

Losing Butterflies in Westchester County, New York:

by Jeffrey Glassberg



The End of the Line: The last Leonard's Skipper ever seen at Ward Pound Ridge Reservation in Westchester County, NY.

Every day a grassland, teeming with myriad species, including butterflies, is destroyed to create a housing development. Every day, brushland, sheltering birds and butterflies, becomes a shopping center. Every day a high rise replaces a weedy urban lot on which some of the few remaining butterflies in the city lived. Every day there are fewer butterflies than there were the day before.

The data generated by the NABA Butterfly Count Program is used by many scientists to

answer questions about butterfly populations. Here I want to get personal and use the data from the count that I compile to look at how butterflies are doing in northern Westchester County, New York.

The Northern Westchester count started in 1984. I moved from Manhattan to Westchester County, New York in the fall of 1982. There were butterflies everywhere and it was thrilling! In 1984 we started the Northern Westchester 4th of July Count to monitor the

A Harbinger of Things to Come



Meadow Fritillaries, once a common sight in Westchester County, New York, are no longer found in the county.

butterfly populations. For that first count there were four participants — myself, Jane Scott, Guy Tudor and Michelle LeMarchant — in one party. Over the years, the count grew, so that there are now about 30 participants in 8 parties.

Some years, the absolute numbers of butterflies were amazing — each milkweed inflorescence was crowded with skippers. The Northern Westchester Count still has the record high number of individuals seen for

Mourning Cloak (300 in 1989), Delaware Skipper (699 in 1989) and Black Dash (459 in 1994) and has close to the record high for Acadian Hairstreaks, Great Spangled Fritillaries and Common Wood-Nymphs.

At least five species of butterflies have disappeared from Westchester County, New York over the past 40 years. Silver-bordered Fritillaries were last recorded in 1973; Regal Fritillaries in 1975; Aphrodite Fritillaries in 2008; Leonard's Skippers in 1992; Meadow



Top: “The Meadows” area of Ward Pound Ridge Reservation historically harbored a small population of Leonard’s Skippers. Aug. 31, 1987.



Above: A Silver-bordered Fritillary at Ward Pound Ridge Reservation. Aug. 15, 1973.

Darrow in 1975. There was nothing unique about the disappearance of this butterfly from Westchester County — this species declined and then disappeared throughout the northeastern United States in the 1970s. Currently, it is found only at Fort Indiantown Gap Military Reservation in Pennsylvania and at a small site in Virginia.

Harry Darrow’s photographs also document the presence of Silver-bordered Fritillary at Ward Pound Ridge Reservation in 1973 (see photo at left). Although it is possible that this was a stray individual, it is more likely that there was a colony there at that time. As you can see from the photo on page 34, Leonard’s Skippers were also present in Westchester County, although since they fly in late August and September, they were not picked up by the 4th of July Count.

Fritillaries in 2005. Coral Hairstreaks seem soon to be gone — none were seen in 2013.

As it turns out, a number of butterfly species disappeared from Westchester County before the Northern Westchester Count was started. Through the 1960s, there were a number of colonies of Regal Fritillaries present in the county. The last known individual was photographed by Harry



Trampling of habitat by participants in a yearly music festival may have been what caused the extirpation of Leonard’s Skippers from Ward Pound Ridge Reservation. Aug. 12, 1993.

There were at least two colonies that I knew of — a small colony at Ward Pound Ridge Reservation and a larger colony in Somers. The colony at Ward Pound Ridge Reservation, was driven over the edge of extinction by the decision to use much of its habitat for a music festival. The last individuals were seen in 1988.

The colony in Somers was on a large and impressive Little Bluestem grassland (see photo at top of page 39 for an aerial view) and as many as twelve Leonard’s Skippers were seen in a day. Unfortunately, despite the efforts of many conservationists, the Somers Town Board allowed this wonderful area to be converted into an approximately 100 unit townhouse development (see aerial photo at bottom of page 39). There is no remaining grassland and the last Leonard’s Skippers were seen here in 1992. So, to create housing for

about 200 people, out of Westchester’s current population of about 1 million people, the last grassland in Westchester County, with the only colony of Leonard’s Skippers, was destroyed.

