

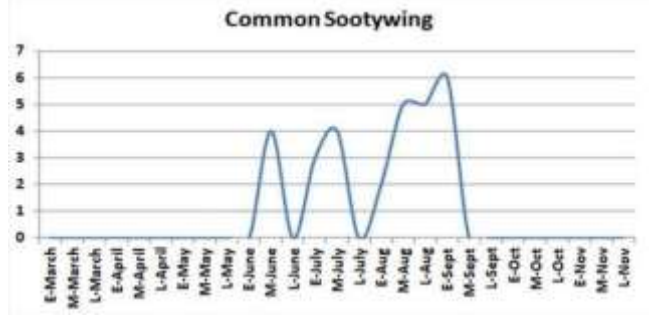
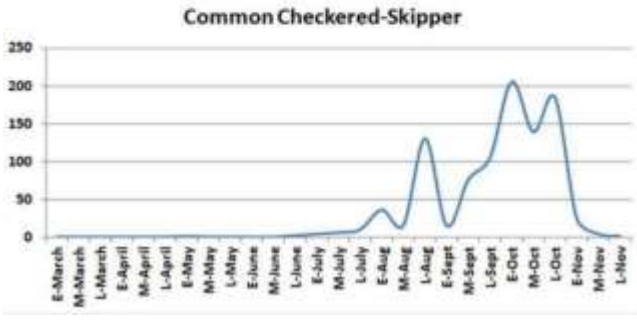
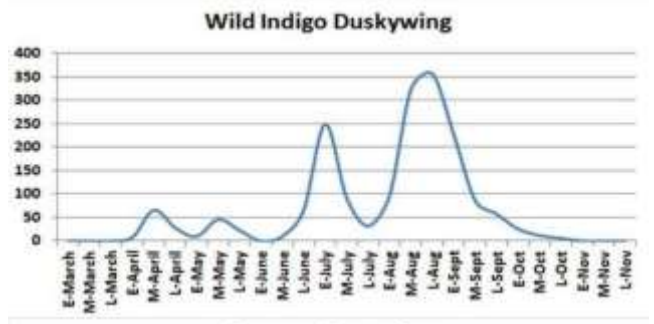
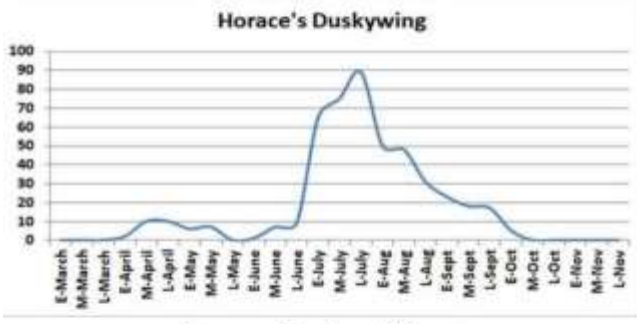
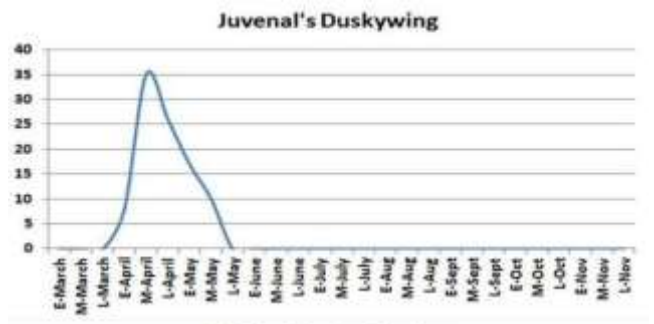
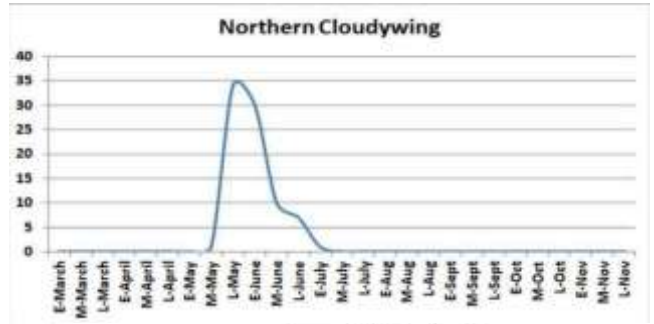
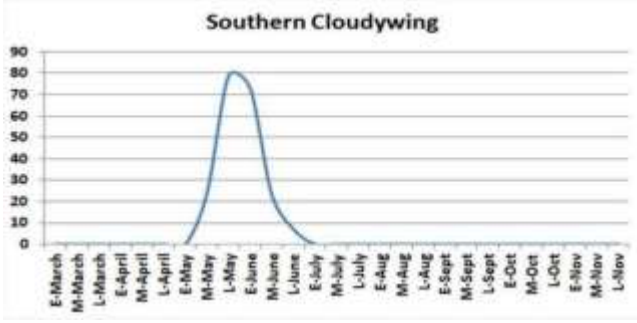
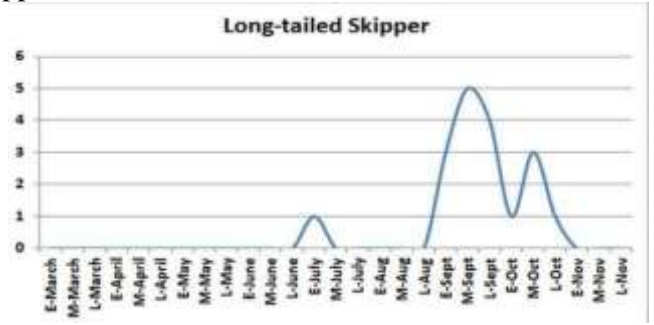
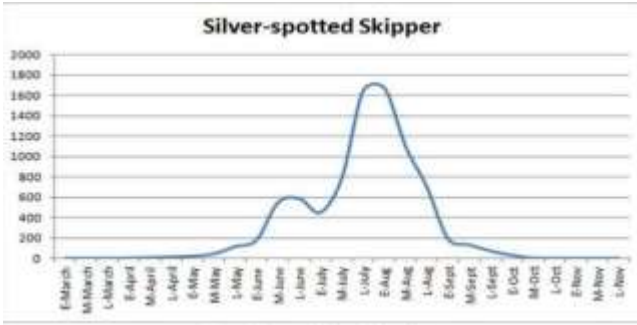
Butterfly Flight Times in Howard County
by Kevin Heffernan, Linda Hunt, Kathy Litzinger, and Bob Solem

Below are graphs of the flight times of the 80 species of butterflies seen in the first eight years of the Howard County Butterfly Survey. The data from the eight years of sightings were condensed to one year (e.g., all of the sightings of Tiger Swallowtail on July 16 over eight years were summed in the July 16 column and the same was done for each day of the year). Then the data for each month were divided into three (~ 10 day) increments (e.g., Early July, Mid-July and Late July) and plotted. The numbers on the Y-axis show how many individuals of that species were seen in that 10 day increment over the eight years. Where there are only 1-3 data points, a bar graph is used instead of a smoothed line graph.

