

Twenty Years at a Mason County, Illinois, FeederWatch Station

By Thomas V. Lerczak

The month of March 2020 marked the end of the twentieth and final year in which I maintained a Project FeederWatch station (winter seasons) in Mason County, Illinois. Ten years before, I wrote a report (Lerczak 2010) that explained my rationale for beginning the project, as follows: *In 1999, I had finally purchased my first home on about 3.5 acres in the sand hills east of Havana, Illinois. I always thought that if I ever became rooted, I would begin a long-term ecological study of one place in an attempt to gain insight into how and why changes occur in nature, especially within bird communities, over time. For my long-term bird study I chose to work with Project FeederWatch through the Cornell Laboratory of Ornithology. I made this decision because this project has a proven track record, beginning in 1987, with widespread participation....* The [2010 report](#) also describes the site characteristics, the methods used to conduct the bird counts, and provides some simple data analyses. The present document provides a twenty-year summary, building on the earlier report.

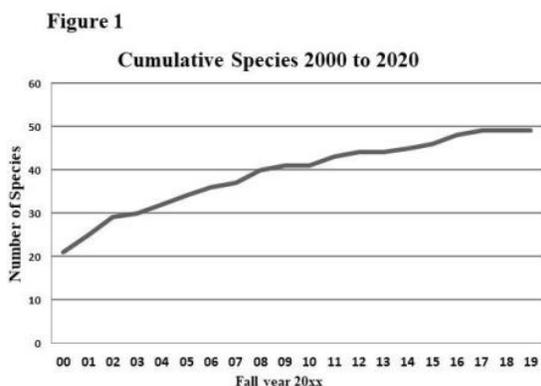
Table 1 lists the 49 species observed at my FeederWatch station, outside the living room window of my home. Eleven species were observed during every year of the project (downy woodpecker, blue jay, black-capped chickadee, white-breasted nuthatch, European starling, house sparrow, Eurasian tree sparrow, house finch, American goldfinch, dark-eyed junco,

northern cardinal). Of these, only the black-capped chickadee and northern cardinal were seen on each of the 200 count periods (ten two-day count periods per winter season over 20 years). Six species (northern bobwhite, red-shouldered hawk, American kestrel, American crow, golden-crowned kinglet, chipping sparrow) were each observed on only one of the twenty years.

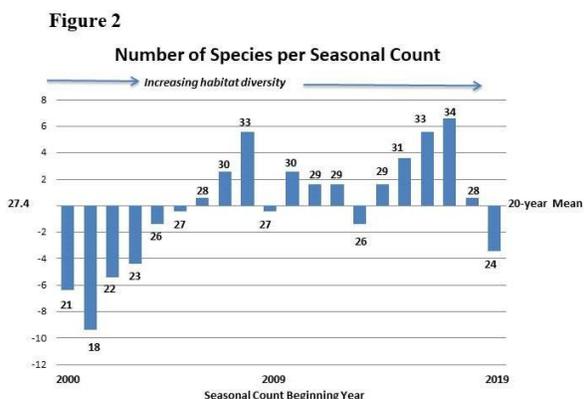
Table 1. Birds observed at T.V. Lerczak's Project FeederWatch station in Mason County, Illinois, from 2000 to 2020. Species preceded by a single asterisk (*) were seen during every year of the two decade project. Species preceded by two asterisks (**) occurred only in a single year.

** Northern Bobwhite	Eastern Bluebird
Eurasian Collared-Dove	American Robin
Mourning Dove	Cedar Waxwing
Sharp-shinned Hawk	* House Sparrow
Cooper's Hawk	* Eurasian Tree Sparrow
** Red-shouldered Hawk	* House Finch
Yellow-bellied Sapsucker	Purple Finch
Red-headed Woodpecker	Common Redpoll
Red-bellied Woodpecker	Pine Siskin
* Downy Woodpecker	* American Goldfinch
Hairy Woodpecker	** Chipping Sparrow
Northern Flicker	Field Sparrow
** American Kestrel	American Tree Sparrow
Eastern Phoebe	Fox Sparrow
* Blue Jay	* Dark-eyed Junco
** American Crow	White-crowned Sparrow
* Black-capped Chickadee	White-throated Sparrow
Tufted Titmouse	Song Sparrow
** Golden-crowned Kinglet	Eastern Towhee
* White-breasted Nuthatch	Red-winged Blackbird
Brown Creeper	Brown-headed Cowbird
Carolina Wren	Rusty Blackbird
* European Starling	Common Grackle
Brown Thrasher	* Northern Cardinal
Northern Mockingbird	

Figure 1 shows the cumulative increase in species over time, beginning with 21 species during the first year of the project (2000-2001 season), gaining 20 species over the next ten years (41 species at the 2009-2010 season), then finally adding eight species over the next seven years (49 species at the 2017-2018 season), with no new species added during the final two seasons. We can imagine that if this project were to continue indefinitely, all else being equal, more species would continue to be added, but likely not every year.



