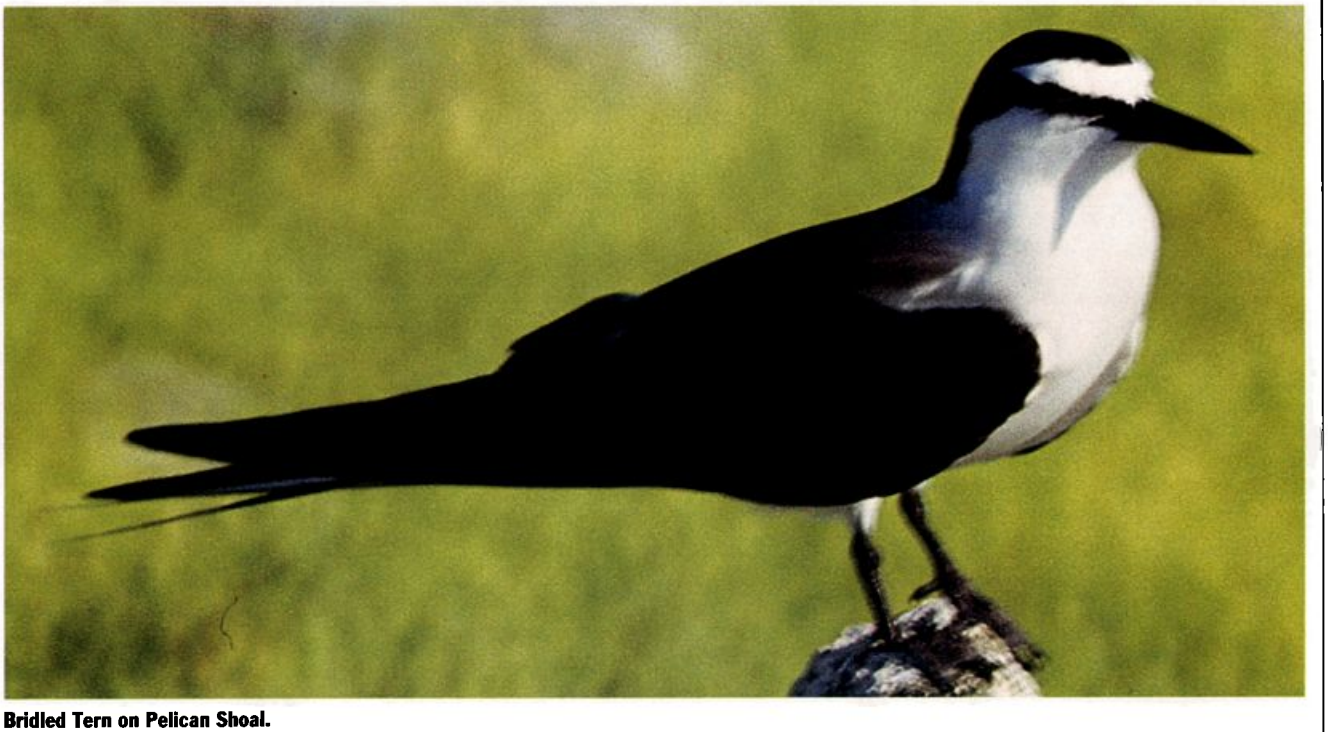
BRIDLED TERN BREEDING RECORD IN THE UNITED STATES

by Wayne Hoffman, Alexander Sprunt IV, Peter Kalla, and Mark Robson

On the morning of July 15, 1987, two of us (Sprunt and Hoffman) visited a Roseate Tern (*Sterna dougallii*) colony on a small coral rubble islet on Pelican Shoal, south of Boca Chica Key, Monroe County, Florida. During inspection we observed four Bridled Terns (*Sterna anaethetus*) flying low over the colony. One of these terns sat for extended periods on coral rocks in the northeastern part of the islet and circled, calling softly when we approached. We returned to the island that afternoon to examine the area more closely, and quickly located a downy Bridled Tern chick crouched under one of the rocks which was used as a perch by the adult. We have accumulated additional records of nesting at this site in subsequent years.

Bridled Terns breed throughout the Bahamas and the Greater and Lesser Antilles, and occur commonly offshore Florida and regularly off other southeastern states, but this is the first evidence of breeding reported for North America north of Quintana Roo on the Yucatan Peninsula (Howell *et al.* 1990). In this note we describe the islet, the Roseate Tern colony, and the Bridled Tern nest site, and compare the nesting habitat of these terns to that used in the Bahamas.

The Florida Keys are flanked to the east and south by a line of coral reefs paralleling the main keys at a distance of 6 to 12 kilometers. The best-developed (and some of the shallowest) reefs occur along the reef margin, adjacent to the deep water of the Florida Straits. The tern colony occupies an islet of approximately one-fourth hectare composed of coral rubble and sand located on a shallow section of the fringing reef called



PHOTOGRAPH MARK ROBSON

Bridled Tern on Pelican Shoal.

Pelican Shoal, at 24°30.1'N, 81°37.9'W, and approximately 8 kilometers south-southeast of Boca Chica Key. It rises to a maximum of about one meter above the visible high-water line. The highest spots lie on a berm along the south and southwest margins. The more protected northern margin is backed by lower berms. In 1987, four species of plants occupied about one-half of the islet's surface. Sea Purslane (*Sesuvium portulacastrum*) occurred in four large and several small patches, and accounted for most of the area covered. Sandspurs (*Cenchrus* sp.) formed smaller patches and invaded some of the *Sesuvium* mats. Several bushes of Sea Lavender (*Mallatonia [Tournefortia] gnaphaloides*) grew in the interior of the island, and a single plant of Sea Oats (*Uniola paniculata*) grew on the southwestern berm.