But, I digress — let’s go back to the Northern Westchester 4th of July Count. In the early years of the Count, Meadow Fritillaries were fairly common butterflies. Through the 1980s there were at least ten major colonies throughout northern Westchester County. Their relative abundance was reflected on the Northern Westchester Count as can be seen on the graph shown on pages 40-41. In 1989, 379 individuals were seen, the highest count that year of the 17 counts reporting Meadow Fritillaries. In 1996 the Meadow Fritillary population plummeted and by 2005 they were gone. What caused the extirpation of these colonies? We don’t know. In Westchester County, Meadow

Fritillaries were at the southeastern edge of their range, and so it is possible that climate change did them in (see the article about the effect of climate change on Massachusetts butterflies in the Fall/Winter 2012 issue of *American Butterflies*). However, Leslie Ries (unpublished data) looked at Meadow Fritillary numbers throughout the East and Midwest and noticed no significant declines.

I'll come back to Meadow Fritillaries, but first let's look at Coral Hairstreaks. It is clear from the graph on pages 42-43 that Coral Hairstreak populations have nose-dived during the past 30 years. Ten of the fourteen Northern Westchester Counts from 1984 through 1997 reported 25 or more Coral Hairstreak. In contrast, the highest count of Coral Hairstreak on the last seven Northern Westchester Counts was two. But one cannot glean from the published data whether Coral Hairstreaks were generally distributed in the county or if they inhabited a single or a very few sites and that something happened to that one or few sites.

However, it turns out that we have more data from the Northern Westchester than is published in the Count Report. We know which species (and how many individuals of those species) were reported for each of the parties and, for at least one party — the one that I personally lead — we know the species tallies for each of the eight sites visited over the past 20 years. Checking these data, we find that seven of the eight parties traditionally reported Coral Hairstreak and that within the route of the Chappaqua party alone there were eight different sites with populations of Coral Hairstreaks. Thus, there were a minimum of 15 different colony sites and probably many more within the count circle.

In addition to the loss of particular butterfly species, the number of butterflies present in Westchester County has decreased. In 1989, the Northern Westchester Count tallied 8009, the greatest number of individuals butterflies seen on any of the 124 Fourth of July Counts conducted that year.

Often the report of exceptionally high numbers of individuals on a count reflects the abundance of one or two species. For example, the 2011 Bear Trap Junction, MN Count reported 11,169 individuals. Of these, 11,000 were European Skippers. In contrast the 1989 Northern Westchester Count had 17 (of 60) species with more than 100 individuals seen. But, as is shown in the graph on the bottom of pages 44-45, the abundance of butterflies in northern Westchester County, New York is now about one-half what it was in the 1980s.

Unlike Meadow Fritillaries, Coral Hairstreaks in Westchester County are not (or were not) at the southern edge of their range and climate change would not be expected to result in wholesale decrease in butterfly abundance.

If climate change is not the culprit, then why are these butterflies disappearing from Westchester? Some people hypothesize that deer (see the article in the spring/summer 2007 issue of *American Butterflies*) or invasive plant species are to blame. My own guess is that changing land use is a major cause of the extirpations and diminished abundance.

Meadow Fritillaries need open grassy fields with good supplies of the violets that are their caterpillar foodplant; while Coral Hairstreaks need old fields that have an abundance of their major caterpillar foodplant — wild black cherry — along with large expanses of open areas with nectar sources for adults. As previously farmed areas are converted to large estates and then to subdivision, these are the types of habitats that disappear the fastest. Wetlands are often saved by laws and necessity, while parks and other untended areas revert to climax woodlands. But who would save old fields or weedy grassy areas? Apparently, almost no one. 

