

NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 7 October to 13 October, 2007, Week 41

Prepared by Lisa M. Reed, Scott Crans and Dina Fonseca
Center for Vector Biology
Rutgers University, New Brunswick, NJ

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.

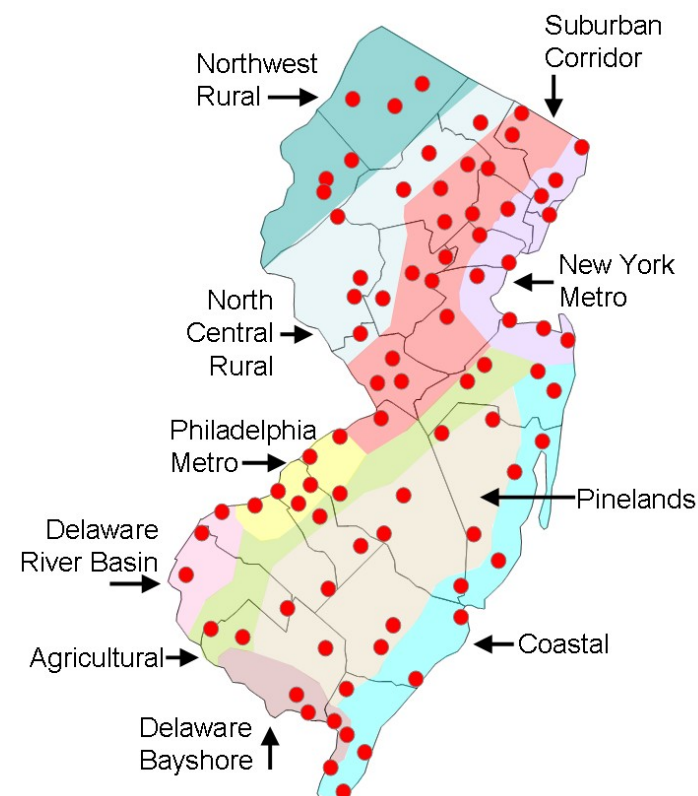


Figure 1: Ten regions selected for the New Jersey Adult Mosquito Surveillance Program overlaid with county borders. Trap locations indicated by red-filled circles.

