NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 29 June to 5 July 2014, CDC Week 27

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Center for Vector Biology

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 the 21 county mosquito control agencies of New Jersey.

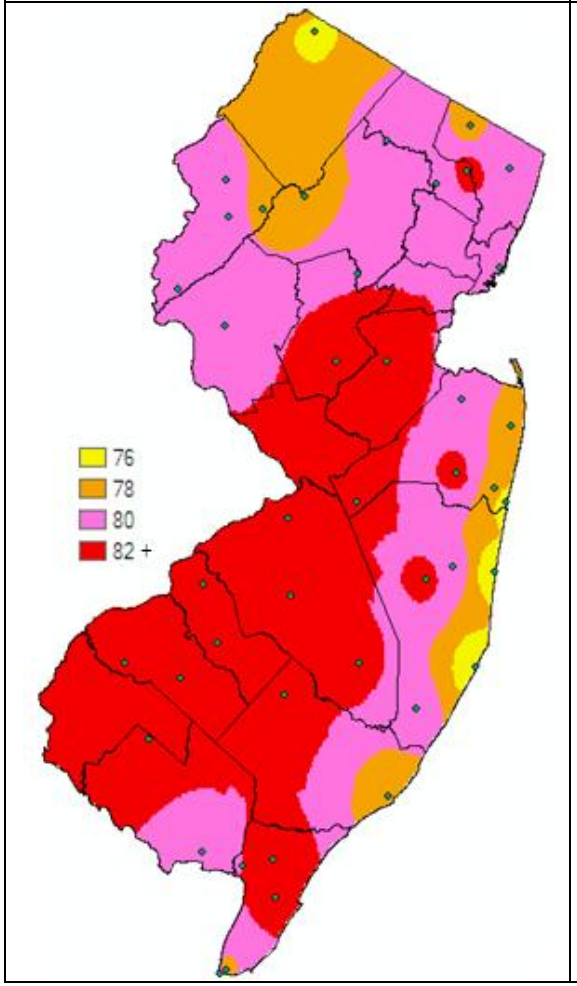
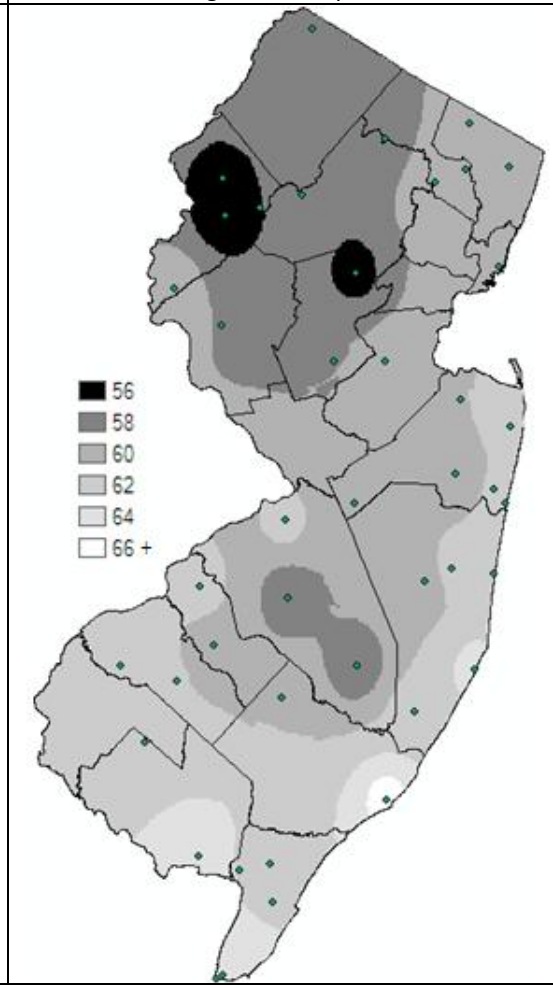
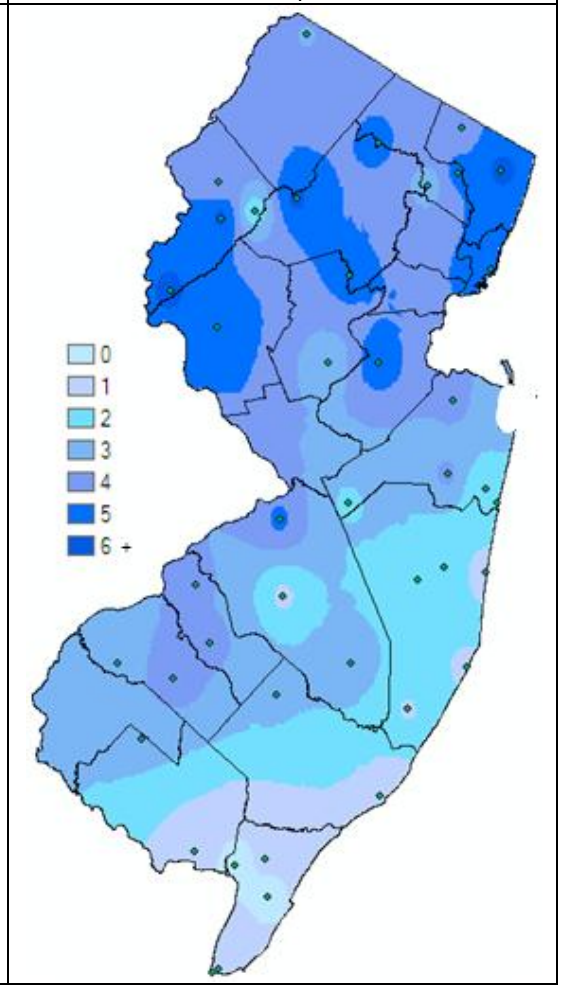
Summary Table – Week 27

	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	**2.71**	**6.97**	**0**	**1.02**	**3.75**	**0**	**0.66**	**0.41**	**2**	**0.03**	**0.09**	**0**
Coastal	**0.23**	**3.57**	**0**	**0.98**	**8.08**	**0**	**0.21**	**0.36**	**0**	**3.29**	**7.14**	**0**
Delaware Bayshore	**0.37**	**4.31**	**0**	**1.40**	**19.47**	**0**	**0.00**	**1.09**	**0**	**0.20**	**1.74**	**0**
Delaware River Basin	**2.14**	**15.11**	**0**	**1.86**	**1.40**	**1**	**0.07**	**0.21**	**0**	**0.00**	**0.06**	**0**
New York Metro	**7.90**	**0.91**	**4**	**6.07**	**1.23**	**4**	**0.00**	**0.09**	**0**	**0.94**	**0.60**	**2**
North Central Rural	**0.08**	**0.91**	**0**	**0.14**	**1.27**	**0**	**0.39**	**0.17**	**3**	**0.00**	**0.00**	**0**
Northwest Rural	**0.00**	**25.89**	**0**	**0.00**	**7.51**	**0**	**0.00**	**2.62**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**6.64**	**14.54**	**0**	**1.25**	**6.96**	**0**	**1.18**	**0.64**	**2**	**0.00**	**0.00**	**0**
Pinelands	**0.32**	**2.33**	**0**	**0.31**	**4.07**	**0**	**0.34**	**1.42**	**0**	**0.00**	**0.12**	**0**
Suburban Corridor	**7.74**	**7.61**	**1**	**1.66**	**3.49**	**0**	**1.34**	**1.20**	**1**	**0.00**	**0.02**	**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 in the increase column denote increases from an historic zero and thus no value can be appropriately given. nd=no data reported.

State Summary: New York Metropolitan region showed considerable *Aedes vexans* and *Culex* Mix abundances and activity with *Aedes sollicitans* as well. *Coquillettidia perturbans* population levels were also above historical values in the North Central Rural, Agricultural and the Philadelphia Metropolitan regions with minor activity in the Suburban Corridor.

