

NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 29 July to 4 August, 2007, Week 31

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Purpose: Samples from New Jersey light traps throughout the state are collected by county mosquito control agencies for use in their IPM programs. A portion of this data (about 82 traps) is sent to Rutgers and re-calculated to show statewide trends in mosquito populations for species of nuisance or health concerns.

Calculations are based on regional distributions, with emphasis on mosquito habitat and land use. Trends will allow a statewide evaluation of changing mosquito populations, in response to control and/or changes in habitat.

This New Jersey Agricultural Experiment Station report is supported by Rutgers University, Hatch funds, funding from the NJ State Mosquito Control Commission and with the participation of county mosquito control agencies in New Jersey.

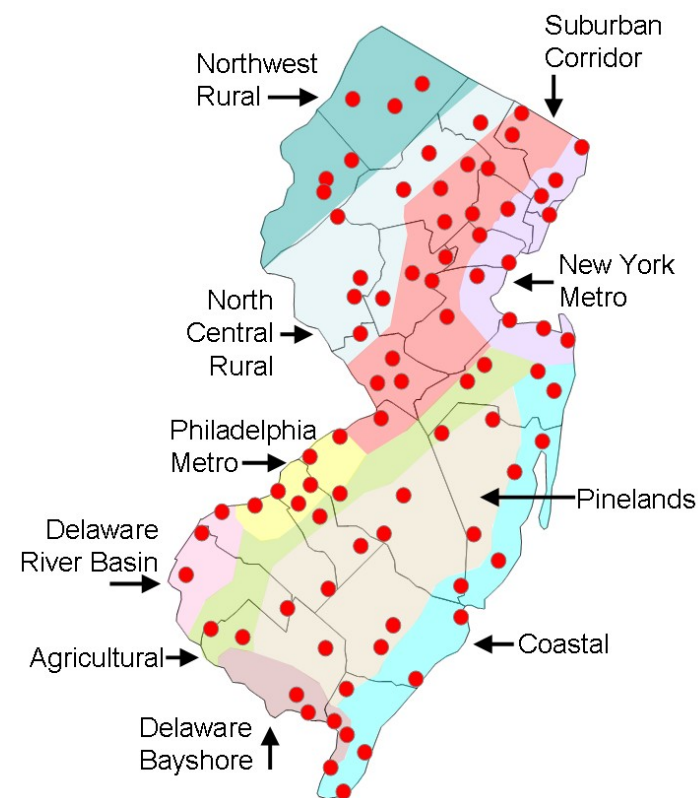


Figure 1: Ten regions selected for the New Jersey Adult Mosquito Surveillance Program overlaid with county borders. Trap locations indicated by red-filled circles.

