 400	400 400	400 400	400 400	400 400	400 400	400 400	400 400	400 400	400 400
Coot	50	50	50	50	50	50	50	50	200	200

5RF 11/2/66

3 -1750a

Cont. NR-1 (Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUCE Monomoy				P = 1		MONT	THS OF	September	TO Decemb	er_, 19_69_
(\$) Total Product	vot v	enioretà (ar data m	(2)			:	(3) :	(4)
(2)		Weeks	of	repor	ting	peri	. o d		Estimated :	Production
: (1)	11/10-16	11/17-23	11/24-30	12/1-7	12/8-14	12/15-21	12/22-28	12/29-31	waterfowl :	Broods:Estimated
Swong.	11 3	12 :	- 13 •	7.4 :	12 1	10 :	1/		days use :	seen : total
Whistling					And Park					
Trumpeter	0	secrif u	or over	-0.27W9 051	DWATER I	0 00019 7	ITTOL OD	orra pe or	172.000*	
Geese:		iescrut st	000* BL	bog comie	prnous	so unrage et	10 080 T	TOLS SLAT	sectorson a	912 JO S
Canada	300	600	600	1,100	1,100	1,100	1.100	1 100	52 300 V	blesen ertre
Cackling		Nº CONTRACTOR	1	-,	1,100	1,100	1,100	1,100	52,500	
Brant	N.	prage we	gya boba	rectons x	number o	; gela bu	sent for	esch spe	109.	
White-fronted	arowl	1-	•							
Snow										
Blue Helder Blue	loda B	time ted	Leire I	stuge pop	lations.					
Other										
Ducks:		a section of								
Mallard	50	75	75	75	20	20	20	20	4,225	
Black	1,100	2,800	2,800	2,800	1,400	1,400	1,400	1,400	130,900	o po o zon
Baldneto	200	500	500	100	100		over ten.	and the second second		an ella
Pinteil	300	500	500	100	100	100	trannea		19,6002	
Green-winged teal	300	200	200	200	20	20		P	15 (00)	
Blue-winged teal	200	200	200	200	20	20			15,680	
Cinnamon teal									2,1000	
Shoveler		1 State Law			Repo	.peq pk	Stephen	H. Clark		
Wood										
Redhead			1							
Ring-necked			2				2	1		
Canvasback	N.F.	5,475	1		Prin	tipel nes	dag area			
Scaup			1							and the second se
Goldeneye		1.100	2							
Bufflehead	80	100	100	100	200	200	200	200	8,580	
Rudoy	4.00	100	100	100	1 100	1 100	1 100			
Sunf Sector	400	400	400	400	1,100	1,100	1,100	1,100	65,600~	
White-wineed Sector	400	400	400	400	200	200	200	200	44,000 /	
Coot:	400	400	400	400	100	100	100	100	41,600	
	200	100	100	100	100	100			10,500,	
				(07	er)	1	1		1	1