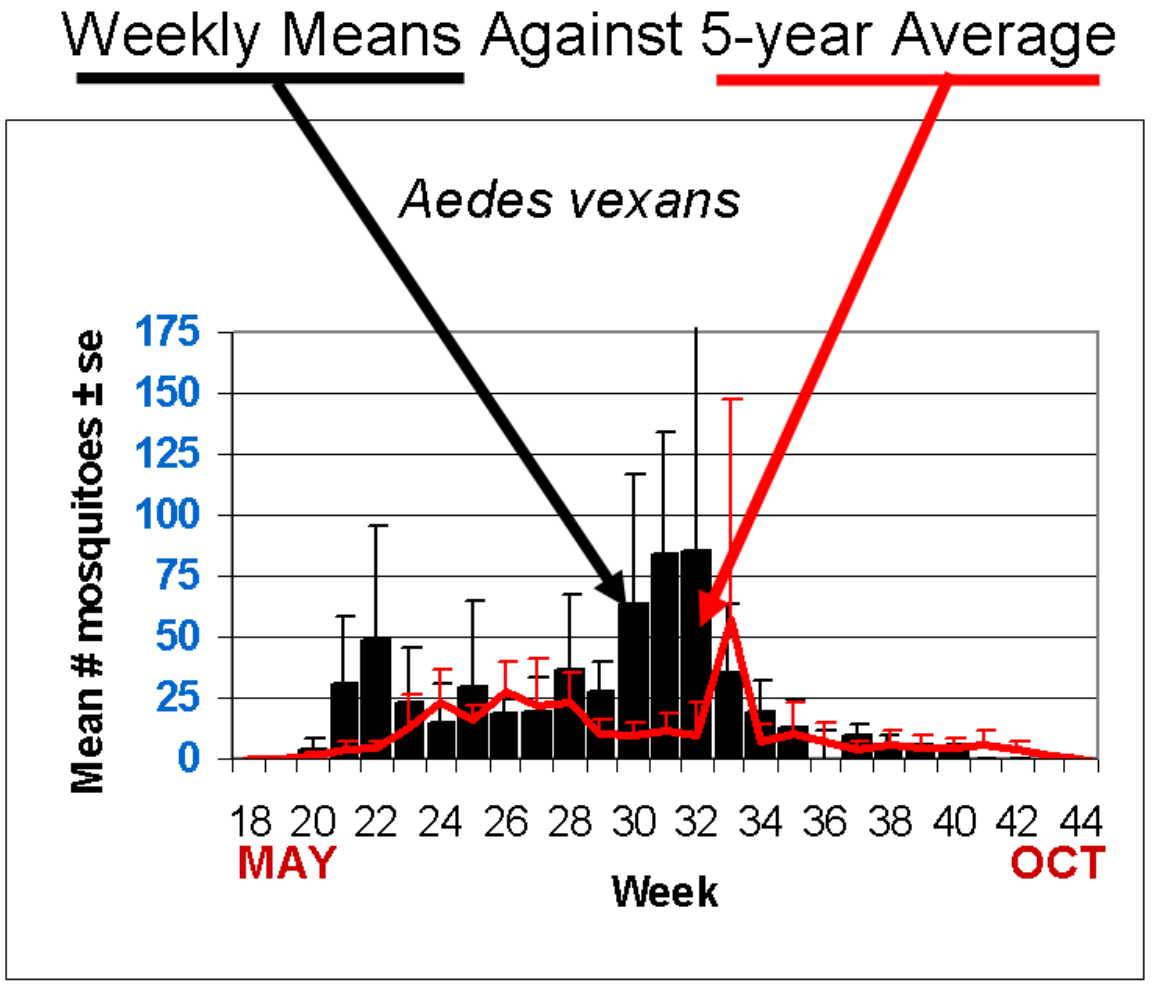
Climate Factors

Average High Temperature	Average Low Temperature	Total Precipitation
		

The three figures show the interpolation of average maximum (°F) and minimum temperature (°F) and total precipitation (inches) for 30 days prior to 4 July 2014 in New Jersey. Data points are from about 41 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points was performed using ArcMap 10.1.

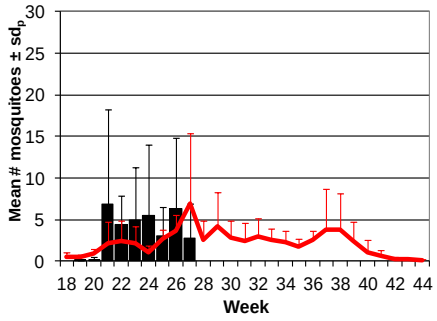
NJ Weather & Climate NETWORK ONJSC at Rutgers University

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 this week are from Burlington, Cumberland, Hudson, Morris, Ocean, Salem and Union counties. Data for the previous week are from Atlantic, Bergen, Cape May, Cumberland, Essex, Hudson, Monmouth, Morris, Ocean, Salem, Somerset, Union and Warren counties.

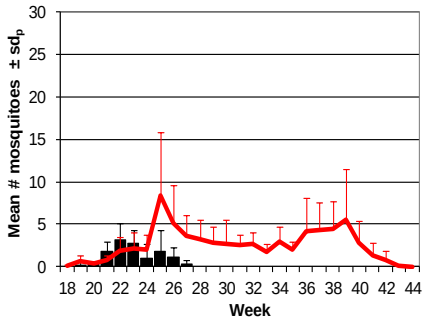


Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

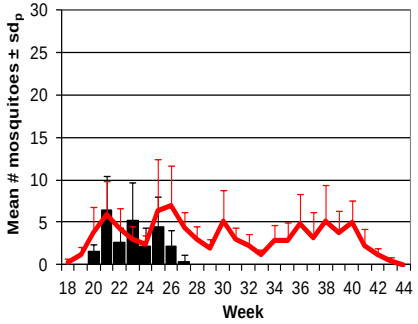
Agricultural



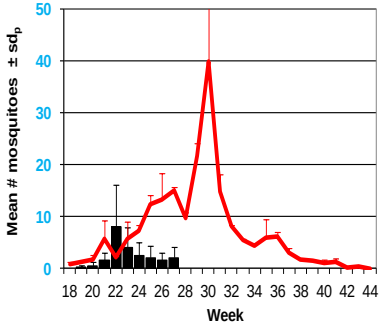
Coastal



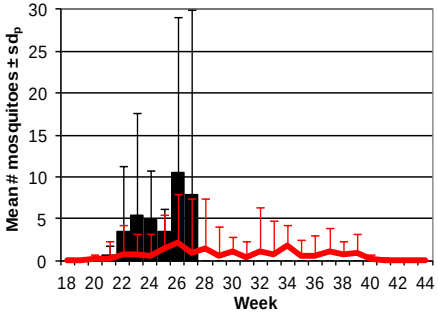
Delaware Bayshore



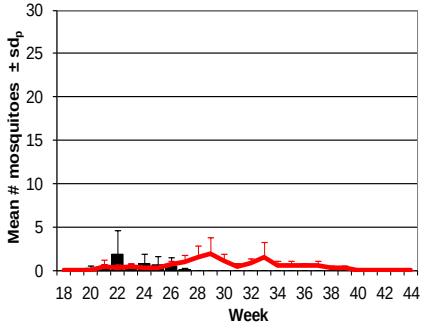
Delaware River Basin



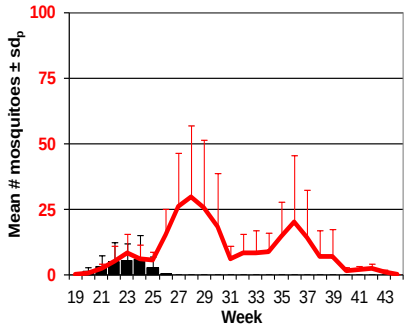
New York Metro



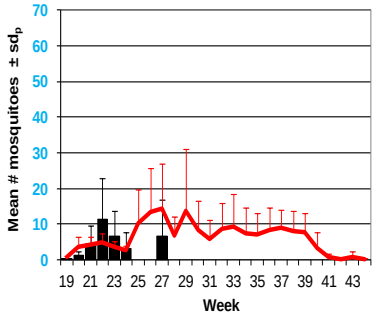
North Central Rural



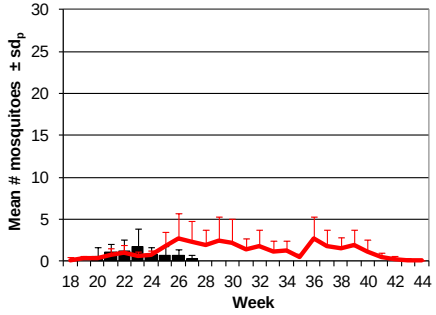
Northwestern Rural



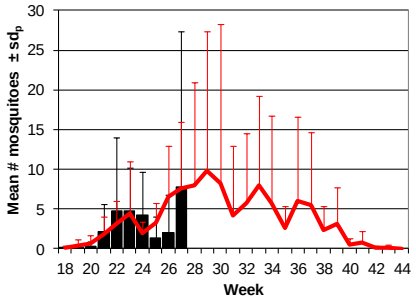
Philadelphia Metro



Pinelands



Suburban Corridor

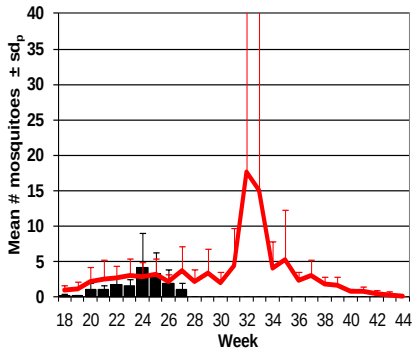


Comments

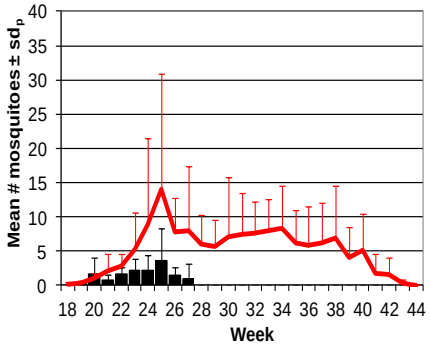
Aedes vexans populations continued to be significantly higher in the New York Metropolitan region. Minor activity was also seen in the Suburban Corridor. Recent rainfall in the state with passing storm fronts may contribute to significant emergences in the northern half of the state in the coming week.

Culex Mix – Permanent Water Species
Multivoltine *Culex*/*Anopheles* (*Cx. pipiens* Type)

