

## ROUTING SLIP

## DIVISION OF WILDLIFE REFUGES

DATE: 8-15 19 40

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## REMARKS:

Brigantine Quarterly Report  
May - July 1940

Return to:

Cook

Brigantine National Wildlife Refuge

Quarterly Narrative Report

May, June and July, 1940

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## I. General

### A. Weather Conditions.

	Rainfall		Temperature - Mean		1940		Normal Mean	
	1940	Normal	Max.	Min.	Max.	Min.	Max.	Min.
May	4.69	3.05	85°	43°	63.5°	51.4°	64.6°	51.6°
June	1.55	3.04	90°	51°	76.3°	62.1°	73.0°	60.2°
July	4.89	3.93	98°	56°	80.1°	66.8°	78.1°	66.1°
Total	11.13	10.02						
Extremes			98°	43°	80.1°	51.4°	78.1°	51.6°

The above readings are taken from the Atlantic City station of the U. S. Weather Bureau which is located on the Steel Pier, over the ocean. Summer temperatures average about 5° higher on the mainland than the official readings. The prevailing summer winds are from the south and southwest, and most of the local electrical storms come from that direction.

### B. Water Conditions.

No fresh water ponds, lakes or streams are located on the refuge at this time. It is interesting to note, however, that water levels, in the salt ponds already constructed, remain constant at about marsh elevation, indicating that we will experience no difficulty in maintaining water levels as they exist in natural salt ponds. The ponds are large enough to permit thorough aeration and this, combined with frequent flushing by high tides and the presence of minnows, has served to prevent stagnation, the formation of algae and mosquito breeding.

### C. Fires

No fires have occurred on the refuge during this quarter.



## II. Wildlife

### A. Waterbirds

#### 1. Populations and Behavior

##### (a). Species

On pages 4 and 5 are listed all of the birds observed on the refuge during the past quarter, showing dates and numbers counted. There are 35 species marked with an asterisk that have not been previously reported for this refuge. None of these are rare, but all identifications have been made at close range with the aid of 7 x 35 field glasses. The list indicates dates of first arrivals, peak concentrations and dates last seen.

Least Terns were found nesting on the point of land north of the Inland Waterway between Grassy and Redd Bays on June 11th, when 10 nests were found. On June 26th a second census of nests at this point revealed 3 nests with 1 egg, 7 with 2 and 1 with 3 eggs. The nests were concentrated in a small area, covered with oyster and clam shells, that lies just above normal high tide.

On June 29th a Common Tern's nest with 3 eggs was found among oyster shells on the sandy point of Marsh Elder Island, and one young bird, unable to fly, was observed nearby. Another nest was found at this location on July 7th containing 2 eggs. On this occasion, while photographing a concentration of Black Skimmers, 6 Common Terns repeatedly came down, in screaming dives, to within 6 inches of my head in an attempt to drive me away from their nesting grounds.

One nest, containing 3 Common Tern eggs, was found suspended in Spartina alterniflora a short distance from the Least Tern nests mentioned above (see photograph), on July 7th.

A nest of the Clapper Rail was found on July 6th within 25 feet of one of the salt ponds being constructed by CCC on the area between Somers and Turtle Coves. This nest was built in a small patch of Spartina patens, surrounded by Spartina alterniflora, barely above normal high water. There were 12 eggs in the nest and, in spite of the disturbing influence of pond construction, all hatched by July 12th.

One Black Duck's nest was found, on the marsh southwest of Dickies Ditch, by a member of Mr. Phillip's survey crew on July 11th.

Black-crowned Night Hérons were still occupying the heronry at Absecon on June 29th and appeared to be nesting. No young birds were observed at that time.

#### (b) Groups

Waterfowl is practically non-existent on the refuge after the middle of May. Occasionally Black Ducks are observed, but they seem to prefer upland and fresh water sites.

Shorebirds reach peak concentration about the middle of May and then continue their northward flight. The return of Hudsonian Curlews and Sandpipers during the latter part of July marks the beginning of shore bird migration toward their wintering grounds.