	100 100 100		The second s
(5) Total Days Use :	(6) (7) Peak Number : Total Production	200 200 200	SUMMARY
bber Am. Elder 400	400 : 100 400 1,	100 11 100 11 100	NUCLEAR AN AN ADDAR
wans:		Principal feeding areas	the design of the second
tese <u>52,300</u>	1.100		
ucks 332,285 V :	5,475	Principal nesting areas	
ioots:	:		
poveler		Reported byStephen 1	H. Clarke
lue-winged teal			2,100
reen-winged teel 300	200 200 200	30 30	16 690 1
INST	TRUCTIONS (See Secs. 7531 through	7534, Wildlife Refuges F:	ield Manual)
1) Speedage	The addition to the binds listed	on form other erector of	any making an making during the
1) Species:	In addition to the birds listed	on lorm, other species of	Special attention should be given
Inch. 1100	reporting period should be adde	a in appropriate spaces.	Special accention should be given
ro:	to mose species of focal and n	ational significance.	
2) Weeks of	그는 그는 것은 것은 것은 것을 많이 없다. 같은 것을 했다.		
Reporting Period:	Estimated average refuge popula	tions.	
Mon.			
3) Estimated Waterfowl			
Days Use:	Average weekly populations x nu	mber of days present for (each species.
ackling			- Annual and a second s
4) Production:	Estimated number of young produ	ced based on observations	and actual counts on representative
201	breeding areas. Brood counts s	hould be made on two or mo	ore areas aggregating 10% of the
ruabe ber	breeding habitat. Estimates ha	ving no basis in fact show	uld be omitted.
5) Total Dave Heat	A numerous of data recorded under	m (3)	
5) TOTAL DAYS USE:	A summary of data recorded unde	r (5).	TO 1 0218 000 1 000 1 001
Snantan 1 11	Maximum number of waterfowl pre	sent on refuge during any	census of reporting period.
6) Peak Number:			
6) Peak Number:		ing period	: Estimated : Production
6) Peak Number:7) Total Production:	A summary of data recorded unde	r (4).	: (3) : (4) : Estimated : Production
6) Peak Number:7) Total Production:	A summary of data recorded unde	r (4).	: (3) ; (4) : Estimated : Production

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

3 -17500

3-1751 Form NR-1A (Aug. 1952)

MIGRATORY BIRDS (Other than Waterfowl)

	(1) Species	(2) First Seen Con		(Pe Concent	3) ak ration	(4 Last) Seen	Pr	(5) oduction	a. Nge durine	(6) Total
-	Common Name	Number	Date	Number	Inclu- sive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I.	Water and Marsh Birds:										
See V If mo Retyr	The lack of personnel at this installation preclude maintaining accurate species records. Figures would have no basis in fact.	Section 3 Listing a slow, or pe headly	S21-24 List C	*WIIIII In Group In Group	NSTRUCT a Record I, you a a secon t top of	in an X out f paget form i	reading Sere, 1 Sis cat	for Group so, if the eliminate	II and co list is l the neces	stinue lle ang, you q sity for a	nn Ling-
II.	Shorebirds, Gulls and Terns:										
	Predaceous Birds:										
ш. З	Doves and Figeons: Wounning dove White-winged dove										
	(1)	(5)		(3)		1			(2)		(6)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> Mourning dove White-winged dove					
R					
IV. <u>Predaceous Birds</u> : Golden eagle Duck hawk Horned owl Magpie Raven Crow	8 8 90				
THITRO					

INSTRUCTIONS

See Wildlife Refuges Manual Section 3321-24, "Wildlife Records".

If more space is needed for listing species in Group I, you can X out heading for Group II and continue listing. Retype heading of Group II below, or list Group II on a second page. Here, too, if the list is long, you can X out both headings and retype heading for Group II at top of form. This can eliminate the necessity for a third page of form.

Explanation of column headings:

records. Figures.

(1)	Species:	Use correct names as found in the A.O.U. Checklist.
(2)	First Seen:	The first migration record for the species for the reporting period.
(3)	Peak Numbers:	Estimated number and inclusive dates when peak population of the species occurred.
(4)	Last Seen:	The last refuge record for the species during the season concerned.
(5)	Production:	Estimated number of young produced based on observations and actual counts.
(6)	Total:	Estimated species days use (average population X no. days present) of refuge <u>during the</u> reporting period.
12		Months of September to December 10-69

Casaa	Thorning	Ton	Fab	Man	Ann	Most	Tunal	Tullar	Ang	Sant	Oct	Nov	Dec	Totale
Canada	Trabbing	Jan.	rep.	<u>Mar</u> .	Apr.	May	June	Jury	Aug.	Deput		<u></u>	Dec.	TOGALD
Brant														
		See See			1000						14.12			
Ducks Mallard		74												
Black	Cage								= 75			÷		76
GrWinged Teal	Gage	The Lores							3					3
BlWinged Teal	Cage			1					36	2				38
Wood Duck	Cage				22.2				2					· 2
												1		
Eider			5. A. S. M											
· ·														
Total Waterfowl			•••• •••				-		116	3				119
										Contraction of the local division of the loc				115
Other Mourning Dove														
Woodcock					1.1.1.1									
									1					
		1.00		10.00										

