NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 14 October to 20 October, 2007, Week 42

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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.

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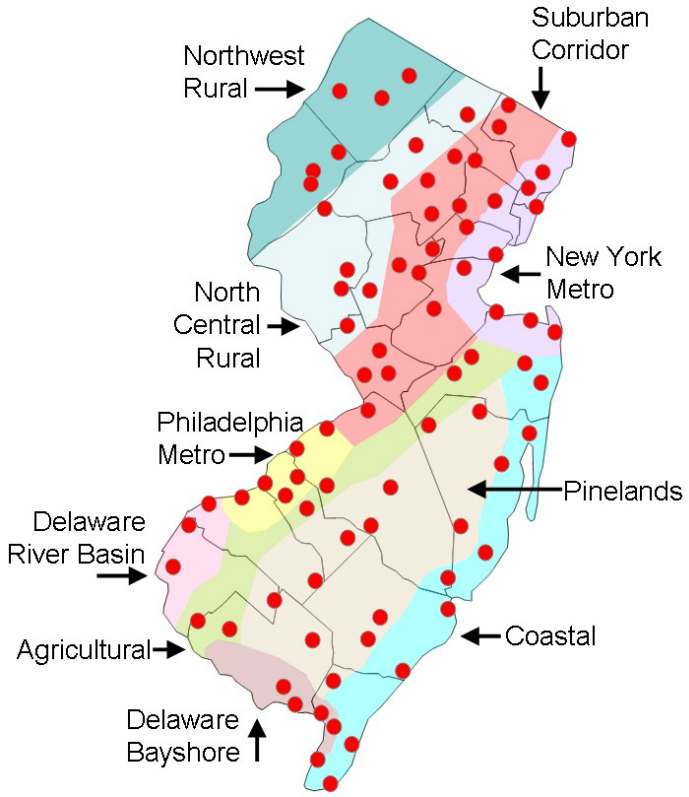


Figure 1: Ten regions selected for the New Jersey Adult Mosquito Surveillance Program overlaid with county borders. Trap locations indicated by red-filled circles.

