

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF SPORT FISHERIES AND WILDLIFE  
FISH AND WILDLIFE SERVICE  
BOSTON 11 MASSACHUSETTS

NARRATIVE REPORT  
MAY JUNE JULY AUGUST 1958

PERSONNEL

GORDON T. NIGHTINGALE ---- REFUGE MANAGER  
Ralph M. Holderby----- Refuge Assistant

Page 1----- I. General  
Page 1----- A. Weather Conditions  
Page 1----- B. Habitat Conditions  
Page 2----- II. Wildlife  
Page 2----- A. Migratory Birds  
Page 2----- B. Upland Game Birds  
Page 2----- C. Big Game Animals  
Page 2----- D. Fur Animals  
Page 3----- E. Hawks, Eagles, Owls.  
Page 3----- F. Other Birds.  
Page 3----- G. Fish.  
Page 3----- H. Reptiles  
Page 3----- I. Disease.  
Page 3----- III. Refuge Development.  
Page 3----- A. Physical Development  
Page 4----- B. Plantings  
Page 4----- C. Collections & Receipts  
Page 4----- D. Control of Vegetation  
Page 4----- E. Burning  
Page 4----- F. Fires.  
Page 5----- IV Resource Management.  
Page 5----- V Field Investigations  
Page 5----- VI Public Relations  
Page 5----- VII Other Items  
Page 6----- A. Items of Interest.  
Page 7-8-9-10-11- NR. Forms 1- 1A., 1 B., & 2

GREAT MEADOWS NATIONAL WILDLIFE REFUGE  
CONCORD, MASSACHUSETTS.

*Copy to C.D.  
9/25/58  
J.M.*

*M*

*mm  
9/22*

## NARRATIVE REPORT

## GREAT MEADOWS NATIONAL WILDLIFE REFUGE

CONCORD, MASSACHUSETTS

May - June - July - August - 1958

## I. GENERAL

A. Weather Conditions

The following information was furnished by the 6th Detachment 4th Weather Group, L. W. Hanson Field, located about one mile from the Refuge, at Bedford Massachusetts.

PRECIPITATION			TEMPERATURES		
<u>Month</u>	<u>Snowfall</u>	<u>This Month</u>	<u>Normal</u>	<u>Max</u>	<u>Min</u>
May	0	2.72	4.23	82	22
June	0	1.86	3.10	85	38
July	0	5.25	2.50	92	49
August	0	3.40	3.45	102	51
Total	0	13.23	13.28		

Precipitation for the months of May and June were below normal but the above normal for July, and the almost normal for August balanced out the total precipitation for this period.

July 11th of this period a heavy storm with high winds destroyed power lines, and deposited 2.72 precipitation in a short period.

B. Habitat Conditions

1. Water levels remained up to spillway level all during this period. Water control structures, and water gauges' have not been installed in the dike system.

2. Food and Cover The marsh areas are abundant with typha, Pontedria, sparganium, scripus and zizania. Lemna, Polygonum, Potamogeton Nyphozanthus and Nymphaea. This type of habitat covers about 200 acres of the refuge with the remaining 54 acres in hardwood brush and upland timber. The predominant species of timber being pinus strobus (White Pine).

Artificial feeding is not required. There <sup>are not</sup> any farming or food patches on the area.



## II WILDLIFE

A. Migratory Birds Wood-ducks seem to be the dominant species of waterfowl with Black Ducks, Blue-winged Teal, Mallards, and Canada Geese.

The Canada Geese are part of a community flock that remain in the vicinity of the Refuge all year. <sup>m</sup> Nesting success was good for this species. Four ~~adult~~ pair nested and reared young.

Wood-duck nesting boxes are in both pools and are maintained by State personnel. Egg production as an average was down this year, broods were about normal during the months of June and July.

Black ducks were not as productive as they could have been, only two broods were observed during the brooding season.

One mallard was observed on a nest, in a large tree. Egg data was not obtained.

Florida Gallinules were in evidence during this period and several broods of four, five, two, and one were observed. August 13th a late hatch was observed, five downy young and both adults.

During the last part of this period several Wilson's Snipe, and Virginia Rails were observed along the middle dike.

Mourning Doves were very common, and the upland timber with its thick cover of White Pine furnished good nesting cover.

Two Adult shovelers that had been released from the Dorton Waterfowl pen attempted to nest but this nest was destroyed by Raccoons and they did not attempt to re-nest.

One Canada Goose nest was also destroyed by flooding out.

### B. Upland Game Birds

Ring-Necked Pheasant was the most common species of upland game birds present. Two broods were observed during this period along the railroad tracks that boundry the Refuge. Some predation by dogs occurred. One Ruffed Grouse was observed, and it was dusting along the road by the lower spillway. Sex could not be determined.

### C. Big Game Animals

Five White Tail Deer, use the Refuge periodically. This herd looks like it is in good condition. No fawns were observed this spring, but tracks along the dike indicated that one was produced.