Summary table – Week 31

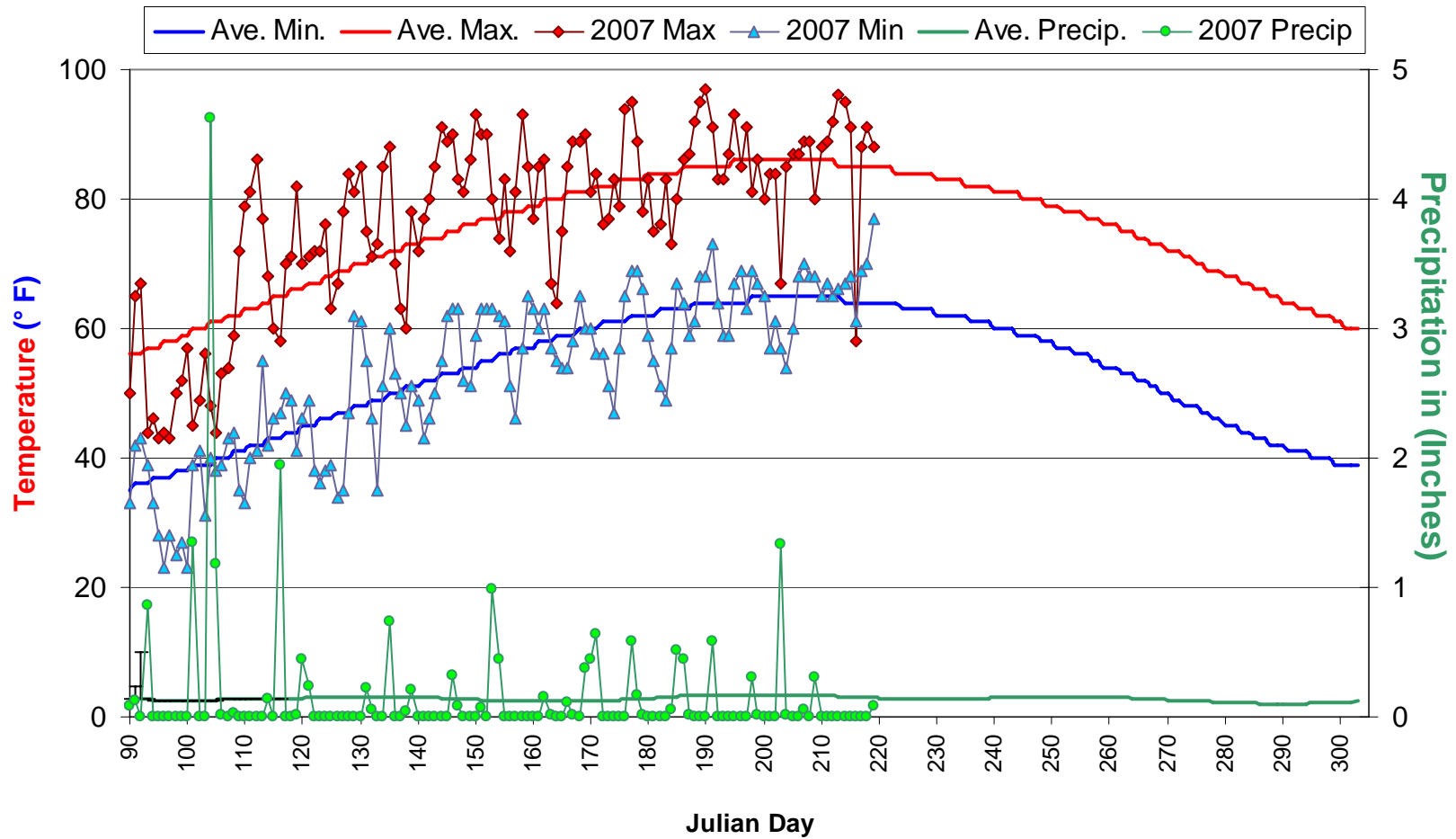
	<i>Aedes vexans</i>			<i>Culex Mix</i>			<i>Coquillettidia perturbans</i>			<i>Aedes sollicitans</i>		
Region	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase
Agricultural	0.1	7.77	0	1.76	9.25	0	0.14	0.54	0	0.12	0.28	0
Coastal	0.43	6.64	0	3.22	4.93	0	0	1.94	0	15.62	44.69	0
Delaware Bayshore	0.1	5.46	0	11.07	48.52	0	0.26	18.93	0	7.79	12.93	0
Delaware River Basin	0	27.9	0	0	14.98	0	0	0.57	0	0	0.15	0
New York Metro	1.76	2.7	0	13.81	5.47	4	0.13	0.08	2	0.06	2.16	0
North Central Rural	0.1	1.04	0	0.16	1.42	0	0	0.08	0	0	0	0
Northwest Rural	12.29	14.46	0	1.38	9.82	0	0.12	0.16	0	0	0	0
Philadelphia Metro	1.74	24.76	0	1.38	5.33	0	0.11	0.37	0	0	0	0
Pinelands	0.27	2.83	0	1.14	4.97	0	0.22	1.48	0	0.03	0.3	0
Suburban Corridor	2.39	9.25	0	3.13	3.21	0	0.03	2.8	0	0	0.05	0

* Averages represent data from, at most, the previous 5 years. Increase is a scale of current values from historical values where no difference or a decrease is represented by 0 (blue), up to 50% greater difference by 1 (green), up to 100% greater difference by 2 (yellow), up to 150% greater difference by 3 (orange) and greater than 150% increase by 4 (red).