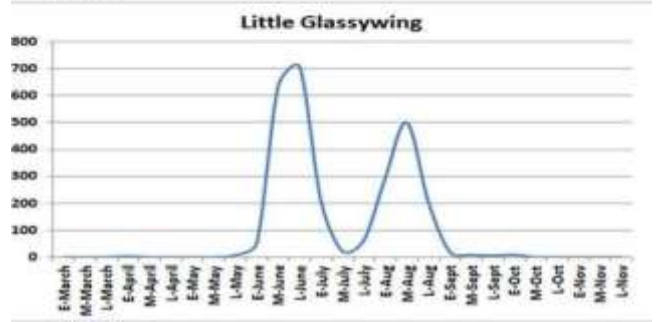
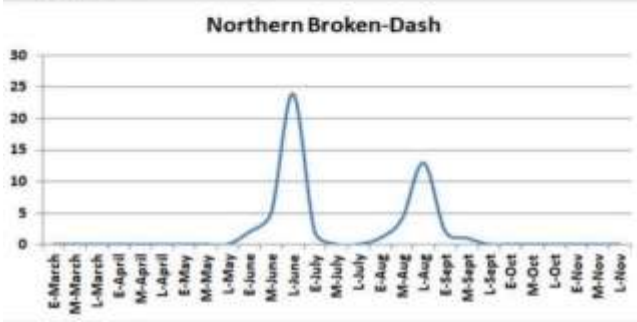
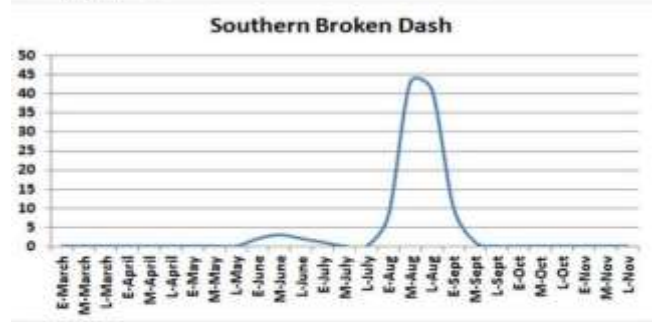
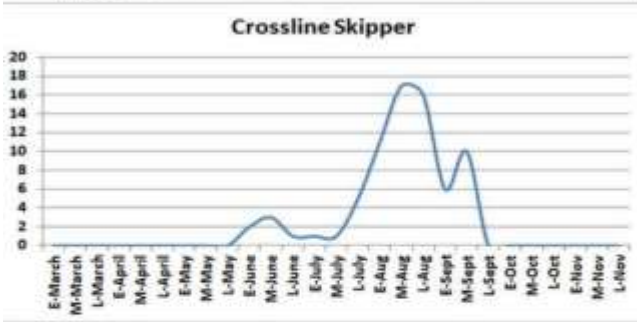
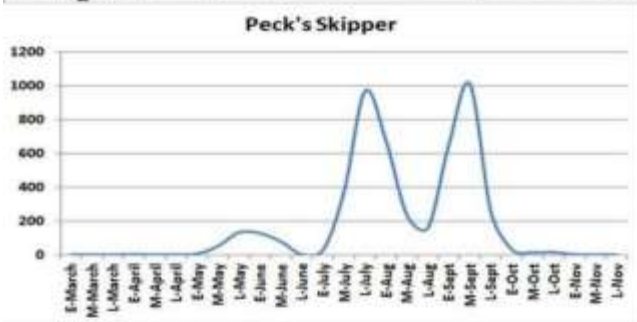
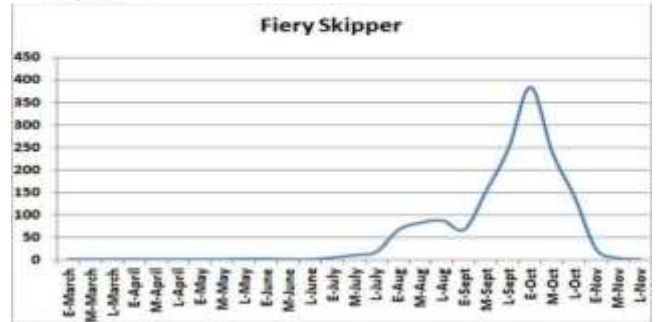
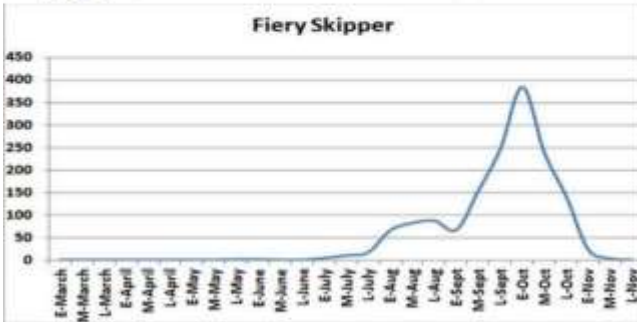
From these graphs, one can see the number of broods of each species, when they are active, the relative abundance of the species in each brood and, roughly, the early and late dates of each species. The actual early and late dates are shown in a separate document. The graphs can be used to anticipate the first sighting of a given species in the year and can help with identification. For example, if you think you found a Hobomok Skipper in August, a quick check of the flight times would indicate that that is highly unlikely.