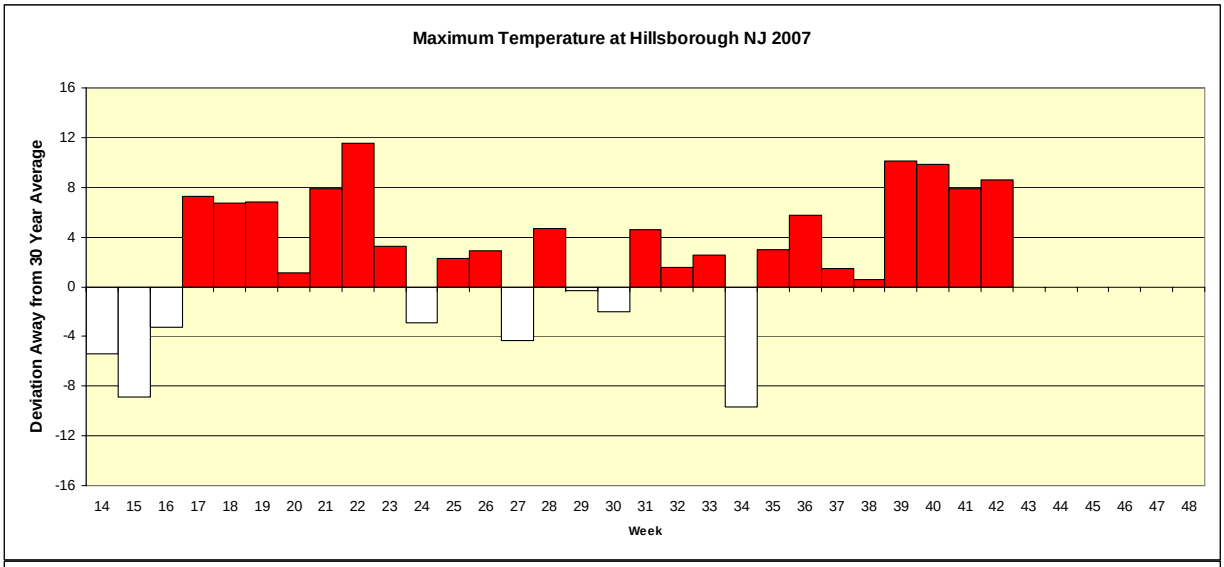
Summary table – Week 42

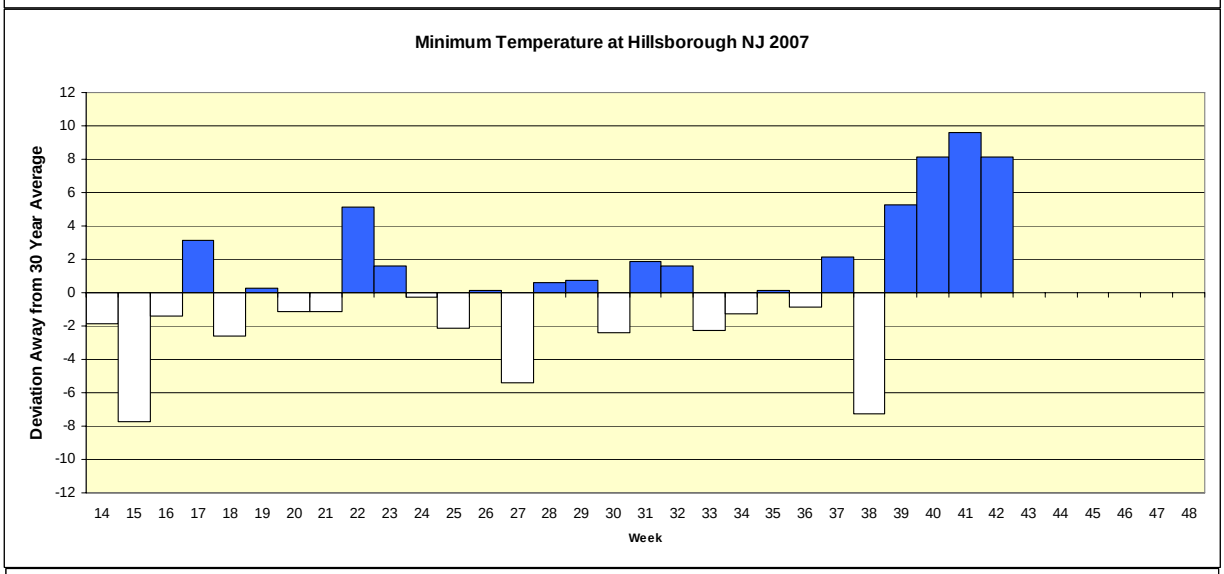
	Aedes vexans			*Culex* Mix			*Coquillettidia perturbans*			*Aedes sollicitans*		
Region	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase
Agricultural	0.02	2.83	0	0.48	0.96	0	0.00	0.00	0	0.00	0.00	0
Coastal	0.02	0.78	0	0.41	0.39	1	0.00	0.00	0	0.00	0.14	0
Delaware Bayshore	0.00	0.21	0	1.74	2.86	0	0.00	0.00	0	0.31	0.80	0
Delaware River Basin	0.00	0.86	0	0.00	0.50	0	0.00	0.00	0	0.00	0.01	0
New York Metro	0.00	0.20	0	0.00	1.18	0	0.00	0.00	0	0.00	0.00	0
North Central Rural	0.00	0.04	0	0.00	0.01	0	0.00	0.00	0	0.00	0.00	0
Northwest Rural	0.11	0.40	0	0.00	0.14	0	0.00	0.00	0	0.00	0.00	0
Philadelphia Metro	0.06	1.65	0	0.14	0.94	0	0.00	0.00	0	0.00	0.00	0
Pinelands	0.23	0.79	0	0.22	1.09	0	0.00	0.00	0	0.00	0.00	0
Suburban Corridor	0.02	0.42	0	0.09	0.04	3	0.00	0.00	0	0.00	0.00	0