SUMMARY OF ORNITHOLOGICAL OBSERVATIONS

Species	5/2	5/5	5/6	5/8	5/9	5/13	5/15	5/30	6/1	6/6	6/7	6/11	6/12	6/19	6/21	6/24	6/26	6/29	7/6	7/7	7/31
*✓Gannett												2									
✓Double-crested Cormorant												5									
✓Great Blue Heron						10				13	18	4		3	1	9	2			3	
*✓American Egret						1					1	5				2			6	2	
*✓Little Blue Heron									2	1						1	1		1	1	
*✓Green Heron				3	8	10					8	1		1	1	1					
✓Black-crowned Night Heron	14																1	10		1	
*✓Yellow-crowned Night Heron						12															
✓American Brant				45																	
✓Black Duck			1			9		1			11	3				2				2	
✓Red-breasted Merganser				35		10		4			2										
✓Turkey Vulture		3									3		3					1	1	1	
✓Marsh Hawk		1	1	2		1															
✓Duck Hawk																1					
*✓Bob-white			2											2							
✓Ring-necked Pheasant			1																		
*✓Clapper Rail									1								2		1	4	
✓Piping Plover				4														6		6	
*✓Killdeer						2					4					1	1				
*✓Golden Plover						96					8										
*✓Black-bellied Plover						76					1										
*✓Ruddy Turnstone						11															
*✓Hudsonian Curlew						50	39													28	
✓Greater Yellowlegs				2		3															
*✓Pectoral Sandpiper		2																			
*✓Least Sandpiper							500	50												4	
*✓Red-backed Sandpiper							300				20										
✓Semi-palmated Sandpiper							500	50	300	200										10	
✓Great Black-backed Gull							1														
✓Herring Gull				34		43	50	5	2	76	11								15	38	
✓Laughing Gull				1000		368	200	22	10	378	14		50	75	1000	300	50	300	99		
*✓Common Tern				12		29	20			33	24					15	22		10	57	
*✓Least Tern						49	8			25	16				1	43	4	2	24	10	
*✓Black Skimmer							25	1		1						1	3		39		
*✓Mourning Dove		2														1			1		
*✓Kingbird													2			1					
✓Barn Swallow		1	8	21		23			4	2	7	2	5	6	10	35	3	6	4	5	
✓Blue Jay		6	4	2	10	5		10			2					6		3	2		
✓Crow		3		1		10		2		2	4	1		2		6	13	4	5	2	
*✓Carolina Chickadee					1																
*✓Short-billed Marsh Wren						1															
*✓Catbird		2			1			1													
*✓Brown Thrasher				3	2	3										3	1		5	1	
✓Robin		1	10	2	2	2		6			9								8	1	
✓Starling											1										
*✓Red-eyed Vireo				4		3										2					
✓Black & White Warbler				10																	
*✓English Sparrow					1			25												7	
*✓Meadowlark	1																		1		
✓Red-winged Blackbird		4		16		7	30	3		3	6		1	5	25			2	4	4	

Species	5/2	5/5	5/6	5/8	5/9	5/13	5/15	5/30	6/1	6/6	6/7	6/11	6/12	6/19	6/21	6/24	6/26	6/29	7/6	7/7	7/31
* Baltimore Oriole					1																
* Purple Grackle		50																			
* Cardinal	1									1							1		1		
* Goldfinch				1					2					1							
* Red-eyed Towhee	1	2	1	1								1									
* Chipping Sparrow				2													5				
* White-throated Sparrow				2																	
* Fox Sparrow								2													
* Swamp Sparrow										2		3									
* Song Sparrow	1			2																	

\* First report for this refuge.



The Terns show a preference for nesting on low, sandy sites where oyster shells have been spread. There are a number of points on the proposed refuge that conform to specifications, except for shells and it seems probable that increased nesting can be secured by obtaining waste shells and distributing them at such locations.

Laughing Gulls make up the major part of the gull population during the nesting season. They appear to nest on the outer islands - around the sand dunes of Little Beach Island, and on the Spartina alterniflora covered Egg Island. I have been unable to find any nests on Egg Island, nor to learn of any other reason, but there is usually a large concentration of Laughing Gulls there. On July 31st, I observed a number of immature birds on the marsh and in the naturals around this island.

## 2. Food and Cover.

There seems to be a normal amount of food and cover, with the exception, of course, of eel grass (Zostera marina). During the next quarter, I hope to be able to make detailed observations of the bays in the vicinity of the refuge and will, at that time, make a detailed report of my findings. All of the natural ponds I have investigated, contain an abundance of widgeon grass (Ruppia maritima), and we should have no trouble collecting a sufficient quantity for stock<sup>ing</sup> the artificial salt ponds. There are several ponds on the Little Beach Investment Co. tract that should supply our needs for this fall.



### 3. Disease

No outbreak of disease has been apparent (with the possible exception of lead poisoning as a contributing factor in the starvation of black ducks during the past severe winter weather), and no investigations have been made.

#### B. Upland-game Birds.

Due to acquisition difficulties, no definite investigations have been made of upland-game birds. The accompanying bird list tabulates what data has been secured. The upland area within the proposed refuge boundaries is small but we can undoubtedly obtain much useful information and perform food and cover operations to make it more attractive for upland game.