All photographs this article by Jeffrey Glassberg, except as indicated.



Westchester County Geographic Information Systems

Changing Land Use along Plum Brook in Somers, Westchester County, NY

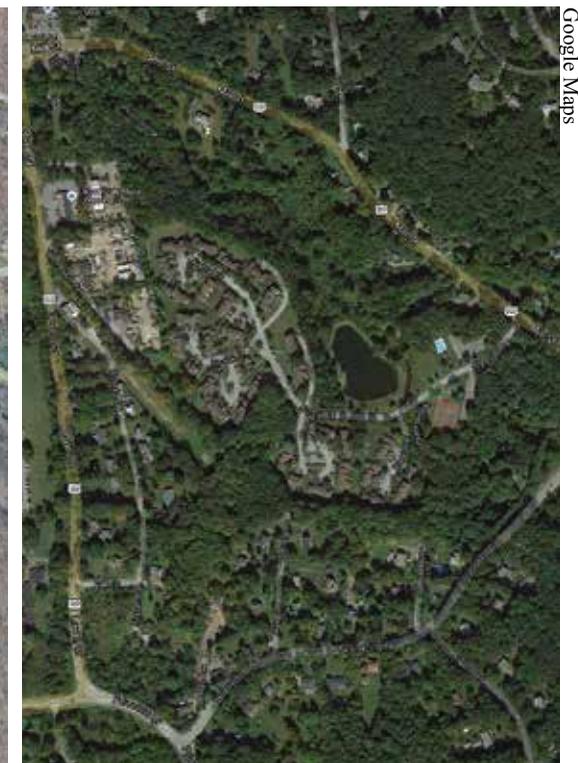
Left: An aerial photo from 1976 shows that much of the area between Mill St., Brick Hill Rd. and Route 202 was open grassland.

Bottom left: An aerial photo from 2000 showing the housing development built in the early 1990s. Note that Plum Brook flow was modified to form a pond.

