

## THE FIRST ANNUAL MISSISSIPPI COLONIAL WATERBIRD COUNT

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Knowledge of wildlife numbers and population trends is essential for sound management. The abundance of game animals is monitored through hunter check stations, Mourning Dove (*Zenaida macroura*) coo counts, American Woodcock (*Scolopax minor*) display censuses, midwinter waterfowl counts, and other techniques. We count nongame land birds and other birds using breeding bird surveys, breeding bird censuses, Christmas bird counts, spring migration counts, midwinter eagle counts, hawk watches, MAPS stations, standardized point counts as established through the Partners in Flight program, and general bird watching. The International Shorebird Survey counts shorebirds at concentration points and several states have annual or sporadic censuses of colonial nesting waterbirds.

Mississippi has at least minimal monitoring for each of these bird groups except the colonial waterbirds. Although some colonial waterbird population data exist for Mississippi (Jackson and Jackson 1985, Jackson et al. 1979, Keller et al. 1984, and Portnoy 1977) there is no systematic, statewide data base. In 1994 the U.S. Fish and Wildlife Service and the Mississippi Museum of Natural Science coordinated the first Mississippi Colonial Waterbird Count (MCWC). The ultimate objectives of the MCWC are to determine (1) the locations of waterbird colonies in Mississippi, (2) the species composition of each colony, and (3) the number of nesting pairs of each species each year. In this report I provide some of this information as a summary of the first year efforts of the MCWC.

## METHODS

The MCWC is a cooperative program that relies on a statewide cadre of volunteers to do most of the counting. Standard data sheets were distributed to cooperators and a fixed count period, 1-19 June, was established, although counts made during any part of the breeding season were accepted.

The U.S. Fish and Wildlife Service counted colonies from a fixed-wing airplane on two days in the Delta counties and Claiborne County. The National Park Service conducted a one-day aerial count on the coast. The U.S. Army Corps of Engineers, Memphis District, traveled the entire Mississippi portion of the Mississippi River by boat to count Least Tern (*Sterna antillarum*) colonies.

In some cases the number of nests were counted, but this usually was not possible. Most counts were based on estimates of the number of nests or the number of adults present, using the assumption that one adult was attending each nest at any given time. Generally aerial counts are not as accurate as counts made from the ground. The count period was selected to measure colony size during the peak nesting of as many species as possible, however, early nesting species, such as the Great Blue Heron (*Ardea herodias*), were likely past their peak.

## VOLUNTEER PARTICIPATION

Twenty-three people participated in data collection. Most are dedicated amateurs interested in the welfare of colonial waterbirds. The few professional biologists who participated did so as an extra duty that, with one exception, was not part of their normal responsibilities. In this first year of the MCWC, participants had to find the colonies as well as census them. Colony location will continue to be an important task for future counts. Observers were lacking for large areas of the state.

## WATERBIRD POPULATIONS

Sixty colonies were located and 18,954 breeding pairs of 12 species were reported (Table 1). Specific localities and data/observer are on file at the Mississippi Museum of Natural Science and with the Vicksburg Office of the U.S. Fish and Wildlife Service. Cattle Egrets (*Bulbulcus ibis*) were the most abundant species and Least Terns occurred in the most colonies (Tables 2 and 3). Nesting Tricolored Herons (*Egretta tricolor*) were found only in the Fitler Colony in Issaquena County. The Fitler Colony also had the only recorded nesting White Ibis (*Eudocimus albus*) and Black-crowned Night-Herons (*Nycticorax nycticorax*). Yellow-crowned Night-Herons (*Nyctanassa violacea*) were found nesting only at the Mule Jail Colony in Hinds County. Black Skimmers (*Rynchops niger*) nested only at two coastal colonies, Long Beach Colony in Harrison County and Horn Island Pass Colony in Jackson County. Least Terns nested only on the coast and on the Mississippi River. The interior population nested at 34 locations (an estimated 1,070 pairs) on the Mississippi River, 17 colonies in Mississippi waters, 15 in Arkansas, and two in Louisiana adjacent to Mississippi.

The Pearl River Refuge Colony in Madison County was the largest colony in the state, with 5,826 breeding pairs of four species, including 5,240 Cattle Egret pairs. In the Delta, Fitler was the largest and most diverse colony with seven species and 1,637 breeding pairs. The Gulfport East Colony (Harrison County) was the largest coastal colony, with 900 pairs of Least Terns and pairs of Black Skimmers. No colonies were found in Hancock County, which conforms with the findings of previous coastal surveys (Jackson and Jackson 1985, Jackson et al. 1980, Keller et al. 1984, Portnoy 1977).