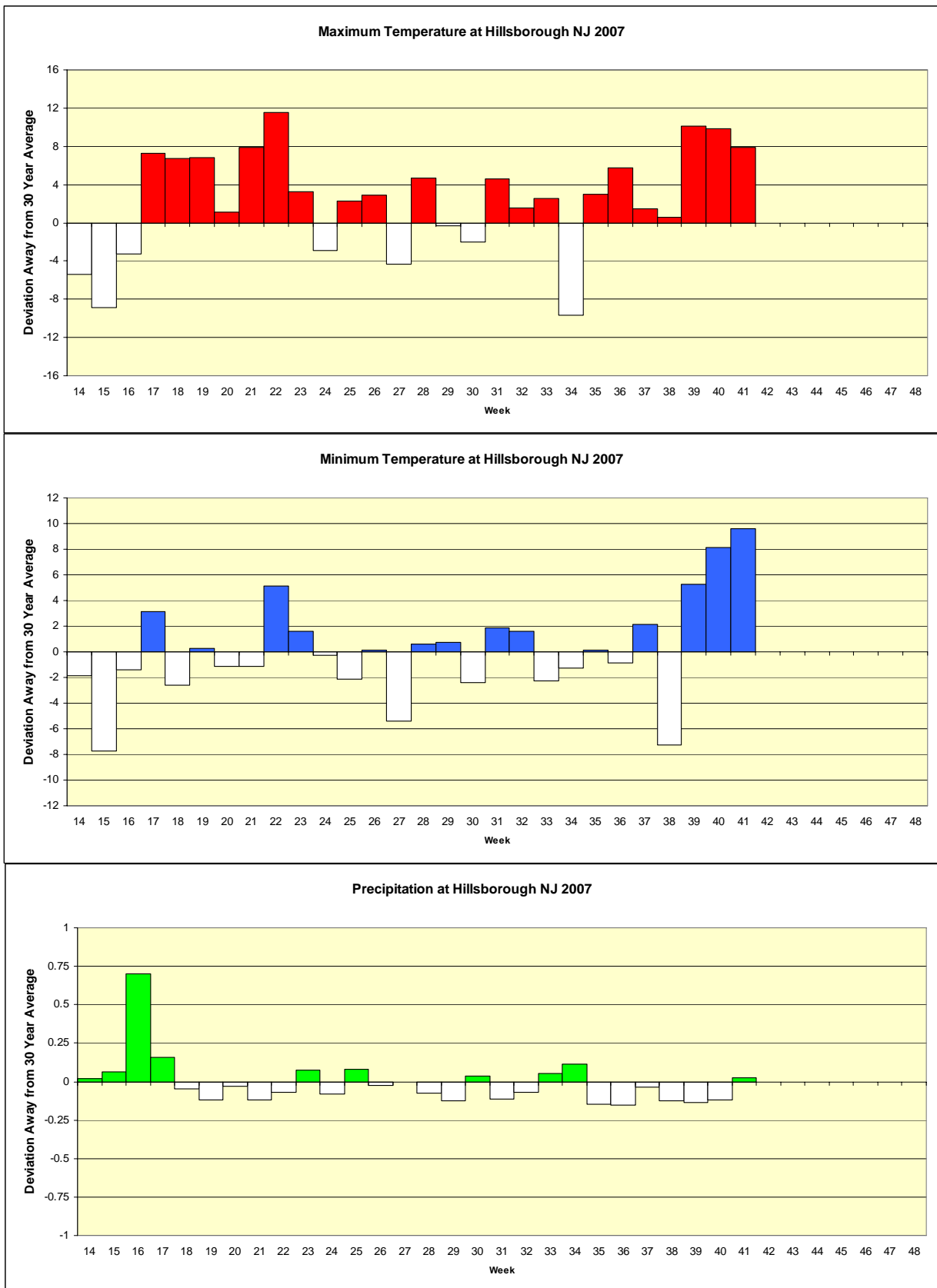
Summary table – Week 41

	<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	0.14	1.44	0	0.21	2.13	0	0.00	0.00	0	0.05	0.00	0
Coastal	0.00	1.35	0	0.08	1.44	0	0.00	0.00	0	0.05	0.90	0
Delaware Bayshore	0.21	0.40	0	2.76	3.33	0	0.00	0.00	0	2.69	2.16	1
Delaware River Basin	0.00	1.25	0	0.00	0.69	0	0.00	0.00	0	0.00	0.00	0
New York Metro	0.11	0.39	0	3.03	1.73	2	0.00	0.00	0	0.03	0.04	0
North Central Rural	0.00	0.30	0	0.00	0.05	0	0.00	0.00	0	0.00	0.00	0
Northwest Rural	0.91	1.26	0	0.23	0.66	0	0.00	0.00	0	0.00	0.00	0
Philadelphia Metro	0.69	2.93	0	0.48	1.14	0	0.00	0.00	0	0.00	0.00	0
Pinelands	0.17	0.71	0	0.16	1.65	0	0.00	0.00	0	0.00	0.00	0
Suburban Corridor	0.07	0.52	0	0.23	0.57	0	0.00	0.00	0	0.00	0.00	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). White cells denotes increases from an historic zero and thus no value can be appropriately given. These end of year changes are generally minor unless otherwise noted.

State Summary: Mixed *Culex* abundances appear higher than the historical averages in the New York Metropolitan region at this late date in the mosquito season, but the mean is well within the historical variance. It should be noted that with these abundances come a notable MFIR value for *Cx. pipiens* pools from the state's Vector Surveillance program, suggesting that the endemic transmission cycle is continuing. *Aedes sollicitans* is also noted to be above historical values in the Delaware Bayshore regions, but, as with *Culex*, this is not a significant difference.