State Summary: *Culex Mix* populations in the New York Metro continue to be above historical trends. This is during a time where amplification of WN virus is occurring, with most of the positive *Culex* pools coming from the Suburban Corridor and New York Metro regions. *Coquillettidia perturbans*, an epizootic vector of eastern equine encephalitis, is also above historical values in the New York Metro region.

Climate Data

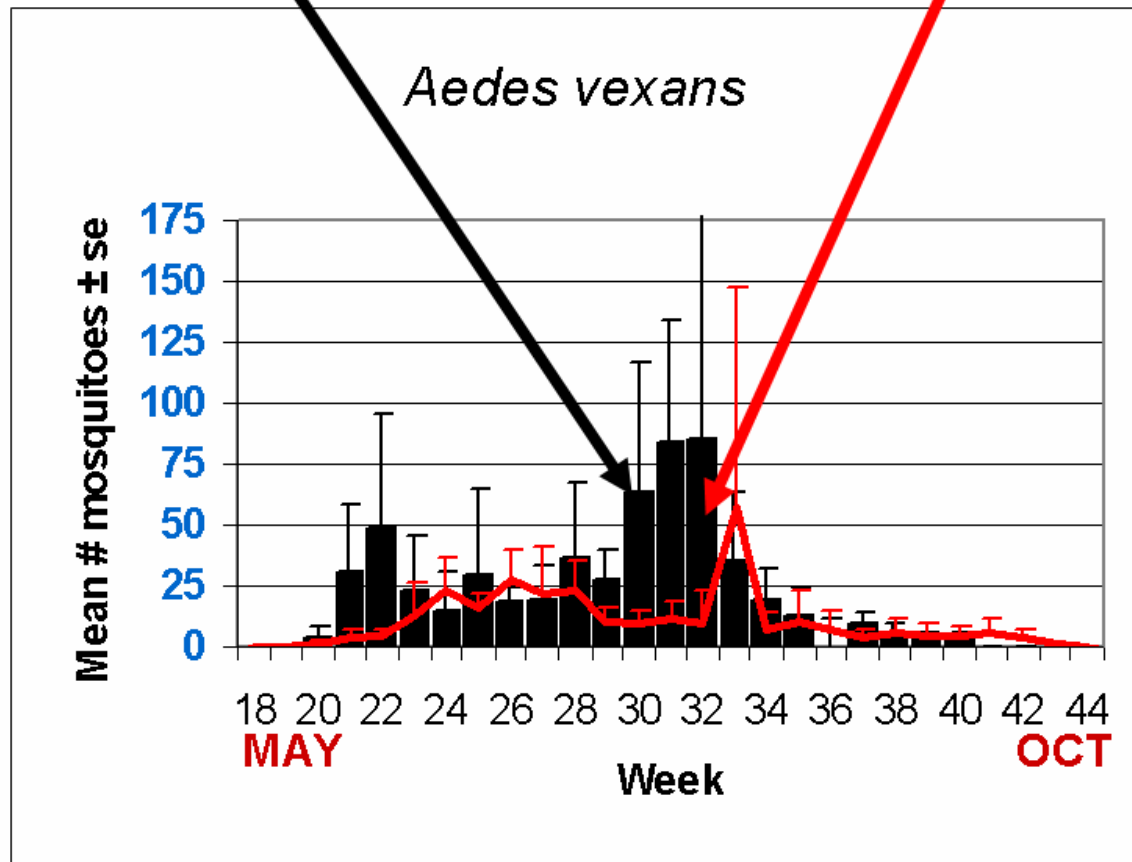
New Brunswick 1971-2000 Historical/Hillsborough 2007



