

WATERBIRD COLONIES OF LONG ISLAND, NEW YORK

2. Wantagh Parkway Colony

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In 1971 and 1972 a tern colony existed on an artificial spoil bank dredged out of the New York State boat channel, about 300 meters north of the Jones Beach Fishing Station, Nassau County, New York. The colony was on the bay side (north side) of the barrier beach and was accessible from the Wantagh Parkway, as appears on the map which follows. A history of the brief existence of this colony is of interest since it illustrates various factors involved in the dramatic rise and decline of terneries.

The colony originally (July 1971) an elliptical area of land fill, 100 x 130 meters, surrounded on three sides by *Phragmites* (*Phragmites communis*) and on the bay side by Salt-water Cordgrass (*Spartina alterniflora*). The Cordgrass marsh extended north from the colony site along the parkway and was occupied by breeding Seaside and Sharp-tailed Sparrows (*Ammospiza maritima* and *A. caudacuta*), Red-winged Blackbirds (*Agelaius phoeniceus*), and Clapper Rails (*Rallus longirostris*).

No terns nested at Wantagh in June 1970, although a few pair may have arrived later in that season after unsuccessful nesting attempts elsewhere. The colony was first found to be occupied in 1971, when 200 pair of Common Terns and 40 pair of Black Skimmers were estimated in early July. The colony was augmented later in July by an influx of nesting terns, presumably after frustrated earlier nesting attempts. A sample of late-nesting terns were trapped on the nest and included one bird that had been banded 5 weeks earlier on a nest at West End Beach, about 6 kilometers to the west. Although there was very little vegetation in the colony itself, the substrate contained many sod-like bumps and pieces of driftwood of sufficient size to provide shade to young tern chicks. Older chicks moved to the edges of the colony where they hid among the *Phragmites*. The *Phragmites*, however, provided shelter for rats, and at least 50 carcasses of young terns showed evidence of having been killed by these animals. Nevertheless, I estimated from the number of young that we banded and from the number of flying young seen at the colony, that probably 200-300 chicks fledged successfully. Although the actual number of breeding pairs of terns was not known, it was certainly less than 300 pair. The high incidence of premature feather loss (Gochfeld 1971) which afflicted terns on western Long Island, and also at Gull Island, Suffolk County (Hays and Risebrough 1972), did not spare the Wantagh colony, for chicks with feather loss were found there in 1971.

Plans were made to study the colony in detail in 1972, and most of

the work was undertaken by Mr. Richard Kremer, studying under Dr. Jon S. Greenlaw. At least 550 nests were marked by June 12, and by June 20, I estimated that perhaps 600 pair of Common Terns and 50 pair of Black Skimmers were present. The entire season had been a rainy one, and the suboptimal (from the tern's viewpoint) weather was followed by the arrival of Hurricane Agnes which produced more cold wet weather in the third week of June. The hurricane eliminated about 60-70% of the nests by flooding, and on June 25 the remaining birds were more shy and less aggressive. The weather continued to be cool, but it seems likely that these birds would have continued to incubate or brood, and the unsuccessful ones might have renested except for the human disturbance which occurred. Over the next two weeks, Greenlaw, D. B. Ford, and I visited the colony on several occasions and found evidence that beach buggies had been driven through the colony, that adult birds had been shot, and that groups of people had used the colony site for parties. Although a vigorous aggressive colony would probably have dissuaded beach-goers from interfering in the colony, the few remaining terns which showed diminished aggressiveness, apparently could not deter the human intruders. Austin (1946) and Palmer (1941) have previously noted that small or disturbed colonies are less effective in the aggressive protection directed against intruders. Not only were adult birds killed, but the intrusion presumably kept adults from incubating or from brooding and feeding their young. Each visit revealed a steady decline, and the colony was abandoned by July 8.

I surveyed the colony twice weekly from early May to mid-June and from late July to early September 1973. Two pair of Common Terns and three pair of Piping Plover were found nesting in early June. Both tern nests and one plover nest failed. There was no evidence of any late nesting attempted at the Wantagh colony, and relatively few birds even passed over the site, although adult terns frequented the fishing pier only 300 meters away. Since the West End Colony which numbered about 1100 pair in 1972 had about 1700 pair in 1973, it seems likely that this increment was made up in large part by birds that nested at Wantagh in 1972. This was not substantiated by the adult trapping program, however. Austin (1940, 1942) and Austin jr. (1932, 1933) discuss at considerable length the tendency of adult terns to return to their natal colony and to locations where they have previously bred successfully, until such colonies become uninhabitable. They also documented massive inter-colony shifts after the initial nest attempt in a season was unsuccessful.