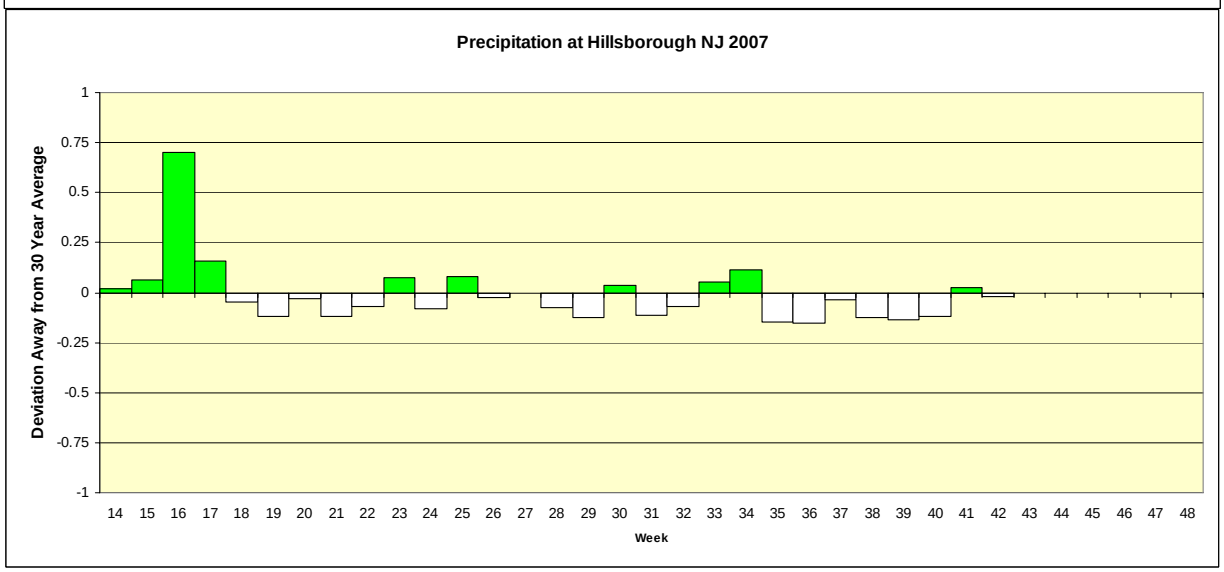
* Averages represent data from, at most, the previous 5 years. Increase is a scale of current values from historical values where no difference or a decrease is represented by 0 (blue), up to 50% greater difference by 1 (green), up to 100% greater difference by 2 (yellow), up to 150% greater difference by 3 (orange) and greater than 150% increase by 4 (red). White cells denote 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: Most of the four mosquito species/complex listed above has substantially decreased populations due to either life history (*Coquillettidia perturbans* is a mid-season mosquito) or reduced favorable conditions (*Aedes vexans* has not been able to exploit the unseasonably high temperatures due to a lack of floodwater habitat). The Suburban Corridor and Coastal regions show higher activity than historical trends; however it should be noted that a number of counties have ceased their mosquito-related activities. This is the last report before the season summary.

