NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 7 August to 13 August 2011, CDC Week 32

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Center for Vector Biology

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funding from the NJ State Mosquito Control Commission and with the participation of the 21 county mosquito control agencies of New Jersey.

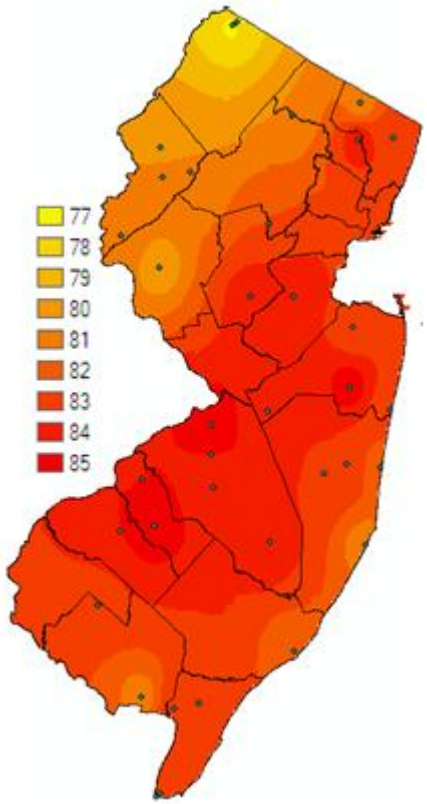
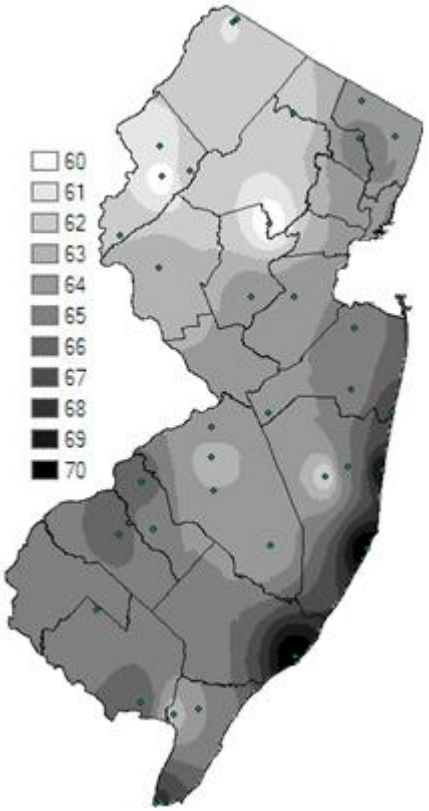
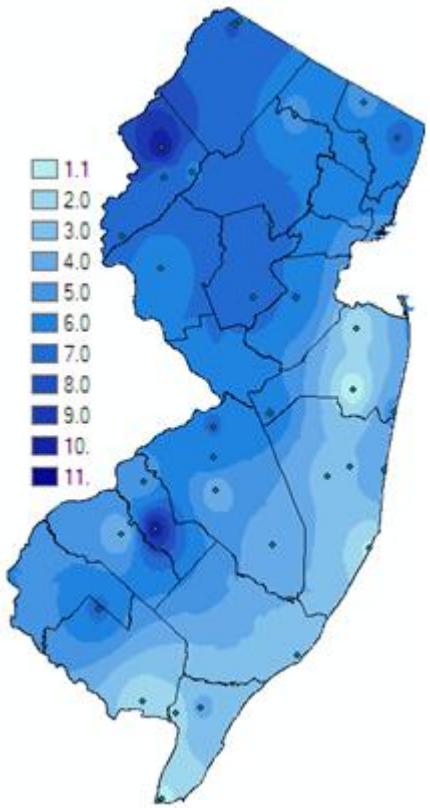
Summary Table – Week 32

	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	**0.05**	**2.39**	**0**	**0.48**	**2.35**	**0**	**0.17**	**0.11**	**2**	**0.12**	**0.62**	**0**
Coastal	**0.60**	**3.69**	**0**	**2.33**	**5.33**	**0**	**0.00**	**0.10**	**0**	**8.63**	**16.05**	**0**
Delaware Bayshore	**0.63**	**2.50**	**0**	**17.97**	**9.63**	**2**	**0.17**	**0.31**	**0**	**4.14**	**10.42**	**0**
Delaware River Basin	**5.86**	**7.54**	**0**	**2.57**	**2.15**	**1**	**0.07**	**0.37**	**0**	**0.07**	**0.22**	**0**
New York Metro	**0.29**	**7.30**	**0**	**2.61**	**7.87**	**0**	**0.06**	**0.10**	**0**	**0.24**	**0.51**	**0**
North Central Rural	**0.14**	**0.62**	**0**	**0.35**	**0.88**	**0**	**0.00**	**< 0.01**	**0**	**0.00**	**0.00**	**0**
Northwest Rural	**8.23**	**18.97**	**0**	**5.46**	**2.81**	**2**	**0.02**	**0.59**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**16.07**	**7.57**	**3**	**3.14**	**2.75**	**1**	**0.07**	**0.06**	**1**	**0.00**	**0.00**	**0**
Pinelands	**1.01**	**1.83**	**0**	**2.40**	**3.43**	**0**	**0.74**	**0.37**	**3**	**0.29**	**0.11**	**4**
Suburban Corridor	**0.39**	**10.34**	**0**	**0.86**	**1.86**	**0**	**0.03**	**0.50**	**0**	**0.04**	**0.02**	**3**

*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.