By August 1973 I found that the Wantagh colony area had declined in size by about 10% compared with 1971, due mainly to the intrusion of several stands of *Phragmites*, propagating by superficial runners.

The above discussion has centered principally on Common Terns,

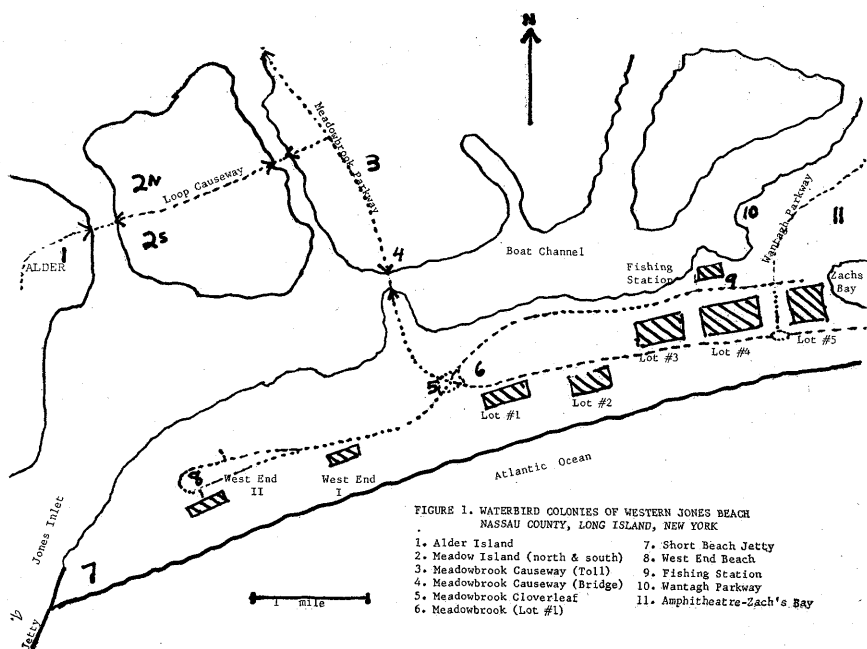
the dominant species at Wantagh and elsewhere on Long Island. I have not found Roseate Terns nesting at Wantagh. In 1971 and 1972 one to three pair of Least Terns (*S. albifrons*) were seen at edges of the colony but no nests or young were found. The Least Tern shows strong preference for open beach on Long Island and elsewhere (e.g. Mead 1973), but are increasingly resorting to spoil banks and landfill as beach sites become less available (e.g., Duffy and Poole 1973). From three to seven pair of Piping Plovers have nested each year at Wantagh, and in 1972, 9-12 young probably reached flying age, from the five nests found.

The second most prominent species at Wantagh was the Black Skimmer. Approximately 40 pair nested during the 1971 season, and nesting was prolonged for some birds due to repeated failures. Three young Skimmers that had been previously banded and color marked, fledged successfully between 21 and 24 September. In 1972 I marked 68 nests of Black Skimmers. Skimmers began hatching on 17 June, but due to the combined effects of inclement weather and human disturbance, none survived to more than 10 days of age. D. B. Ford noted the appearance of about 40 or more pairs of Black Skimmers at the Cedar Beach colony in Suffolk County, 12 miles east of Wantagh, in mid-July. Although a Wantagh to Cedar Beach movement was not documented by observation or capture of color-marked or banded birds, it is likely that some or all of the late-arriving Skimmers observed at Cedar Beach had come from the recently-eliminated Wantagh colony.

The brief history of the Wantagh Parkway colony demonstrates the opportunistic nature of colony-site selection by terns. The relatively good productivity experienced in 1971 suggests that the colony site was an appropriate one, while abandonment of this new colony after a frustrated breeding season, suggests that terns can, in some way, incorporate such information into future choices of sites. Further study is required to determine how much information is integrated and utilized in colony-selection behavior. Comparison with the West End Beach colony is illuminating, since that colony also experienced severe reproductive failure in one season (1971), but was still occupied in 1972 and 1973. Various reports by Austin (e.g., 1940, 1946, 1947) relate tenacity to the size of a colony and the number of years that birds have occupied it.

Finally, the Wantagh colony site will be observed periodically in future seasons, to determine whether it is reoccupied. If so, the trapping of nesting adults can indicate the source of the recolonizing birds, since over 2000 young terns have been banded annually on the south shore of Long Island in recent years.

The following map will be useful in identifying the waterbird colonies referred to by Dr. Gochfeld in this series of articles.



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