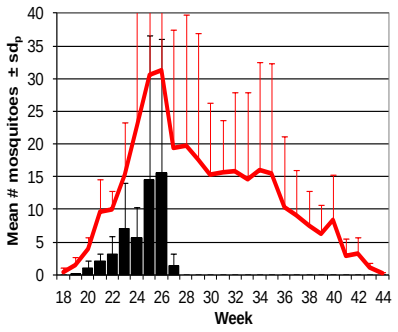
Agricultural



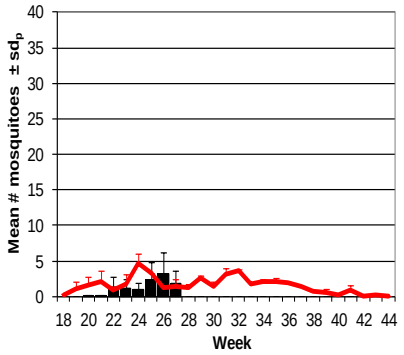
Coastal



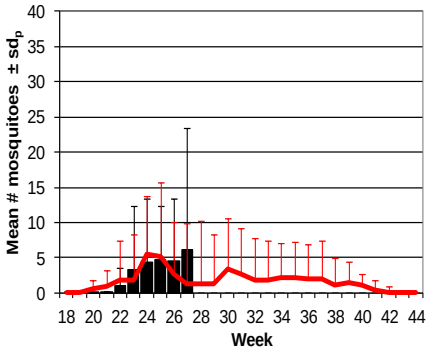
Delaware Bayshore



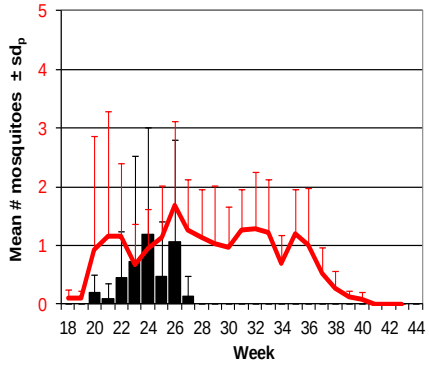
Delaware River Basin



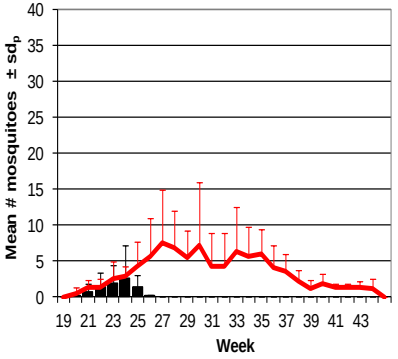
New York Metro



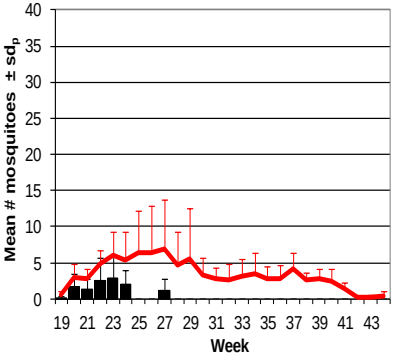
North Central Rural



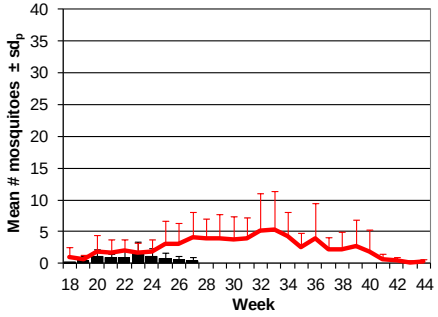
Northwestern Rural



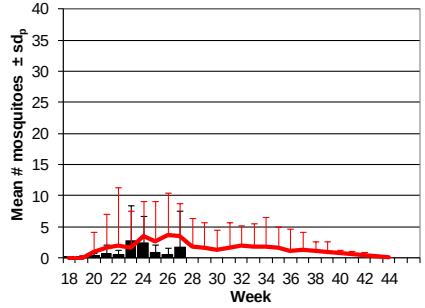
Philadelphia Metro



Pinelands



Suburban Corridor

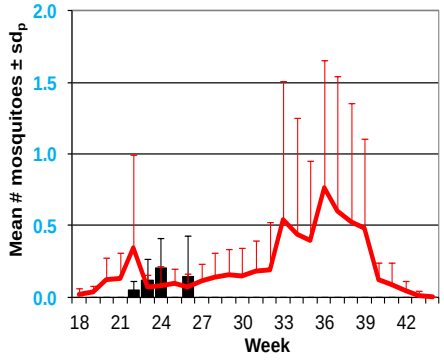


Comments

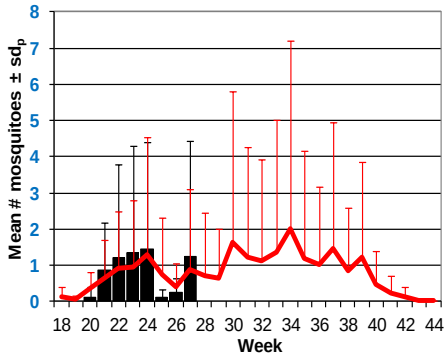
Culex Mix is composed of *Culex pipiens, Cx. restuans* and *Cx. salinarius*. These three species (especially *pipiens* and *restuans*) are often difficult to tell apart after encountering the damaging blades of the New Jersey light trap. *Culex* populations in the New York Metropolitan region were significantly higher than historical values for this week with a minor increase also see in the Delaware River Basin. Otherwise, *Culex* populations appear to be near or below averages through most of the rest of the state.

Culiseta melanura – Miscellaneous Group Unique (*Cs. melanura* Type)