For all twenty years, the mean number of species observed per count season was 27.4. Figure 2 shows the number of species observed during each count season (noted above each bar) relative to the mean. Seven out of the first ten years saw less than the mean, with six of the seven years being the first six years of the project; while only two of the second ten years were below the mean. Because there was a gradual increase in habitat diversity at the count site during the twenty-year project period, the greater number of species observed per season during the second half of the project is consistent with the general principle that species diversity is directly related to habitat diversity.



The 2010 report had this to say about the count site habitat: *When I first moved into my new home in the fall of 1999, the surrounding lands on my property were only slightly bird friendly. There were several large trees near the house and dense trees and shrubs around the perimeter of the acreage; but most of the land was a closely mowed lawn, with little wildlife cover. Only American robins and a few other species prefer this type of habitat. Birds had to fly over wide expanses of open area to reach the feeders near my windows from the cover that they found along the edge of the property and further away in the rural countryside with abundant woods and fields. But after a few years of only a minimal amount of mowing, trees and shrubs began to grow near the feeders, soon providing better bird habitat in terms of cover from predators (hawks) and branches for perching near the feeders.* A further explanation of my habitat management “plan” can be found in an essay called “[The Acorn Year](#)” published in 2015. The two photographs below show the continued habitat changes in the direction of higher diversity.

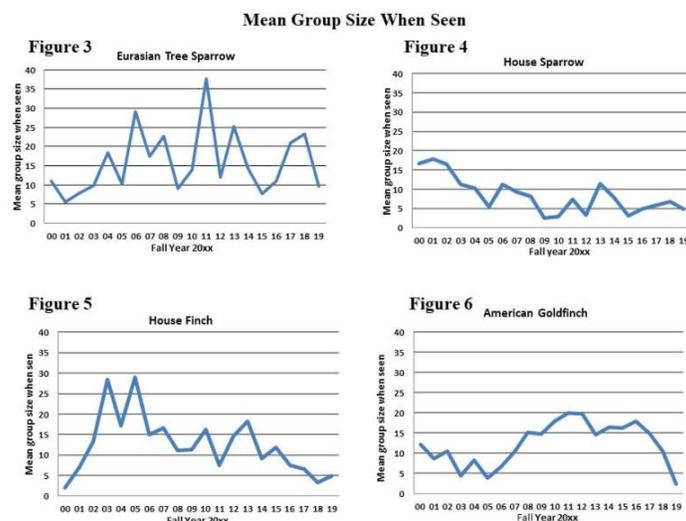


Mason County FeederWatch station 13 February 2010



Mason County FeederWatch station, 19 March 2020

The number of individual birds observed during each two-day count period was typically dominated by only a few species, which usually involved the Eurasian tree sparrow, house sparrow, house finch, and American goldfinch. Figures 3 through 6 show the mean group size of these species when they were observed. The mean group size of the non-native Eurasian tree sparrow varied quite a bit over the years, showing no obvious trends (Figure 3). In contrast, the house sparrow showed a clear downward trend (Figure 4). The mean group size for the house finch began in the low numbers during the 2000-2001 season, but then rapidly increased for several years before beginning a downward trend which continued (Figure 5). American goldfinch mean group sizes declined precipitously during the final three years of the project (Figure 6) for unknown reasons, while otherwise showing higher numbers during the rest of the second ten years of the project, which suggests that the American goldfinch may have benefited from less competition with the non-native house sparrow and non-native house finch (Figure 4, Figure 5, and Figure 6).