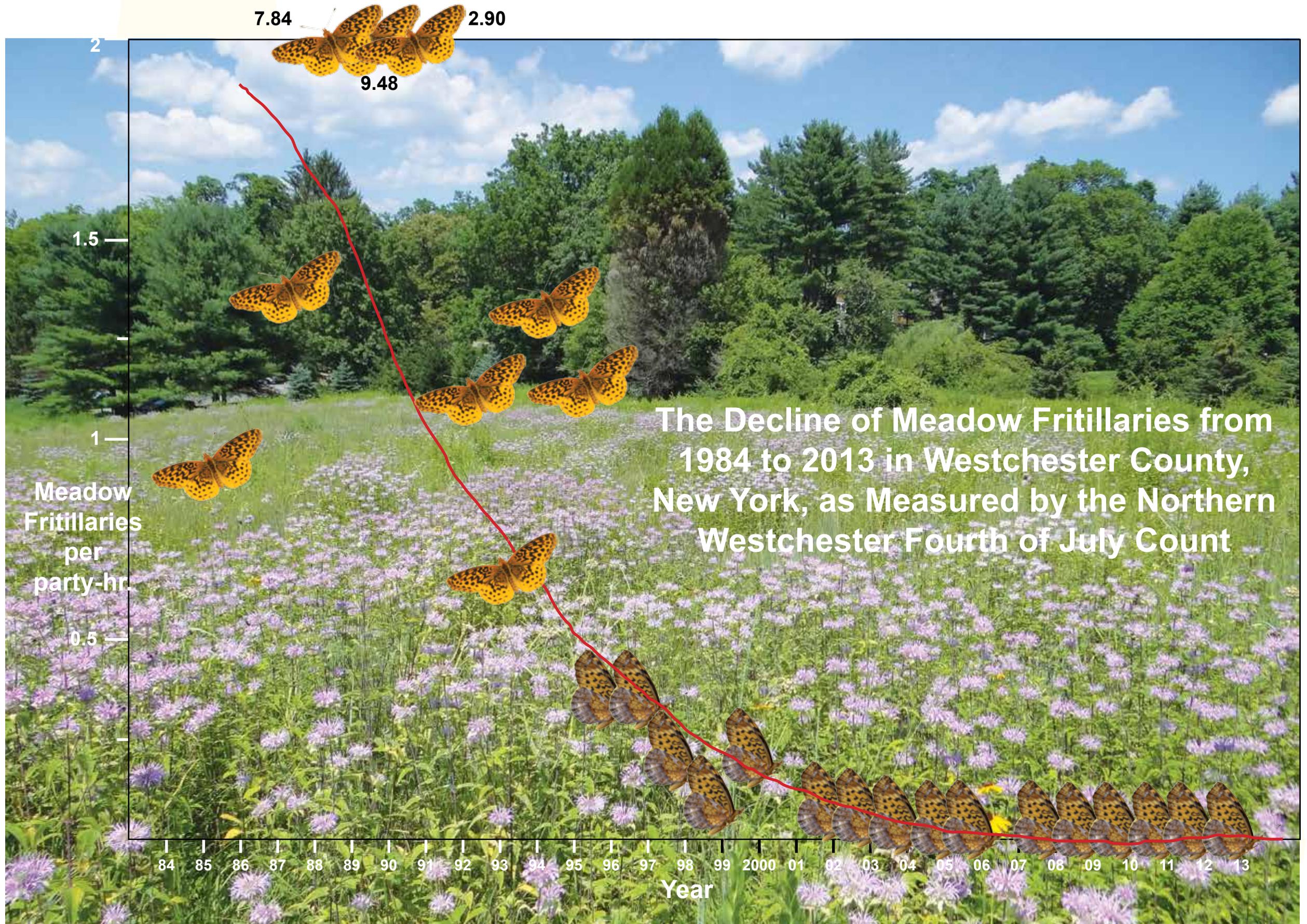
Bottom right: An aerial photo from 2013 showing that the entire area is now trees and shrubs, with no grassland remaining.