Climate Deviations

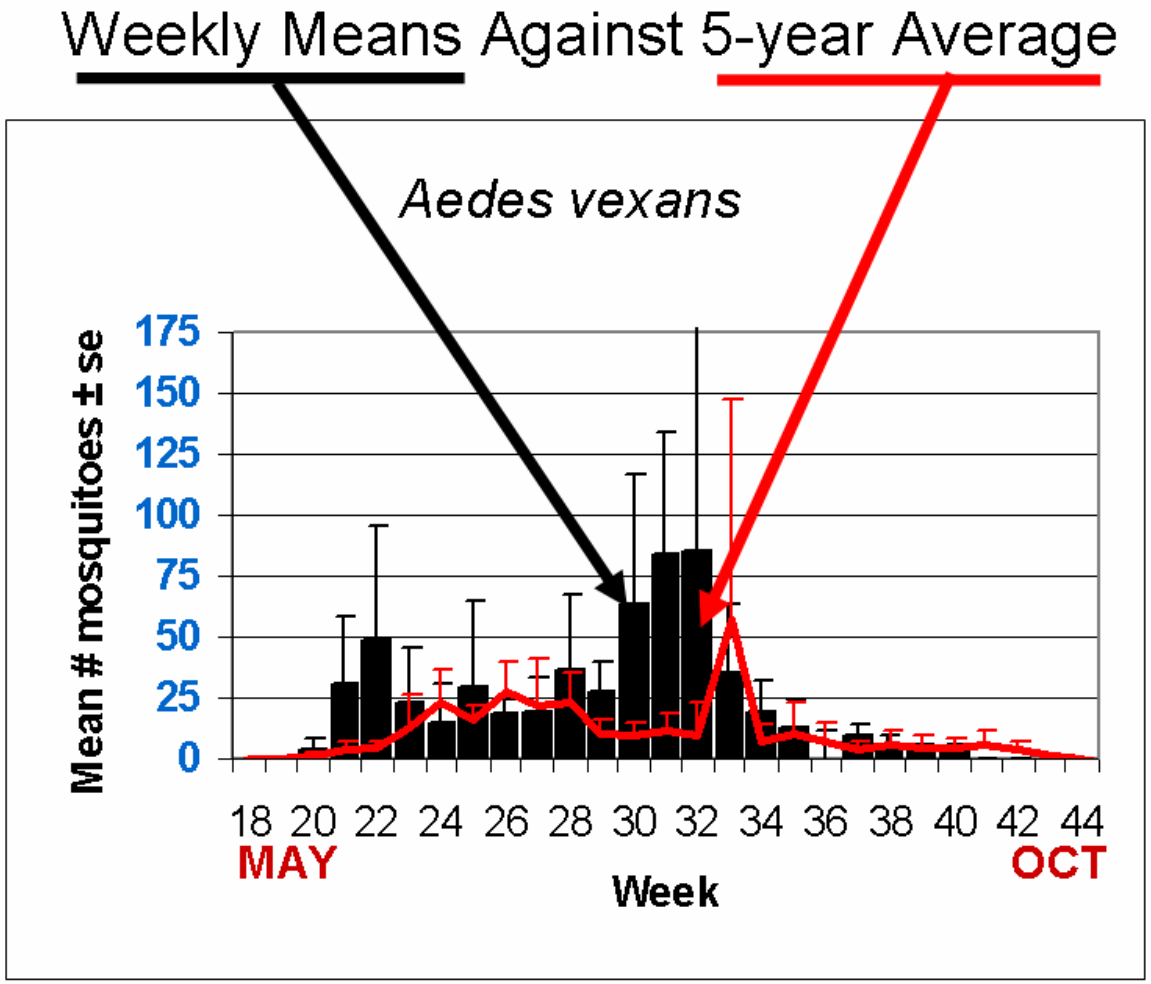






The figures show the average maximum temperature, minimum temperature and precipitation deviations from 30 year averages. Current data is from the Hillsborough NJ weather station (a station close to central NJ which recorded all three parameters and was available online at the NJ state climatologist) 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 dryer 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 42 are from Burlington, Camden, Cumberland, Somerset, Sussex, Union and Warren counties. Note: Many counties have discontinued their light traps for the season and as such, this is the last report before the season summary.



