

General Field Notes

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Least Tern Colony at Shaw Air Force Base, South Carolina

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Roof-nesting of Least Terns (*Sterna antillarum*) was first documented at a Florida site in 1957 (Goodnight 1957). Since then, roof nesting has been documented in many other southeastern states (Fisk 1975; Young 1991; Cooper 1994). Historically, these birds used sandy beaches for nesting, but development pressures on barrier islands in the southeastern United States have forced terns to find alternative nest sites.

Shaw Air Force Base is a 3,367-acre installation in Sumter County, South Carolina, approximately 85 miles from the coast. Least Terns were first observed on the base in April 2001 foraging on a series of small ponds associated with the base golf course. It was assumed that the birds were transients, but when terns were witnessed into June, we began searching for possible breeding locations. Using aerial photographs and ground reconnaissance, all potentially suitable rooftops were identified. Foraging birds were then followed back to the colony atop the BX building (the base department store) on 20 June 2001. At this time, one chick approximately 2-3 days old was located on the rooftop, and seven adults were seen flying above. On a return visit to the site on 2 July, one chick approximately 15 days old was located and banded, and eight adults were observed. On 11 July, a juvenile was observed making short flights around the roof with the adults and was assumed to be the chick observed in the previous two visits.

The colony site is on a one-story building with a multi-tiered tar and gravel roof (33°58'36"N, 80°28'42") built in the 1950s, similar to that reported by Cooper (1994). Several buildings in the area have similar rooftops, though no

terns were found on them. The chick was found on the lower tier of the roof. Several scrapes were observed on the upper tier of the roof. It is possible that nests were initiated on the upper tier and the chick fell 1.7 m to the lower tier after hatching. The lower tier has adequate shade, a water source in the form of air conditioning units and ventilation fans, and good drainage (so standing water is not a problem). The lower tier has several drainage slots that could prove hazardous to moving chicks because the slot openings are only 2" above the gravel on the roof. If the terns nest again next year, these openings will be screened. The upper tier has no shade or water source. The terns seemed to forage exclusively on the three golf course ponds 200 - 550 meters from the nesting site. The ponds are 5.2, 5.4, and 7 acres and contain a large number of suitable forage fish, including juvenile Largemouth Bass (*Micropterus salmoides*), Bluegill (*Lepomis* sp.), Eastern Mosquitofish (*Gambusia holbrooki*), and shiners (*Notemigonus* sp.), as evidenced by ongoing studies on the ponds.

The Least Terns at Shaw Air Force Base are the farthest inland documented roof-nesting colony in North or South Carolina and the first away from a large body of water. The closest large body of water is Lake Marion, 25 miles to the south. Other inland records include Lake Marion (Post 1967) and Lake Murray (Chamberlain 1960), which are 65 and 110 miles from the coast, respectively. Post (1967) questioned whether South Carolina's inland-nesting terns were of the coastal (*S. a. antellarum*) or the interior (*S. a. athalassos*) population. This is of particular concern now, since the interior population of Least Terns was listed as federally endangered in 1985. US Fish and Wildlife Service officials do not consider the South Carolina terns as the interior population, but more careful analysis is needed. Least Terns exhibit site fidelity (Attwood and Massey 1988), so the colony might be active again next year. If this is the case, the terns will be monitored more closely, and modifications will be made to the roof to increase its suitability by ensuring adequate shade, water, and protection from dangerous drop-offs.

Given the decline in suitable natural nesting sites for Least Terns in the Southeast, rooftops are of increasing value as colony sites. Roof-nesting terns have demonstrated similar or increased productivity when compared to those using natural sites (Gore and Kinnison 1991; Krogh and Schweitzer 1999), so rooftops provide a viable option for nesting terns. The terns on our site were not as productive as those in the above studies, however, as a minimum of four pairs of terns produced only one chick. But it is likely that other pairs had failed nesting attempts, perhaps from chicks falling from the roof (although none was found). Predation pressures are reduced on rooftop colonies since terrestrial predators do not have access. Avian predation by crows (*Corvus* sp.), extreme temperatures, flooding, and falling, however, are all sources of mortality for rooftop-nesting terns (Fisk 1978, Krogh and Schweitzer 1999).

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Second Record of Calliope Hummingbird in North Carolina

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In late February 1997, Scott observed an unfamiliar hummingbird at her feeders near Hampstead in Pender County, North Carolina. She noted that it was noticeably smaller than a probable Rufous Hummingbird (*Selasphorus rufus*) that was also visiting her hummingbird feeders. On 24 February, Derb Carter paid a visit to Scott's feeders and was able to study the small hummingbird. He identified it as a Calliope Hummingbird (*Stellula calliope*), the second report of this Western species for North Carolina. The first report was of an immature male photographed at New Bern in late October 1995 (Thompson *et al.* 1997).

Many birders traveled to Hampstead over the next two weeks to look at the hummingbird, presumably a female, and to corroborate Carter's identification. Because Calliope Hummingbird is extremely rare in the Eastern United States, and because female hummingbirds are notoriously difficult to identify,