

HOUSE FINCH--TUFTED TITMOUSE POPULATION GROWTH

by Leif J. Robinson, Wellesley

The August, 1976 issue of American Birds carried an article by Carl E. Bock and Larry W. Lephthien that examined the rate at which the House Finch has increased throughout the eastern United States. From Christmas Bird Counts between 1962 and 1971, these University of Colorado scientists found that this species doubled its numbers about every 3 1/4 years.

The graph they presented reminded me of one that I had prepared from Charlotte E. Smith's careful censuses of Tufted Titmice in Weston between 1958 (first sighting) and 1968 (well established and known to have been breeding since 1965). From her data I found that the Titmice doubled their population every 2 3/4 years during that first decade -- in substantial agreement with the Bock-Lephthien result.

It is interesting to speculate whether introduced species, or those expanding their ranges, fill an ecological niche at some predictable rate. According to Hal Harrison (A Field Guide to Birds' Nests, 1975), the "common" clutch size of House Finch and Tufted Titmouse is 4-5 and 5-6 eggs, respectively. Taking the average for both species, the ratio of clutch size, $4 \frac{1}{2} / 5 \frac{1}{2} = 0.82$, is inversely proportional to the number of years necessary for the population to double, $2 \frac{3}{4} / 3 \frac{1}{4} = 0.85$. Of course, this argument assumes that both species suffered similar mortality and had suitable habitat in which to expand.

This study would not have been possible without the meticulous records of Mrs. Smith, which after a decade have yielded provocative results. Some obvious candidates for similar analysis include Fish Crow, Mockingbird, Cardinal, and House Finch. I would be pleased to receive records of these species from observers who have accurate counts spanning a decade or so after the species became a regular inhabitant. (Write to 14 Willow Rd., Wellesley, Ma. 02181.)

Postscript: For the mathematically minded, I obtained the following equation for the growth of Tufted Titmice in Weston: $N = 4.359 \times 10^{-7} e^{0.272x}$, where N is the total number of birds, e the base of natural logarithms, and x the last two digits of the (1900) calendar year. The coefficient of determination was $r^2 = 0.80$. The Bock-Lephthien result was $\frac{BPH}{e} = 0.04 e^{0.272x}$, where BPH represents birds per party hour seen on Christmas Bird Counts. For the latter equation $r^2 = 0.91$, indicating a better fit to the data than mine.

SUET-EATING AMERICAN KESTREL

By Gerald Flaherty, Bridgewater

Ralph Saunders of 151 Plymouth St., Bridgewater reported to me an American Kestrel (Falco sparverius) repeatedly feeding from a bag of suet at his backyard feeder. Early during the winter of 1974-75 Ralph observed a Kestrel frequenting the vicinity of his suet feeder (a plastic net onion bag) which he had hung for his song-birds.

Eventually, after a number of visits in which the Kestrel was seen to alight upon and feed "chickadee style" from the suet, Ralph placed a second bag higher up in the apple tree to accommodate the Kestrel and reencourage a nervous resident song bird population.

The Kestrel soon diverted his attention to the new more accessible bag, leaving the original bag for Ralph's more customary visitors. After repeated visits, several weekly during the months of December, January and early February, the hawk was seen to finally tear open the bag, (Ralph had observed persistent unsuccessful efforts to open the bag) and extract the remains of the suet and fly off with it.

Ralph observed the bird subsequently on a habitual perch, but never again saw him in his yard though he renewed the suet bag.

The unusual concentration at winter feeding station has always been an incentive for visits. Apparently some, (or at least one) hawks, are able to study and learn the habits of their intended prey so successfully that they can imitate them.