Aedes vexans - Fresh Floodwater Species

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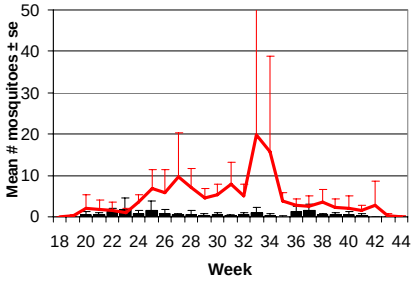
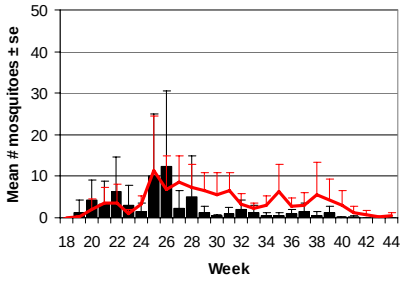
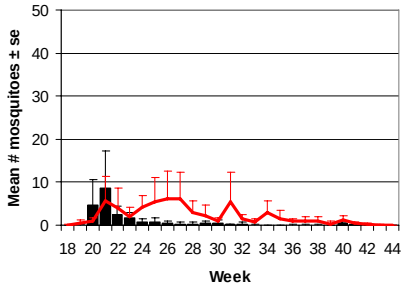
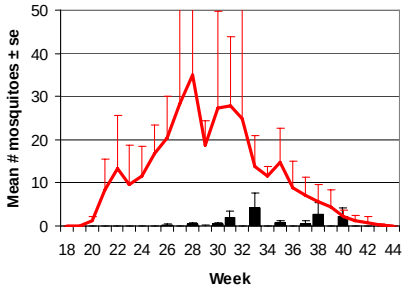
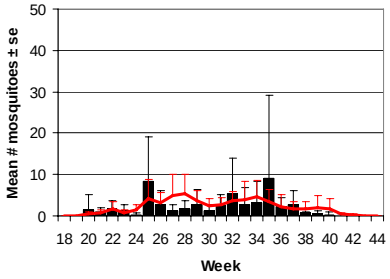
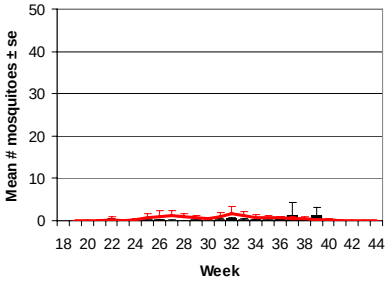
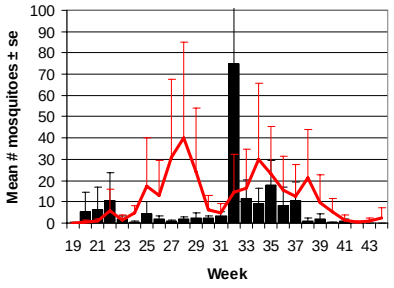
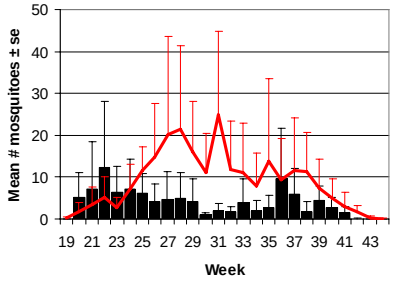
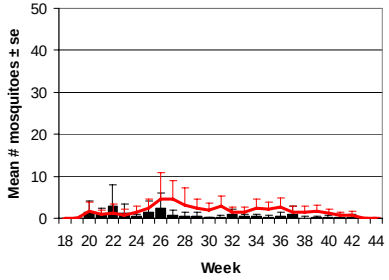
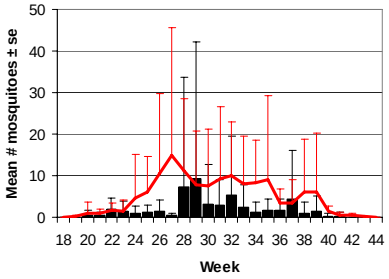
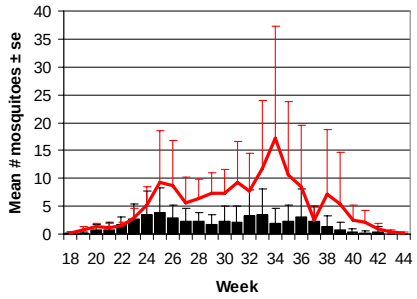