Identifying patterns in the data using counts of individual birds rather than species can be problematical because the numbers observed can vary quite a bit for most species. For example, sometimes common grackles or European starlings showed up in large numbers, dominating the ground in the vicinity of the feeders and dominating the counts. But these large groups rarely stayed too long. The feeder regulars (e.g., black-capped chickadee, tufted titmouse, white-breasted nuthatch, downy woodpecker), as they might be termed, never really seemed to be much affected by these large groups. But comparing species with the five highest mean group size in 2000-2001 and 2019-2020 (Table 2), for example, shows how one group of 45 common grackles on 16 December 2000 (compared with no grackles seen for six two-day count periods and low numbers for three two-day count periods for the 2000-2001 season) can skew the overall impression of the entire count season. Were it not for that single count of grackles, the northern cardinal would have placed fifth during the 2000-2001 count season. And because the only grackle observation during the 2019-2020 count

season was a single individual on 12 March 2020, this species tied for last place with a single eastern towhee observation also on 12 March 2020.

Table 2. Top five species mean group size when seen for the first count season (2000-2001) and last count season (2019-2020) at T.V. Lerczak's Project FeederWatch station in Mason County, Illinois.

2000-2001	2019-2020
1. House Sparrow	1. Eurasian Tree Sparrow
2. Common Grackle	2. Northern Cardinal
3. American Goldfinch	3. House Finch
4. Eurasian Tree Sparrow	4. House Sparrow
5. Dark-eyed Junco	5. Dark-eyed Junco

* * *

When I purchased the Mason County home, my intention was to stay there. I had already moved several times in my life, and I was weary of the disruptions and labor involved in the process. But alas, during the middle of the twentieth FeederWatch season at the Mason County site, I found myself moving to the small town of Macomb in western Illinois, illustrating very well how maintaining commitment is one of the greatest challenges in carrying out long-term studies. Researchers inevitably move on or grow old, and there might then be no one to continue the project. For my FeederWatch study, it would be great if the folks who purchase the Mason County home would continue the project, but I will not depend on that. Finally, future researchers may decide that a long-term project has run its course; they may lose sight of the original goals; or funding may be cut, and then the study ends.

To keep a long-term study going, one must show results in the form of data analyses and, hopefully, startling conclusions. But drawing conclusions from

any data can be exceedingly difficult. Accurately determining cause and effect requires much more than one simple set of data. For example, even though it is clear that the habitat structure and diversity increased over time at my site—from simple observations—I did not quantify those changes or provide a time series of photographs. So precisely tying specific changes in bird numbers to specific habitat changes becomes problematical. One example, though, is the brown creeper, which only showed up in the counts when the trees that I let grow became large enough for its use, and this did not happen until nine years into the study. The creeper was also present during three of the final ten years of the project, as the trees continued to grow.

And what about habitat changes on adjacent properties and beyond? Were there regional influences that affected my bird counts? Was the decline in house finches and American goldfinches related to disease (*Mycoplasma conjunctivitis*), as documented elsewhere by studies at the Cornell Lab? Why did counts of the house sparrow—a seemingly indestructible, highly adaptable, and competitive species—decline? Was it due to local competition with Eurasian tree sparrows or was it some other factor or combination of factors? Without a great deal of information collected simultaneously over the same time period, all I am left with is speculation.

In the end, this twenty-year project gave me a great sense of satisfaction and insight into the complexities of nature and the reasons why drawing conclusions from limited information is a risky business. The Mason County FeederWatch study may be over, but I am already thinking about setting up a count site at my new home. I

look forward to the insights that this might yield after the next twenty years.

Selected References

Cornell Lab of Ornithology. 2020. House finch eye disease. <https://feederwatch.org/learn/sick-birds-and-bird-diseases/#house-finch-eye-disease>, referenced on 25 March 2020.

Lerczak, T.V. 2015. The acorn year. *Big Muddy: A Journal of the Mississippi River Valley*. 14:18-25. (Posted on The River Landing blog at https://theriverlanding.typepad.com/the_river_landing/2015/03/by-thomas-v-lerczak-the-day-i-moved-into-the-first-house-i-ever-owned-in-rural-central-illinois-i-planted-a-few-bur-oak-ac.html.)

Lerczak, T.V. 2010. Ten years at a Mason County, Illinois, FeederWatch station. *Illinois Audubon* (Winter 2010-2011 Issue):21-24. (Posted on The River Landing blog at https://theriverlanding.typepad.com/the_river_landing/2010/10/ten-years-at-a-mason-county-illinois-feederwatch-station.htm

[Posted on *The River Landing* blog (https://theriverlanding.typepad.com/the_river_landing/2020/04/twenty-years-at-a-mason-county-illinois-feederwatch-station.html) April 01, 2020 at 08:00 AM]