The phenogram an early-late dates for each species for which there are more than three data points are also shown on the page for that species in the Howard County Bird Club Butterfly Photo Gallery.

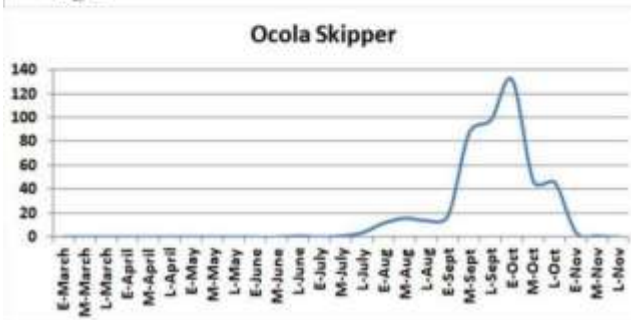
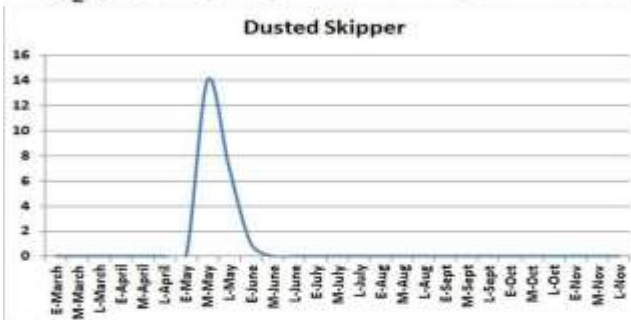
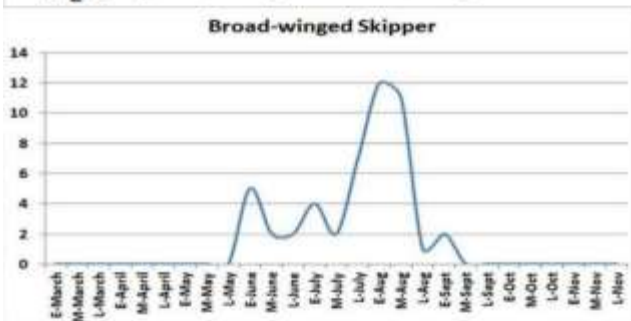
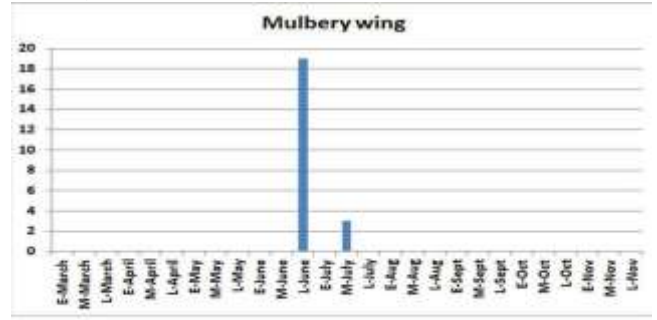
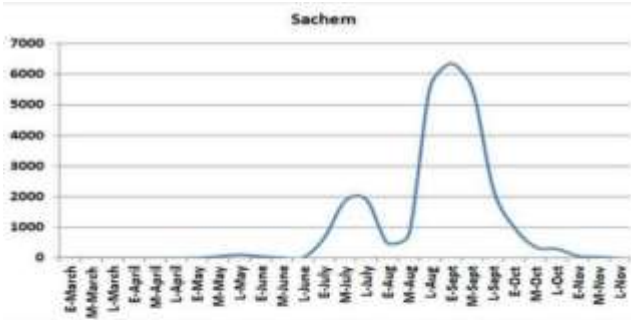
