AN ONEIDA LAKE PURPLE MARTIN CENSUS

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Introduction

In response to the call, issued by the Publications and Research Committee at the Federation meeting in Jamestown last spring, for more work on the breeding status of New York State birds, Dr. David Peakall and I, Region 5 *Kingbird* editors, selected for investigation five species whose status in our Region is such that it would be interesting and easy for cooperating local observers to census them. Another consideration was to choose species which might over the years show effects of insecticides. The probable use of other census methods than the traditional square grid was envisioned.

One of the species chosen was the Purple Martin, as it is a simple matter to count the apartments in occupied houses. Dr. Fritz Scheider suggested a count around Oneida Lake, an area where many people have maintained Martin houses for years. This would be a means of obtaining an intensive census within a general Regional survey. (A summary of Martin house locations and occupancy reported by Dr. Sally Hoyt in the *Kingbird* included several of the older and larger colonies in Region 5.)[1]

Method

Fortunately for the reliability of the data, is the widespread occupancy by the Purple Martins of the bird houses, which the summer camp owners and permanent residents traditionally put up at their homes on Oneida Lake.[2] Upon undertaking the lake census, I had no idea of the large amount of material available for counting. But I soon found that, for reasons of time, the census had to be continued on five different dates. The data below are presented under these dates. Censusing was done at various times of day; this did not seem to make any difference in the results.

Coverage: The census area lay within the four counties, Onondaga, Madison, Oswego, and Oneida, which surround 26-mile-long Oneida Lake. Roads covered included N. Y. Routes 31, 49, 13, which bound the lake but wherever there were county, town, or camp roads which provided closer access to the shore, the latter were taken rather than the boundary routes. As an indication of what this means in terms of thoroughness of coverage, the distance from Verona Beach to Bridgeport on Route 31 is about 14 miles, but my automobile speedometer showed that I had traveled 53 miles in censusing between these points. A total of about 17 hours was required for the entire census.

Using a convertible car facilitated hearing Martins in the vicinity as well as spotting the houses. I did not leave the car to hunt out houses on foot as this would have taken much longer. I estimate that I found 90% of the houses and this percentage did not vary significantly from one part of the lake to another.

Evidence of occupancy: The best evidence was birds at the houses feeding young or visible through the doorways incubating. But even if no

[1] Hoyt, op. cit.

[2] Stoner, op. cit.

birds were actually at a house, if it had nesting material and/or whitewash visible and there were Martins close by, I took this as evidence of occupancy by Martins, and estimated how many of the holes were occupied.

Since the quarter from Verona Beach to Bridgeport was not covered until August 17, when the Martins had started to flock, there were far fewer immediately at the houses as evidence of occupancy. Therefore I judged occupancy on the basis of nesting material and droppings observed, noting that there were numerous flocks of Martins in the general area. After completing this last part of the census, on the afternoon of August 17th I spot-checked two places which had had many Martins *at* the houses on July 26 and found that there, too, the Martins were no longer in the close vicinity but the houses still retained the look of occupancy. Therefore I think the estimates made that day in Madison County were quite accurate.

Estimates of numbers: The estimates of numbers of pairs were arrived at by first counting the number of holes in each house; for the houses which looked well occupied a pair of Martins for each hole was arbitrarily tallied, and for those which looked only partly occupied 40% (to the nearest whole number) of the number of holes was taken as the number of pairs; for those houses with no evidence of occupancy 0 pairs of Martins was listed. Ignoring the question of houses missed, I have calculated the maxium possible error for each of these three categories of houses, and arrive at a minimum of 1320 and a maximum of 2050 total pairs of Martins, with 1931 pairs (see data) the best estimate.

Data

Sector	Dates (1963)	no. houses checked	no. houses with est. occupancy of:			est. no. of prs. of Martins in houses occupied:	
			0%	100%	40%	100%	40%
Brewerton to Maple Bay, Onon. Co.	Jul. 26	37	1	24	12	500	60
Cleveland to Big Bay, Os. Co.	Jul. 27	39	8	30	1	526	4
North Bay-Jewell area, Oneida Co.	Aug. 4	15	5	10	0	210	0
Bridgeport vcy. Onon. & Madison Co.	Aug. 6	7	3	0	4	0	17
Sylvan Beach to Bridgeport, Oneida and Madison Co.	Aug. 17	58	7	45	6	560	54
Totals		156	24*	109	23	1796 +	135=
		* with a total of 242 holes				1931 prs.	

Discussion

That the 100% category is so much larger than the 40% one bears out the well-known fact that Martins are gregarious birds.

Dividing the total number of holes by the total number of houses in each of the three percentage categories, one finds that the unoccupied houses average about 10 holes per house, the 40%-occupied ones about 15 holes, and the 100%-filled ones about 17 holes; this confirms my distinct impression while taking the census that the larger houses or groups of houses close together had the highest rate of occupancy. It also appeared to me that new houses were less apt to be occupied than well-weathered ones — but possibly some houses *looked* unoccupied because they were so new that they hadn't yet accumulated the debris of nesting.

Little House Sparrow competition was noted. At Constantia a House Sparrow was perched on the porch of a Martin house with several Martins present. At Toad Harbor a House Sparrow was at a small (10-apartment) Martin house, and no Martins were seen. No other House Sparrows were noted near Martin houses on the entire census, but probably more would have been observed if the census had been taken earlier in the summer.

The census should have been started earlier in July and been completed before August for the sake of greater ease in estimating occupancy when the birds are still at the houses incubating or feeding young.

Summary

The data above show an impressive rate of occupancy of houses by Martins around Oneida Lake, an area which would appear to be excellent Martin habitat. But, as a dedicated Central New York birdwatcher recently observed, "One census does not a swallow's summer make" — to obtain definite data on the status of a species, comparisons must be made from place to place and year to year. I have described in detail how this census was taken so that it can be repeated in a year or so and the later census be comparable with this one. After several censuses it will be possible to say with some assurance whether the status of the Purple Martin in this area is improving, worsening, or remaining fairly constant.

Other censuses, of a section of shoreline or of a river or of a smaller lake, in other Martin-rich areas of the State, would be most worthwhile as additional indices to the status of this valuable and well-beloved insectivorous species.

Acknowledgments

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Literature

Hoyt, Sally F. Purple Martin colonies in central New York State. 1958 Kingbird v. 7:114.

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