

Population Decline of Black Vultures in North Carolina

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As opportunity permitted, I have followed the population trends of Black Vultures (*Coragyps atratus*) throughout the southeastern United States since 1959. From 1975 to 1981 the number of Black Vultures has declined in a three-county region (Granville, Vance, and Warren Counties) of northcentral North Carolina.

In April 1975 I found a foraging flock of Black Vultures gathered around a poultry farm near Oxford, Granville County, N.C. I later found these birds often gathering at this farm. They normally remained at the farm for several hours at midday. As I often passed this farm or visited it in my daily activities, repeated counts (154 in all) were made of the Black Vultures present there in 1975 and in succeeding years (Table 1). A decline in numbers was shown each succeeding year through 1980, with an average annual decline of 20%. The rate of decline averaged 17% from 1975 through 1978 and 25% from 1979 through 1980.

To check further on the decline in the population of Black Vultures in the region around my home, I attempted to gather information on the nesting activities of these birds. I ran an advertisement during April and May of both 1979 and 1981 in three weekly issues of the *Tri-county Shopping Guide*, offering \$10 for information on the locations of active nests of "buzzards," the name commonly used by the local residents. This publication goes to all homes in my study area. I expected to receive reports of both Black Vultures and Turkey Vultures (*Cathartes aura*).

Three active nests of Black Vultures were reported to me during 1979, and I had a fourth nest on my farm in an old building I maintain for use by nesting vultures. In 1981 no new nesting sites were reported to me, but a pair of Black Vultures nested in an old house where a pair had been reported nesting in 1979. At another site where a pair nested in 1979, two birds were seen for a short time in early May of 1981, but they apparently did not nest. No Black Vultures nested on my farm in 1981. The smaller number of known nests in 1981 is not surprising given the annual decline of 20% shown by the counts of birds (Table 1).

The coverage of possible nesting places by the method used in my nesting survey is, of course, biased in favor of nests in old buildings, for these nests are much more likely to be discovered than are those located elsewhere. I have known of Black Vultures nesting locally in a place other than in an old building only twice since 1965, the year I came to the study area. Although I realize that I may have missed some such pairs during 1979 and 1981, I strongly believe that I found most or all of the Black Vultures nesting in Granville, Vance, and Warren Counties during those 2 years. This conclusion is strengthened by the fact that I saw Black Vultures regularly in the vicinity of known nesting sites.

My population inventory involves only a small portion of the total range of Black Vultures in the southeastern United States. The number of these birds present in the three counties as recently as 1975 indicates the area contains acceptable or even preferred

habitat. This region contains poultry farms and herds of grazing cattle, both situations attracting food-hunting Black Vultures (Stewart 1978). Also, there are numerous abandoned farm buildings furnishing possible nesting places for these birds.

As I have found by observation of marked birds and general field observations both inside and outside of my three-county study area, the Black Vultures occurring here are part of a major population with its center of activity in Chatham County, N.C. In Chatham County I have seen larger congregations of Black Vultures than I have seen in Granville, Vance, and Warren Counties, but I have too few data to determine whether a decline is taking place in the central portion of this population as well as in my peripheral portion. However, there appears to have been no change in the three-county area that is likely to have caused a sharp decline totally unrelated to the condition of the major population. The chicken farm where the Black Vultures gather continues unchanged in operation, and the old buildings used for nesting remain unchanged.

My research is one factor that must be recognized as having contributed toward reducing the population of Black Vultures in northcentral North Carolina. This was most evident in the side effects of banding. One bird of the pair that nested on my farm in 1980 had been banded earlier, and dried fecal material gathered between the band and the bird's leg, impairing blood circulation to the bird's foot. The pair failed in two nesting attempts in 1980. I saw the banded bird placing its immobilized foot on top of its eggs instead of beneath them in attempts at incubation, finally breaking both eggs in two successive clutches and raising no young in 1980. I banded 194 Black Vultures in my three-county study area during the period 1973 through 1976. I suspect that the increased rate of decline from 17% for the period 1975 through 1978 to 25% for 1979 through 1980 may have been caused by my research efforts or those of another researcher working in Chatham County. Authorization for the use of leg bands on vultures has properly been discontinued by the U.S. Fish and Wildlife Service because of the habit these birds have of defecating on their legs, presumably as an aid in body cooling (Hatch 1970).

I also attempted to use the Christmas Bird Counts to determine population trends among Black Vultures as I had done with Barn Owls (*Tyto alba*) (Stewart 1980), but I soon decided that such use could not be made reliably because of the wide-ranging foraging movements of these birds. The same birds could conceivably be seen by different observers many miles apart on different days or even on the same day (see Parmalee and Parmalee 1967).

A lack of suitable and safe nesting facilities may be one important factor in the decline of Black Vulture populations. Of the three nests reported to me in 1979, only one was successful. The newly hatched young disappeared from one nest, and the eggs or newly hatched young disappeared from another. In 1981 the young disappeared soon after hatching from the single nest I found containing eggs.