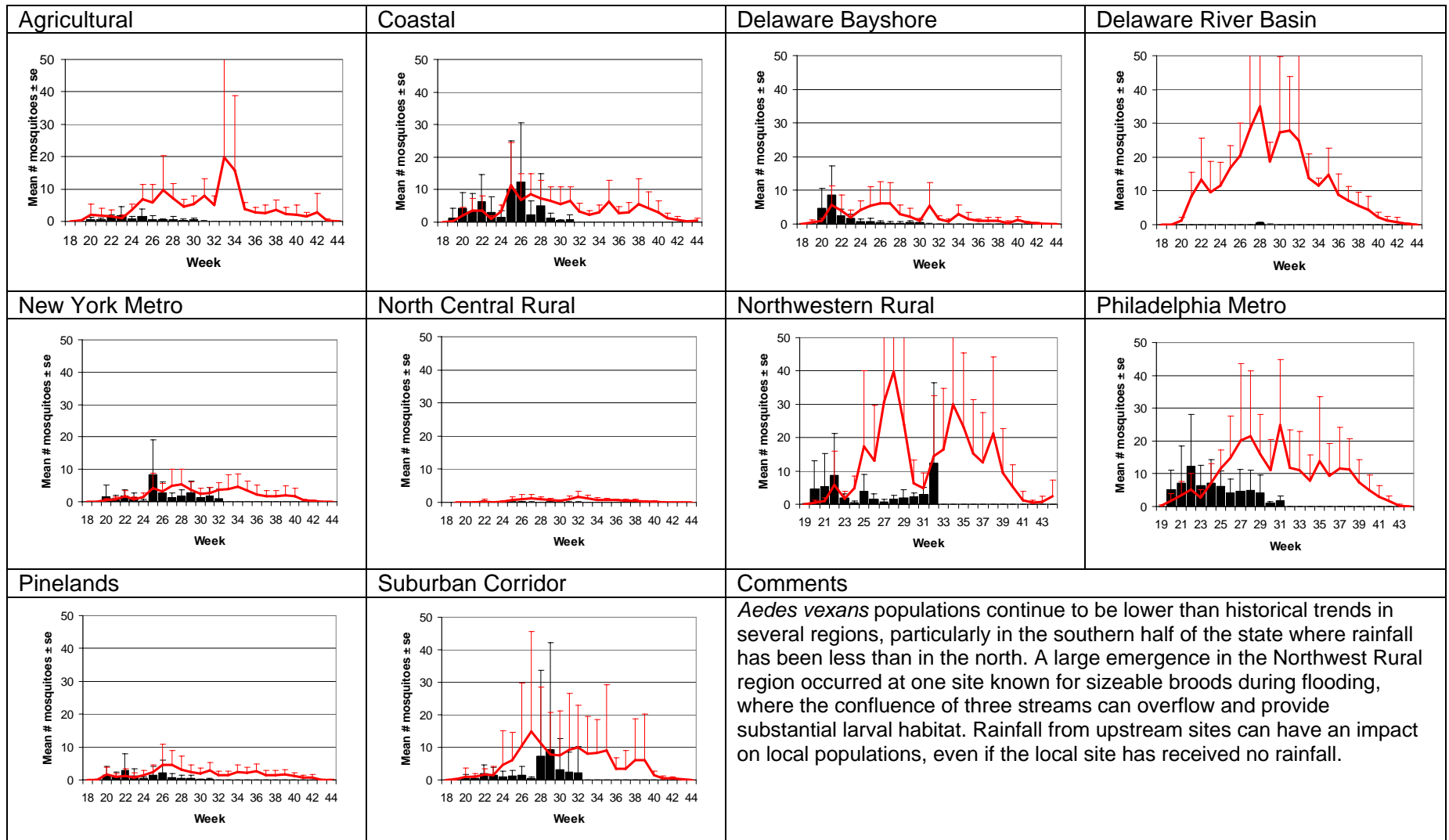
This figure shows historical average maximum and minimum temperatures and average precipitation recorded in the New Brunswick, NJ weather station over a recent 30 year period. Also graphed are the current year's minimum and maximum temperatures as recorded at the Hillsborough NJ weather station (a station close to central NJ which recorded all three parameters and was available online at the NJ state climatologist).