Broad-winged Skippers



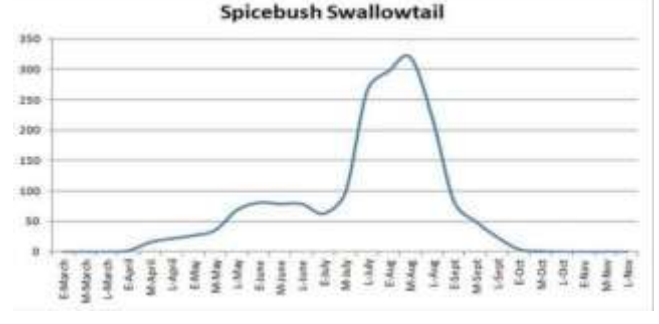
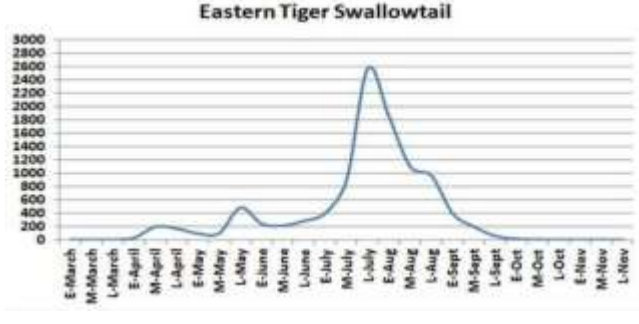
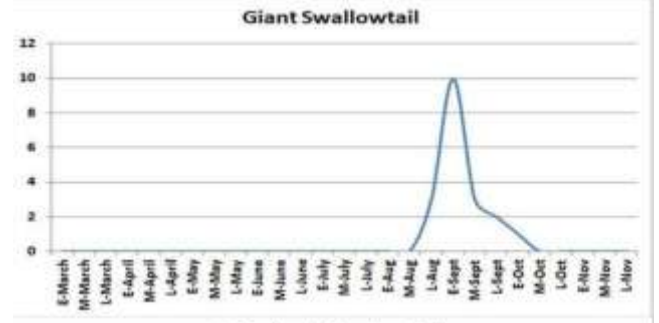
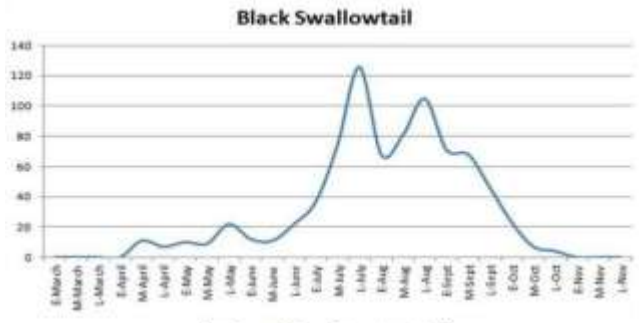
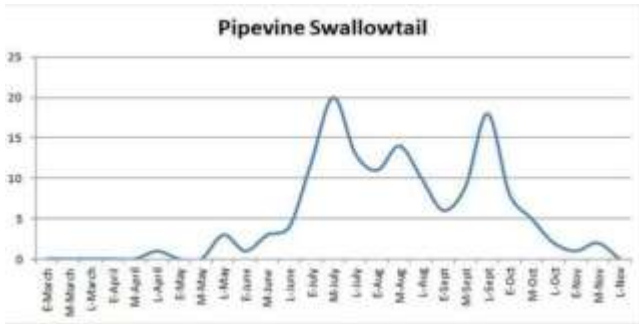
Grass-Skippers



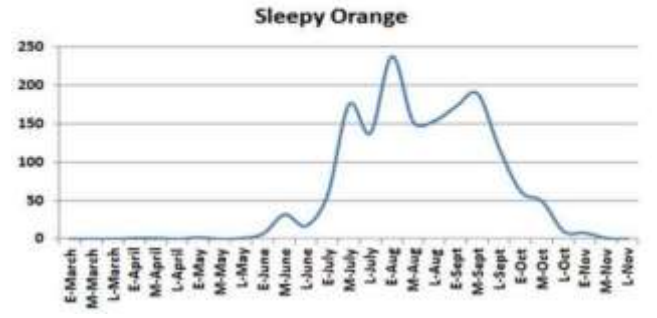
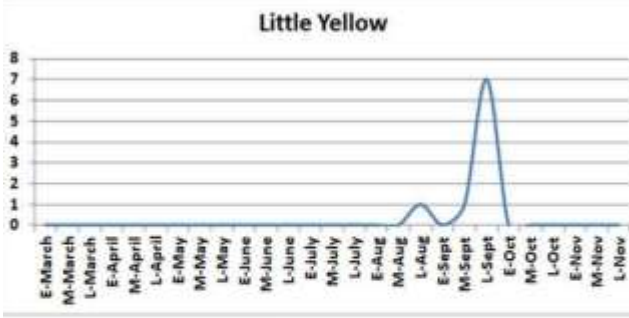
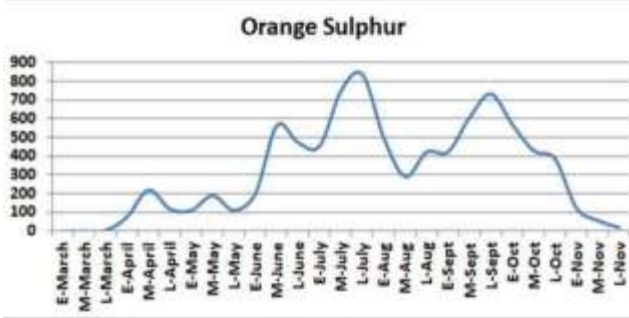
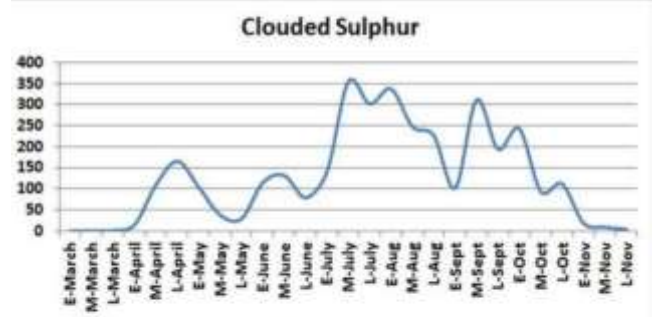