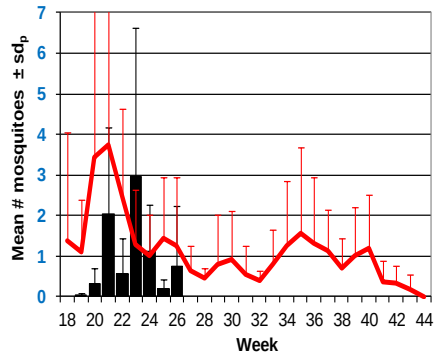
Agricultural



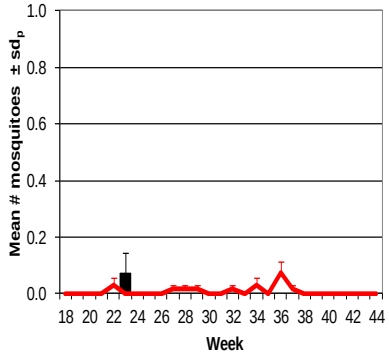
Coastal



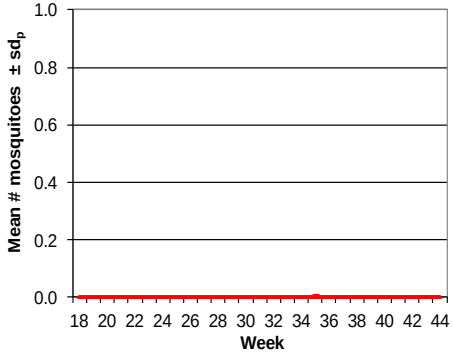
Delaware Bayshore



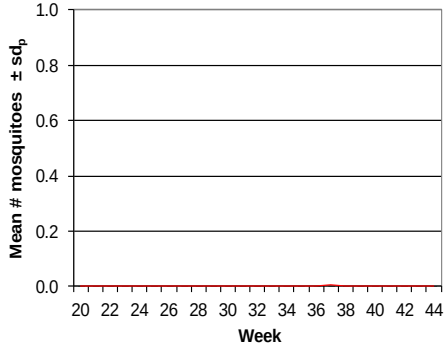
Delaware River Basin



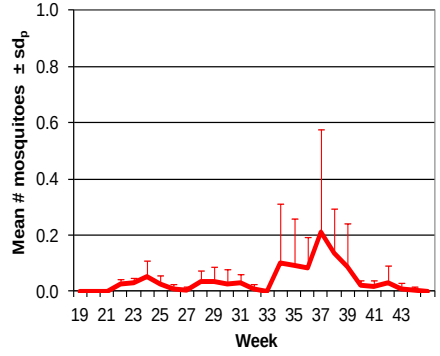
New York Metro



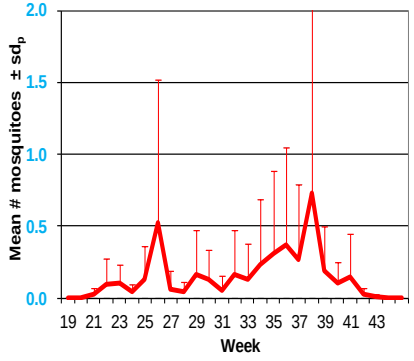
North Central Rural



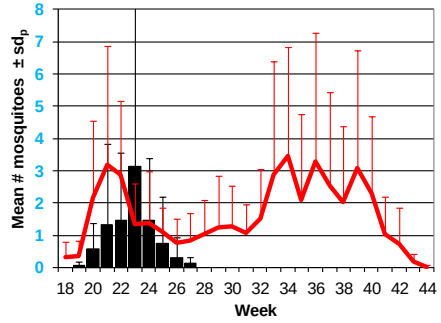
Northwestern Rural



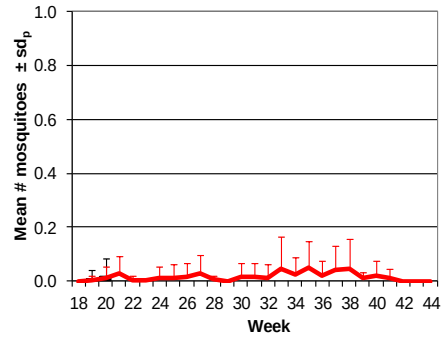
Philadelphia Metro



Pinelands



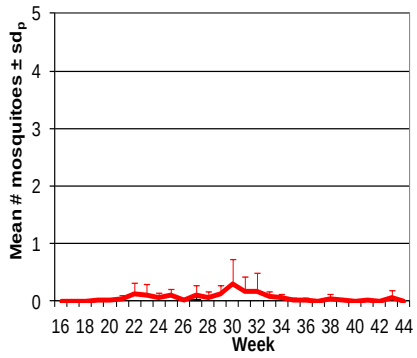
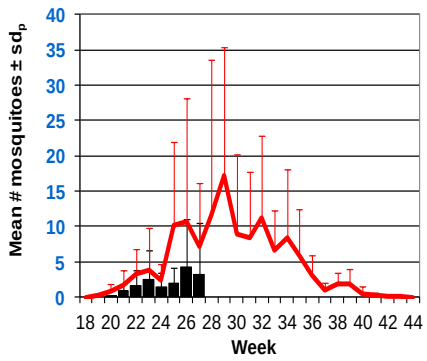
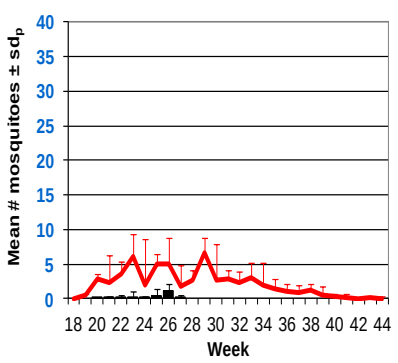
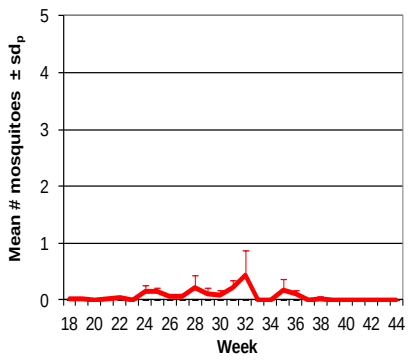
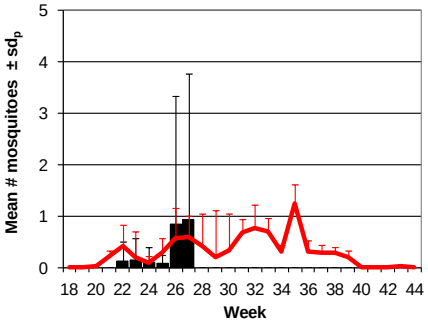
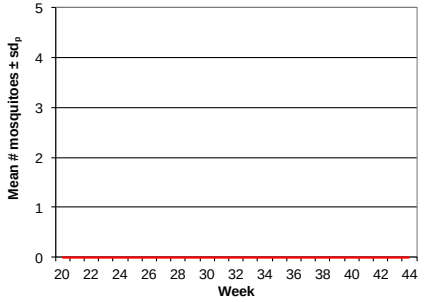
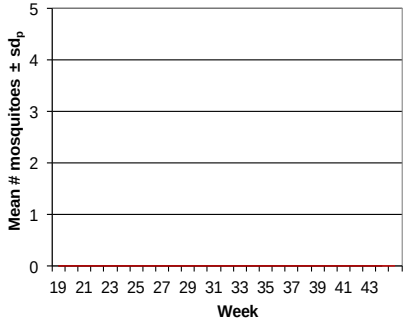
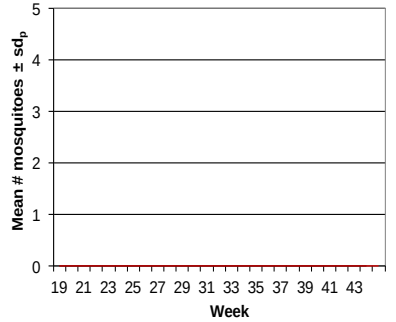
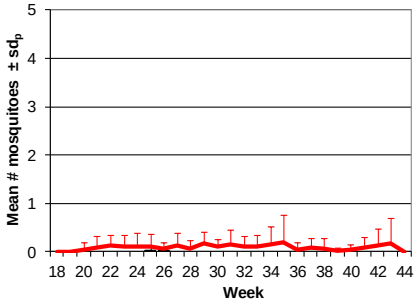
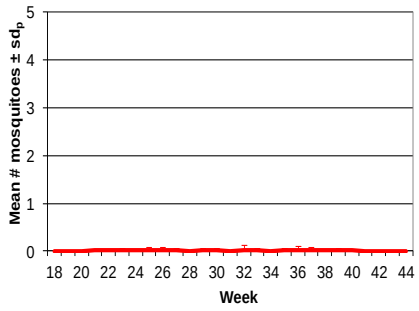
Suburban Corridor



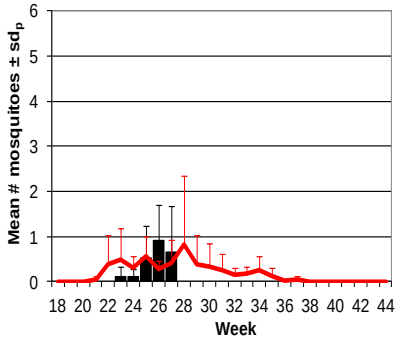
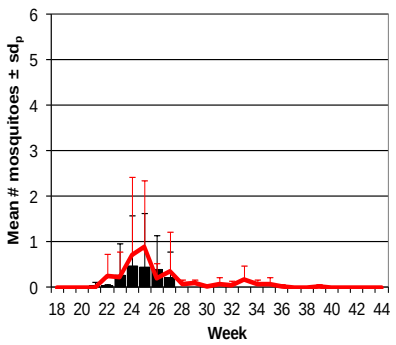
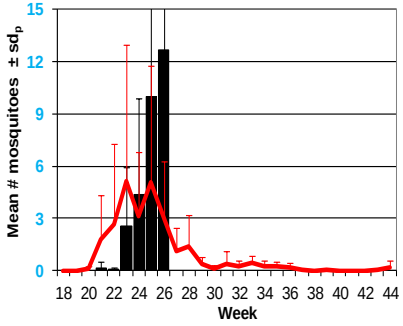
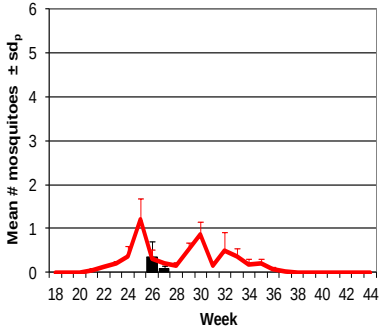
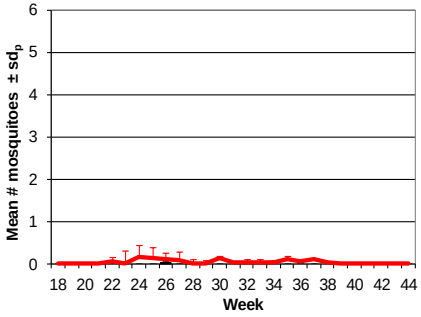
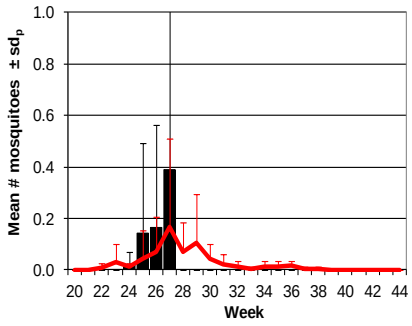
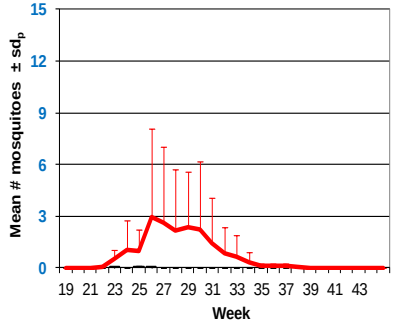
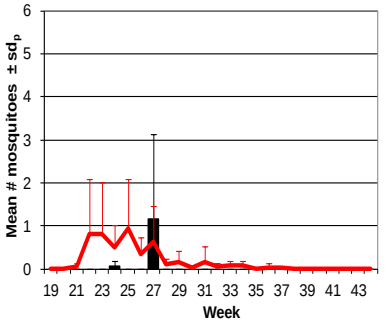
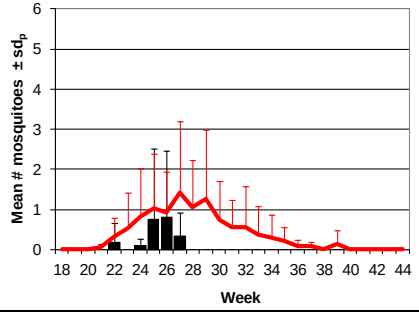
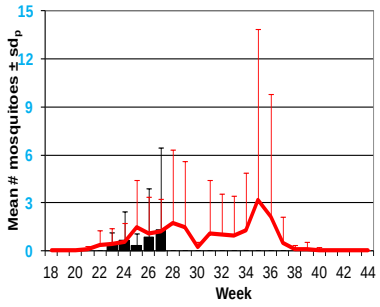
Comments

Culiseta melanura is the enzootic ornithophilic vector of eastern equine encephalitis. After an apparent dip in population numbers in the Agricultural, Coastal and Delaware Bayshore regions (due to control measures?) values increased with numbers rising above averages in the first two regions. Currently there is no EEE activity reported in the state.