State Summary: *Aedes vexans* abundance decreased from last week, with heightened numbers seen only in the Philadelphia Metro region. *Culex* Mix, *Coquillettidia perturbans* and *Aedes sollicitans* continued to see higher than historical abundances in several regions including the Philadelphia Metro and Pinelands.

Climate Factors

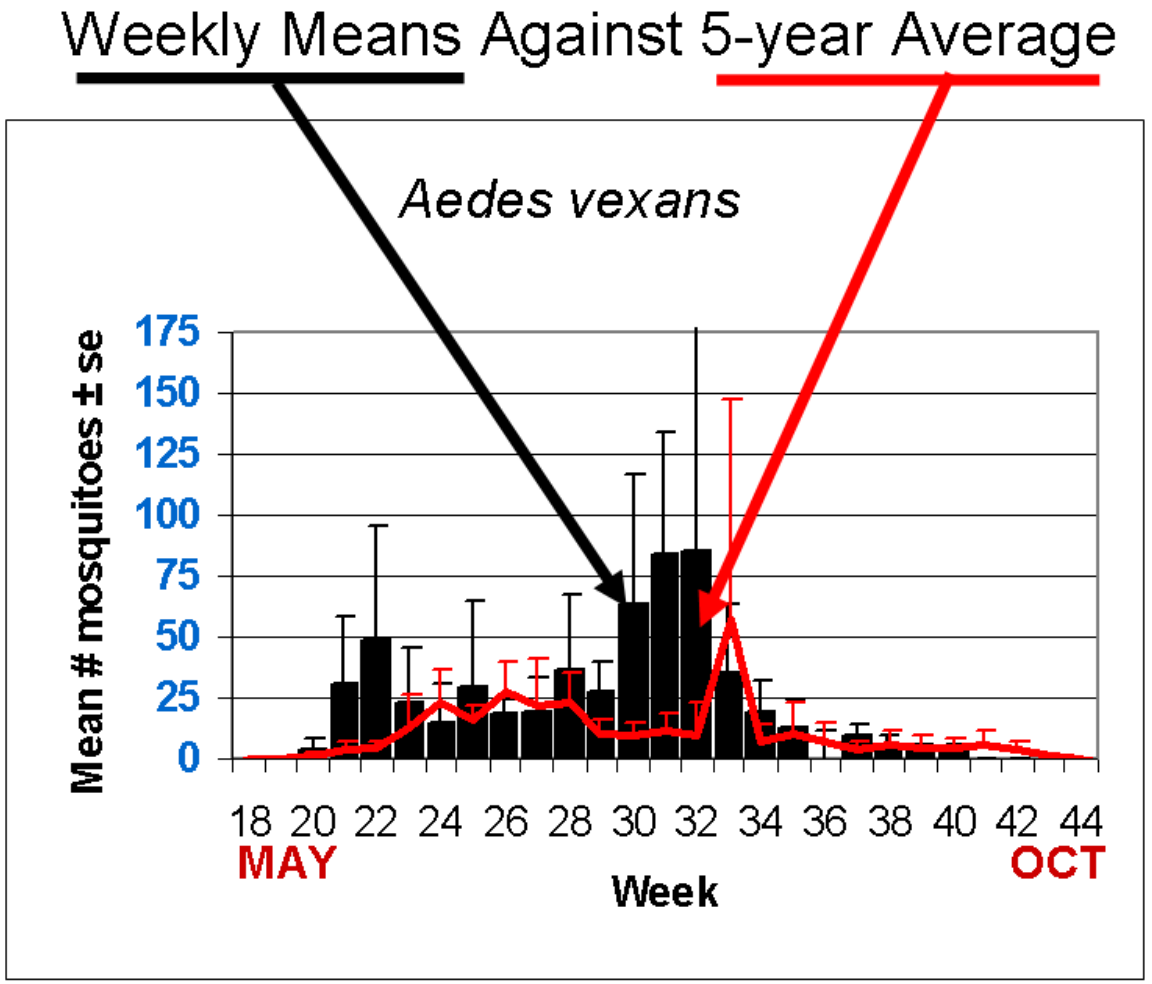
Average High Temperature	Average Low Temperature	Total Precipitation
		

The three figures show the interpolation of average maximum and minimum temperature and total precipitation from 1 August to 19 August, 2011 in New Jersey. Data points are from about 37 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points was performed using ArcMap 10.