In this first year of the MCWC, many colonies (but an unknown number) were missed. Counting effort was highest in the Delta counties and on the coast, but even in these areas coverage was not complete. Only the coast has any historical data to use for trend analysis and those are incomplete. From 1976-1984 Least Tern nesting on the coast averaged approximately 4,300 pairs (Jackson and Jackson 1985), but J.A. Jackson, J. Dubuisson, and G. Hopkins reported only 2,076 pairs in 1994 (Table 2). No other tern species were found nesting on the coast in 1994. From 1976 to 1979, nesting by other tern species was irregular (Jackson et al. 1979). The 73 pairs of Black

Skimmers are also within the historical range of variation in nesting activities in coastal Mississippi. In future years we hope to enlarge the cadre of volunteers, achieve more complete coverage of the state, and improve the quality/uniformity of estimates.

Table 1. County/Regional Summary for the 1994 Mississippi Colonial Waterbird Count.

	Number of Colonies	Number of Species	Number of Pairs
Statewide	60	12	18,954
Delta counties (including MS. River in MS)	24	10	10,278
Mississippi River (in AR or LA) <sup>a</sup>	17	1	454
Coastal counties	11	3	2,157
Adams Co.	3	2	110
Calhoun Co.	1	2	31
Claiborne Co.	1	1	50
Hinds Co.	1	2	8
Jefferson Co.	1	1	40
Madison Co.	1	4	5,826

<sup>a</sup> Least Tern colonies on the Mississippi River adjacent to Mississippi, but in Arkansas or Louisiana.

Table 2. Species Summary for the 1994 Mississippi Colonial Waterbird Count.

SPECIES	NUMBER OF PAIRS	NUMBER OF COLONIES	LARGEST COLONY
<b>STATEWIDE</b>			
Anhinga ( <i>Anhinga anhinga</i> )	125	6	50
Great Blue Heron	843	10	350
Great Egret ( <i>Casmerodius albus</i> )	1,533	6	800
Snowy Egret ( <i>Egretta thula</i> )	549	5	250
Little Blue Heron ( <i>Egretta caerulea</i> )	2,351	6	1,000
Tricolored Heron	1	1	1
Cattle Egret	10,094	4	5,240
Black-crowned Night-Heron	1	1	1
Yellow-crowned Night-Heron	3	1	3
White Ibis	235	1	235
Least Tern	2,692	25	900
Least Tern <sup>a</sup>	454	17	85
Black Skimmer	73	2	53

<sup>a</sup> Colonies on the Mississippi River adjacent to Mississippi, but in Arkansas or Louisiana.

Table 3. Species Summary for Various Regions of Mississippi for the 1994 Mississippi Colonial Waterbird Count.

SPECIES	NUMBER OF PAIRS	NUMBER OF COLONIES	LARGEST COLONY
<b>DELTA COUNTIES</b>			
Anhinga	120	4	50
Great Blue Heron	800	6	350
Great Egret	1,513	5	800
Snowy Egret	497	3	250
Little Blue Heron	11,771	5	1,000
Tricolored Heron	1	1	1
Cattle Egret	4,854	3	3,750
Black-crowned Night-Heron	1	1	1
White Ibis	235	1	235
Least Tern	486	14	220
Least Tern <sup>a</sup>	454	17	85

<b>COASTAL COUNTIES</b>			
Great Blue Heron	8	2	5
Least Tern	2,076	8	900
Black Skimmer	73	2	53

<b>ADAMS COUNTY</b>			
Great Egret	20	1	20
Least Tern	90	2	80

Table 3. Continued.

Species	Number of Pairs	Number of Colonies	Largest Colony
<b>CALHOUN COUNTY</b>			
Anhinga	1	1	1
Great Blue Heron	30	1	30

<b>CLAIBORNE COUNTY</b>			
Snowy Egret	50	1	50

<b>HINDS COUNTY</b>			
Great Blue Heron	5	1	5
Yellow-crowned Night-Heron	3	1	3

<b>JEFFERSON COUNTY</b>			
Least Tern	40	1	40

<b>MADISON COUNTY</b>			
Anhinga	4	1	4
Snowy Egret	2	1	2
Little Blue Heron	580	1	580
Cattle Egret	5,240	1	5,240

<sup>a</sup> Colonies on the Mississippi River adjacent to Mississippi, but in Arkansas or Louisiana.

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