*Method of Trapping: CAN - Cannon Net; CAGE - Cage; MIST - Mist Net; NITE - Night-lighting

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UPLAND GAME BIRDS

Months of September to December 19 69

3-1752 Form NR-2 (April 1946)

Refuge Monomoy

(1) Species	(2) Density		(3 You Prod	ng uced	(4) Sex Ratio	Rei	(5) moval	s ^{oo} d	(6) Total	(7) Remarks	101 (1)
Common Name	Cover types, Action total acreage provide the second secon	cres per , ird ;	Number broods observed	Estimated Total	per- centage	Hunting	For Re- stocking	For Research	Esti- mated number using Refuge	Pertinent inform specifically re List introduction	(S) ation not quested. ns here.
Bobwhite quail	 thanges occur in fanges occur in for furnish the destriction p eture. Examples bootomland hardwood Wi dlife Management should be based to Survey method un temarks. 	lloan enoug and, and, imitt area unde	signi iled he ge ure l liste es su ample cated	dept as d be det obscure agricul symbols d. Figu htative 1 be ind	petted a be gioul in as to werting ard type possibl represe as shoul	be n er ty: so mu ods, Stam where rts of	Cox Cox Pot ardvo sto; used a cou	ypes. ypes. a but and h te, ite, ite an aple		First observation in recent years.	n (10-4-69)
unta	es feutos bas ano ts	wisal	ipon ol	based .	produced habitat	roung	r of re br	numbe ntati	Estimated in represe	YOUNG PRODUCED:	(٤)
ta on	ts etc. Include da	asan	w, ph	llá turk	ily to w	orima:	lies Cava	n app ies 1	This colum other spec	SEX RATIO:	(4)
	the report period.	uring	b bev	tony rem	ach cate	r in e	nunpe	Lato	Indicate t	REMOVALS:	(5)
ay include	poit period. This wurne certain season	te rej	ting the	rfuge du z into ti	ng the r migratin	rr usi those	numb au.Lo	total Irda	Betamita Tesident b	TOPAL:	(6)
Also	covered in survey. requested.	area ally 1	n and cifics	populatio 1 not spi	termine formatio	to de	beau nitie	ethod ter p	Indicate m include ot	REMARKS:	(7)
				• nseq.	should	bered	o bol	zəğ e	able to th	wly columns applic	o *

NR-2 Upland Game Birds. 5RF-1/69

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UPLAND GAME BIRDS

INSTRUCTIONS

3-1752 Form NR-2 (April 1946)

Refuge Monomoy

Form NR-2 - UPLAND GA	ME BIRDS.*	[(A)]	(2)	(9)	(0)
(1) SPECIES:	Use Correct common name.	ottan	Produced	Density	Species
(2) DENSITY:	Applies particularly to t hunts, etc.). Detailed d numbers. Density to be e information is to be pref number of acres in each c information need not be r	hose species ata may be o xpressed in aced by a st over type fo epeated exce	considered in mitted for spec acres per anima atement from th ound on the refu	removal programs (p ies occurring in li l by cover types. e refuge manager as ge; once submitted, nt changes occur in	ublic mited This to the composition this the area
First observation (10-4-) in recent years.	of cover types. Cover ty information but not so mu swamp, upland hardwoods, grass prairie, etc. Stan No. 7 should be used wher observations and counts o size of sample area or ar	pes should b ch as to obs reverting ag dard type sy e possible. n representa eas should b	e detailed enou cure the genera riculture land, mbols listed in Figures submit tive sample are e indicated und	gh to furnish the d l picture. Example bottomland hardwoo Wildlife Managemen ted should be based as. Survey method er Remarks.	esired s: Spruce ds, short t Series on actual used and
(3) YOUNG PRODUCED:	Estimated number of young in representative breedin	produced, b g habitat.	ased upon obser	vations and actual	counts
(4) SEX RATIO:	This column applies prima other species if availabl	rily to wild e.	turkey, pheasa	nts, etc. Include	data on
(5) REMOVALS:	Indicate total number in	each categor	y removed durin	g the report period	•
(6) TOTAL:	Estimated total number us resident birds plus those	ing <mark>th</mark> e refu migrating i	ge during the r nto the refuge	eport period. This during certain seas	may include
(7) REMARKS:	Indicate method used to d include other pertinent i	etermine pop nformation n	ulation and are ot specifically	a covered in survey requested.	. Also