The Species Graphs: The species graph pages include a graph with two plots for each of the ten regions defined on the first page (Agricultural, Coastal, Delaware Bayshore, Delaware River, New York Metro, North-Central, Northwestern, Philadelphia Metro, Pinelands, and Suburban Corridor). Below is an example of one graph from one species within one region. The bar plot show the average number of mosquitoes per trap within the region (weekly means) and line plots show the historical trend as the average number of mosquitoes from the previous 5 years (5-year average). In general, historical data are running means from the previous 5 years, but on occasion, will include data from fewer years. Adjustments are made to account for year discrepancies. Data for Week 29 are from Atlantic, Bergen, Burlington, Camden, Cape May, Cumberland, Essex, Hudson, Hunterdon, Mercer, Middlesex, Morris, Ocean, Somerset, Sussex, Union and Warren counties.

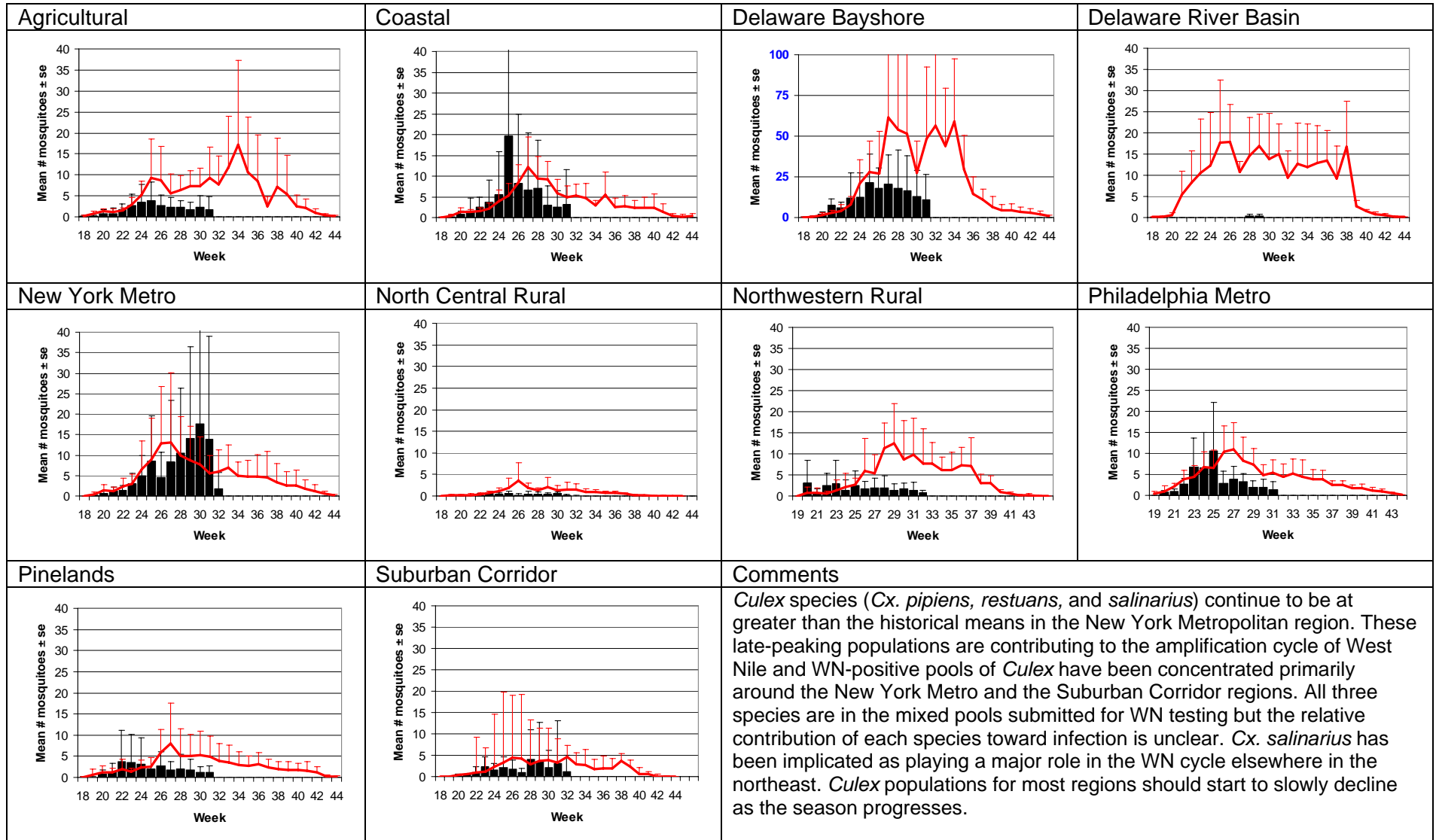
Weekly Means Against 5-year Average



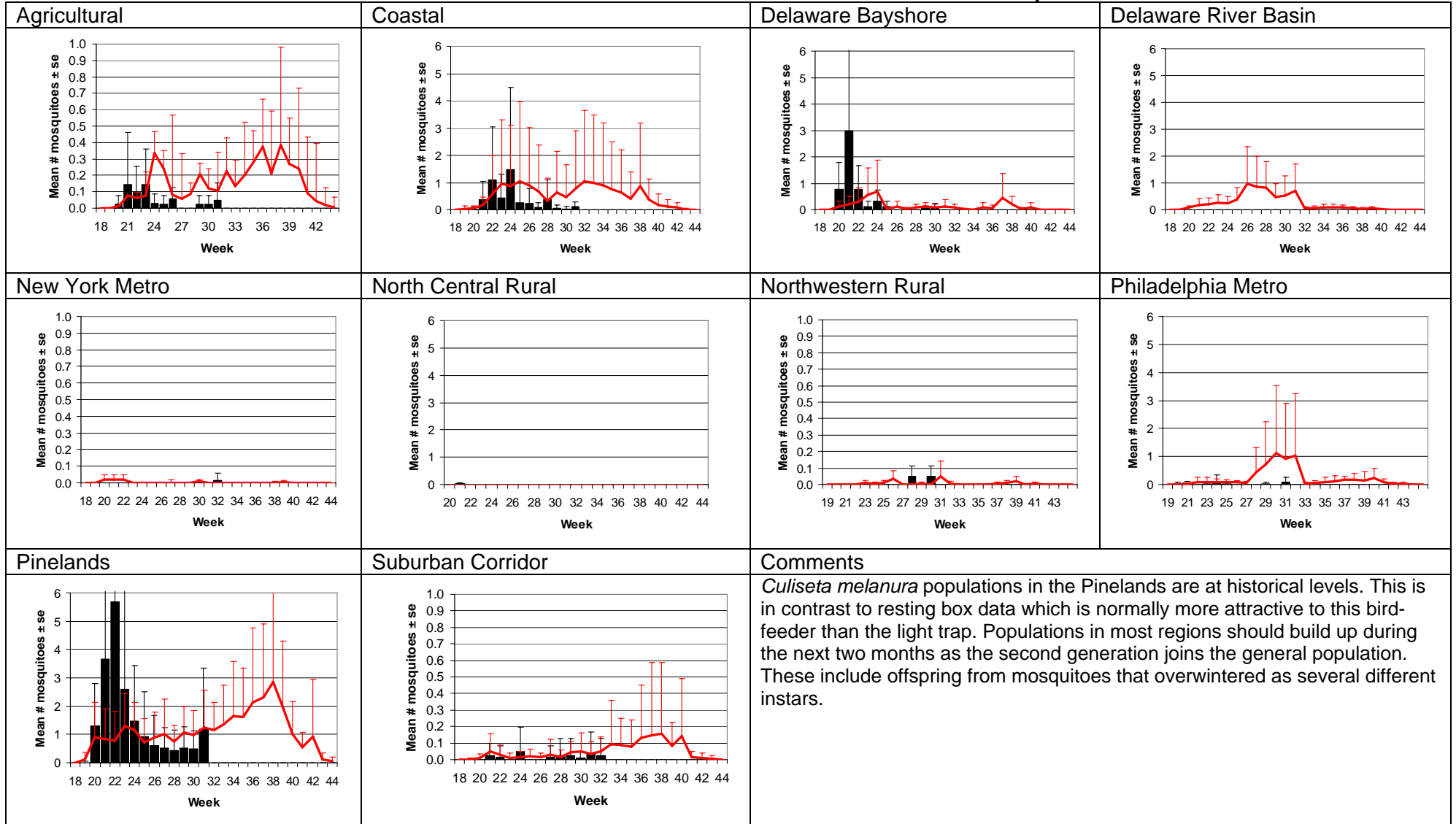
