A comparison of two winters at a suburban feeding station

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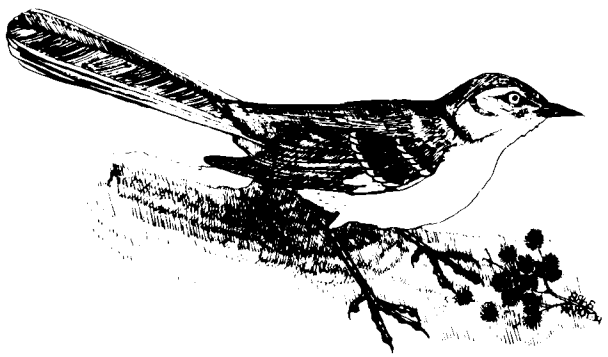
During the winters of 1975-76 and 1976-77 my wife and I maintained, as nearly as possible, daily records for the species and numbers of birds at our feeding station in Kendall Park, Middlesex County, New Jersey. Our one-acre yard is essentially lawn with a small number of shrubs and young trees. (The entire area is a twenty-year-old housing development.) In spite of a rather barren habitat the feeders attracted 14 species with at least 192 individuals in 1975-76, and 20 species of at least 188 individuals in the second winter. Food was offered on the ground and with two feeding stations (one for seed, one for suet). The seed mix contained cracked corn, millet, sunflower seeds, etc., and was supplemented daily with wild berries of sumac *(Rhus typhina)*, honeysuckle *(Lonicera sp.)*, and/or bittersweet *(Celastrus scandens)*. We gathered a winter supply of berries in early fall as they stored easily; they proved to be an important food item and were the only attraction (in addition to water) for several species (e.g. Mockingbird and American Robin).

In reviewing the two years of data it is interesting to compare arrival dates from one winter to the other. For 11 common species (Table 1) there is generally good correlation between years. In *10 of the 11* species, the arrival date in the second year was earlier than in the first winter (the exception being a single resident Mockingbird). The second fall had unusually cold weather in late October (e.g.—3°C = 26°F in the mornings, almost records) that may have accelerated the first visits of at least some of the species. Also, in the second year, birds could remember the feeding station which they had to discover in the first winter; for this reason they could be expected to return at earlier dates in 1976-77 (there was no feeding station prior to 1975-76).



Numbers given are the maximum count of individuals seen at any one time. Thus, if five individuals of species "x" were at the feeder at once, then we knew that at least five were here (five is the maximum count). This is a conservative method for estimating a local feeder population.

Counting was usually done from 7:30 to 8:00 A.M. and from 4:30 to 5:00 P.M. No banding was involved.

Maxima counts (Table 1) of the common species were similar for the two winters except for the Starling. Dates at which maxima were recorded also showed good agreement between winters. For most species the number coming to the feeders increased over a two- to three-month period, reached a maxima, and then showed a more abrupt decline within February or March. This pattern can be exemplified by the daily maxima of House Finches — our most common bird — over the two winter seasons (Figure 1). In both years the maxima have a sharp January peak. Clearly the feeding station population is in either a growth phase or a decline; there is no plateau with a constant "winter population" level. I believe that the feeding station populations thus simply reflect environmental harshness and, with colder weather, individuals from farther distances will come to forage. As conditions ameliorate, only the more local House Finches remain. As mentioned above, most of the species seemed to share this pattern of marked population growth and decline, but a few birds (especially the Starlings) were fairly erratic in flock size and feeder visitations. The late February maxima of the Common Grackle were the result of the arrival of migrants.