In 1987, the colony contained about 300 pairs of Roseate Terns. Approximately 50 nests with eggs remained July 15, mostly in the *Sesuvium* mats. About 20% of these had two-egg clutches, and the remainder contained single eggs. Numerous downy and partly feathered chicks hid among the rocks and the vegetation. Fifty to sixty dependent flying young were also present, and we observed two of these leaving the colony, following adults out to sea. Adult Roseate Terns followed flight lines to the south and southwest (into deep water), and west along the reef margin. They also fed in small flocks next to the island, when jacks (*Caranx* sp.) and tarpon (*Megalops atlanticus*) forced abundant schooling minnows (probably silversides, *Atherinomorus stipes*) to the surface. One Bridled Tern joined a few of these flocks but was not seen to feed. This is the largest Roseate Tern colony known in Florida, and one of the largest known in the Caribbean basin. About 10 adult Least Terns (*Sterna antillarum*) were present, as well as several flying young, so they may have bred in the colony. During the morning about 120 Sooty Terns (*Sterna fuscata*), in groups of up to 15 birds, visited the colony. They were traveling along the reef margin from east to west, and as they approached, changed course and flew over the island, often circling once or twice before continuing west. None was seen to land, and no evidence was seen of Sooty Tern nesting.

We returned to Pelican shoal in June 1988, but found the islet deserted. We found several fire pits, numerous .22 caliber shell casings and a few spent shotgun shells, and other evidence of extensive human disturbance. The Roseate Terns had moved to Tank Island, in Key West Harbor, where they were nesting with Least Terns. This island recently had been cleared of vegetation in preparation for development, and provided the bare rocky substrate favored by Roseate Terns. The colony site was protected from direct disturbance but failed completely, for unknown reasons. Bridled Terns were not reported on Tank Island. In 1989, after we placed protective signs on Pelican Shoal, Roseate Terns returned, and have nested annually since. Pelican Shoal was designated by the Florida Game and Freshwater Fish Commission as a unit of the state's Critical Wildlife Area program in July 1990, and is now closed to trespassers from April 1 to September 1, annually.

The Bridled Tern chick found in 1987 was in the interior of a depression about two meters long and up to two meters wide behind the low berm on the northeast side of the islet. The depression was filled with loose coral rubble, and was completely devoid of vegetation. The chick crouched in a large cavity under a piece of coral rock about 60 centimeters long and weighing several kilograms. No remnants of a nest platform or scrape were seen, and as the chick appeared to be at least several days old, it may have moved from the actual nest site. In 1990, Kalla and Robson observed two pairs of Bridled Terns incubating in the colony June 12. On July 9, they again saw two pairs, and found one unhatched egg near a perch-site of one of the pairs. The birds and nests were located in the same general area as the chick found in 1987. They returned May 30, 1991, and observed three pairs of Bridled Terns on the islet, but did not see nests. On May 28, 1992, Robson returned and observed one pair of Bridled Terns present. By 1992, the islet had been substantially rearranged by wave action, and most of the vegetation was gone, but the islet was still high enough to provide nesting sites.

The nearest breeding records of Bridled Terns are from the Cay Sal Bank of the Bahamas, approximately 110 kilometers to the southeast (Sprunt 1984). Breeding Sooty, Bri-

PHOTOGRAPH WAYNE HOFFMAN

Bridled Tern at nesting site on Pelican Shoal, Florida, in July 1987.

dled, and Roseate terns, along with Brown Noddies and Audubon's Shearwaters from these colonies, can frequently be found feeding over the waters of the Florida Straits south of the Florida Keys. The Bridled Tern is the species most often seen close in to the fringing reef and indeed inside the reef line at times.

Bridled Terns breed throughout the Bahamas as single pairs, in small colonies, or in larger mixed colonies with Sooty or Roseate terns, or Brown Noddies. Bridled Tern nest sites are difficult to locate as they are usually in solution holes in the limestone rocks or under large slabs of limestone piled up by heavy wave action (Sprunt 1984). LeCroy (1976) found Bridled Terns nesting in similar coral rubble sites on the Los Roques Island off the northern shore of Venezuela. It is probable that the species would nest along the Keys regularly if suitable habitat existed.

In the past, several other rubble islets have been formed along the reef margin. These rubble islets are relatively temporary features, persisting for a few decades to perhaps a few centuries. They form when a fortuitous combination of abundant rubble and appropriate wave action occurs on a very shallow reef. At present, the Pelican Shoal islet is the only one high enough to support a bird colony. Prior to the hurricanes of 1960 and 1965, an islet called Molasses Reef Dry Rocks existed off Key Largo, about 150 kilometers to the northeast, and Bridled Terns were observed by Sprunt perching on rocks there, but no search for nesting was instituted. An islet similar to Pelican Shoal existed on Looe Key reef at least from the eighteenth century into the early twentieth century before eroding away, and may have provided nesting habitat for Roseate and Bridled terns. The Dry Tortugas, roughly 130 kilometers to the west, have large colonies of Sooty Terns and Brown Noddies, and often have a colony of Roseate Terns (Robertson 1978). The nesting habitat on Bush Key and Long Key seems suitable for Bridled Terns, but adult Bridled Terns are rarely observed in the Dry Tortugas.

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