

INLAND NESTING OF THE LEAST TERN IN HIGHLANDS COUNTY, FLORIDA

Fred E. Lohrer and Charlotte E. Lohrer

Although known to Floridians as a coastal nester, the Least Tern (*Sterna albifrons*) nests regularly in the interior of the United States along major rivers. This pattern of coastal and inland nesting is shared with Eurasian populations (Reilly, 1968). Sprunt (1954) recorded 3 instances of Least Terns nesting in inland Florida (June 1887, Hillsborough County, Thonotassassa; June 1915, Seminole County, Lake Harney; May 1930, Orange County, Orlando) and (1963) mentioned a small colony established on an auditorium rooftop in Pensacola, Escambia County, in 1957-58. Stevenson (1955) found a colony of 20 birds and 2 nests at Lake Jackson, Leon County, on 1 July 1955. More recently Anderson (1972), recorded 2 small colonies at an airport and a cleared construction site near Orlando, Orange County, in June 1972.

On 24 June 1972 we discovered a small colony of Least Terns nesting in Highlands County on bare sand between finger canals along a canal connecting Lake Placid with Lake June-in-Winter. This colony is about 60 miles from the Gulf of Mexico and the Atlantic Ocean.

By 30 June we had located 7 nests (6 with 2 eggs each, 1 with 1) and on 8 July an additional nest (1 egg). Four of these nests produced 7 young; Nest A, 1 on 5 or 6 July, Nest B, 1 on 6 July and 1 on 7 July, Nests C and D, 1 each on 10 July and 11 July. Based on an incubation period of 20-21 days (Reilly *op.cit.*: Kay von Schmidt, pers. comm.), these 4 clutches that produced young indicate that egg laying began during the third week of June.

During mid-June Hurricane Agnes moved north 200 miles off Florida's Gulf Coast. In Highlands County wind damage was minimal and rainfall at the Archbold Biological Station (9 miles SE of the colony) was 6.8 inches for 18-20 June. The 4 clutches that produced young were started during this storm period (2, 15-16 June; 2, 20 June). The 4 clutches that failed were begun after the storm had passed. Since the colony is 5-10 feet above the canal water level, the effects of the storm were minimal.

Judging from the adults' behavior, such as giving of alarm calls and diving at and defecating on observers, none of the young survived more than a few days. The colony was checked regularly until the end of July, but by 15 July the colony was almost deserted. Possible predators recorded in the area included Fish Crows (*Corvus ossifragus*), which were seen at the perimeter of the colony on almost every visit, and a fox (probably the Gray Fox, *Urocyon*) whose tracks were seen in the colony once. Sandspurs (*Cenchrus* sp.), a significant factor in chick survival in some Least Tern colonies (von Schmidt, pers. comm.), were conspicuously absent.

On the first day we visited the colony, 24 June, we flushed a newly fledged young whose flying ability had improved considerably by the next day. On 9 July, as the terns gathered to roost at the colony, we repeatedly counted 10 immature terns. The previous day we also counted 10, and several times in early July we counted 3-7 immatures being fed at Lake Placid or at the colony. The occurrence of these flying immatures at the

same time adults were incubating eggs indicates there were two peaks of egg laying in this colony. The first peak was probably in early to mid-May, assuming 20 days incubation and 17-20 days to fledging (von Schmidt, pers. comm.), and the second peak probably occurred in mid- to late June. After sunset on 9 July we counted 46 roosting terns, 10 of which were immatures. As there were also some additional adults incubating or brooding, the colony probably contained 36-44 adults. We checked several other large lakes in Highlands County during June and July and found no Least Terns. Furthermore, after the colony dispersed in late July, no Least Terns were recorded from the lakes in the southern half of the county, thus indicating that Highlands County is probably not on the path of south-bound Least Terns. Thus we think it reasonable to assume that all the terns gathered at the colony on 9 July belonged to the colony.