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

The most common of the fur bearers on the Refuge is the muskrat but from what can be determined, population trends are down this year. Raccoons are present, but not in any great numbers. Fox sign was observed during the nesting period of the Snapping turtle, but none since. During the month of July one weasel was observed. Skunk sign is very common.

Grey squirrels are very abundant in the upland timber, Chipmunk, and Pine squirrels are also present.

The biggest predator species on this area are household pets mostly dogs. Two English Setters and one Beagle are the main culprits.

Wood-Chucks have been observed, but they have not infiltrated our dike systems yet.

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

Marsh Hawks have been observed all during this period, one Osprey was observed during the month of July. Crows are present but not in any great numbers. Screech Owls are present.

F. Other Birds

Great Blue Herons, Bitterns (Least and American) and Green Herons have been observed.

G. Fish

The fish life in the Refuge pools are Golden shiners, Large Mouth Bass, and Sunfish. Some Carp are also present. No Fishing is <sup>2.87m</sup> allowed on the Refuge. Pickerel are also present.

The Concord River adjoining the Refuge, furnishes excellent Large Mouth and Pickerel fishing.

H. Reptiles

Snapping Turtles are abundant in the Refuge Pools, control measures this period consisted of picking them up while egg laying. Sun Turtles are present but do not present problems.

Water Snakes are common, mostly the Red-bellied water snake. Control methods are the same as for the snapping turtle.

I. Disease

There were no evidence of any disease during this period.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

During this period 4,950 feet of fence was constructed with T. A. laborers. Steel fence posts were used, with a cedar post every low spot, corners and stress points. The heavy brush and trees were removed from along the fence boundary, so that a Jeep or truck could be driven through the area.

The Dikes were repaired and graded. Gravel fill was placed along the middle dike, and graded. The low spots along the ~~main~~ out side dikes were filled and graded. 1600 yds of Gravel were used.

An emergency spillway was constructed at the lower pool. Stone was placed as a core, with pea stone on top. The muck from the inside of the spillway was removed.

The dikes were sprayed with "4 T. Ester Brush Killer", once with water as a diluent with no apparent success. Diesel Fuel was used at the second application, and a 80% kill resulted.

A concrete floor was installed in the open sided picnic shelter and provisions made to install a front, windows and a overhead door. The dikes were mowed once during this period.



The smoke hole in the roof of this log shelter was closed and roofed. The roof was repaired and patched.

The access road at the lower end of the Refuge was brushed out.

Some routine maintenance was performed on equipment.

## B. Plantings

### 1. Aquatics and Marsh Plants

None

### 2. Trees and Shrubs

None

### 3. Upland Herbaceous Plants

None

### 4. Cultivated Crops

Winter Rye with a mixture of grass seed was planted on about one tenth acre in front of the log shelter. The cleared area along the lower spillway was planted to the same mixture.

## G. Collections and Receipts

### 1. Seed and other Propagules

One bushel of rye seed, and 15 lbs of grass mixture were received from the Parker River Refuge.

### 2. Specimens

None

## D. Control of Vegetation

Next Reporting period

## E. Planned Burning

None

## F. Fires

There were no uncontrolled or controlled fires on the Refuge during this period.

## IV RESOURCE MANAGEMENT

A. Mowing None  
B. Grazing None  
C. Fur Harvest None this period  
D. Timber Removal None this period

## V FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report None this period

## VI PUBLIC RELATIONS

A. Recreational Uses

During this period members of the Audubon Society, and nature study students made many trips to this area. Weekend we receive the heaviest use. Some visitors from Florida, New Mexico, and California were here.

B. Official Visitors

David Grice & Assistant	Mass. State Personnel Study	5/7/16/611/ 6/17/7/11/18 8/5/58
Morton Radway	Regional Office	6/2/58
Mr Bakin	" "	6/24/25/58
Mr Jackson	" "	" " " "
Mr Nightingale & members of Parker River Staff, several trips a month.		

C. Refuge Participation

Contacts this reporting period consisted of informal talks to members of the Bird Clubs, and nature students.

D. Hunting None this period.

Violations During this period considerable damage was done to the D-4 Caterpillar by Juvenile delinquents. The Juvenile authorities from Concord were called in to assist in making an investigation. A door to door visit was made in the neighborhood. Several young boys were contacted. Fingerprints and bare footprints were taken by the identification department. To date the Juveniles who were responsible have not been apprehended. The daily visits we were having from the boys in the neighborhood have stopped.

## VII OTHER ITEMS

A. Items of Interest During this period Ralph Holderby Refuge Assistant, Missisquoi Refuge, was permanently transferred to this station.

Color slides pertaining to Wood-duck management, were obtained this period, from the Massachusetts Conservation Department. Copies were made to form a nucleus for a slide talk.

A Safety meeting at Plum Island Coast Guard Station was attended by Refuge Assistant, with other members of the Parker River Staff.

Refuge Assistant spent six days assisting Refuge Manager at the Parker River Refuge during this period.

During the last two months of this reporting period the Refuge Assistant was the only personnel on the area.

