

Finches were found morbid or dead, it is suggested that these species may have been more susceptible to injury from snow-cover than the other species visiting these feeders.

The increased use of artificially provided food during snow-cover suggests that snow provides new stress in the birds' search for adequate food. Consequently, the levels of morbidity and mortality observed at my feeding stations during a time of snow-cover is assumed to be higher than when such stress is absent. It is implied that snow-cover is a special hazard to at least some species of birds wintering in North Carolina. Unfortunately, it is not known to what extent morbidity and mortality was caused or hastened by snow-cover.

Even with the apparently large number of cats near the feeders, the observable impact of these predators on the bird population was minor. The Northern Cardinal, captured after injuring itself in collision with a window, was the only apparently healthy bird to fall prey to a cat.

Carolina Chickadees and Tufted Titmice showed a tendency to come alone to the window feeder, creating less attraction to would-be predators than the highly gregarious House Finches. Similarly, morbid House Finches often remained behind to feed alone after their healthy associates left en masse. A Sharp-shinned Hawk (*Accipiter striatus*), visiting the area on 10 January 1988, pursued a departing flock of House Finches instead of capturing the laggard bird at the feeder. This provides an example of an apparent advantage to solitary feeding. I presume that the outcome could have been different if the predator had been a house cat.

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Breeding Status of the Northern Harrier in North Carolina

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Despite the fact that the Northern Harrier (*Circus cyaneus*) is a regular, although not particularly common nesting bird on the nearby Delmarva Peninsula (Kain, 1987; Robbins and Boone, 1984), there is little hard evidence of these birds breeding in coastal North Carolina. The only published reports of breeding are an unsuccessful nesting attempt near Frisco, Dare County, NC (Pearson et al., 1942) and the revised 1959 edition of the Birds of North Carolina mentioned a 19 April 1891 inland nesting record for Bertie County. Coues (1891) listed this species as "very common, resident" of Ft. Macon, but provided no evidence of nesting for this or most other species that he considered residents. Smithwick (1897) considered these birds as "common residents in the east, probably breeding." During the last few years records obtained by ourselves and others suggest a small but regular nesting population along the north-central North Carolina coastal area. These records are regarded as the southern limit of breeding for this raptor in North America.

Areas of breeding season occurrence are presented in Table 1, with the majority of records coming from Ocracoke and Cedar islands. An increase in reported sightings in the last decade may or may not represent a real increase in nesting season birds. Documentation of nesting is particularly difficult for this species because of the early arrival and late departure dates

Table 1
Breeding season records of North Harriers in North Carolina

Date	Location	Evidence	Reference
19 Apr 1891	Bertie Co.	nest	Pearson et al. 1959 revision
20 May-14 June 1936	Dare Co., Frisco	nest and eggs	Pearson et al. 1942
2 June 1979	Carteret Co., Cedar Is.	pair	Chat 43:97
3 June 1979	Hyde Co., Ocracoke Is.	pair	Chat: 43:97
31 May 1980	Carteret Co., Cedar Is.	male carrying food	Chat 44:114 NCSM records
early June 1980	Dare Co., near Manns Harbor	several sightings	NCSM records
2 June 1980	Carteret Co., Cedar Is.	one bird	Chat 45:20
22 June 1981	Carteret Co., Cedar Is.	five birds	Chat 46:22
31 May 1982	Carteret Co., Cedar Is.	two birds	Chat 46:118 NCSM records
10 June 1982	Washington Co., Lake Phelps	two females or immatures	Chat 47:28-29
June 1982	Carteret Co., Cedar Is.	several birds	Chat 47:28-29
June-July 1983	Carteret Co.	four or five (non-breeders?)	Chat 48:20
spring 1984	Hyde Co., Ocracoke Is.	nest & young	NCSM records
spring 1985	Hyde Co., Ocracoke Is.	several birds	NCSM records
7-21 June 1986	Hyde Co., Ocracoke Is.	several birds 2 adult males	NCSM records
21 June 1986	Dare Co., Manteo marshes	one bird	NCSM records

of migrant and wintering individuals. While the bulk of fall migration is in October and November, inland records would indicate occasional individuals present as early as 4 July (Chat 45:20). Most birds depart by Mid -March, but late migrants linger until at least 16 May (Chat 45:106), and Holmes had an inland record for 8 June 1951 (Chat 18:48), suggesting that non-breeding individuals are present throughout the year. At any rate, late or lingering migrants are certainly present during the mid-April to early June presumed nesting period.

The majority of the evidence of recent nesting is, unfortunately, simply sightings of birds between the period of extreme dates for migration. In that most, if not all, of the late and early migrants are presumed young of the year birds, the presence of birds in adult male plumage at several sites is suggestive of breeding. One adult male seen on 31 May 1980 carrying food, is indicative of nesting also (see Table 1).

In the spring of 1984, the staff of the Cape Hatteras National Seashore informed us of a Northern Harrier nest with young on Ocracoke Island. Although information is sketchy, it appears that at least four pairs (2 on Ocracoke Island) were present in the state during 1986. Based on total number of reported nesting sites for the state during the last decade, it seems probable that fewer than a dozen pairs are present during any given nesting season.

The information presented here is incomplete, but we hope it will inspire additional confirmation of breeding. We thank Bonnie Strausser, U.S. Fish and Wildlife Service, for calling the 1984 nesting record to our attention.

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