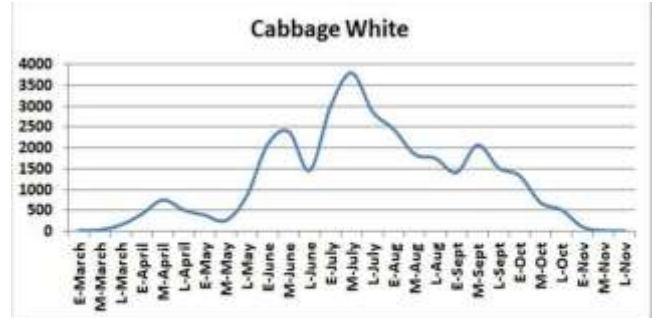
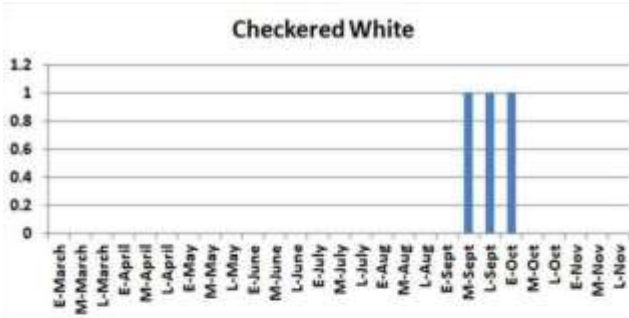
Grass-Skippers (continued)



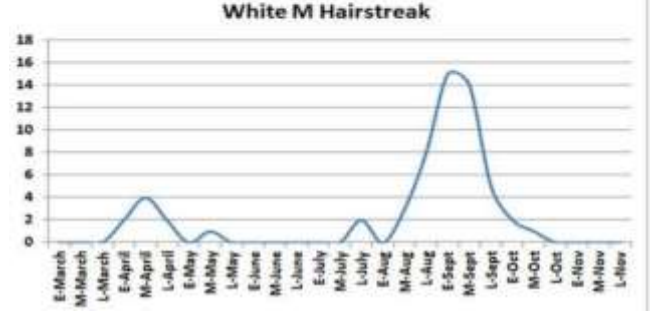
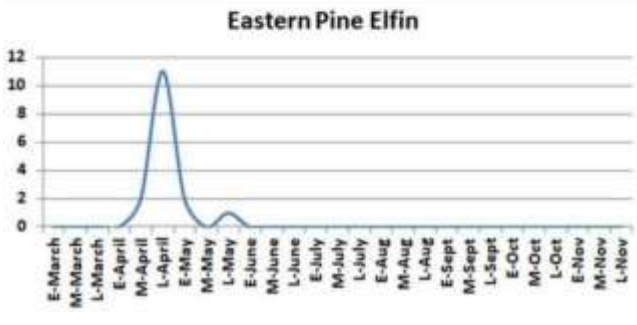
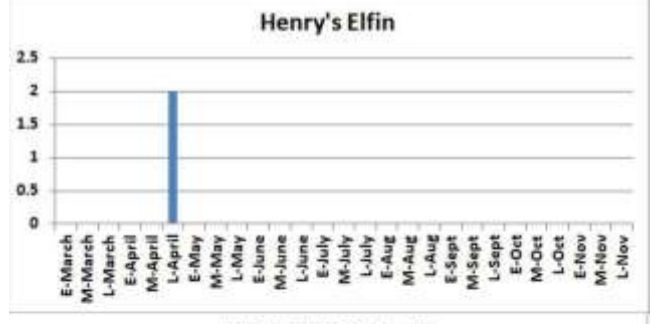
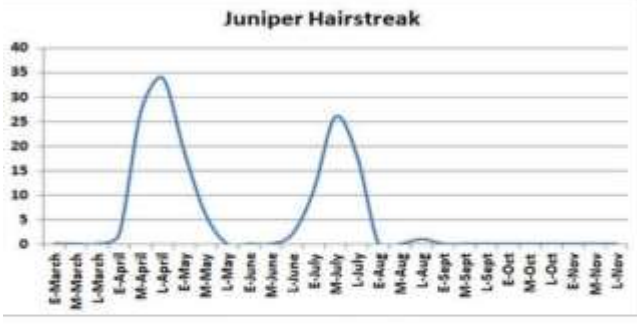
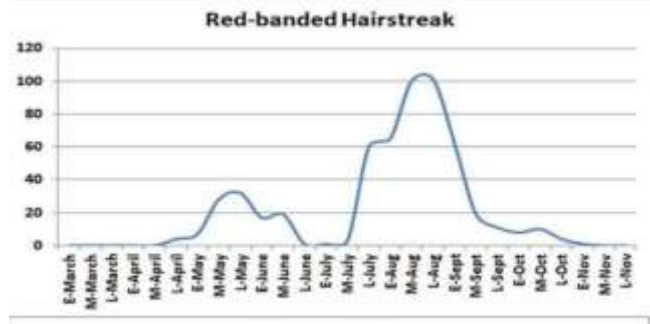
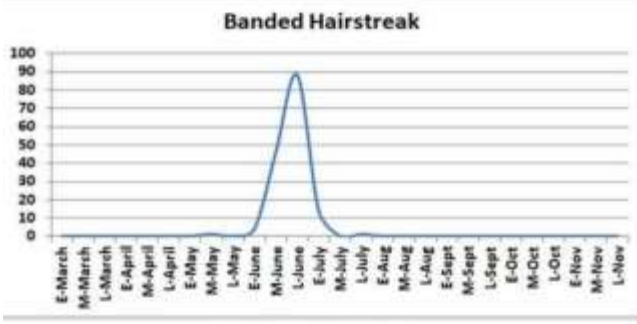
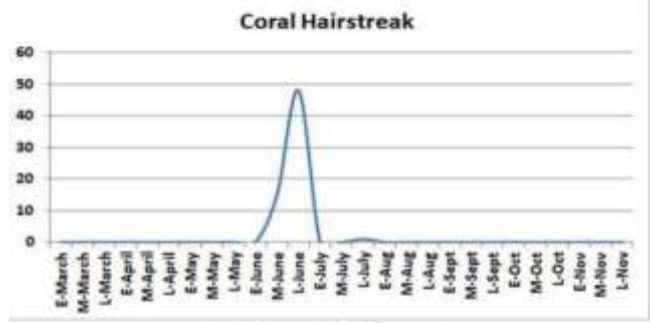