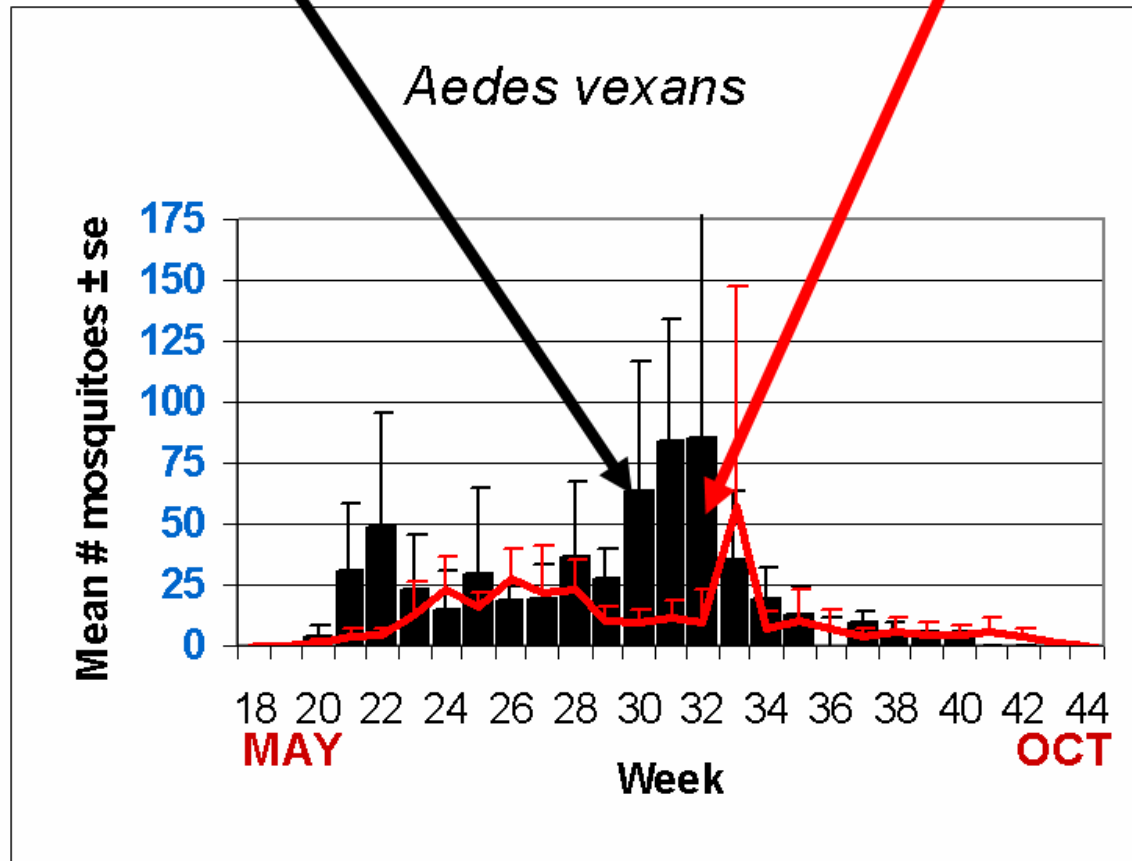
Climate Deviations



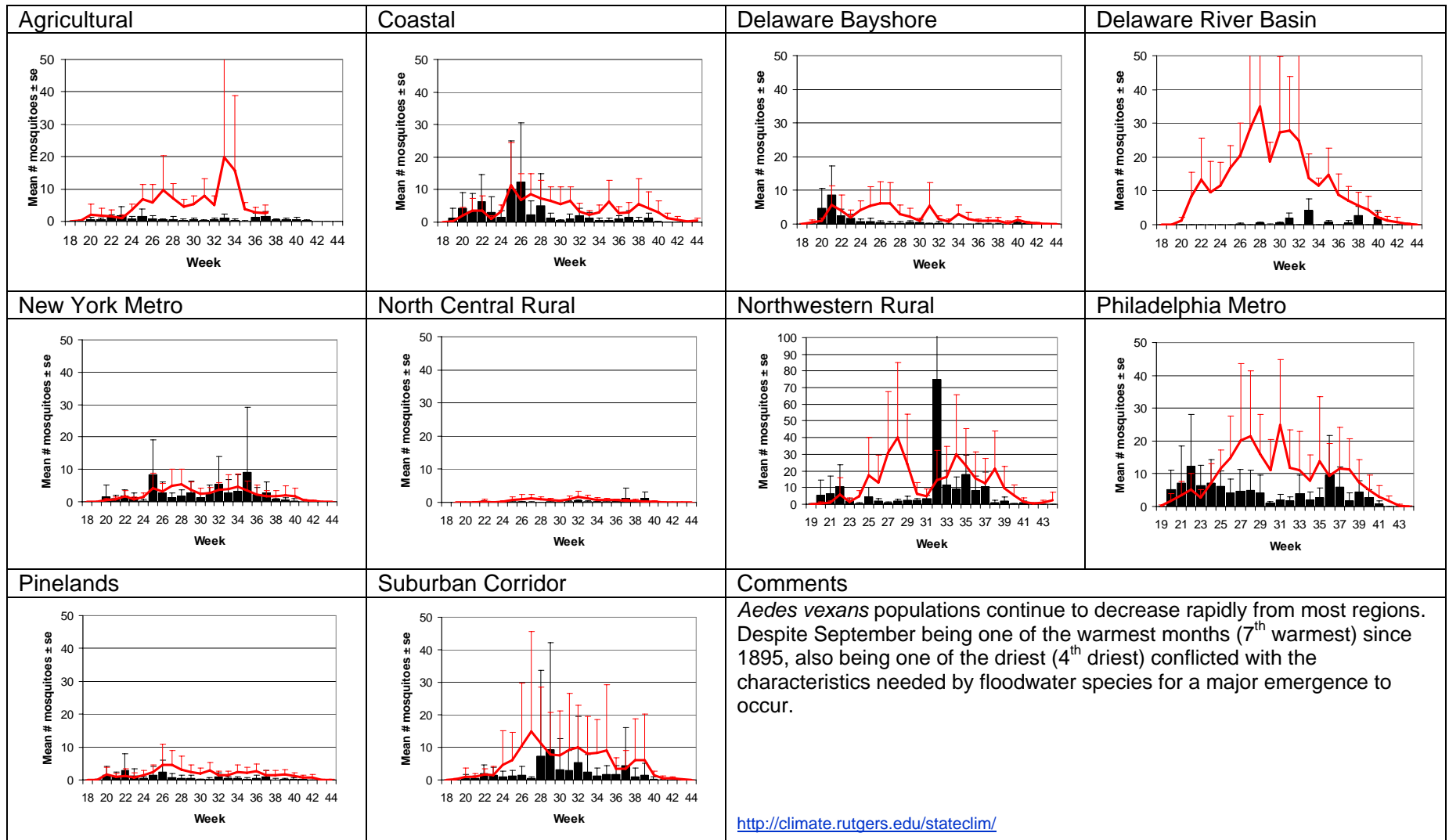
The figures show the average maximum temperature, minimum temperature and precipitation deviations from 30 year averages. Current data is from the Hillsborough NJ weather station (a station close to central NJ which recorded all three parameters and was available online at the NJ state climatologist) while historical data was from the New Brunswick weather station. Color bars above the zero line indicate warmer maximum or minimum temperatures and wetter conditions while white bars indicate cooler temperatures and drier conditions.

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 36 are from Bergen, Camden, Cape May, Cumberland, Hudson, Hunterdon, Mercer, Middlesex, Somerset, Sussex and Warren counties. Note: Some counties have discontinued their light traps for the season.