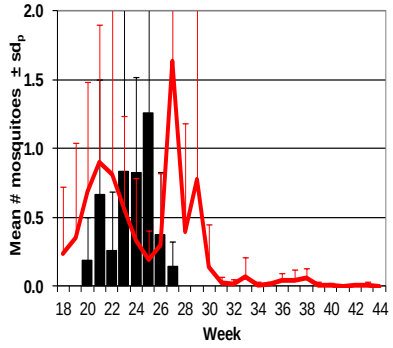
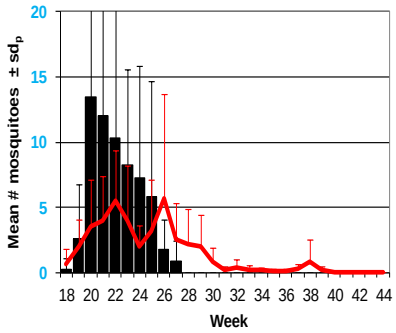
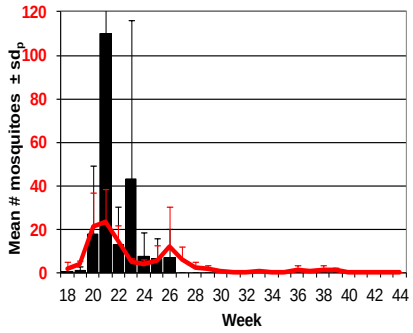
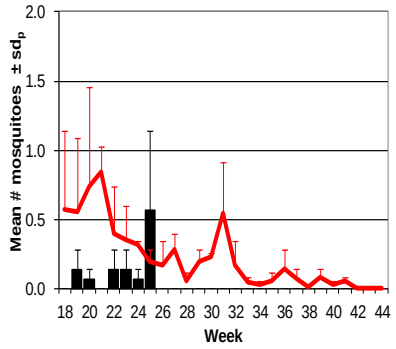
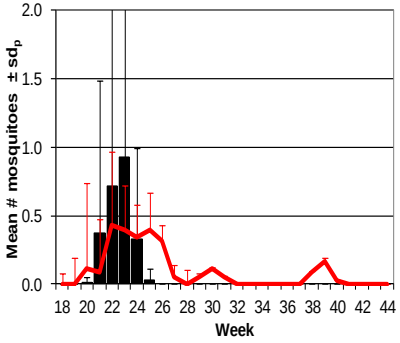
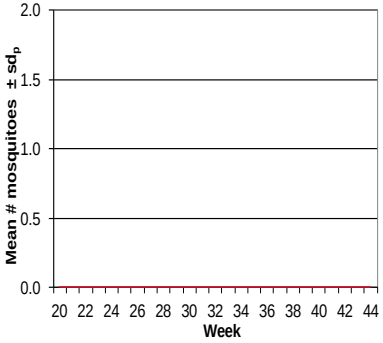
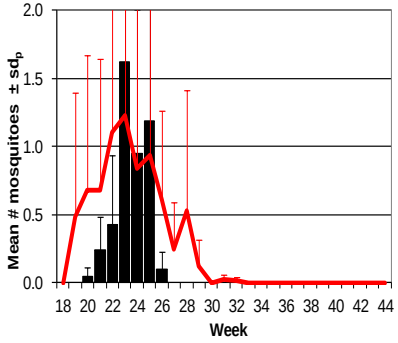
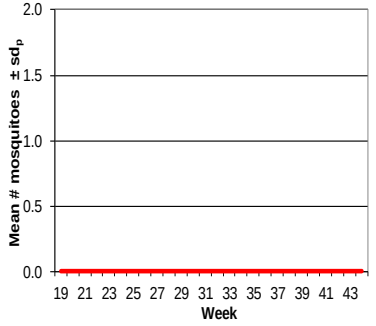
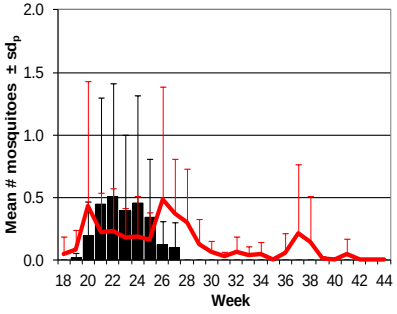
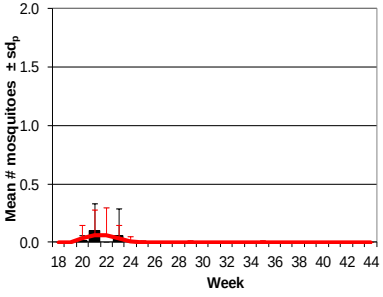
Aedes sollicitans - Salt Floodwater Species
Multivoltine Aedine (*Ae. sollicitans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* is a salt floodwater species and responds to both lunar tidal patterns as well as rainfall. Patterns from the previous week continue with Coastal and particularly the Delaware Bayshore populations showing low abundances in comparison to historical trends and the New York Metropolitan region showing higher than normal populations. Next full moon is 12 July.	

Coquillettidia perturbans
Monotypic (*Coquillettidia perturbans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Coquillettidia perturbans* populations are located in cattail swamps and other wetlands with emergent vegetation, often making control of their numbers dependent on controlling water depth. Populations in several regions are becoming evident, with increased activity in the Agricultural, North Central Rural and the Philadelphia Metropolitan region. Currently there is no reported EEE activity that would signal interest in this potential inland bridge vector.	

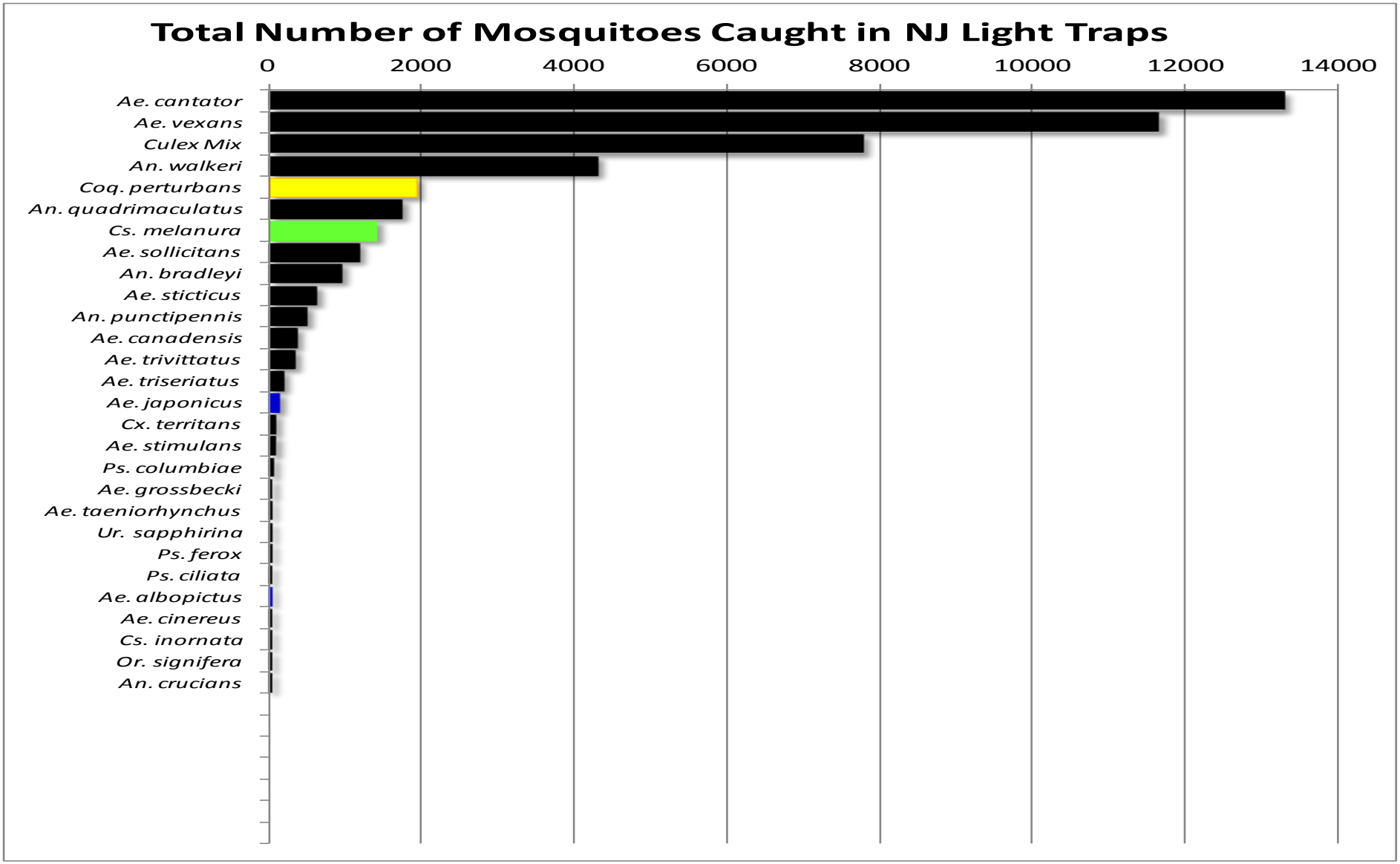
Aedes cantator
Multivoltine Aedine (*Ae. sollicitans* Type)

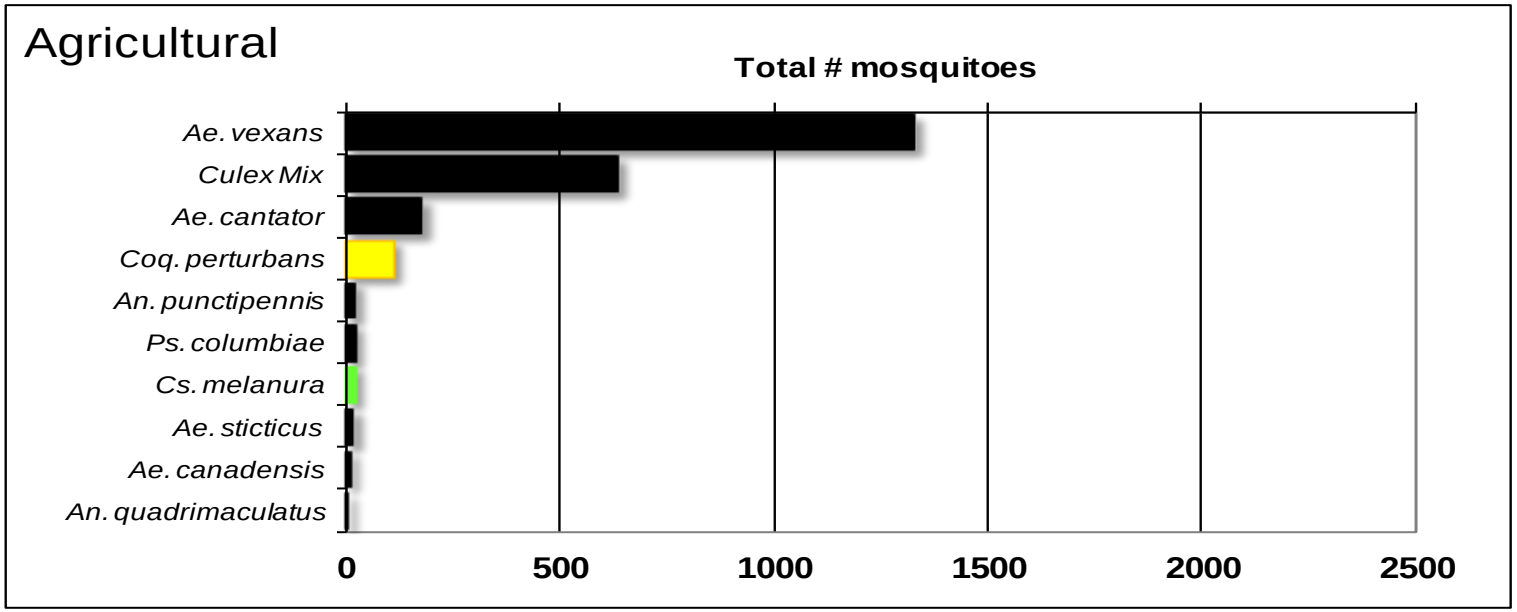
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes cantator* is a salt floodwater species. Occupying similar habitat, *Ae. cantator* finds its niche by emerging earlier than *Ae. sollicitans.* Numbers continue to decline for this species, and this will likely be the last report for this species unless unusual activity should occur.	