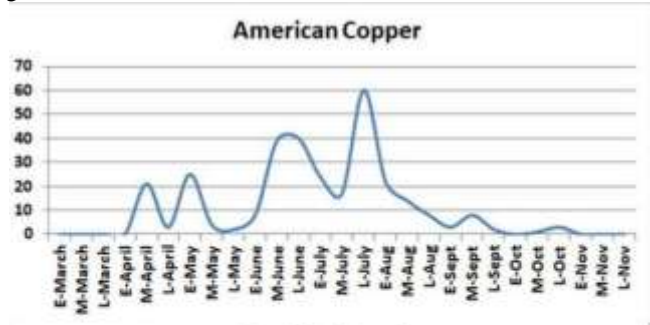
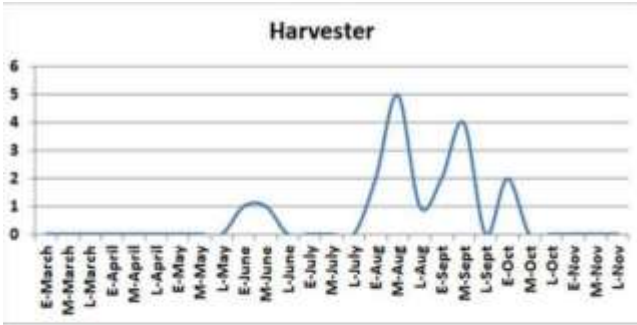
Swallowtails



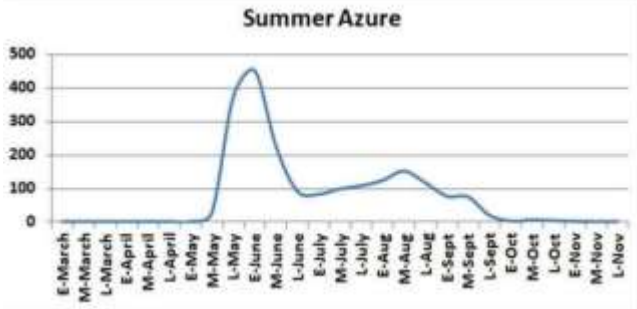
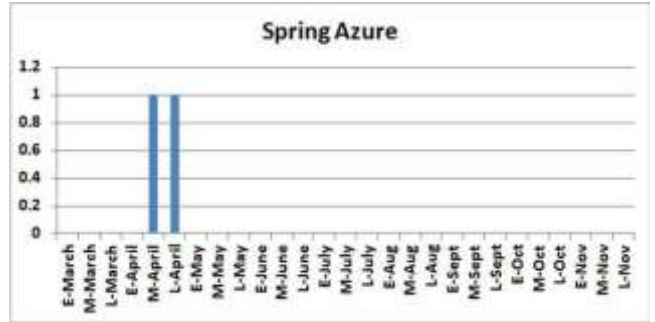
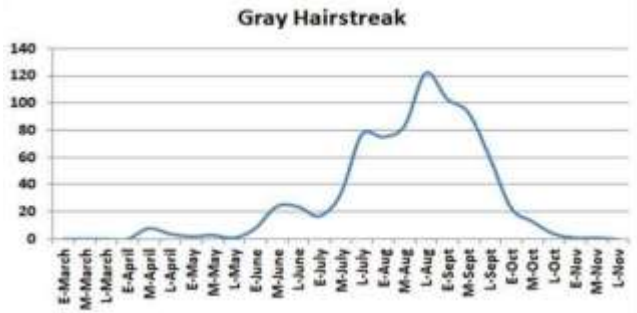
Whites & Sulphurs



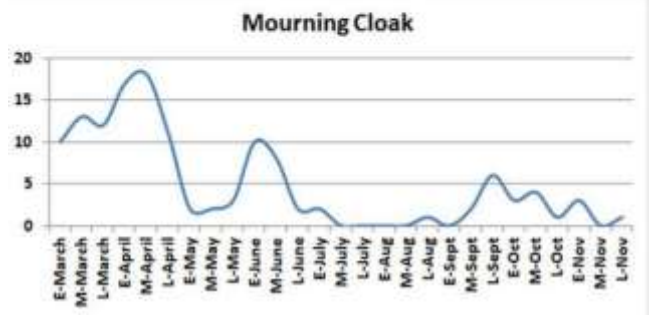
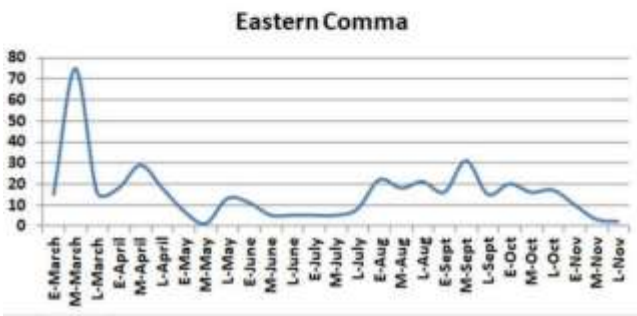
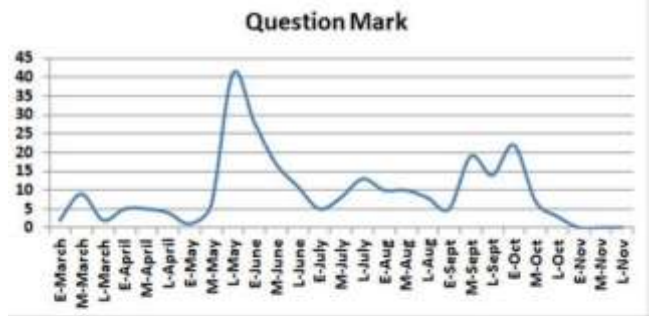
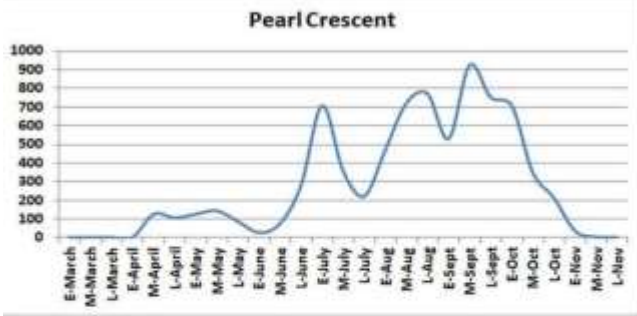