#### C. Fish.

Very little commercial or sport fishing is done on the proposed refuge area. However, oyster beds are common and a great many local men derive some income from this source. Most of the beds are in the shallow bays such as Reed Bay, Grassy Bay, Perch Cove, Little Bay and Hammock Cove. Some individuals have improved and planted oysters in certain naturals that will be partially cut off by our dikes and will probably raise objections to our proposed development plan. I believe this activity should be thoroughly investigated, after acquisition problems have been ironed out, with a view to performing such improvement work as is found desirable.

### III. Refuge Development and Maintenance.

#### A. Physical Development.

CCC performed all of the development work on the refuge during this quarter, with the following results: Seven salt ponds, simulating natural widgeon grass ponds, were completed. Some of the ponds were started last fall and some work was done on them in April. In digging the ponds by hand, the spoil has been thrown up to make nesting islands. There are 18 of these islands completed, 14 of which are surrounded by water and 4 of which are located at the edges of the ponds.

At the nursery pond, a wooden railing was constructed on two sides, and wire stretched across at intervals for protection.

One timber ditch plug was installed near the outlet of one of the mosquito ditches. The spillway elevation is approximately one foot below the marsh, allowing a complete flush-out with every high tide. This plug was constructed, experimentally, in order to observe probable results when the program is carried out on the balance of ditched marshlands with the proposed refuge boundaries. To date the water backed up has remained reasonably clear and there has been no formation of algae or mosquito larvae. Plugging these ditches will hold a considerable volume of water on the marsh and, will provide additional widgeon grass beds. However, the total cost of materials was in the neighborhood of \$15.00 - much too high for consideration over the whole area. I believe that native, hewn timbers can

can be salvaged from the upland, when acquired, and successfully used at much lower cost.

All of the above work was done on that part of the refuge bounded on the north by the WPA Road, on the east by Turtle Cove, on the south by Reed Bay, and on the west by Somers Cove.

During May and June, Mr. Johnston completed dike surveys and detailed maps were received the latter part of July. It is hoped that dike construction can be started in the near future.

Following is a tabulation of man-days, by work projects, as given me by the camp superintendent;

	May	June	July
Surveys	50	30	
Lake & Pond Development	1955	1558	2386
Emergency Work	262	37	
Equipment Repair	116	100	99
Experimental Pond	8		
Water Control Structures		9	
General Cleanup (camp)		301	

Mr. Phillips of the Division of Land Acquisition, was stationed in Mays Landing on title work during part of this quarter, but moved to Oceanville in June to commence tract surveys, which are still under way.

#### B. Equipment Maintenance and Repair.

During this quarter a bulkhead and screens were installed in the Brant to form a closed cabin and the hull of the sea dory, BBS-501, was completely overhauled and repainted. This work was done in privately-owned boat yards in the vicinity.

The Chevrolet Coupe, which has been in poor shape for some time, received a complete motor overhaul and is now in condition for more extensive use. This work was performed in a local, privately-owned garage.



### C. Plantings

Very little of the bushel of eel grass, planted in the nursery pond in January, has survived and it seems likely that the remaining plants will soon die off. The planting was done under adverse conditions and the weather during the following month was anything but favorable for the plants to secure a foothold and become acclimated to changed environment. Another factor, that might contribute to the poor survival, was that the plants were taken from a sandy bottom and transplanted into a muck bottom. It is believed that future plantings of Pacific Coast eel grass should be set out in Grassy Bay, Perch Cove or Hammock Cove, on a sandy bottom, and covered with chicken wire until it has a chance to root securely. In order to avert damage by ice, it would be necessary to transplant at a later date, probably the latter part of March.

### IV. Public Relations

#### A. Visitors

##### 1. General Public

Mr. and Mrs. P. J. Haddock, of the New York State Ranger School, Wanakena, N. Y., inspected the proposed refuge area by boat and car on June 7th.

##### 2. Officials

5/13 - Mr. W. C. Henderson, Assistant Director, inspected the proposed refuge area by boat and car and conferred with the refuge manager.

5/16-18 - Associate Naval Architect, C. W. Leveau inspected Fish and Wildlife Service boats at this location, and was transported from the Pennsville, N. J. ferry to the refuge, and from the refuge to Philadelphia, Pa.

6/18 - Assistant Biologist, E. M. Mills conferred with me concerning possible future rodent control activities on the Brigantine area.

7/22-31 - Mr. Elmon Radway, Associate Land Valuation Engineer, conferred with me on several occasions during this period while engaged in acquisition activities.