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

Months of September to December 19 69

	3-1753 Form NR-3 (June 1945)	Refuge	Monomoy	B	IG G	AME			(Calenda	r Year	1969	
-	(1) Species	(2) Density	(3) Young Produced	Re	(4) mova	ls	Lo	(5) Dases	me; te s	(6) Intro- ductions	(7) Estima Total R Popula	ted efuge tion	(8) Sex Ratio
	Common Name	Cover types, Total Acres Habitat	Number	Hunting	Restocking	Research	Predation	Disease	Winter Loss	Number and Source	Period of Peak Use	As of Dec. 31	(2)
	White-tailed Deer	50 acres of scrub pine, oak. 2,648 acres bay- berry, beach plum, poison ivy, sand dunes, and fresh ans salt	vona 4 bet Vona 4 bet Item veruu	aga Indu Indu	nto mbol res f mari ners	ever e sj igur ie s r Re	e, ty eam unde	wood lard dble Lve ted	ster pose ntet sice	amp, abland airie, etc. a used where is on represe should be in	20	19	50 percent males 50 percent females
	es in	water marshes. during the year.	y removed able esti	ego: reli	180	iose abro	in rec	neda awon	l nu	indicate tota In the basis		DEMOVALS :	(4) (5)
		which stock was secured.	ncy from	9 3 8	to 9	yeaz efug	t bi	tng er a	tub Inus	sach category Indicate the	CONS : Fore	INTRODUCT	(6) (7)
	of its	on the refuge at period (f each species as determ	<u>species</u> . <u>31</u> . females o g.	each Deo and oval	of s of les res	tion so a m î ma ougi	pula I al ge c	d po e an enta s or	nate lanc serc bion	live the esti prestest abun Indicate the Mald observa		opulatio	(8)

NR-3 5RF 1/69

Remarks:

INSTRUCTIONS

1

Refuge Monomov

BIG GAME

Calendar Year, 1969

MR-3 5RF 1/69

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Form N	R-3 - BIG GAME SPECIES: Use of unneo	correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is cessary to indicate sub-species such as northern or Louisiana white-tailed deer.
(2)	DENSITY: Detai expre state the n chang nish	iled data may be omitted for species occurring in limited numbers. Density to be essed in acres per animal by cover types. This information is to be prefaced by a ement from the refuge manager as to the number of acres in each cover type found on refuge: once submitted, this information need not be repeated except as significant ges occur in the area of cover types. Cover types should be detailed enough to fur- the desired information but not so much as to obscure the general picture. Examples:
0 percent males 10 percent females	sprud grass shoul and c or an	te swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short s prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 Id be used where possible. Figures submitted should be based on actual observations counts on representative sample areas. Survey method used and size of sample area reas should be indicated under Remarks.
(3)	YOUNG PRODUCED	Estimated total number of young produced on refuge.
(4)	REMOVALS:	Indicate total number in each category removed during the year.
(5)	LOSSES:	On the basis of known records or reliable estimates indicate total losses in each category during the year.
(6)	INTRODUCTIONS:	Indicate the number and refuge or agency from which stock was secured.
(7)	TOTAL REFUGE POPULATION:	Give the estimated population of <u>each species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.
(8)	SEX RATIO:	Indicate the percentage of males and females of each species as determined from field observations or through removals.

N.W.

3-1753 Form NR-3 (June 1945)