A special situation in regard to a safe nesting place is provided on my farm where I maintain an old building for use by nesting vultures. The birds enter the building through an open window too high above the ground for easy access by animals that cannot fly. The door is kept locked. This building was used successfully by nesting Black Vultures each year from 1970 through 1980, except during the two seasons when my research interfered with this activity. The building was not used by nesting Black Vultures in 1981, when I did not interfere.

TABLE 1. Numbers of Black Vultures seen in 154 counts made at a chicken farm near Oxford, Granville County, N.C., 1975 through 1980.

<i>Year</i>	<i>No. counts</i>	<i>Range in number of birds</i>	<i>Average number of birds</i>	<i>Percentage decline</i>
1975	21	61-72	66.7	
1976	33	50-62	55.1	17.4
1977	24	39-56	47.8	13.2
1978	26	31-44	38.2	20.1
1979	17	21-34	27.5	28.0
1980	33	17-27	21.3	22.5
Average annual rate of decline				20.2

Because Black Vultures in North Carolina usually nest in old buildings, their nests are readily found by humans and are thus highly vulnerable to the whims of humans. Many farmers do not like Black Vultures, which they suspect of killing and eating newborn farm livestock, and it can be assumed that farmers who experience such losses, or suspected losses, would destroy any nests of these birds found in their buildings. Some cattlemen make no secret of their activities in killing Black Vultures. Parmalee (1954) reported that a cattleman in Nacogdoches County, Texas, trapped and killed 1500 of these birds in one year. I have found other cattlemen in Texas and elsewhere who operated large traps, leaving the Black Vultures to die in the traps, thus attracting others to the same fate. Some curbing of these activities has resulted from intervention by persons concerned about the inhumaneness involved, but a cattleman in Texas told me in 1978 that he was still trapping and killing the birds. In early 1981 I learned of a similar trapping and killing program on a cattle ranch in Florida.

Fortunately, not all cattlemen consider Black Vultures to be harmful to their interests. For example, at a cattle ranch in Alabama, where about 100 vultures were at the time gathered among the cattle in his pasture, a rancher told me that he has no problems with vultures killing newborn calves. He said that the birds eat only the afterbirths associated with calving unless dead animals are present.

North Carolina state law requires that farmers bury or incinerate dead poultry and livestock, a procedure I consider unnecessary unless the animals die from an infectious disease or produce odors that are offensive to neighboring property owners. A widespread shortage of carcasses on farmland leaves the public highways a major source of food for vultures. Pick-up truck owners in the Southeast often carry a gun over the back window of the vehicle, and birds attracted to road kills make tempting and easy targets.

The Black Vulture population in northcentral North Carolina appears to have declined precipitously between 1975 and 1980, with a slightly higher rate in the last two years of the period. New research should be aimed at continued monitoring of the Black Vulture population, at providing safe nesting places, and at determining how more food can be made available for vultures without violating a state law.

LITERATURE CITED

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BOOK REVIEWS

BIRDS OF ROAN MOUNTAIN AND VICINITY. [1984]. Glen Eller and Gary Wallace. Lee R. Herndon Chapter, Tennessee Ornithological Society. 12 p. Available from Glen D. Eller, Route 9, Box 1340, Grandview Terrace, Elizabethton, Tennessee 37643, \$1.90 including postage.

Dedicated in memory of Lee R. Herndon and Fred W. Behrend, the booklet contains a brief description of the Roan Mountain area (map on back cover) and 10 pages of two-part bar graphs showing relative abundance of each species according to season of occurrence and elevation. Early dates of arrival and late dates of departure are shown for migrants. An asterisk following the species name indicates known breeding. The species order is that of the Sixth Edition of the A.O.U. *Check-list of North American Birds* (1983). The graphs are based primarily on the field records of TOS members in the Elizabethton chapter. The authors are to be congratulated for making this large body of distributional data available in a convenient format. Everyone interested in the bird life of the southern Appalachians will want a copy.—EFP

SUBURBAN WILDLIFE. 1984. Richard Headstrom. Prentice-Hall, Inc., Englewood Cliffs, New Jersey 07632. Illustrated by Jennifer Dewey. 176 p. Softbound \$8.95.

Although the author is a former resident of Aiken, S.C., this collection of informal nature essays is strongly influenced by his experiences in New England. Fortunately, most of the articles tell where the animals can be found or are so generalized that geographic distribution is not a problem; however, the one on summer birds is misleading to people who do not live where certain species (e.g. American Bittern, Black-billed Cuckoo, and Vesper Sparrow) nest. The article on bats is particularly enjoyable because it deals effectively with some of the unfortunate myths that surround these flying mammals. Subjects include insects, spiders, and earthworms as well as the vertebrates most likely to be encountered in the suburbs. Headstrom's conversational style of writing makes for easy reading, and the book should appeal to young people.

Suburban Wildlife is a PHalarope Book, one in a series of publications based on nature courses taught at colleges, museums, or nature centers. Other titles deal with topics such as astronomy, botany, fossil collecting, and the seashore.—EFP