

Roof-nesting by Common Terns and Black Skimmers in North Carolina

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During the 2005 breeding season, Common Terns (*Sterna hirundo*) and Black Skimmers (*Rynchops niger*) were discovered nesting on a gravel-covered roof in Morehead City (Carteret County), North Carolina. Common Terns and Black Skimmers have been known to use gravel roofs in other parts of their range (Fisk 1978; Gore 1987; MacFarlane 1977), but to the best of my knowledge, this is the first record of roof-nesting by these species in North Carolina. Other species of beach-nesting birds such as Least Terns (*Sternula antillarum*) and American Oystercatchers (*Haematopus palliatus*) have previously been documented nesting on gravel roofs in North Carolina (Cooper 1994; Doyle 1998; J. Fussell pers. comm.), and roughly 30% of North Carolina's breeding Least Terns utilize gravel roofs (NCWRC 2004).

On 29 April 2005, while boating near Beaufort Inlet, I observed a flock of skimmers on top of a warehouse roof at the Morehead City Port Authority. The warehouse borders Bogue Sound and Morehead City Channel (34° 42' 57.5", 76° 41' 45.7"). I visited the roof on 20 May 2005 and confirmed nesting by both Common Terns and Black Skimmers. Birds were in the early stages of nesting and were incubating and laying eggs. During the brief visit, I counted five Black Skimmer nests and four Common Tern nests. Several more scrapes were present and I counted 34 adult skimmers and 12 adult Common Terns at the site. A pair of American Oystercatchers was also observed nesting on the roof of an adjacent warehouse. The roofs of the warehouses were flat and covered with light-colored pea gravel. There was no wall around the edge of the roof so any chicks that might have hatched were at risk of falling off. Eight buildings at the facility had flat, gravel roofs, but only one was being used for nesting by skimmers and terns. I was unable to revisit the site during the breeding season, and therefore it is unknown if any of the nesting attempts were successful.

Along the Atlantic Coast, Common Terns and Black Skimmers typically nest on open and sparsely vegetated sandy barrier island beaches. They will also nest on natural and man-made estuarine islands. Both are considered species of high conservation concern in the *North American Waterbird Conservation Plan* (Kushlan et al. 2002), and both are state listed in North Carolina as species of special concern (LeGrand et al. 2006). Movement to gravel roofs is likely an adaptation to increasing habitat loss, human disturbance, and predation on barrier island beaches. Studies have shown that birds nesting on gravel roofs are only moderately successful or have low reproductive success (Gore and Kinnison 1991; Gore 1987; Fisk 1978).

While some threats such as predation and disturbance may be reduced, other threats exist, including extreme heat, flooding, and egg breakage.

There is concern that a shift to gravel roofs will not offset losses at traditional nesting sites. Furthermore, there has been a tendency in recent years to replace high maintenance gravel roofs with other types of roofs such as plastic (DeVries 2004; Gore and Kinnison 1991). With continuing loss of beach nesting habitat, the use of gravel roofs by beach nesting birds will likely increase in North Carolina. Gravel roofs offer alternative nesting sites and efforts to increase productivity at these sites are worthwhile. However, given the potential threats to roof nesters and the potential loss of gravel roofs in the future, it is important to focus on protecting remaining natural nesting sites.

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