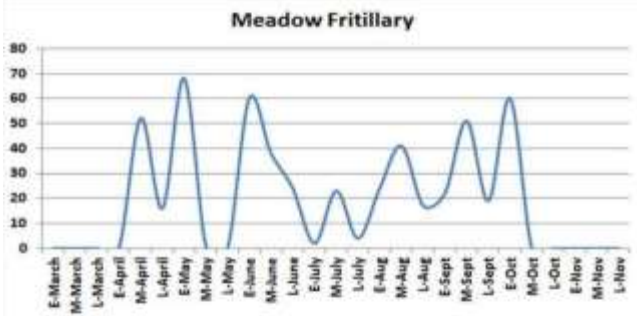
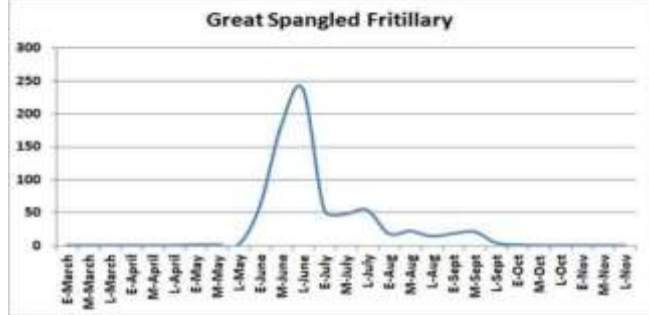
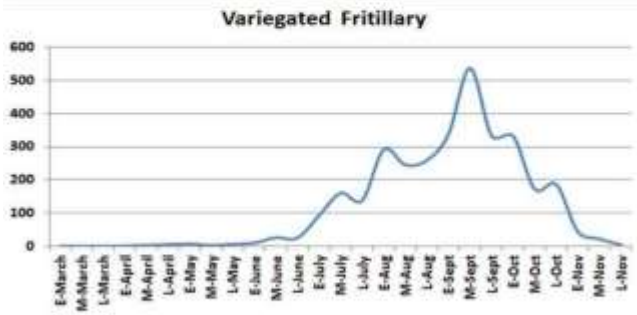
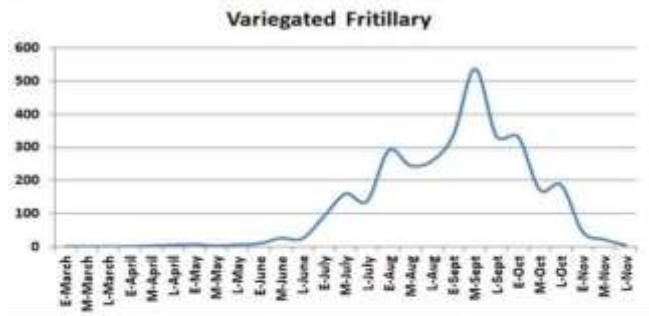
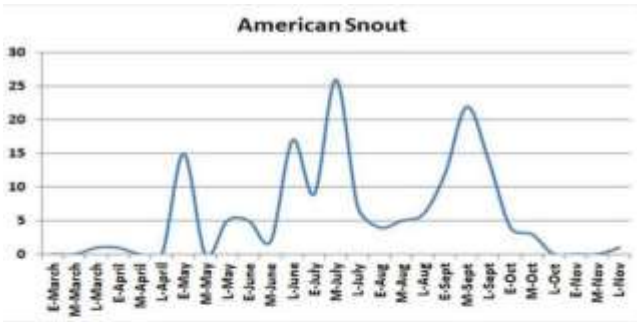
Gossamer-wings



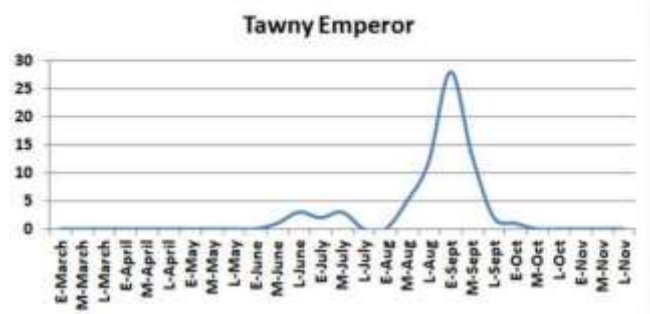
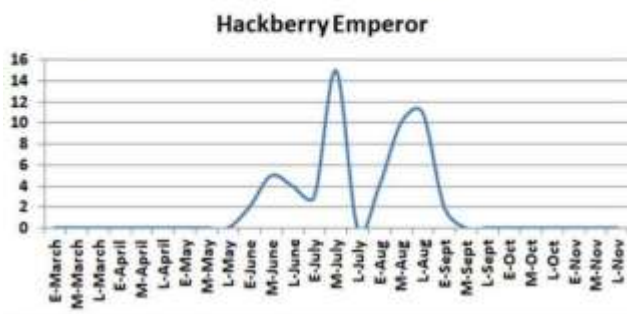
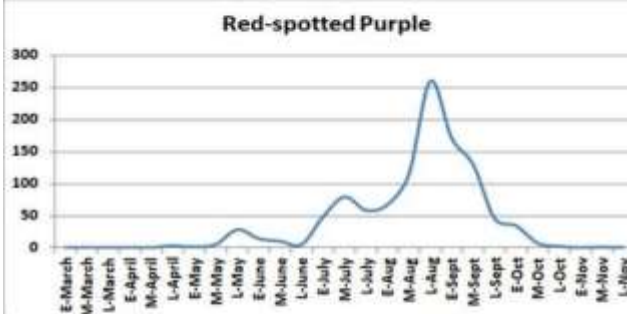
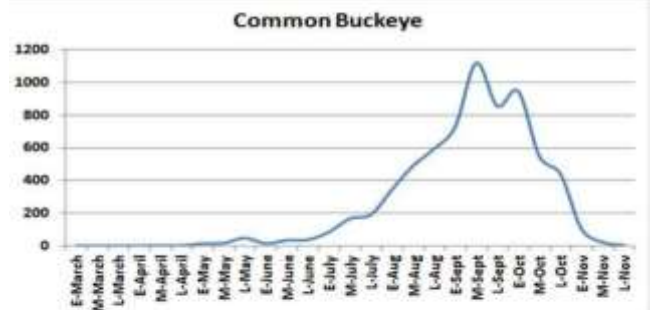
