

# SUMMER BIRDS AT A COASTAL MARSH IMPOUNDMENT IN NORTH CAROLINA

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From 4 June to 27 August 1969 I made regular visits to Pamlico Point impoundment for the purpose of determining the species of the summer bird population, their status, and their relative abundance. The location of this impoundment is about 35 deg. 18' N and 76 deg. 31' W, the extreme NE corner of Pamlico County, N.C. This area is part of a large marsh island and can be reached by boat from the nearest boat launch 2.5 miles away at Oyster Creek Landing. The 6-year-old impoundment was built for mosquito control; but the state owns and manages it now for waterfowl. It consists of four rectangular lakes (Fig. 1), each averaging about 200 acres, is maintained by spillways and large water pumps, and is rich in waterfowl food plants.

The vegetation of each lake differs because of the varying water and substrate conditions. For example, Lake 4 was drained this summer (1969) as part of the management program, and except for the drainage canals, it was essentially a vast mud flat. Lake 1 had been similarly drained last year but this year was full of water as were Lakes 2 and 3. The dominant water plants for the entire area are pondweed (*Potamogeton* sp.), widgeon grass (*Ruppia* sp.), musk grass (*Chara* sp.), algae, sea grass (*Distichlis spicata*), and marsh rush (*Juncus roemerianus*).

The dikes play an important ecological role by keeping saltier waters outside the impoundment from mixing with the impounded waters. Uniform marshes of cord grass (*Spartina cynosuroides*) and marsh rush extend along the periphery of the impoundment. Dike vegetation consists of low, scrubby growth and scattered areas of dense grasses. Common dike plants are sea myrtle (*Baccharis halimifolia*), sea ox-eye (*Borrchia frutescens*), foxtail grass (*Setaria magna*), sea grass, dog fennel (*Eupatorium capillifolium*), goldenrod (*Solidago* sp.), and winged sumac (*Rhus copallina*).

To quantify my observations I used Robert S. Arbib's (1957) abundance scale. I made one deviation from his system by applying his abundance scale of non-breeding birds to all observations, regardless of whether a bird seen was nesting in the impoundment. For each species listed the nesting status is given as well as other significant remarks about the bird's occurrence and feeding habits.

## GREBES

*Pied-billed Grebe*: Common, nesting in every month of the summer. I saw numerous immatures on various occasions as early as 10 June, indicating relatively good nesting success. The last nesting record was 26 August, when two nests were located, one with five eggs and the other with two eggs. Late nesting of this species is apparently not unusual, especially farther south where Chabreck (1963) found Pied-billed Grebes nesting as late as September in Louisiana.

*Horned Grebe*: Very rare, not nesting. One was observed 1 July by William Post ¼ mile W of the impoundment. The bird was in breeding plumage, though it was most likely a straggler from the previous winter. There are no nesting records from North Carolina.

## HERONS, EGRETS, AND ALLIES

No species except Least Bitterns nested. Probably the nearest heronry to the impoundment is on Starvation Island near Morehead, approximately 45 miles S of the impoundment. The number of waders increased in August, which seemed to be timed