Westchester County Geographic Information Systems

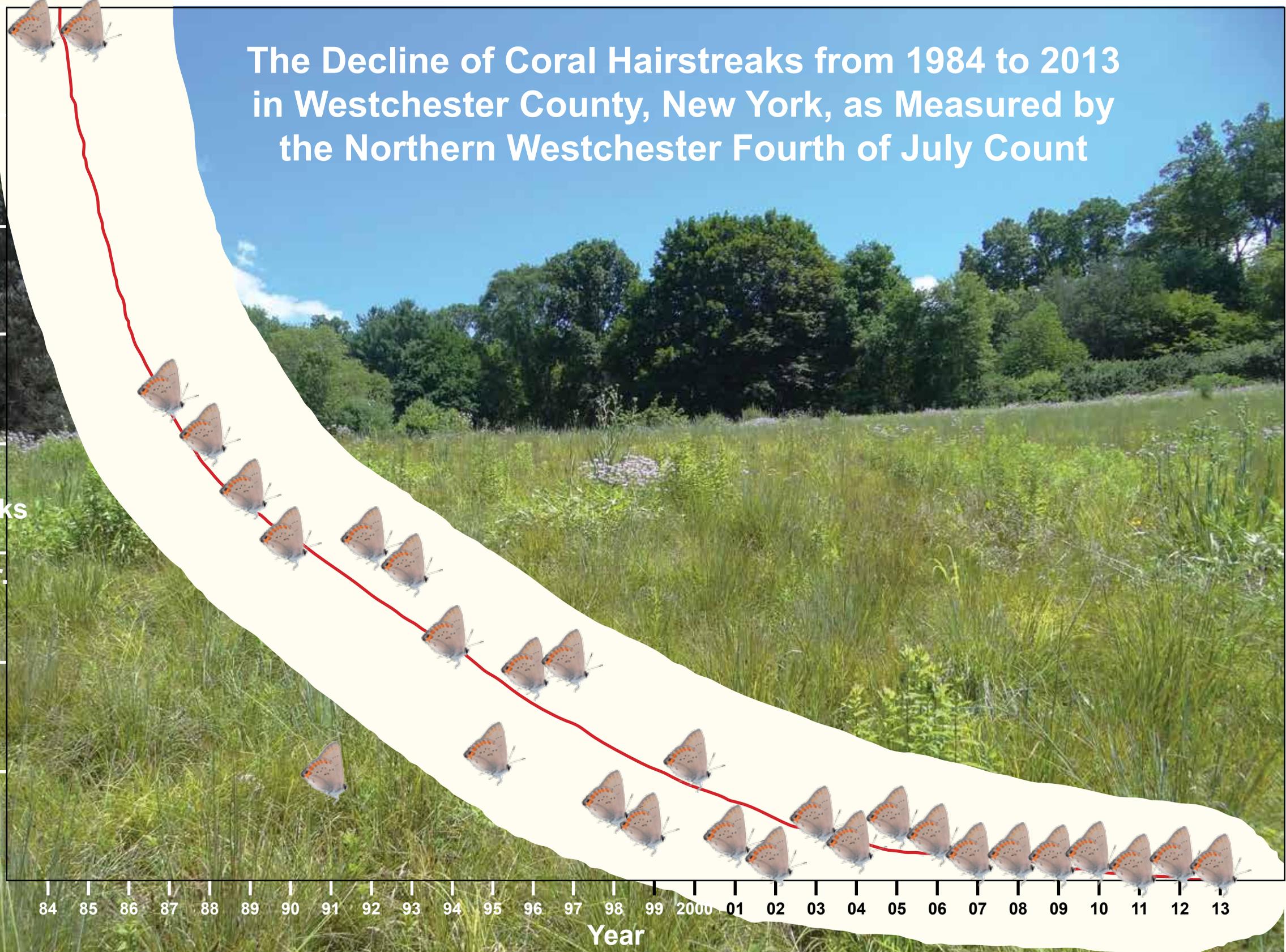


Google Maps

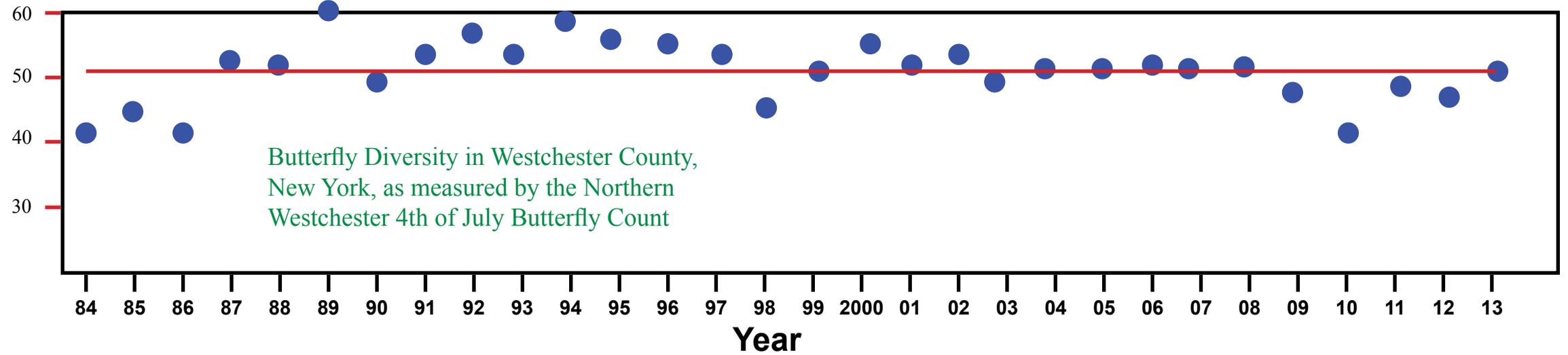


The Decline of Coral Hairstreaks from 1984 to 2013 in Westchester County, New York, as Measured by the Northern Westchester Fourth of July Count

Coral
Hairstreaks
per
party-hr.