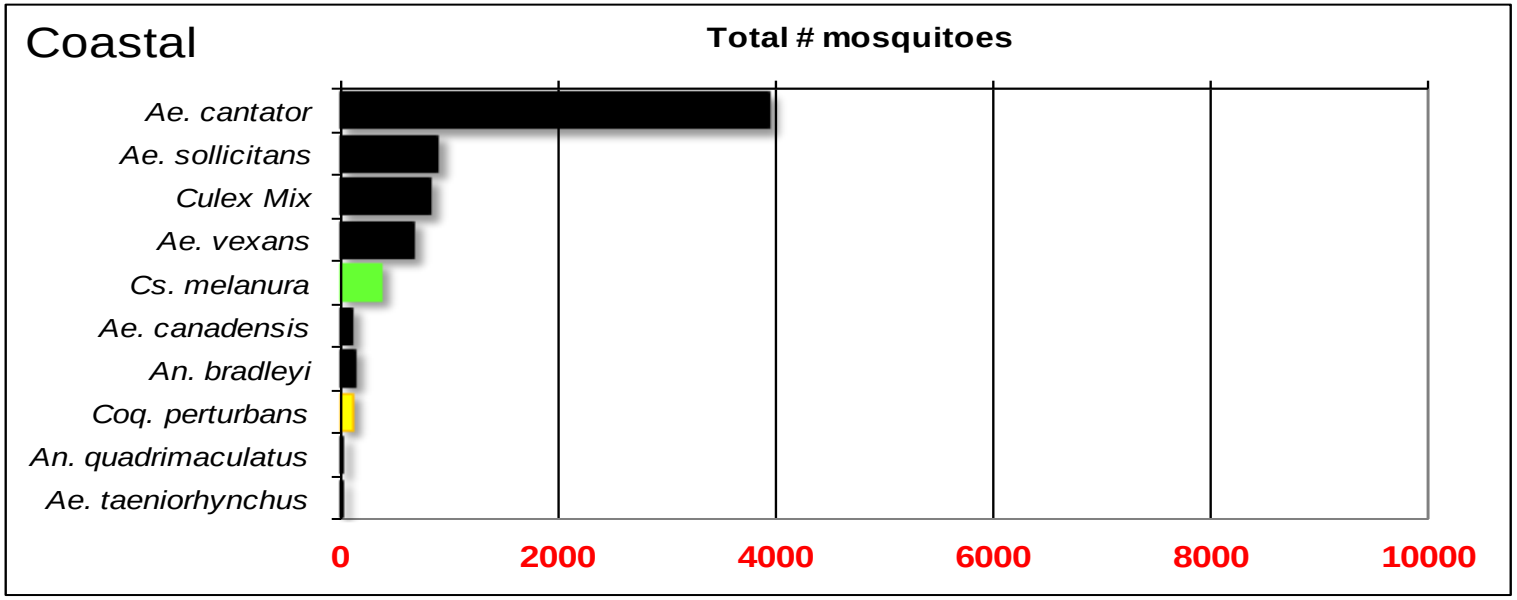
WNV *EEE*

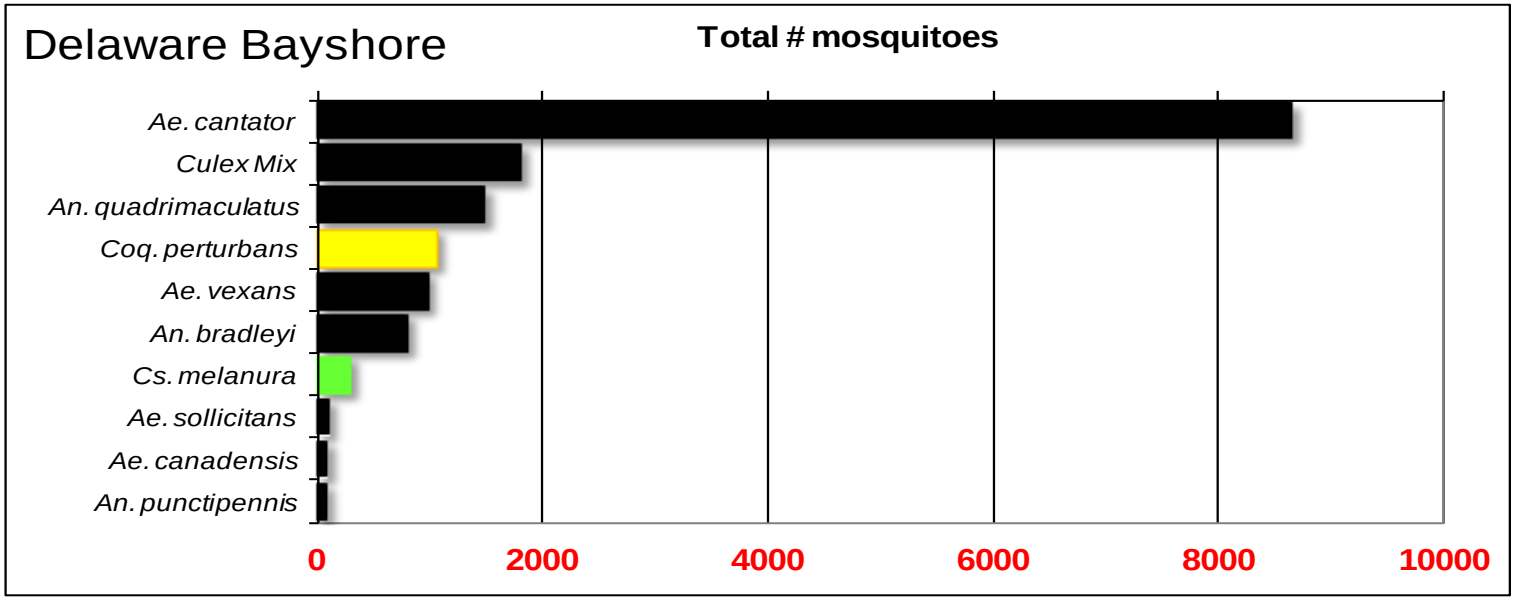
Top Ten Mosquito Species/Region - *Ae. albopictus, Ae. japonicus (invasives); Cs. melanura or Cx. erraticus Coq. perturbans*

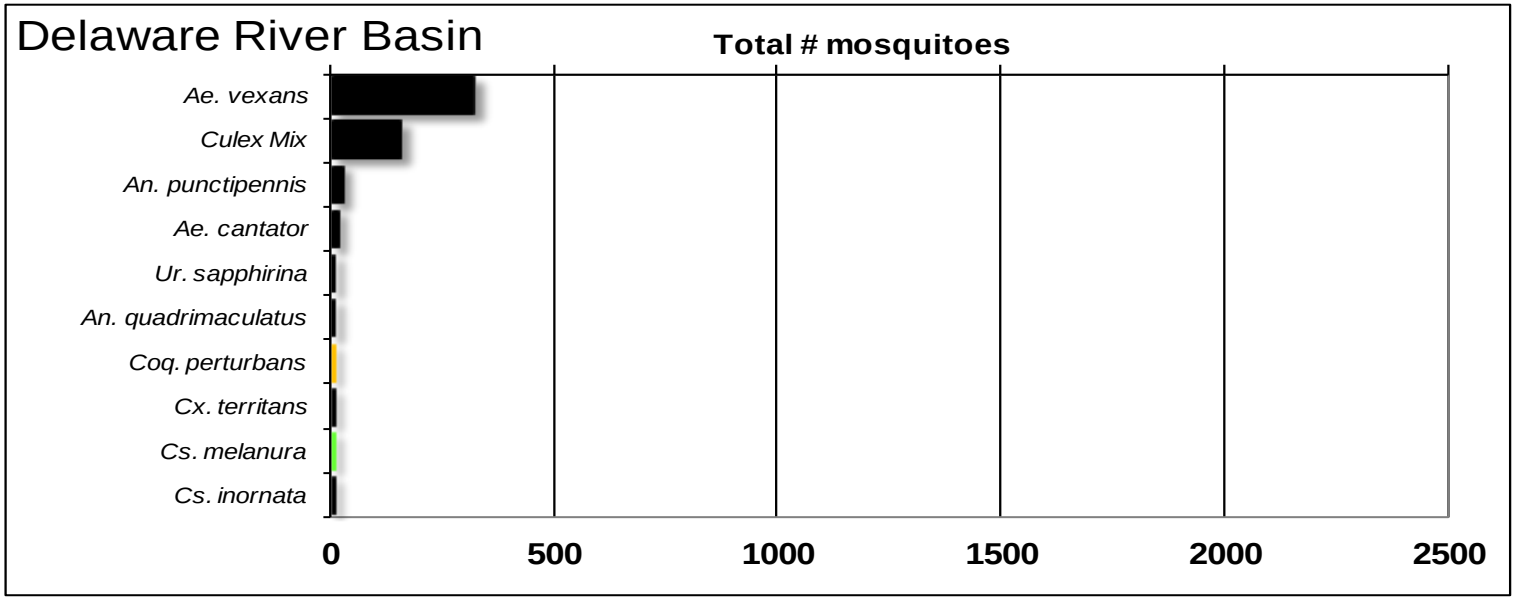
Note: In early season when fewer species are caught, graphs may show less than ten species/region or 25 statewide.