#### B. Miscellaneous

On May 10th, I inspected an area near South River, N. J., with Mr. Henry B. Smith, which he had proposed as a national wildlife refuge. A report summarizing my observations was transmitted for the information of the Regional and Washington offices.

On June 13th, Mr. I. W. Street, Secretary of the Atlantic County Bird Sanctuary, requested me to meet with him, Mr. Kiger, WPA Engineer, County Engineer Nelson and Brigantine Streets Commissioner Shellem, for the purpose of drawing up a development plan for a small feeding station on Brigantine Island. The work is to be carried on by either WPA or NYA.

#### V. General

In accordance with instructions from Regional Director Locke, I visited the Susquehanna Flats Refuge at Havre de Grace, Md. July 18, 19, 20. While there I conferred with Messrs. Regan and Krummes, of the Washington Office, and Laborer-Patrol-

man Wallace regarding WPA and general administrative activities at that refuge. During the period of July 24th to 27th, I again visited the Susquehanna Refuge for the purpose of assisting Mr. Wallace with the administration of his WPA project and regular refuge duties. Reports summarizing these activities were transmitted on July 20 and 29.

V. Photographs



Tame White Pelican in rear of Paxon's Restaurant  
near Absecon, N. J., 5/1/40





Semi-palmated Plover - Reed Bay, 5/15/40



Ruddy Turnstones - Turtle Cove, 5/28/40



Black Skimmers - Marsh Elder Island, 7/7/40



Clapper Rail near nest on marsh east of WPA Road  
7/8/40

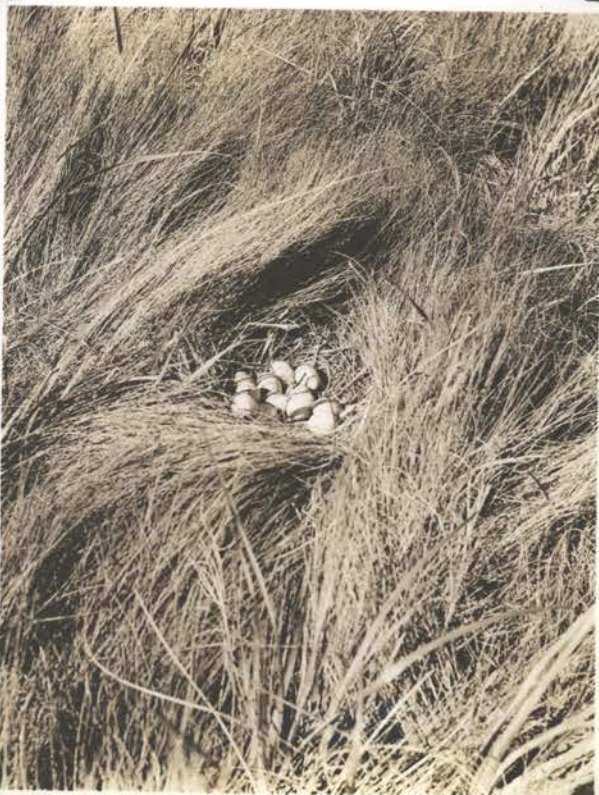


Clapper Rail attempting to lead us from the nest - nest was located at about the point from which the picture was taken. Note the wet condition of the marsh and the predominance of *Spartina alterniflora*. 7/8/40.





Nest of the Clapper Rail laid in Spartina patens on the marsh near artificial salt pond under construction. 7/8/40.



Same nest as above - note the fringe of Spartina alterniflora around the edge of picture - 7/8/40



Least Tern's nest on the point north of  
the Inland Waterway between Reed and  
Grassy Bays - 6/26/40



At this point 11 nests of the Least  
Tern were found. Note the shells cover-  
ing low marsh and presence of Salicornia





Common Tern nest suspended in Spartina alterniflora  
7/7/40



Common Tern nest on sandy point of Marsh Elder  
Island - 7/7/40





Lookout Tower, Little Beach Coast Guard Station,  
looking easterly - 6/26/40



Taken from the lookout tower, looking westerly to-  
ward the Little Beach Coast Guard Station, with the  
proposed refuge in the background - 6/26/40



CCC enrollees constructing salt pond and nesting  
island on marsh between WPA Road and Reed Bay.  
5/28/40



Completed salt pond and nesting island at same  
location as above picture - 6/24/40



Marsh land on the Brigantine Refuge - untouched except for mosquito ditches. Taken from a point in the marsh between the WPA Road and Reed Bay, looking towards Brigantine Island - 5/28/40.

Respectfully submitted

*Walter P. Schaefer*

Walter P. Schaefer  
Junior Refuge Manager

August 10, 1940