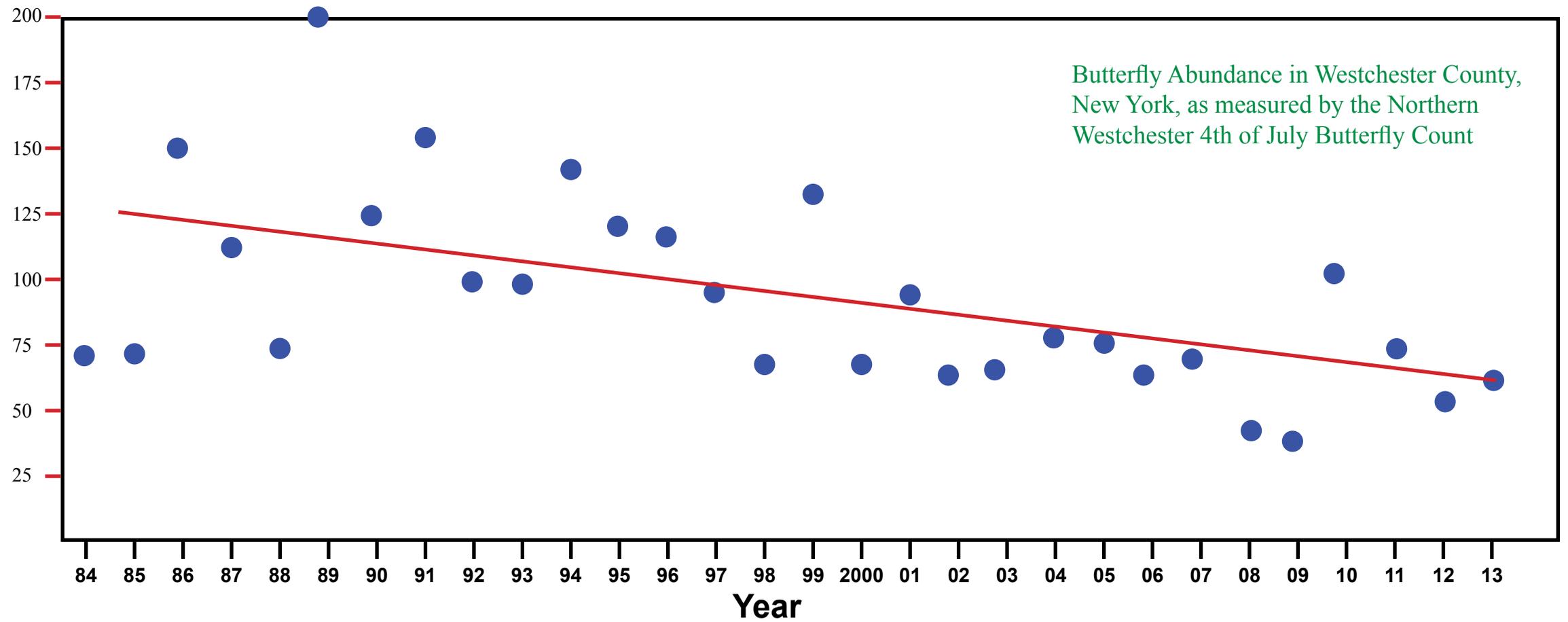


Number of Species



The number of butterfly species seen on each Northern Westchester 4th of July Butterfly Count has remained fairly constant over the past 30 years (perhaps dipping the past five years),

Individual Butterflies Per Party-Hour



but the number of individual butterflies seen (per party-hour) is now only about one-half of what it was in the mid 1980s.