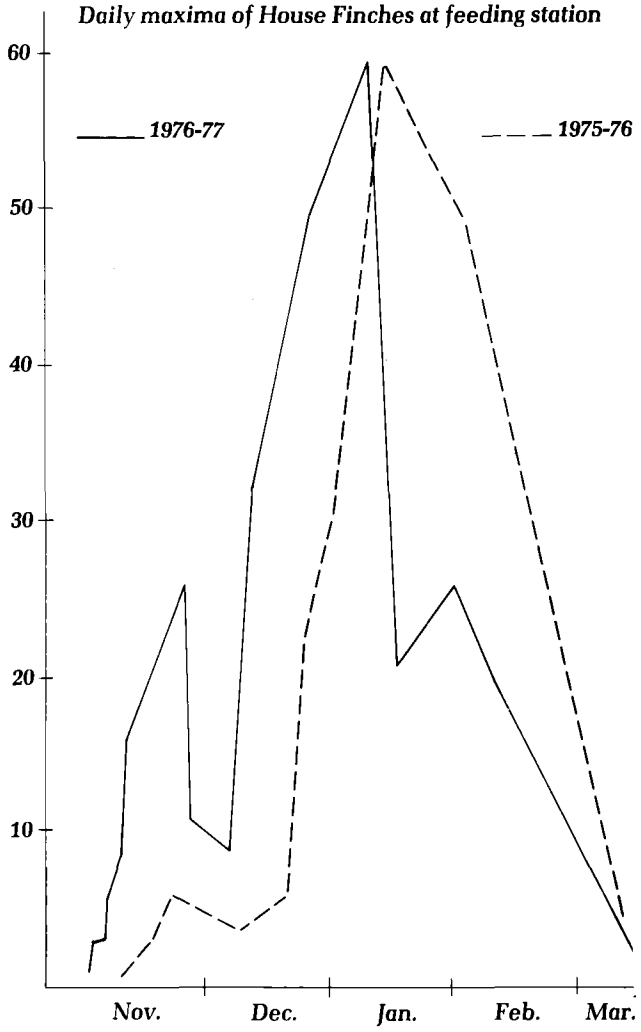


Figure 1. Seasonal change in feeding-station visitation rates for the House Finch in two winters.

In addition to the common species, we noted a dozen incidental visitors: American Kestrel (took and fed on a Dark-eyed Junco at the ground feeder on a very cold (—13°C) 1 January; Downy Woodpecker (infrequent at suet); Common Crow (rarely two would come to fallen pieces of suet in the early mornings); Tufted Titmouse (a single visit by three birds); American Robin (for bittersweet berries); Red-winged Blackbird; Dickcissel (immature male, 29 November 1976); Purple Finch; Pine Siskin; Tree Sparrow; Chipping Sparrow (immature, late fall); and White-throated Sparrow.

Among the most interesting behaviors at the feeders were the October "seed storage" bouts of the Blue Jays when they would bury hundreds of sunflower seeds, and the territorial behavior of the Mockingbird. The Mockingbird is, of course, well known for aggressiveness concerning its food sources, and I saw it chase a variety of birds, including spectacular attacks on House Finch flocks.

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Table 1. Feeder arrival dates and maxima counts per species

Species	Feeder arrival dates		Maxima count/Date	
	1975-76	1976-77	1975-76	1976-77
Mourning Dove	8 Nov	27 Oct	21 (10 Feb)	20 (4 Dec)
Blue Jay	29 Oct	24 Oct	6 (dates[1])	8 (3 Nov)
Mockingbird	9 Nov	4 Dec	1 (dates)	2 (8 Jan)
Starling	22 Nov	3 Nov	50 (8 Dec)	20 (19 Dec)
House Sparrow	29 Oct	21 Oct	17 (19 Dec)	10 (4 Nov)
Common Grackle	6 Nov	4 Nov	12 (28 Feb)	12 (26 Feb)
Brown-headed Cowbird	22 Nov	19 Nov	14 (22 Nov)	8 (4 Dec)
House Finch	11 Nov	31 Oct	60 (11 Jan)	60 (6 Jan)
Savannah Sparrow	11 Mar	8 Jan	2 (dates)	2 (8 Jan)
Dark-eyed Junco	31 Oct	26 Oct	6 (24 Jan)	13 (1 Nov)
Song Sparrow	18 Nov	27 Oct	1 (dates)	2 (20 Feb)

[1]dates—maxima recorded on several dates

Tales from Kiptopeke *The Flight Day*

Tale teller:
Walter P. Smith

It's never any problem to arise
On mornings that bring promise of a prize.
We test the pre-dawn air, 'tis cool and clear
And sounds of birds above come to our ear.
Our efforts on this day will not be lost—
Results, we know, will justify the cost.