B. Photographs- None this period.

Date 9/18/58

Prepared by

Ralph H. Holderby

Refuge Assistant

Approved

87 [Signature]

Refuge Manager

Approved\*\*

Morton L. Sawyer 9/24/58

Acty Regional Ref. Supervisor

Regional Director

Arthur Mueller

W A T E R F O W L

REFUGE GREAT MEADOWS

MONTHS OF May 1 TO Sept. 1, 19 58

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada	30	30	30	26	29	29	23	18	16	16
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard	35	25	15	15	10	10	10	10	10	10
Black	35	35	35	23	25	25	28	35	40	50
Gadwall	2	2	2	2	2	2	2	2	-	-
Baldpate										
Pintail										
Green-winged teal	25	25	20	10	10	10	10	10	10	10
Blue-winged teal	25	25	20	10	10	10	10	10	10	10
Cinnamon teal										
Shoveler										
Wood *	100	100	125	140	150	200	250	300	400	500
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
<u>Coot:</u>										



(Rev. March 1953)

W A T E R F O W L  
(Continuation Sheet)

REFUGE GREAT MEADOWS N. W.

MONTHS OF May 1 TO Sept. 1, 19 58

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	11	12	13	14	15	16	17	18			
<b>Swans:</b>											
Whistling											
Trumpeter											
<b>Geese:</b>											
Canada	23	20	16	16	16	16	16	16	2654	5	16
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
<b>Ducks:</b>											
Mallard	10	10	10	10	10	10	10	10	1580	-	-
Black	50	50	50	50	55	75	75	75	5522	1	8
Gadwall									112	-	0
Baldpate											
Pintail											
Green-winged teal											
Blue-winged teal	10	10	10	15	15	15	25	25	1780	-	-
Cinnamon teal											
Shoveler											
Wood	550	500	480	480	460	480	500	500	42005	8	690**
Redhead											
Ring-necked											
Canvasback											
Scaup											
Goldeneye											
Bufflehead											
Ruddy											
Other											

\*from visual marsh counts and estimated from known nesting on marsh  
 \*\* from hatch data Wood duck nesting boxes 58 nests successful

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	:	:	:	Principal feeding areas <u>both pools, upper &amp; lower</u>
Geese	<u>2654</u>	<u>30</u>	<u>16</u>	
Ducks	<u>50999</u>	<u>620</u>	<u>698</u>	Principal nesting areas <u>both pools, Wood-duck nesting boxes</u>
Coots	:	:	:	<u>along the edge of both pools</u>
				Reported by <u>Ralph H. Holderby</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751

Form NR ...

(Nov. 1945)

## MIGRATORY BIRDS

(other than waterfowl)

Refuge GREAT MEADOWS N. W. Months of May 1 to Sept. 1 1958

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Great Blue Heron	3	5/6	3	7/30	1	8/30		<del>20</del>	<del>60</del>	3
Virginia Rail	3	5/6	45	7/30	3	8/20		20	60	105
Eastern Green Heron	1	5/25	2	8/2	1	8/5				
American Bittern	1	5/4	10	8/25	5	8/30				10
Least Bittern	1	7/30	1	7/30	1	7/30				1
Fla. Galimule	5	5/20	25	-	25	8/30		11	55	75
Sora Rail (calls heard throughout period but not seen)										
II. <u>Shorebirds, Gulls and Terns:</u>										
Herring Gull	50	5/1	100	6/25	6	7/4				100
Black Tern	4	6/15	4	6/15	4	7/4				4
Killdeer	5	8/10	5	8/10	2	8/30				5
Least Sandpiper	2	6/15	10	7/4	2	8/30				10
Wilson's Snipe	2	6/31	4	8/20	2	8/25				4

(over)



(1)	(2)		(3)		(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	2	5/1	200	8/15	50	8/30	50	100	300
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle									
Duck hawk									
Horned owl									
Magpie									
Raven									
Crow	15	5/1	25	8/15	10	8/30			25
Marsh Hawk	2	5/2	2	8/30	2	8/30			2
Osprey	1	7/4	1	7/4	1	7/4			1
						Reported by <u>Ralph H. Holderby</u>			

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
Fish and Wildlife Service

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge GREAT MEADOWS

For 12-month period ending August 31, 1958

Reported by R. H. Holderby

Title Refuge Assistant

(1) Area or Unit Designation	(2) <u>Habitat</u> Type      Acreage	(3) Use-days	(4) Breeding Population	(5) Production
Entire Refuge	Crops	Ducks	135	698
254 acres	Upland      49	Geese	10	16
	Marsh      205	Swans		
	Water	Coots		
	Total      254	Total	145	714

Refuge ~~GRANT BRADDOCK CONCORD MASS.~~

Months of 1941 to 1941, 19

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring Necked Pheasant	50 Acres Hard- wood, White-Pine Marsh Edge.	10	0	0	50-60				10	Observation
Ruffed Grouse	Same	50							1	Ob <del>s</del> ervation



# 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.