

It would be interesting to know if Great Blue Herons are important predators of young alligators and up to what size. The young on the spoil bank did not appear to be too large for, in January 1981, I watched a Great Blue Heron in Georgia swallow a chunky fish that was as long as the young alligators and may have weighed considerably more.

The behavior observed at the ranch, although similar in general, does not exactly fit patterns described by Kushlan and Kushlan (1980, *Herpetologica* 36: 27-32) of defense by nesting alligators, possibly because situations change as young grow older. The smaller alligator at the ranch defended her young directly when they were on the bank and also the pool as a territory. This latter approach fitted prior observations that the young were apt to swim about the whole of the pool when not sunning themselves on the bank.

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REVIEW

Florida atlas of breeding sites for herons and their allies: 1976-78.—Stephen A. Nesbitt, John C. Ogden, Herbert W. Kale II, Barbara W. Patty, and Lesley A. Rowse. 1982. U.S. Fish and Wildlife Service, Office of Biological Services. FWS/OBS-81/49.—This report presents information on heron colonies in Florida east of the Ochlockonee River. Data cover 1976 through 1978 and include 295 identified colony sites and 22 species of colonial waterbirds. The report is organized by county and by colony, with the account for each site including colony location, colony name, site description, and the number of pairs of each species, mostly in April or June of the several years, depending on the information available. The report was printed by the National Coastal Ecosystems Team of the U.S. Fish and Wildlife Service, whose stated purpose was "to aid resource managers and others concerned with the intelligent management of Florida's natural resources." With such an important audience in mind, it is of some value to examine whether the purpose has been met.

The most useful potential contribution of this report is to document the locations of waterbird colonies censused in Florida. For the most part, the locations given for colony sites are approximately correct, especially those located near prominent landmarks. Not all colonies are correctly placed, however, so the best approach for a local conservationist is to use the atlas as a starting point for locating colony sites and then to seek corroborative evidence elsewhere. Also one should not assume that the sites presented represent all of the colonies active in Florida during the years covered, in that the aerial searches for previously unknown colony sites were far from complete. Clearly the listing of colony sites in one report is a contribution, but this atlas must be used cautiously.

With respect to a second potential contribution, the documentation of species composition and nesting numbers, the Atlas ends up doing a decided disservice to its audience, because of its reporting of data marred by un-evaluated errors especially resulting from the use of one-shot aerial censuses. The existence of such errors are noted in the Methods section, including my finding that they may be as high as 30-100%. Regardless, census numbers are

presented with no indication of their reliability. This can only serve to trap the unwary user into drawing conclusions based upon data whose implied accuracy is unfounded. Censusing bird populations requires special care in technique selection, data presentation, and analysis, matters well established in the technical literature. In the present report, based upon the methods used, there is no justification for including other than the broadest of ranges of the number of birds observed.

Given the less than complete coverage of the state, the errors inherent in the aerial census technique used for most of the data presented, and the annual and seasonal variation in nesting timing and effort, the statement that "the estimates for Brown Pelicans, Cattle Egrets, Great Blue Herons, Great Egrets, Roseate Spoonbills, White Ibises, and Wood Storks reasonably represent the nesting populations within the area covered" is dangerously misleading to the typical citizen conservationist.

To this we can add the difficulty raised by some of the information being just plain wrong. Good examples may be drawn from the data from Dade and Monroe counties, all of which were obtained without verification by the principal investigator of the census program. Perhaps the most telling example is the colony called "Planaria" (p. 123). The Atlas not only provides a location by both Latitude and Longitude and by Township and Range but also the numbers of two species nesting there. Unfortunately such a colony never existed. This entry somehow derives from a marginal doodle on a field data sheet, which was an attempt to communicate the appearance of an Everglades tree island between observers.

Given the serious problems with accuracy and completeness, one might wonder how a conservationist could check on the information presented. Communication with the persons listed as authors would not necessarily be satisfactory in that information from nearly 25% of the colony sites was supplied by census programs whose participants are not listed as authors. Such lack of attribution makes critical evaluation nearly impossible.

In that such an atlas could be a valuable tool for conservation and resource management, it is of interest to contrast the Florida atlas with one that is, "An atlas and census of Texas waterbird colonies 1973-1980", compiled by the Texas Colonial Waterbird Society, published by the Caesar Kleberg Wildlife Research Institute, 1982. This census was undertaken by 159 co-operators mostly amateurs, demonstrating a confidence in non-professionals sadly lacking in any Florida program. The ten professionals co-ordinating the work are listed as compilers not authors. Airplanes were used primarily to locate colony sites, and most counts especially along the coast were done on the ground, the only appropriate census technique for colonial wading birds. Aerial data are clearly identified. Thus the census data provided can be used with known confidence by various interested parties. Should verification be necessary, the name of the person contributing each census is provided. This also permits the data to be credited to his or her hard work.

The statewide survey program in Texas is now over a decade old, and a model of co-operation, the use of dedicated amateur ornithologists, and adherence to standards of wildlife censusing. It is truly a shame that Florida lacks such an independent program and so has been denied a trustworthy atlas of waterbird colonies.—James A. Kushlan, Department of Biological Sciences, East Texas State University, Commerce, Texas 75428.