

## OBSERVATIONS OF HERON AND EGRET COLONIES IN ALABAMA 1952-2001

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Over the past fifty years we have observed at least 42 heron colonies in 21 counties in Alabama, two in adjacent Florida, and three in adjacent Georgia. From research done at these colonies, we have noted changes in the ecology, status, and distribution of some heron and egret species, especially on the Coastal Plain where most of the colonies have been situated. These research projects have resulted in 31 research papers and reports by the writers, two doctoral dissertations, and five master's theses by Auburn University students. In this report we provide an overview of some of the population changes and their causes.

The Great Blue Heron (*Ardea herodias*) usually nests in small colonies in Coastal Plain swamps and on river banks, but is fairly common throughout Alabama (Dusi and Dusi 1987, 1988, Jackson 2001). With the advent of aquaculture in Alabama, Great Blue Heron populations have increased near the facilities (Parnell et al. 1988).

Great Egrets (*Egretta albus*) usually nest in mixed-species colonies with Great Blue Heron, Little Blue Heron (*Egretta caerulea*), Cattle Egret (*Bubulcus ibis*), Snowy Egret (*Egretta thula*), Tri-colored Heron (*Egretta tricolor*), Green Heron (*Butorides striatus*), White Ibis (*Eudocimus albus*), and Anhinga (*Anhinga anhinga*). Great Egrets have declined in numbers along with a decline in colony numbers, but have increased in areas with aquaculture ponds (pers. obs.).

The Cattle Egret entered Alabama in the late 1950s. The first nest was found in 1963, in a Little Blue Heron-White Ibis colony near Opp, Covington Co., Alabama by Bill Summerour (Dusi and Dusi 1963) and quickly spread northward to Wheeler National Wildlife Refuge, Limestone Co., Alabama (Dusi et al. 1971). Cattle Egrets moved into many mixed-species colonies and often pirated Little Blue Heron nests, becoming the most abundant heron species in Alabama by the late 1960s (Dusi 1968). During this time we found that the Cattle Egret and White Ibis, which were present in some of the mixed colonies, responded with increased nesting during periods of greater rainfall. For example, during the summer of 1965, while we were studying a mixed colony near Pansey, Houston Co., Alabama, drought conditions were present from late April until early June (Dusi and Dusi 1968). The White Ibis roosted at the colony site but

did not nest. A small group of Little Blue Heron nested and about 45 Cattle Egret nests were present. Cattle Egret nests were gradually deserted. In mid-July the rainfall increased and Cattle Egret nesting resumed. Drought conditions returned before the end of July and by July 30, all Cattle Egret nests were empty and unsuccessful. Of the 117 Little Blue Heron nests in the colony, only 14.5% were successful. We believe that drought-affected pasture vegetation did not support a sufficient insect population to feed the Cattle Egret adults and young. Studies by Ward et al. (1958) showed that sandy soils of the Coastal Plain have little potential for water retention and that at least four cm of rain should fall every five to ten days to prevent agricultural drought conditions.

Again, from 1985 to 1988, severe drought conditions were present and the number of observed colonies was reduced to two (Dusi and Dusi 1987, 1988). The current drought period has resulted in few colonies except on the coast. A small, mixed colony has appeared on an island in the Chattahoochee River, in the Eufaula National Wildlife Refuge and some Cattle Egrets were present and may have nested (fide Milton Hubbard). When adequate rainfall returns, the Cattle Egret may again become abundant.

The Little Blue Heron has decreased in abundance with the Cattle Egret entering the mixed species colonies. Much of this is caused by the Cattle Egret pirating Little Blue Heron nests (Dusi 1968, Dusi et al. 1971). A typical pattern occurs when the Little Blue Heron establishes a colony (swamp or upland), builds nests, and starts incubation. The Cattle Egret arrives at the colony site and proceeds to occupy any unguarded nests. If young Little Blue Herons are in the nests, they are pecked and driven out. If only eggs are present, Cattle Egrets sometimes add their own eggs to the nest and incubate all eggs and rear all chicks (Dusi 1968).

The Green Heron, Snowy Egret, Tri-colored Heron, White Ibis and Anhinga all have occurred in small numbers in some of the mixed colonies. The Black-crowned Night-Heron (*Nycticorax nycticorax*), was abundant in the colony at the Wheeler National Wildlife Refuge (Dusi et al. 1971).

Hopefully, a return to more normal rainfall will produce the conditions where herons will again be abundant in Alabama.

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