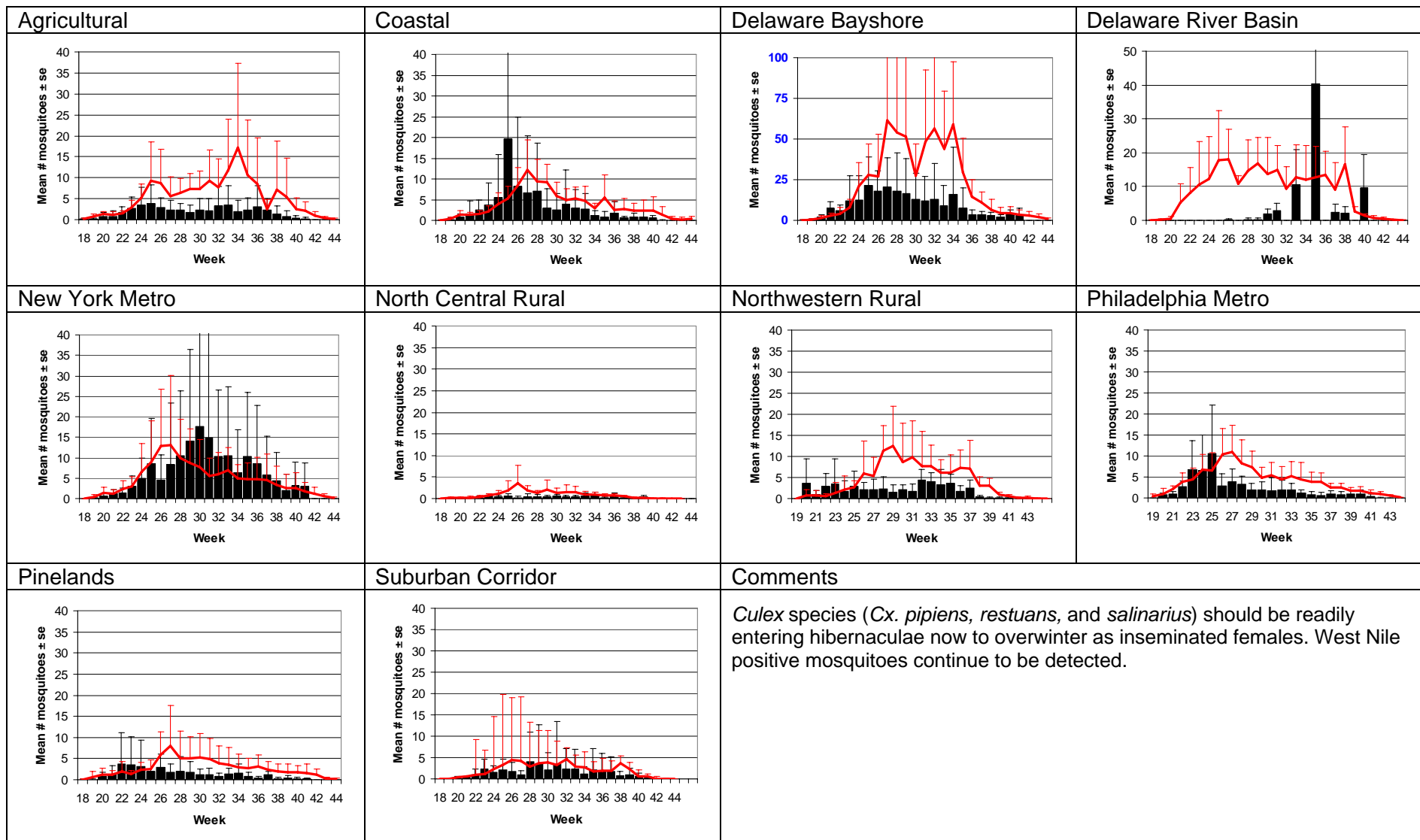
Weekly Means Against 5-year Average



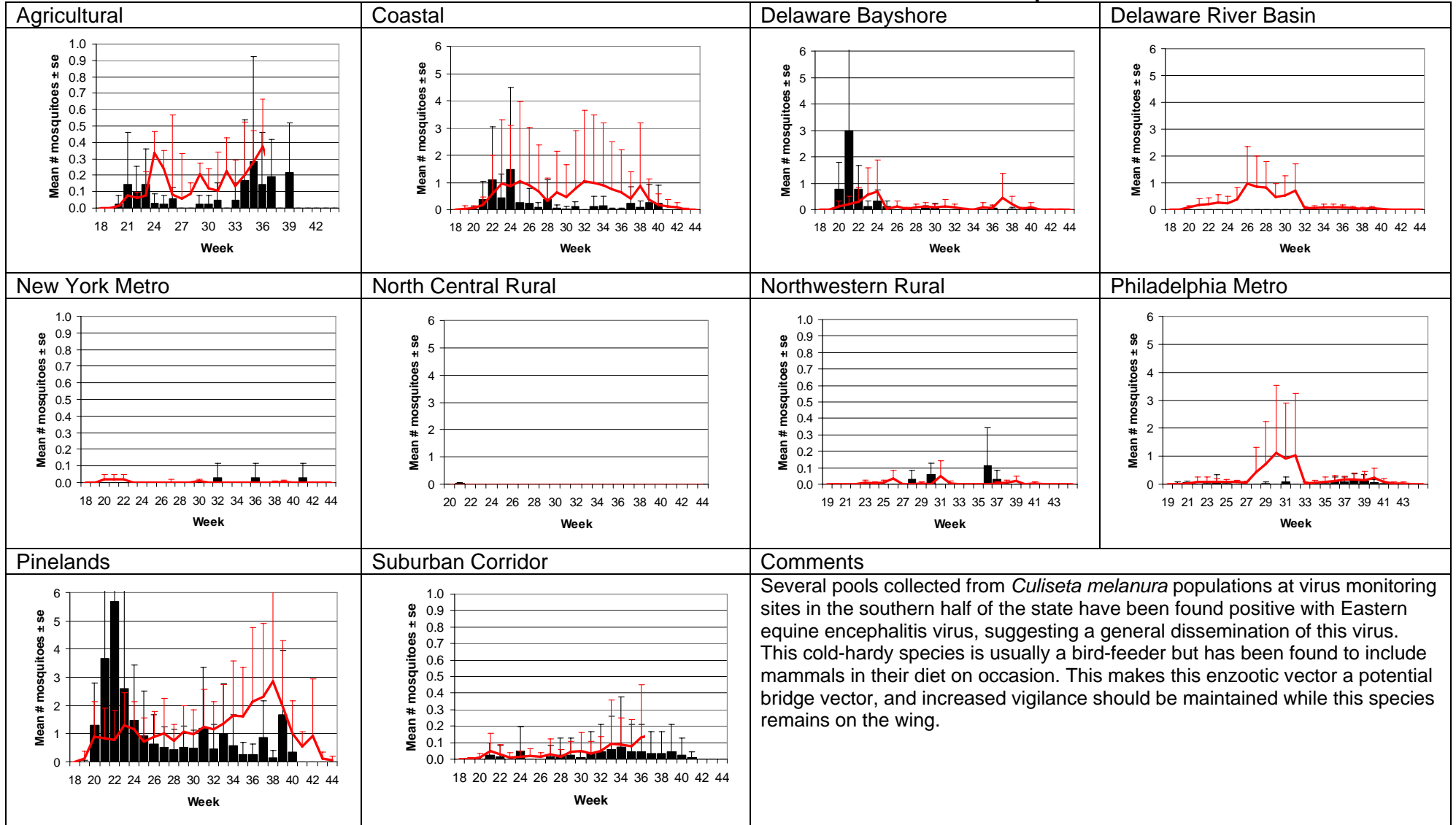
Aedes vexans - Fresh Floodwater Species



Culex Mix - Multivoltine Culex Species



Culiseta melanura – Miscellaneous Group



Aedes sollicitans - Salt Marsh Floodwater Species

<p>Agricultural</p>	<p>Coastal</p>	<p>Delaware Bayshore</p>	<p>Delaware River Basin</p>
<p>New York Metro</p>	<p>North Central Rural</p>	<p>Northwestern Rural</p>	<p>Philadelphia Metro</p>
<p>Pinelands</p>	<p>Suburban Corridor</p>	<p>Comments</p> <p><i>Aedes sollicitans</i> continue to decline. Historical data indicates no activity beyond next week for all areas.</p>	

Top Ten cumulative species for each region to date.