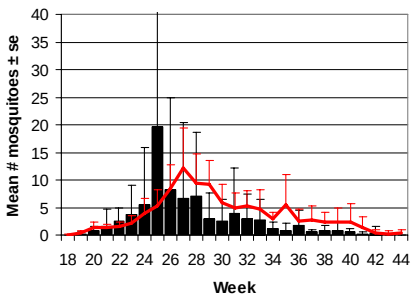
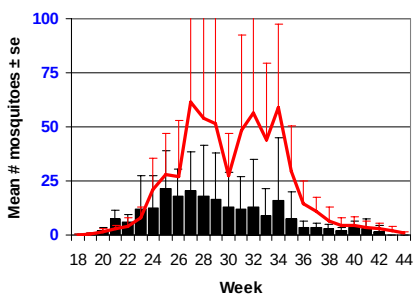
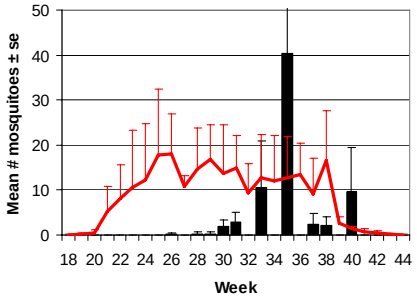
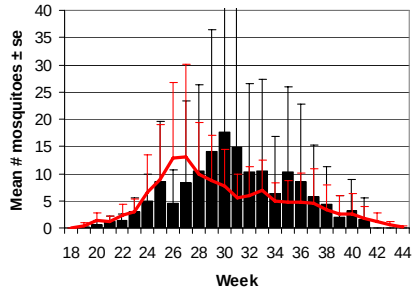
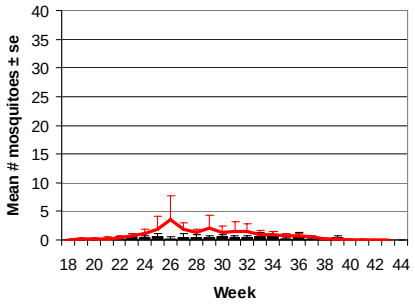
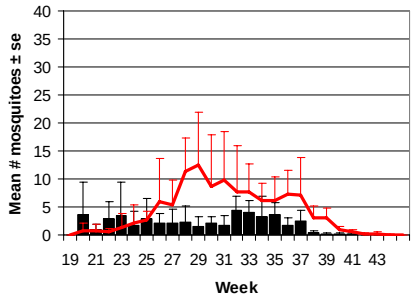
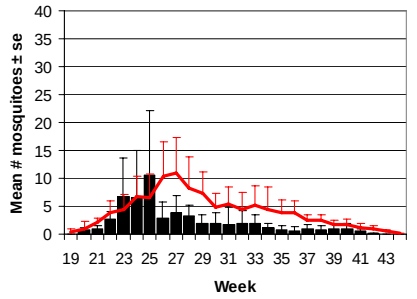
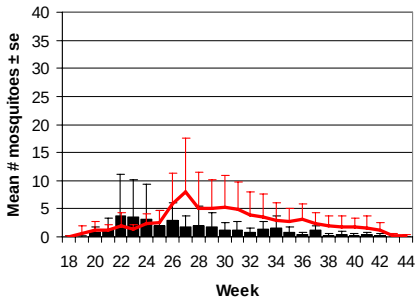
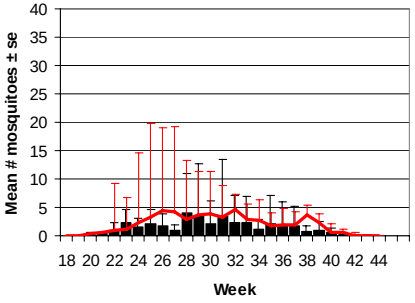
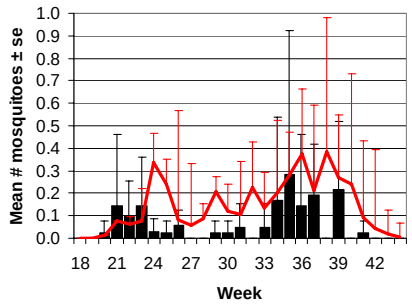
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* season has apparently ended, with only reports of very low population numbers coming from a few counties.	