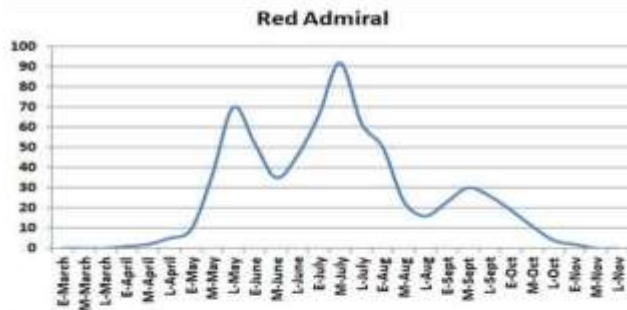
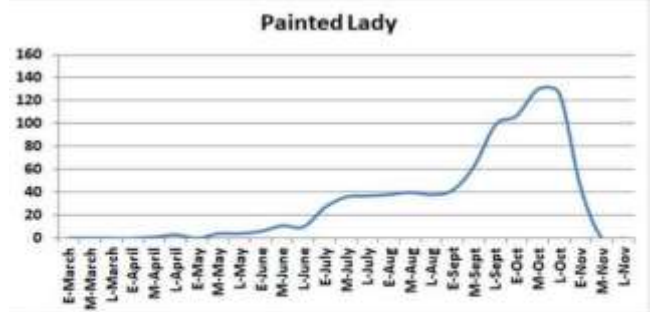
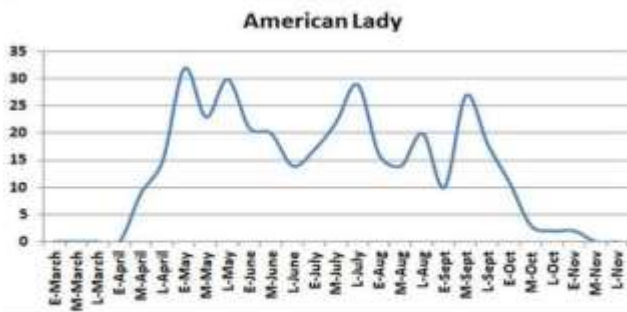
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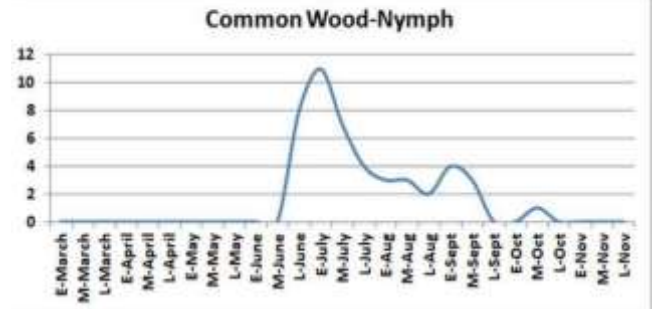
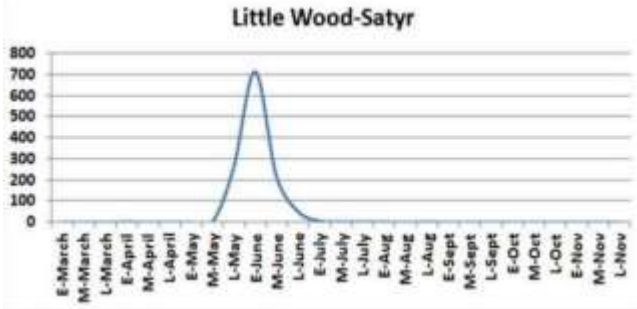
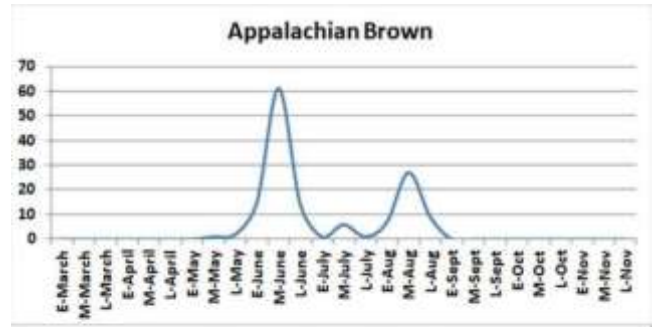
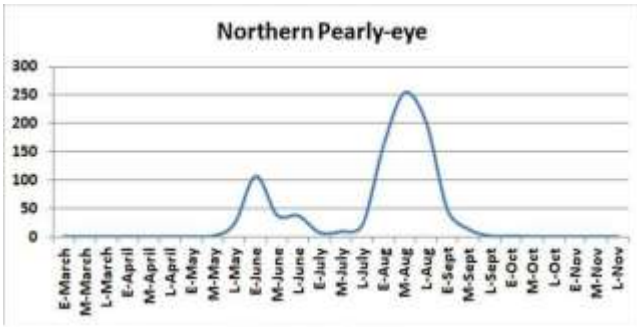
Brushfoots



Brushfoots (continued)



Satyrs



Milkwood Butterflies