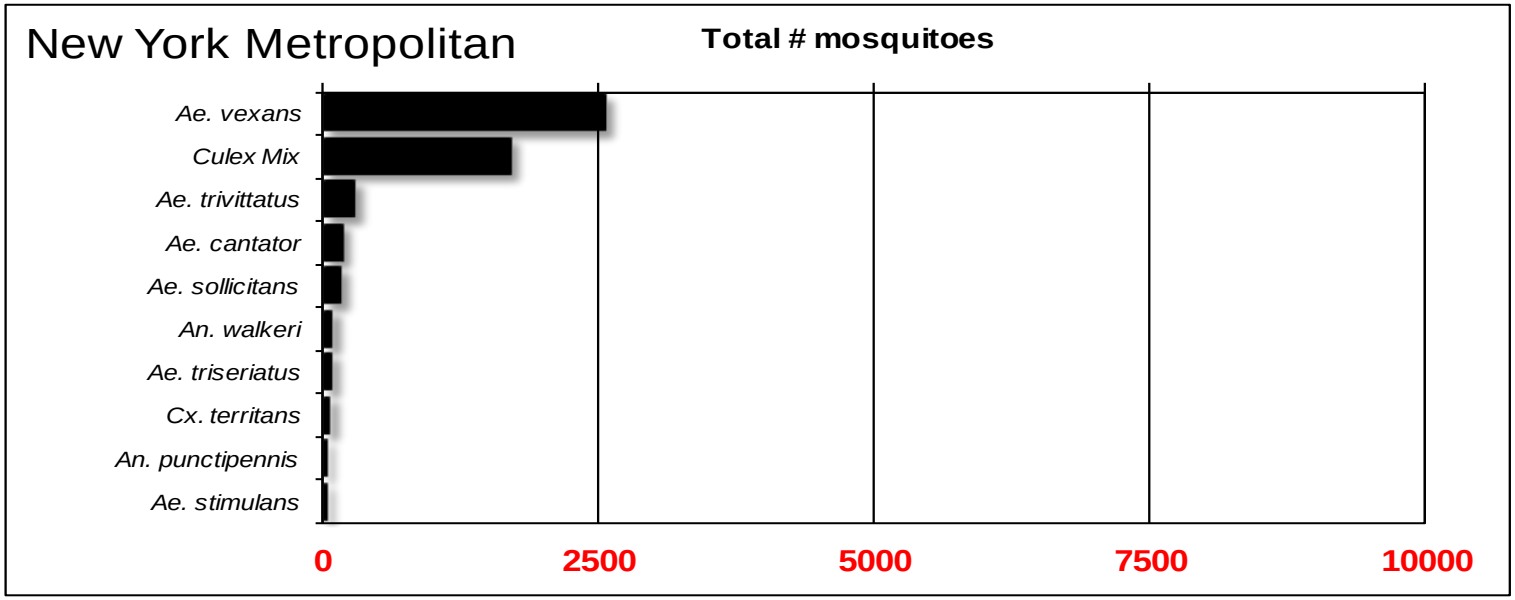


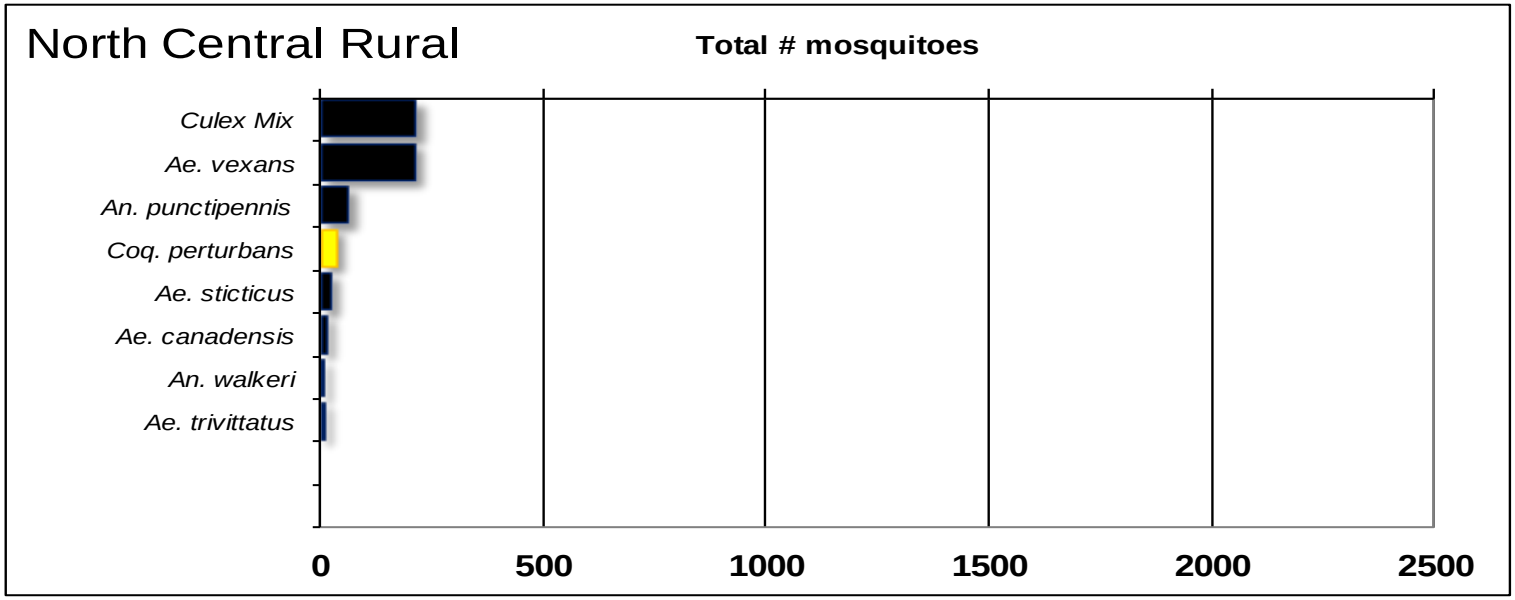

Agricultural
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. cantator
Coq. perturbans
An. punctipennis
Ps. columbiae
Cs. melanura
Ae. sticticus
Ae. canadensis
An. quadrimaculatus
0
500
1000
1500
2000
2500

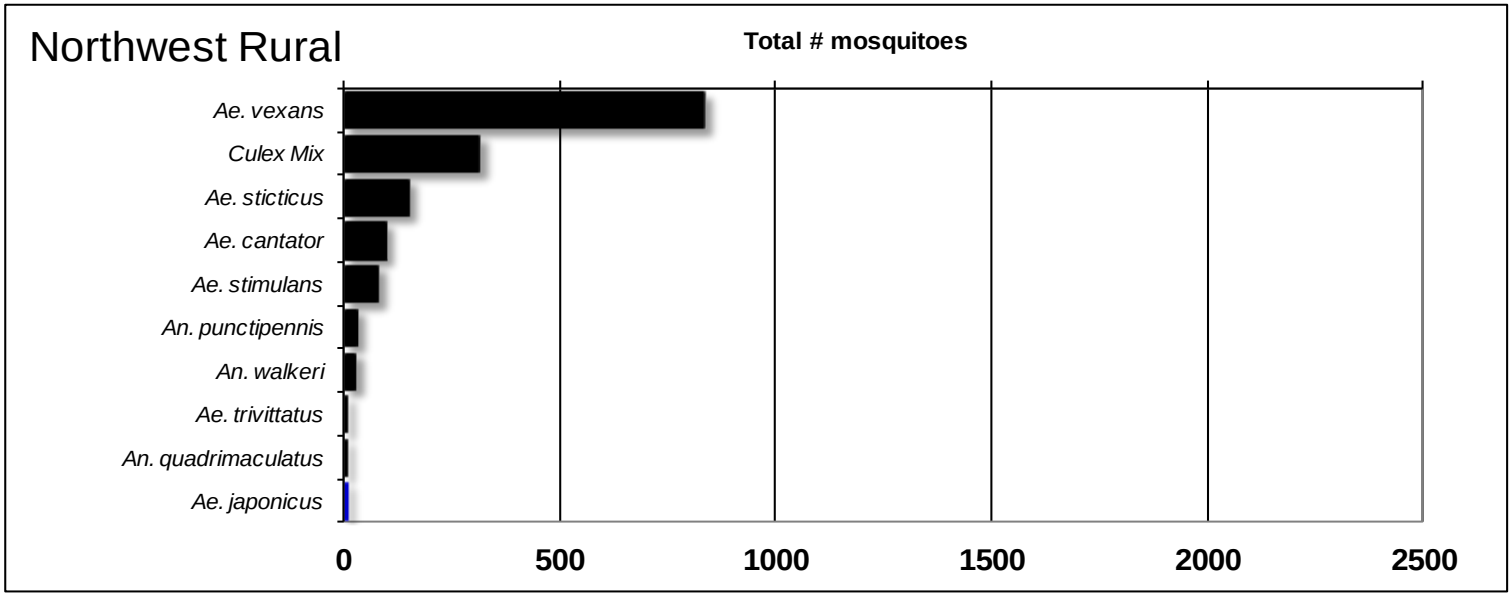

Coastal
Total # mosquitoes
Ae. cantator
Ae. sollicitans
Culex Mix
Ae. vexans
Cs. melanura
Ae. canadensis
An. bradleyi
Coq. perturbans
An. quadrimaculatus
Ae. taeniorhynchus
0
2000
4000
6000
8000
10000