Culex Mix - Multivoltine *Culex* Species

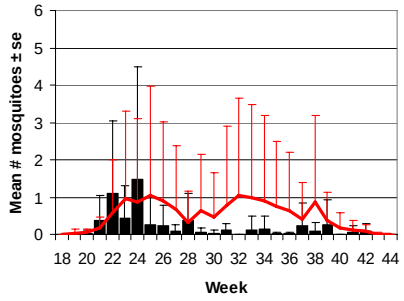
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		Two *Culex* species (*Cx. pipiens,* and *restuans*) should rapidly be entering hibernaculae as the season comes to a close. *Cx. salinarius* can continue to be active longer as this species does not go into torpor like the former.	

Culiseta melanura – Miscellaneous Group

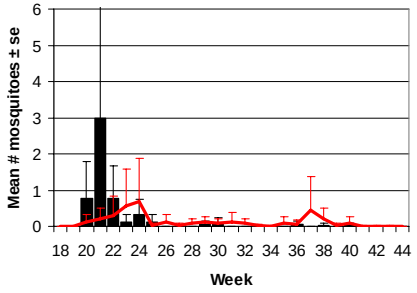
Agricultural



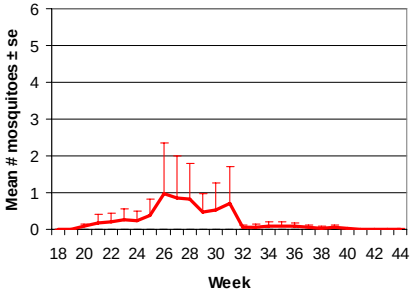
Coastal



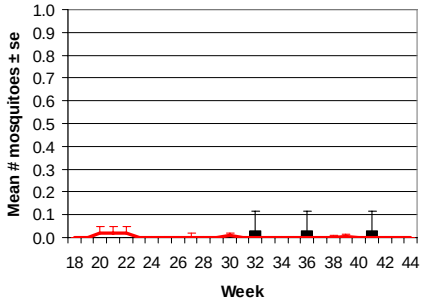
Delaware Bayshore



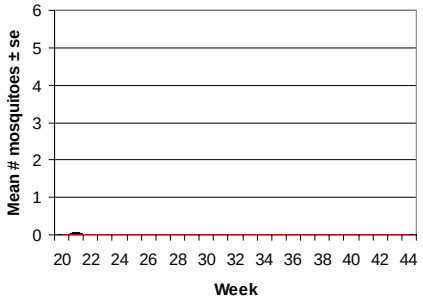
Delaware River Basin



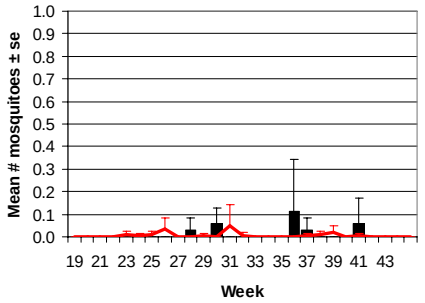
New York Metro



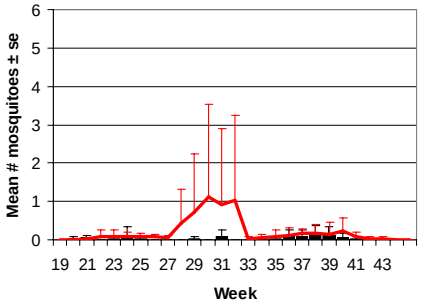
North Central Rural



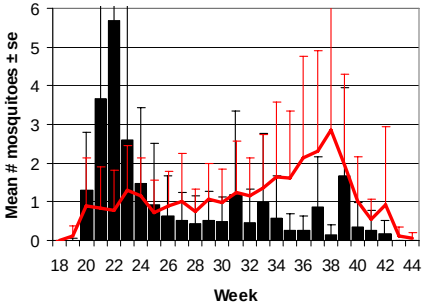
Northwestern Rural



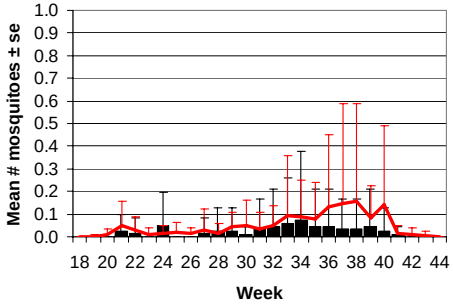
Philadelphia Metro



Pinelands



Suburban Corridor

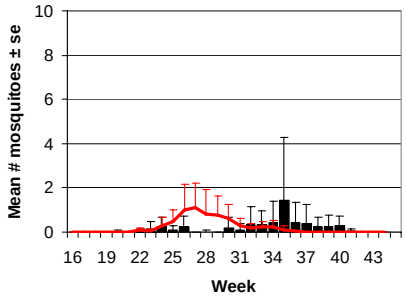


Comments

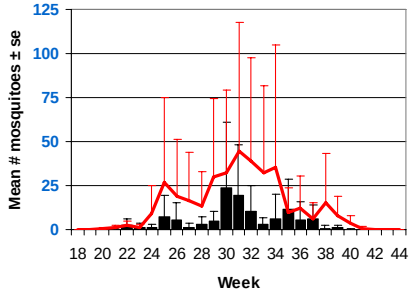
Positive EEE pools of *Culiseta melanura* continue to be detected in the southern half of the state. One site of the NJ Vector Surveillance program experienced the highest average number of *melanura* females/box at this late date over the past 16 years – more than 2 times the previous highest value during the past week.