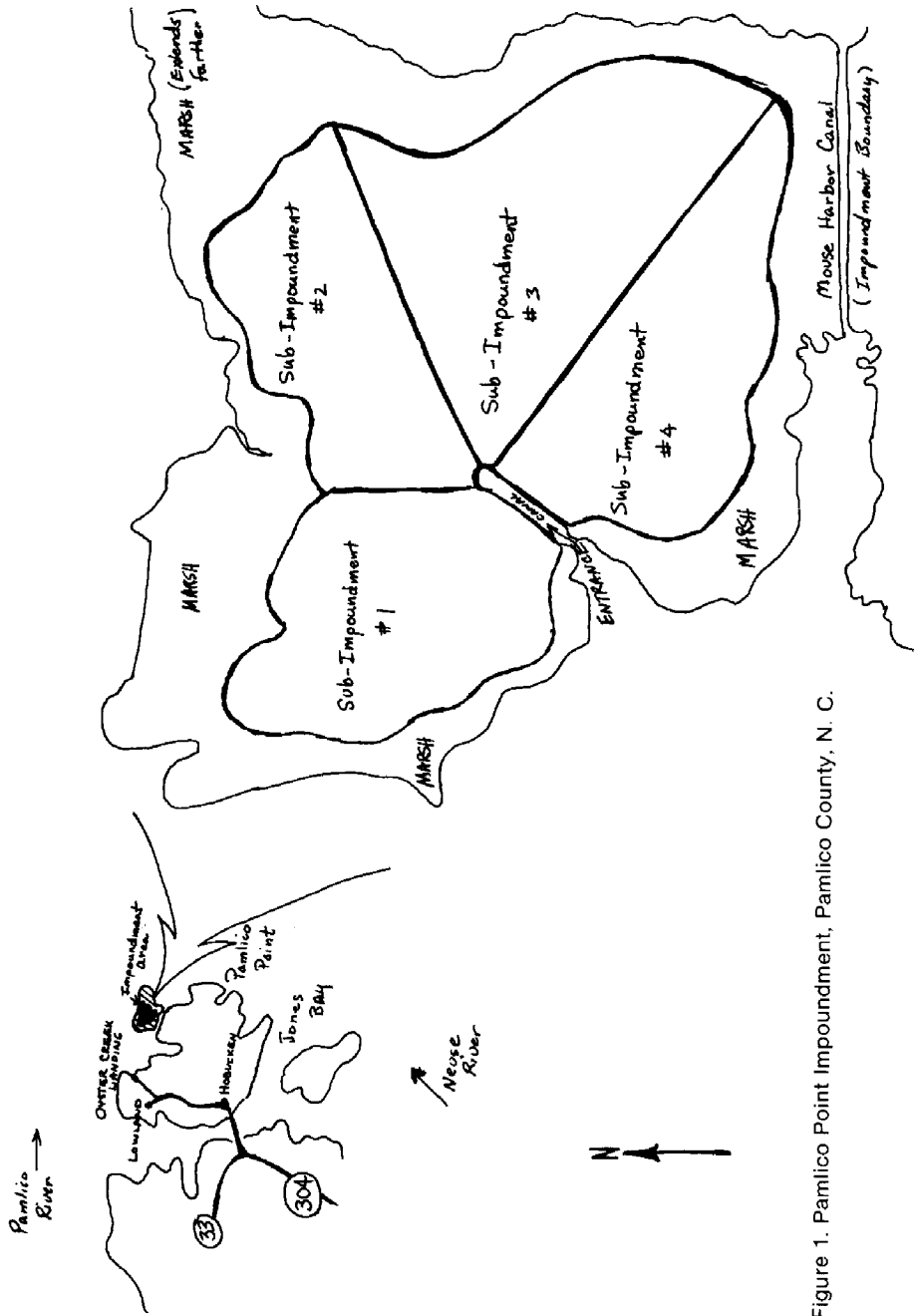


Figure 1. Pamlico Point Impoundment, Pamlico County, N. C.

with the termination of their nesting season. The abundance status for each species is an average for the whole summer:

Common Egret: Very common  
Snowy Egret: Common  
Great Blue Heron: Fairly common  
Little Blue Heron: Rare  
Louisiana Heron: Fairly common  
Green Heron: Uncommon  
Black-crowned Night Heron: Uncommon  
Yellow-crowned Night Heron: Rare  
Least Bittern: Common  
Glossy Ibis: Fairly common

On 10 June 12 pairs of Least Bitterns were in Lake 3. Several nests were found, all within about 150 feet of each other. During the latter part of August herons and egrets roosted in Lakes 3 and 4. They would usually begin arriving in large flocks from all directions but mostly from the west by 7:30 PM. Of the approximately 300 individuals, 70% to 80% were Common Egrets. Generally, the birds left the roost by dawn.

#### DUCKS

Ducks most commonly nested on the dikes where the nests were concealed by natural cover of *Distichlis*. On 10 June a Green-winged Teal flushed from a dike with suitable nesting habitat, but efforts to locate a nest were unsuccessful. *Birds of North Carolina* (1959) gives no nesting records for this species in the state. There is apparently no nesting record of the Ruddy Duck from North Carolina. This species was fairly common all summer and 15 to 30 immatures were present on various occasions in August. In July Herman Strickland saw a family of six Ruddy ducklings. It is, therefore, believed that Ruddy Ducks did nest, though no nests were actually found.

Black Duck: Very common, nested  
Gadwall: Rare, nested  
Blue-winged Teal: Common, nested  
Green-winged Teal: Very rare, nesting unlikely  
Shoveler: Very rare (one), no nesting  
Ruddy Duck: Fairly common, presumably nested

#### RAILS AND ALLIES

Rails were surprisingly few, even though habitat seemed optimum. Water snakes, which abundantly populate the impoundment area, might be one reason for the scarcity of rails. Water snakes are especially common in areas close to the dikes where rails would nest and brood.