I have often compared, in my mind, a Flight Day at Kiptopeke with any athletic contest. I recall a particular one when I happened to be Bander-in-Charge, and Doris and I had only one working guest, Ben. As we retired for the night, I could hear the steady rain outside from the cold front that was passing. I doused the light and tried to drift off — but a thousand aimless questions kept nagging at my mind. Would the rain stop? Would we be able to handle the almost certain rush of birds in the morning? How many nets should I risk opening? And on and on!

Somewhere in the middle of all that, I did drop off. Later, I awoke with a start to discover that I was straining my ears to hear if the motel eaves were still drippiing — the rain had stopped — Good! I glanced at the clock to note that it was 3:00 A.M. As I turned over disgustedly and closed my eyes, I wondered if 5:30 would ever come! There followed a period of fitful dozing and turning over until finally, at 5:00 A.M., I could stand it no longer and slid gently from under the covers so as not to disturb Doris.

I tip-toed out of the motel room door — pajamas and all. The air was distinctly cooler than it had been when we retired, but although I could feel no rain, there were no stars visible and everything was pretty wet. I cupped my ears with my hands and listened intently. Sure enough, I could hear distinct chirps of thrushes and the thinner peeps of warblers passing overhead!

I returned to the room and performed my morning ablutions. By this time Doris was stirring sleepily. Over our coffee and sticky buns, I laid down the Modus Operandi for the day. We would open only the 11 nets closest to the banding area — then play it by ear from then on. We left the motel in the dark at about 0610 hours. As we drove across the field between Tour-inns and the hedgerow, I was startled to see little birds fluttering up out of the grass in the headlight beams. "Doris," I said excitedly, "They're really here, for I've never seen them do that before!"

By 0630 we had the nets opened and it was becoming lighter. Already the birds were hitting the nets and streaming along the edges of the woods. I asked Doris and Ben to take several of the large holding cages up to the hedgerow nets, and I would take care of those at the banding area. As I hurriedly stripped birds from the nets, I realized that they were filling faster than I was emptying them. Suddenly, I began to feel rain drops on my face! "Oh, no!" I thought, "And the weatherman said the rain would stop early this morning!"

By 0650 hours a steady light rain was falling and every net panel was literally hanging with birds. The time had come for a decision which I hated to make — and yet, must. I quickly closed the four nets at the banding area and ran down to the sagging hedgerow nets. "Doris, Ben!" I panted, "Close the nets. Yes! Even with all the birds hanging in the pockets. It's the only way we can keep more from piling into the nets. Also, many of these birds must have been flying in the rain for some time and are much wetter than others. Release the wetter ones, and put only the dryer and stronger ones in the holding boxes. It's gonna take so long to clear the nets that I'm afraid the weaker ones wouldn't last in the boxes!"

I had closed the rest of the nets by 0700 hours and returned to the arduous task of removing wet little beauties which were usually entangled in more than one net panel. Doris and Ben did yeoman service at the hedgerow, where the greatest concentration per net occurred. My heart sank as I worked on the last two nets and began to come across an occasional dead bird. I remember that it was 1030 hours by the time we had cleared the last bird and I could start banding.

Somewhere about 1400 hours, I wearily straightened my aching back and noted I had banded 269 birds of 43 species. I estimated, conservatively I'm sure, that we had released somewhat over 300 individuals. This means that, with eleven nets open for slightly less than a half-hour, we had netted approximately 600 birds in 5 net-hours, or the equivalent of 120,000 birds per 1000 net-hours!

It is, of course, just another statistic, and one which bears interpretation, but it is a certain indicator of the unbelievable concentration of migrants that can flood our station on what we term a "Flight Day."