Aedes sollicitans - Salt Marsh Floodwater Species

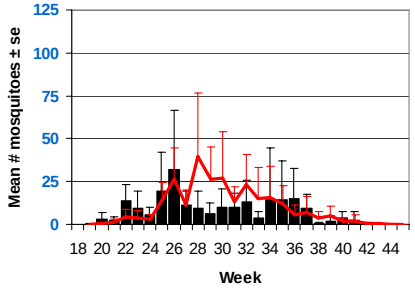
Agricultural



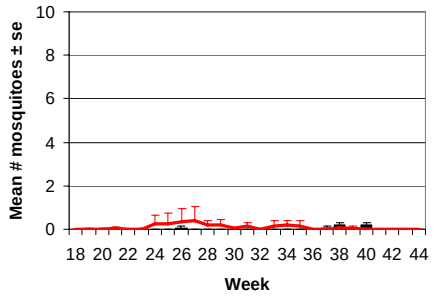
Coastal



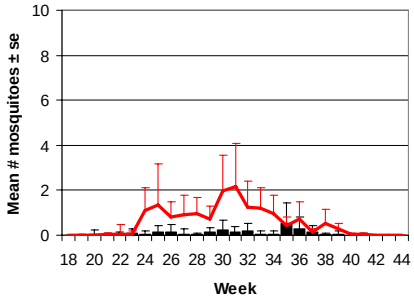
Delaware Bayshore



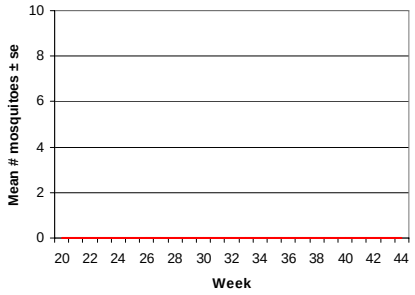
Delaware River Basin



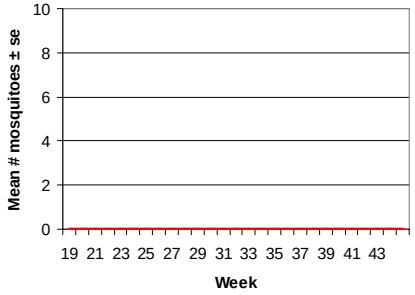
New York Metro



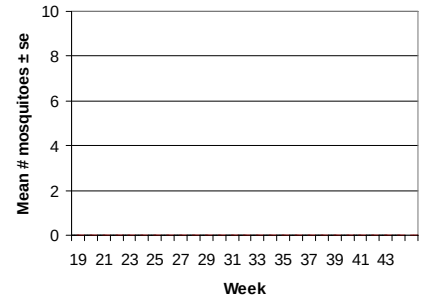
North Central Rural



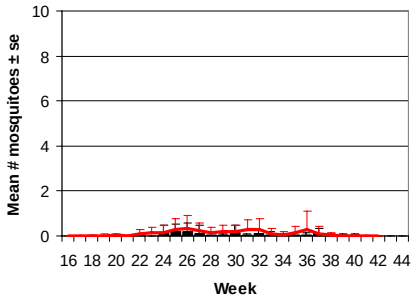
Northwestern Rural



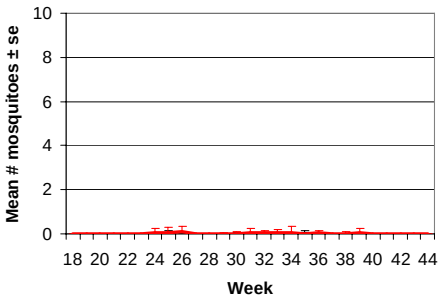
Philadelphia Metro



Pinelands



Suburban Corridor



Comments

Aedes sollicitans has shown up in the Delaware Bayshore this week, likely the last week that it will be found in light traps in New Jersey.