

Least Tern: Beleagured, Opportunistic and Roof-nesting

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From time immemorial Least Terns have nested on the open shale of barrier beaches and islands, surviving the natural disasters of storm, high tides and natural predators. In the 1880s they were almost entirely wiped out by the feather trade, a few colonies only remaining, in Virginia and southeastern Massachusetts. With protection they came back, until in the late 1930s and early 1940s they were once more abundant, with the center of population in the Carolinas. Since then they have steadily declined, with the building of bridges to once lonely beaches, the advent of sand vehicles, real estate development to the ultimate dune, and the human population explosion.

In 1974 a survey of Least Tern colonies was made along the Atlantic Coast by 61 participants, from Key West, Florida to Popham Beach Maine, May - August, for the U.S. Fish & Wildlife Service, the National Audubon Research Department and the Cornell Laboratory of Ornithology. Production was reported generally as poor to negative, the chief factors being loss of habitat, and heavy human disturbance where colonies still exist. Given protection the birds do notably better, subject to their natural hazards. Interpretive signs, a single strand of wire or surveyor's twine (which does not go slack) strung between the posts, have resulted in public acceptance in most cases, and interest.

Roof-nesting was documented in eight localities in south Florida, with a history of several or many years for each. Doubtless it exists in other sites not yet noticed. Up to the point of fledging roof-nesting colonies do as well, or better, than those in natural areas where they are subject to constant harassment. Roofs scrutinized were of tar and gravel, or crushed shell. Except for a slight pitch on the Fort Lauderdale Authority roofs they were flat, with parapets on one to three sides only to allow for water run off; with deep gutters, into which chicks are washed, or where, seeking shade, they become trapped. Shade is also afforded by ventilators, store signs, pipes and water-conditioning units. Two roofs had small, wet, vegetated areas from seepage from air conditioner units. Downspouts were not screened and chicks washed into them. Zayre's roof had irregularities and some of the birds were

nesting on the hummocks (to escape flooding?) but access was not possible and it could not be determined if this was characteristic. The other roofs were flat. Where shell was present some, but not all, of the birds had made raised scrapes, or decorated their nests with pieces of shell, as do beach nesters. Feeding appeared to be in the nearby canals with which Florida is laced, the Intercoastal Waterway, or — at IBM — a decorative pond. Feeding grounds were adjacent in most cases, but not always. Birds nesting in May had a fair chance to bring off their young before the heavy seasonal rains which drowned out many later nestings. Eggs are washed away, small chicks drown or are washed, water stands deeply on the roofs in boiling sun, wind in one case (Trafton) was strong enough to blow adults off their nests. In natural areas chicks shelter in protective vegetation until they are strong enough to take off in the family groups. But a busy urban parking lot, a truck-laden highway has hardly the safety equivalent of dunes and dune grass! Success after fledging in this species is always difficult to estimate as the groups do not necessarily stay on their breeding grounds. With roof-nesters the question mark is doubled.

The first instance of roof-nesting reported was in 1957, a colony in Pensacola, on the roof of the city auditorium, by L.E. Goodnight (Sprunt, Jr Addendum to Florida Birdlife, 1963) still present in 1963. In 1965 A.D. Inwood banded 120 Least Terns on the roof of Jefferson's, a discount house which had been built on the site of a former nesting colony in north east Fort Lauderdale. Inwood has observed this colony annually to the present, as well as birds flying to the roofs of a supermarket, a furniture store and a shopping plaza in the same general area. The district is now highly commercial but May 15, 1974 Greene and Fisk found 10 pairs courting on Jefferson's roof, with two active nests; and saw 10 birds flying to and from the supermarket. Also in Fort Lauderdale Louise L. Greene has observed for seven or eight years Least Terns at the warehouse roofs of the Fort Lauderdale Port Authority on the Intercoastal Waterway. A study in 1974 by Greene and R.A.

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Martz (mss. in prep.) found 100 pairs on two of the roofs, successful to fledging age. Since 1971 in South Miami Mark Trafton, Jr., has observed Least on the roof of Burdine's department store in the extensive urban Dadeland Shopping Mall. Permitted access this year, he found 50 active nests in May and estimated 30 per cent success (to fledging) before the advent of the rainy season. Mid-June showed 25 pair with 15 active nests, but losses were heavy from the heavy characteristic rains. On the roofs of the First Federal Savings Bank in Deerfield, and IBM in Boca Raton, Ron Willocks reported three and eight pairs respectively in 1974, the birds having been present for at least one year before. At a new shopping plaza in Tequesta Lt. R.E. Roberts monitored 100 pairs on the roof of Grant's and an adjacent building, where an unknown number had been noted in 1973.

Accurate figures are hard to come by in this species as with disturbance it re-nests and re-locates, often more than once. May observations may not be valid after the traffic of Decoration Day weekend, nor early June's in July. (Nor Friday's eggs laid on builders' spoil be present Monday after the bulldozers have resumed their work.) Presumably Least are as long-lived as other terns. Much of our present population, then, may date back 10 or 20 years to their hatching, so that the species appears to be holding its own. But a comparison with reports of the early 1940s shows them down more than 80 per cent; and reports on current production acquired in surveys run by Downing and Fisk for the last three years indicate serious present trouble. In California, and England, they are on the Endangered List. A 1974 search by Downing for the Mississippi Basin subspecies was largely unsuccessful. This survey does not cover the Gulf and west Florida coasts, but real estate development and recreational use must equally affect development there. Action by coastal Audubon Societies, ornithological or conservation groups to protect known colonies is urgently needed.

The following report is condensed from data received up to October 25, 1974. Details of State or local colonies are available.

1972: First survey, approximately 5 participants: by Downing and Fisk.

54 colonies reported.

3725 pairs estimated. Almost all colonies washed out by storms.

1973: Second survey, 20 participants: Downing and Fisk

137+ colonies

7014 pairs estimated (Downing figures in *American Birds* for December 1973 augmented by later reports).

1974: 61 participants: Downing and Fisk
163 colonies

7786 pairs estimated, with far greater coverage.

Figures for young are not estimated, as re-nesting and movement of colonies makes this nearly impossible. Many colonies were visited only once. But in each of the three years production was reported everywhere as poor except where colonies were protected, or access was limited.

Colonies protected, by posting and signs: 11, plus 25 Massachusetts colonies

Known Protected Areas

Federal: Brigantine National Wildlife Refuge
Hobe Sound National Wildlife Refuge
Merritt Island National Wildlife Refuge
Pea Island National Wildlife Refuge
Target Rock National Wildlife Refuge
Cape Cod National Seashore
Coast Guard Station beach,
New Smyrna Beach, Florida

State: Cape Henlopen, Delaware State Park

Town: Huntington, New York, which also issues an interpretive bulletin

25 Massachusetts townships cooperate with the Massachusetts Audubon Society in posting, a project begun in 1966.

Private: Arcadian Plantation, Georgetown, S C
Hilton Head, S.C. (one final small dune area remaining, due for development in 1975).

1974 Tern Colony Survey

<i>State</i>	<i>Colonies</i>	<i>Estimated pairs</i>
Florida	59	3200
Georgia	1	2
S. Carolina	23	691
N. Carolina	15	463
Virginia	8	574+
Maryland	—	—
Delaware	1	150
New Jersey	16	410
New York	13	1262
Connecticut	2	115
Rhode Island	1	5
Massachusetts	27	1186
New Hampshire	—	—
Maine	2	10