A family of American Coots, consisting of two adults and a pair of chicks, was discovered on 10 June in Lake 3. The chicks were very small and could easily be held in the hand (Fig. 2). As far as can be determined, there are no past records of coots nesting in North Carolina, though Pearson and Walker observed a flock of 81 in Kitty Hawk Bay on 22 June 1933 (Pearson et al., 1959). There are two nesting records from South Carolina in recent years (Cutts, 1960; Post, 1961).

Clapper Rail: Rare, nested  
Virginia Rail: Very rare, nesting unlikely  
Common Gallinule: Uncommon, nested  
American Coot: Rare, nested

## SHORE BIRDS

A pair of Black-necked Stilts arrived in June and remained on the impoundment for the entire summer. In August they became noticeably territorial over a large area of Lake 4. When disturbed by human observers, they reacted by walking in random, erratic directions with their wings uplifted, uttering a series of loud call notes. If one of the birds flushed, instead of flying away, it would turn around, sometimes as far as 300 to 400 feet away. Flying only several feet about the water or flats, it would suddenly veer sharply to the side only 15 to 20 feet from the observer, while releasing a burst of loud call notes. These and other less conspicuous forms of territorial behavior suggested nesting, but I spent several hours looking for a nest without success. All Black-necked Stilt nesting records in this state are from Cape Hatteras National Seashore Park (Hoover, 1957). The Pamlico Point location lies inland by approximately 60 miles SW.

On 16 August six Wilson's Phalaropes in characteristic winter plumage were feeding in a small pool in Lake 4. This species is a scarce transient in North Carolina. Paul Sykes saw them in two consecutive years at Bodie Island in early September (Sykes, 1963a and 1963b).

Lake 4, which was mostly a vast mud flat, offered an excellent habitat for migrating shore birds. The peak occurrence was in late August when on several occasions 500 to 750 shore birds were present. During this time a limited banding project was carried out over a total of five days. The following shore birds were recorded in August. The only two species that might have nested were the Willet and Black-necked Stilt, but I found no positive evidence for either species.

Black-necked Stilt: Rare, only one pair  
Black-bellied Plover: Rare  
Semipalmated Plover: Uncommon\*  
Killdeer: Rare  
Spotted Sandpiper: Fairly common\*  
Willet: Rare  
Greater Yellowlegs: Common\*  
Lesser Yellowlegs: Very common\*  
Stilt Sandpiper: Uncommon\* (banded 3)  
Short-billed Dowitcher: Common\*  
Long-billed Dowitcher: Rare\* (Fig. 3)  
Pectoral Sandpiper: Common\*  
White-rumped Sandpiper: Very rare\* (banded 1, Fig. 4)  
Least Sandpiper: Common\*  
Semipalmated Sandpiper: Common\*  
Western Sandpiper: Common  
Wilson's Phalarope: Rare  
Common Snipe: Rare

\*Species banded

## GULLS, TERNS, AND SKIMMERS

No species nested on the impoundment and no unusual species were observed except for Black Skimmers, which do not often come this far inland. This species was seen twice during the summer. Black Terns appeared in late August and were fairly common.

## OTHER SPECIES

Ospreys nested in surrounding areas and a single Marsh Hawk was seen on 21 August. The following passerines nested in the impoundment or in the peripheral marshes: Long-billed Marsh Wren, Red-winged Blackbird, and Seaside Sparrow. Seaside Sparrows



Figure 2.  
American Coot  
chick, left

Figure 3.  
Long-billed Dowitcher,  
below.



Figure 4.  
White-rumped  
Sandpiper.

Photos by Geraldine Cox

occupied the linear zone of marsh that surrounds the impoundment. In June this species was common and sang during much of the day, frequently performing their flight-song. As the summer progressed and especially by August the number of Seaside had decreased noticeably.

#### GENERAL COMMENTS

Coastal marsh impoundments are becoming more numerous in this state with a total of 10 already in Pamlico County. With similar management programs and the similarity of the impoundments themselves, the species I found here might give some indication of what birds live on other impoundments during the summer. Much more field work is needed, however, to substantiate the distribution of questionable species and to supply information on the influence these impoundments will have on coastal birdlife and estuarine ecology in general. Robert Holmes (1965) studied an impounded salt marsh area only a few miles S of Pamlico Point on 10 August 1965. He listed several species that did not occur on the impoundment I studied: White Ibis, Sandwich Tern, and Caspian Tern.

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