In mid- and late May a few adult Least Terns were seen on Lake Placid, and in early June we saw Least Terns carrying fish back to the colony from Lake Placid and Lake June-in-Winter 1.0 and .5 miles respectively from the colony. Adults were also seen catching fish in the canals adjacent to the colony. As Lake June-in-Winter lacks sandy shores, the only loafing area we found away from the colony was along the part of the west shore of Lake Placid closest to the colony, where the few narrow sandy beaches exposed by low water levels were regularly used by the terns. By the end of July summer rains had raised the level of the lake, and the beaches were submerged. The disappearance of the terns from the lake coincided with a rise in water level.

This may not be the first time Least Terns have nested in Highlands County. Aerial photographs indicate the colony site was originally a marsh and the finger canals were dredged between April 1966 and December 1970. In December 1970 the colony site was completely bare sand. In 1972 about half of the area was still bare. Thus it is possible the colony was present for 2-3 years prior to 1972. Elsewhere in the county, Least Terns have been noted on 9 June 1965, Lake Blue; 23 June 1966, Lake Placid (Henry M. Stevenson, pers. comm.), and during June and July 1969 (Glen E. Woolfenden, pers. comm.) along the west shore of Lake Jackson where low water levels had exposed sandy beaches and prevailing winds had built up exposed sand bars. As our colony is not dependent on changing water levels for its existence, it should persist until such time as houses are built, or until vegetation completely covers the bare sand.

The preferred nesting habitat of Least Terns (coastal beaches and river sand bars) are subject to annual changes in location due to wind and changing water levels. The ability of Least Terns to respond to these changes has apparently preadapted them to respond to man-made changes in the environment such as our finger canal site and Anderson's (*op. cit.*) airport and construction site or even large coastal rooftops (Sprunt, *op. cit.*, McGowan, 1969). Therefore, Florida observers should be alert to any change in land use that results in large bare areas so that the speed and manner of avian colonization could be better documented, not only for Least Terns but other open-area nesters, such as the Common Nighthawk, *Chordeiles minor* (Sutherland, 1963) and the Killdeer, *Charadrius vociferus* (Kushlan and Fisk, 1972).

We are grateful to James N. Layne, Kay von Schmidt, and Glen E. Woolfenden for reading an earlier draft of this note. Kay von Schmidt kindly shared her unpublished data with us.

Archbold Biological Station, Route 2, Box 380, Lake Placid, Florida 33852.

Literature Cited

- Anderson, B.H. 1972. Some uncommon avian records for central Florida. *Fla. Nat.*, 45: 192.
- Kushlan, J. K. and E. J. Fisk 1972. Range expansion of the Killdeer in Florida. *Bird-Banding*, 43: 261-263.
- McGowan, A. F. 1969. Common Terns, *Sterna hirundo*, nesting on roof in Pompano Beach. *Fla. Nat.*, 42: 172.
- Reilly, Jr., E. M. 1968. The Audubon Illustrated Handbook of American Birds. New York, McGraw Hill.
- Sprunt, Jr. A. 1954. Florida Bird Life, with addendum 1963. New York, Coward-McCann.
- Stevenson, H. M. 1955. Florida region. *Audubon Field Notes*, 9: 374.
- Sutherland, C. A. 1963. Notes on the behavior of Common Nighthawks in Southern Florida. *Living Bird*, 2: 31-39.

BIRD RECORDS FROM THE DRY TORTUGAS

Clive A. Petrovic and James King, Jr.

As guests of the National Park Service from 25 March to 4 April, 1967, we witnessed an early spring migration through the Dry Tortugas. These islands are located in the Gulf of Mexico about 70 miles west of Key West, Florida. Weather conditions during the period were unstable, being characterized by strong, variable winds. Rain was experienced only on 28 and 30 March.

Seventy species, the majority land birds, were recorded. Specimens obtained have been deposited in the collection of the University of Miami (UMRC), Coral Gables, Florida. Sincere thanks are extended to Oscar T. Owre and William B. Robertson, Jr., for reviewing the manuscript and for verification of the records.

Gannet (*Morus bassanus*)—A skull (UMRC 5224) and several vertebrae picked up on Long Key on 28 March represent only the sixth record of occurrence at the Tortugas. A common winter resident in parts of coastal Florida, this species undoubtedly occurs in winter near the islands.

Red-breasted Merganser (*Mergus serrator*)—An individual (UMRC 5246) collected on Long Key on 28 March lends support to the suggestion