Aedes vexans - Fresh Floodwater Species



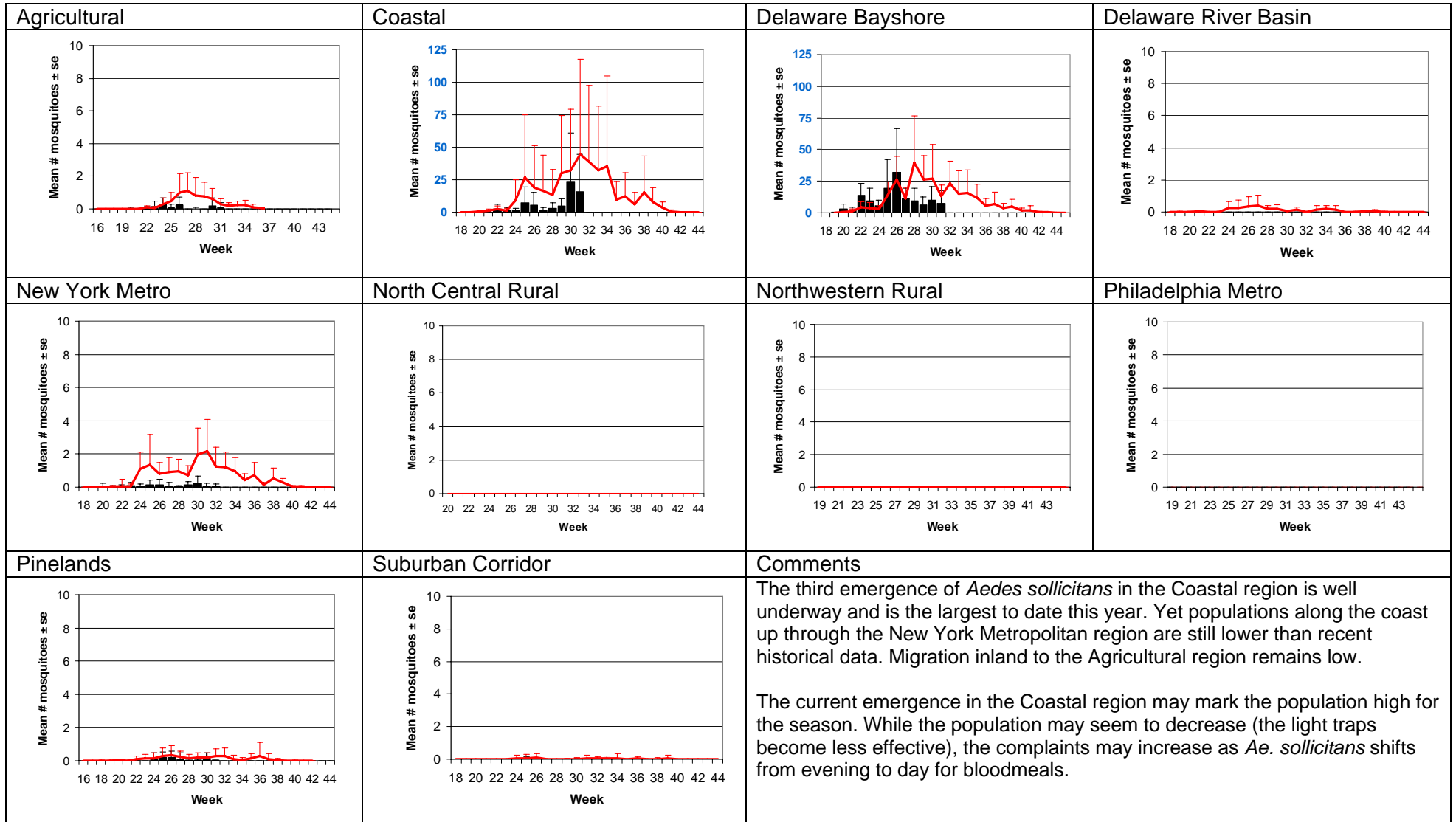
Culex Mix - Multivoltine Culex Species



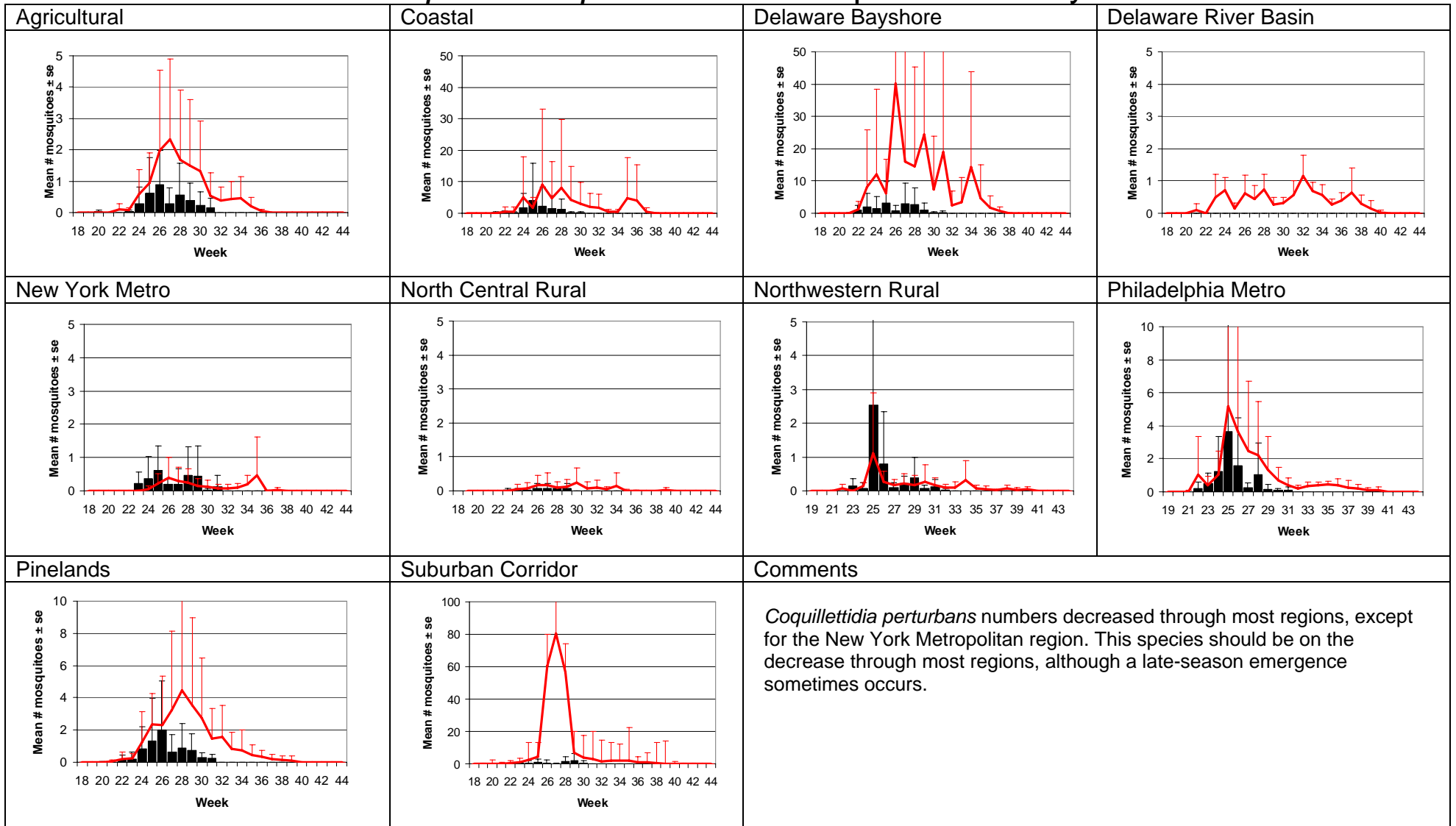
Culiseta melanura – Miscellaneous Group



Aedes sollicitans - Salt Marsh Floodwater Species



Coquillettidia perturbans – Unique Life History



Top Ten cumulative species for each region to date.

