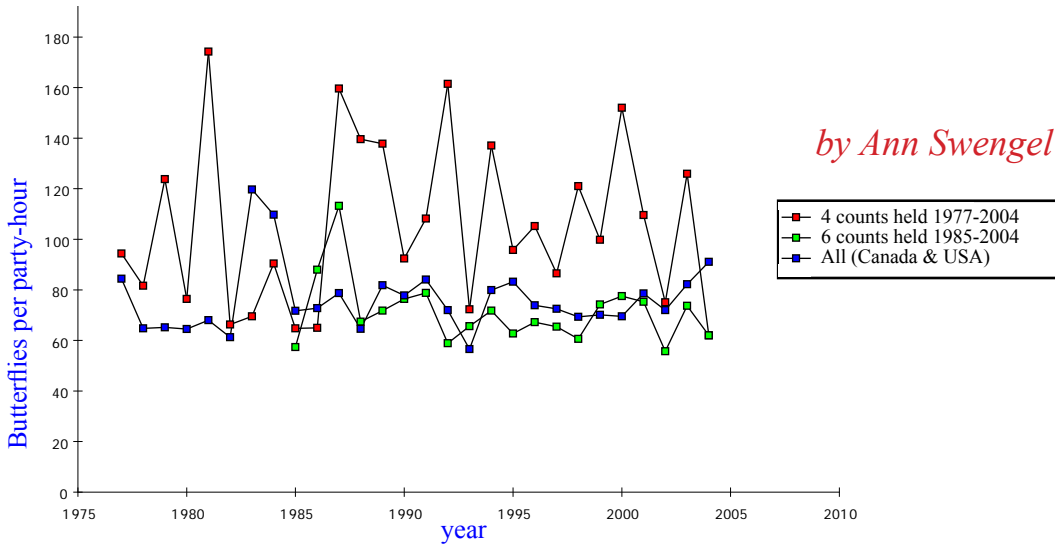


NABA Butterfly Count Column



Butterfly Abundance

Are butterflies declining? The graph above shows several different ways of looking for answers in the count data. Abundance is expressed as a “rate of observation” — total butterfly individuals counted per party-hour of counting effort. Party-hours equal the sum of hours spent by each party (group of counters) in the field. The graph starts in 1977, the first year this information was consistently available.

One line shows the average abundance of butterflies on all counts in Canada and the U.S. each year (counts were not held in Mexico each year so that country is not included here). The more sites used (the larger the sample size), usually the more reliable the analysis. But in this line, the number and location of counts has varied each year. Since it’s also advantageous to control variables, the other lines — while having a much smaller sample size — control for location by using data from exactly the same counts each year. Four counts have been held each year from 1977 through 2004; another six from 1985 on.

In all three lines, butterfly abundance varies greatly among years. But each line hovers steadily around its long-term average. Other than these up and down fluctuations in response largely to weather, these graphs indicate that the number of butterfly individuals out there may not have changed that much during the count program. But these graphs don’t answer which species are out there.

Scott D. Kocher and Ernest H. Williams took up this challenge, as reported in their scientific paper, “The Diversity and Abundance of North American Butterflies Vary with Habitat Disturbance and Geography” in the *Journal of Biogeography* (volume 27, pages 785-794, published in 2000). They classified counts by whether they occurred in areas with more or less than half the landscape modified by agricultural and/or urban development. After accounting for other relevant factors affecting species counts, they found that the number of butterfly species on a count significantly declined when the landscape tipped over half developed. But butterfly abundance did *not*, because of increased numbers of one or two non-native butterflies, the European Skipper and especially the Cabbage White. This shows the importance of counting *species*, and not just total *numbers*, of butterflies.

TO ORDER THE COUNT REPORT

Price for the 2004 report (in stock) is \$10 (NABA members) or \$15 (non-members). Price for the 2005 report (shipped in May, 2006) is \$6 (NABA members) or \$10 (non-members). Send your check or money order payable to NABA (in U.S. dollars) to: NABA Butterfly Count, 4 Delaware Road, Morristown, NJ 07960 USA. For more information, visit www.naba.org.