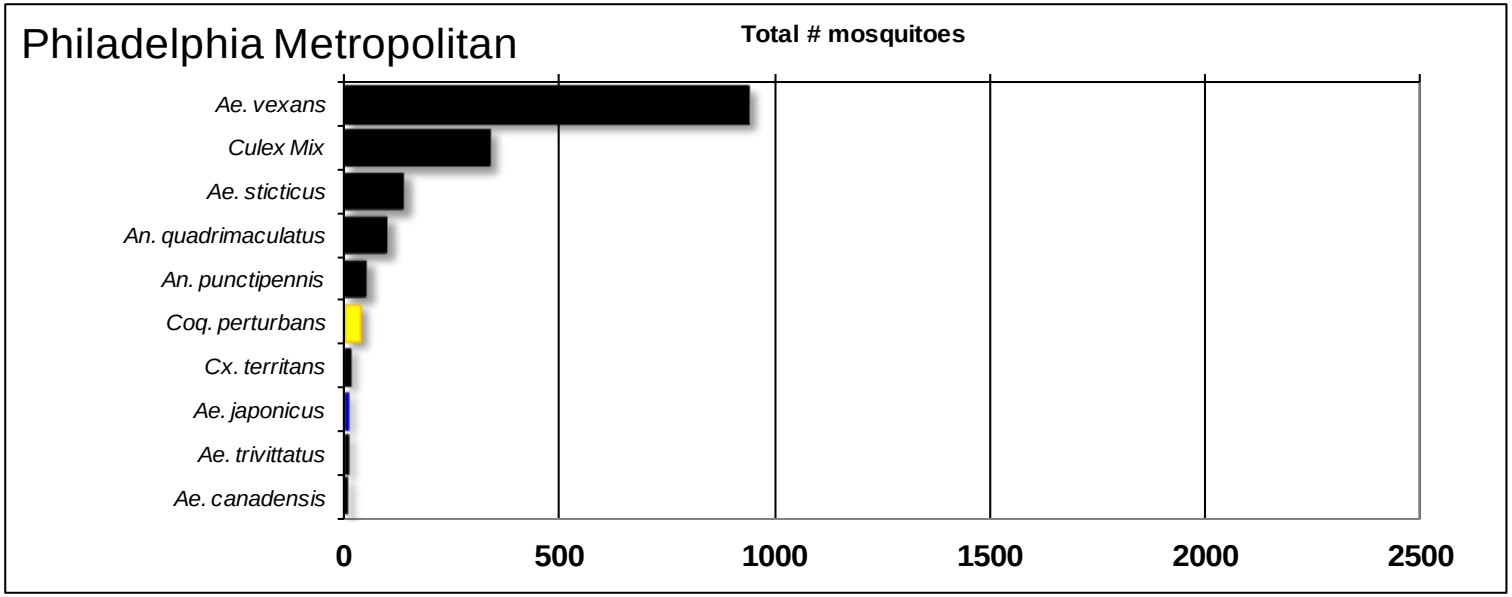

Delaware Bayshore
Total # mosquitoes
Ae. cantator
Culex Mix
An. quadrimaculatus
Coq. perturbans
Ae. vexans
An. bradleyi
Cs. melanura
Ae. sollicitans
Ae. canadensis
An. punctipennis
0
2000
4000
6000
8000
10000

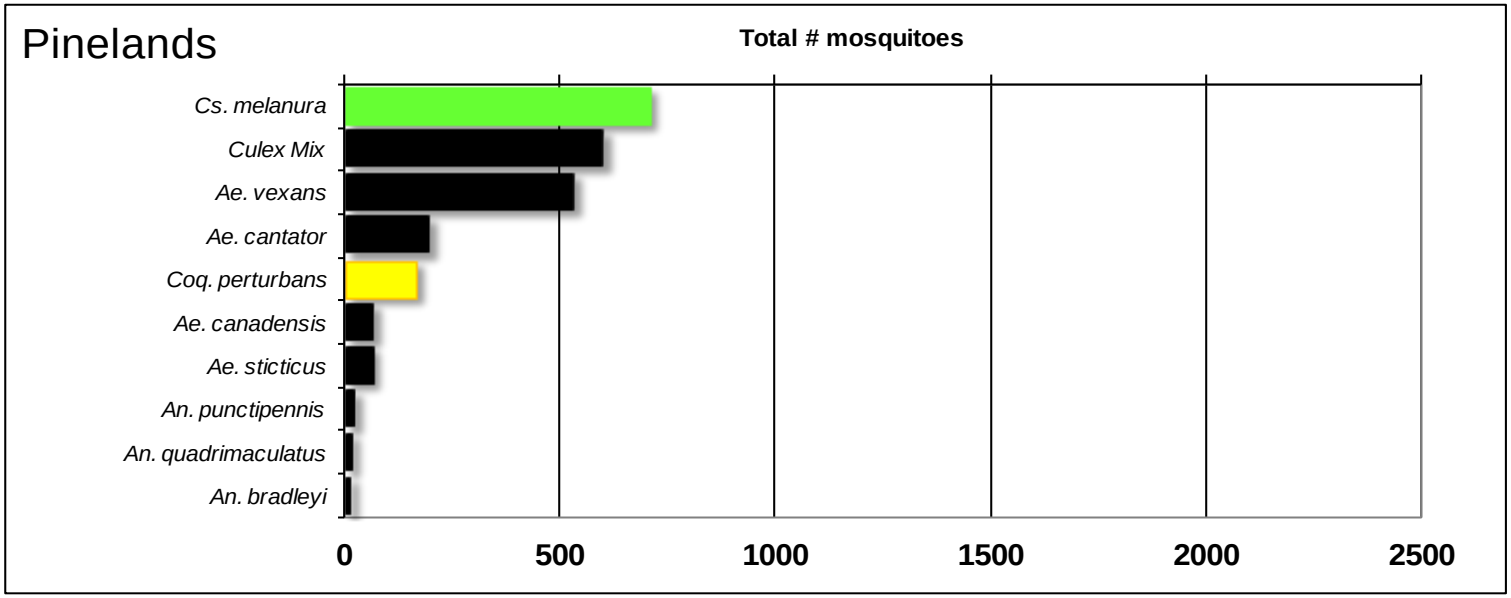

Delaware River Basin
Total # mosquitoes
Ae. vexans
Culex Mix
An. punctipennis
Ae. cantator
Ur. sapphirina
An. quadrimaculatus
Coq. perturbans
Cx. territans
Cs. melanura
Cs. inornata
0
500
1000
1500
2000
2500

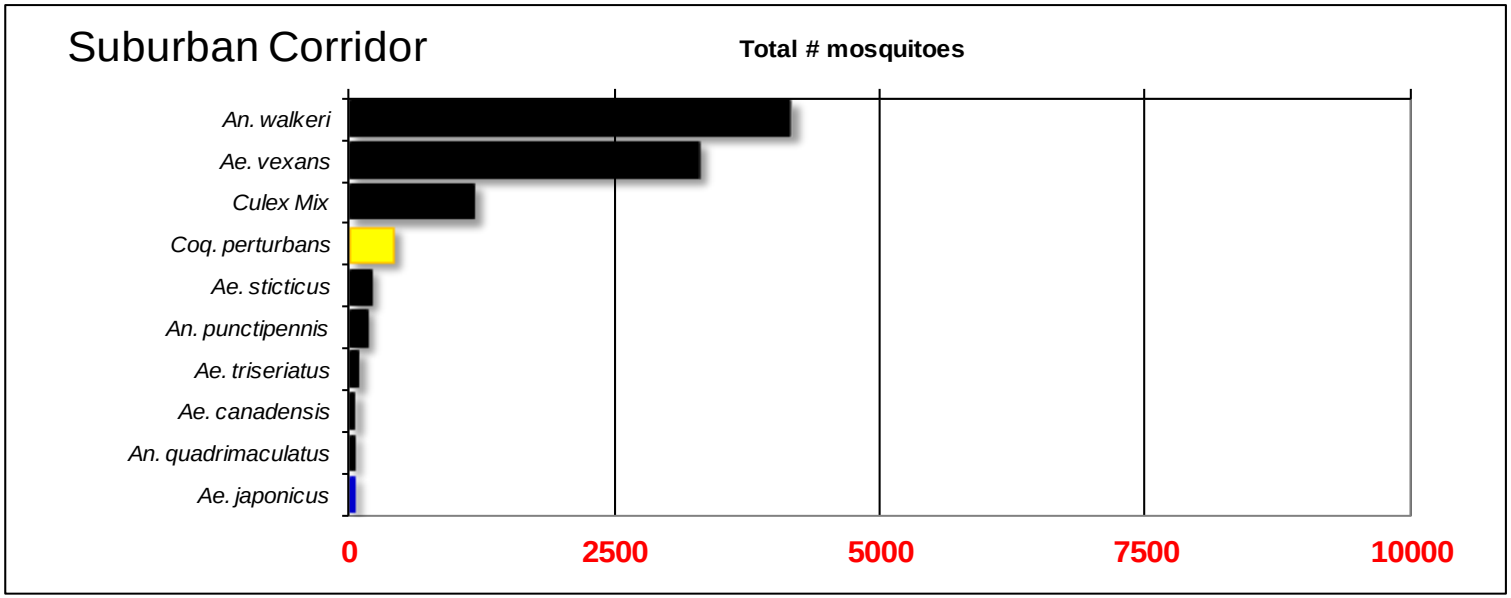

New York Metropolitan
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. trivittatus
Ae. cantator
Ae. sollicitans
An. walkeri
Ae. triseriatus
Cx. territans
An. punctipennis
Ae. stimulans
0
2500
5000
7500
10000


North Central Rural
Total # mosquitoes
Culex Mix
Ae. vexans
An. punctipennis
Coq. perturbans
Ae. sticticus
Ae. canadensis
An. walkeri
Ae. trivittatus
0
500
1000
1500
2000
2500


Northwest Rural
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. sticticus
Ae. cantator
Ae. stimulans
An. punctipennis
An. walkeri
Ae. trivittatus
An. quadrimaculatus
Ae. japonicus
0
500
1000
1500
2000
2500


Philadelphia Metropolitan
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. sticticus
An. quadrimaculatus
An. punctipennis
Coq. perturbans
Cx. territans
Ae. japonicus
Ae. trivittatus
Ae. canadensis
0
500
1000
1500
2000
2500


Pinelands
Total # mosquitoes
Cs. melanura
Culex Mix
Ae. vexans
Ae. cantator
Coq. perturbans
Ae. canadensis
Ae. sticticus
An. punctipennis
An. quadrimaculatus
An. bradleyi
0
500
1000
1500
2000
2500


Suburban Corridor
Total # mosquitoes
An. walkeri
Ae. vexans
Culex Mix
Coq. perturbans
Ae. sticticus
An. punctipennis
Ae. triseriatus
Ae. canadensis
An. quadrimaculatus
Ae. japonicus
0
2500
5000
7500
10000