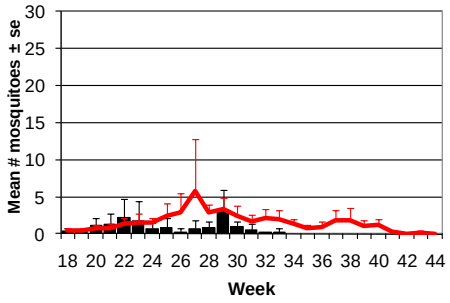
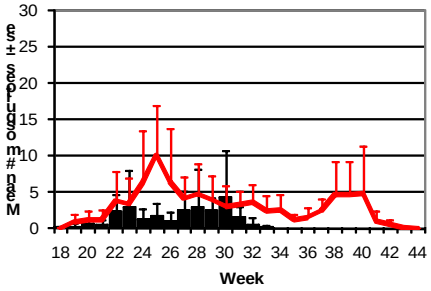
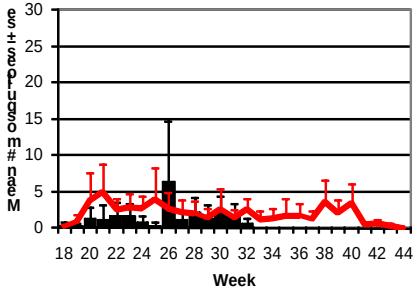
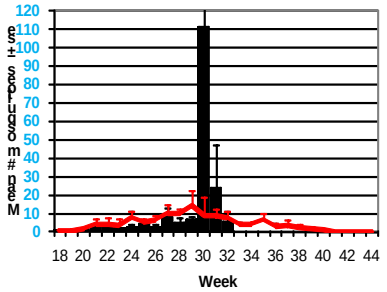
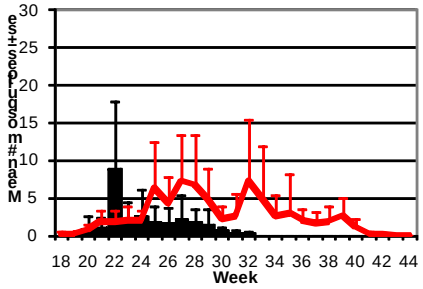
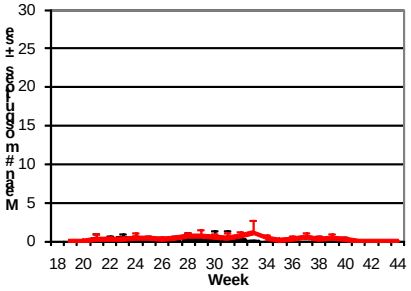
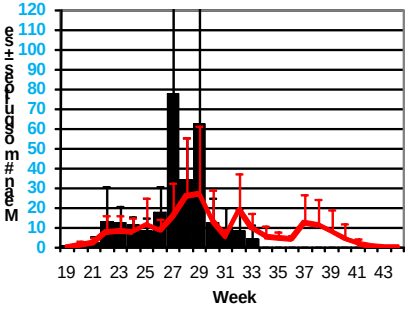
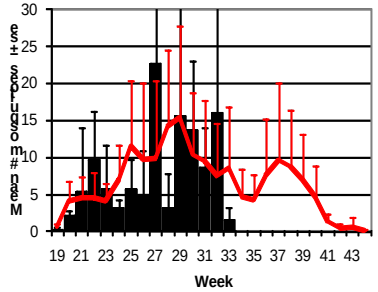
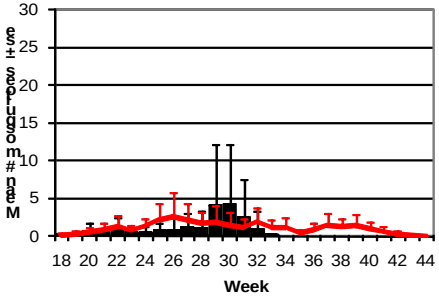
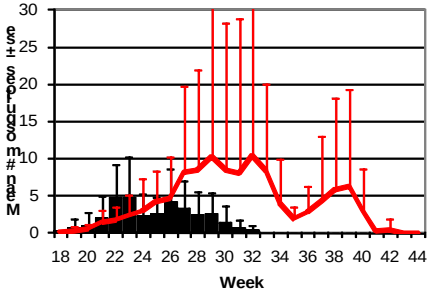
Average high and low temperatures decreased 1 to 2 degrees from the previous report. Precipitation increased significantly as weather systems moved up from the south. Many places saw increases of several inches over the past several days. Note that the amount of rainfall listed on the scale went from a high of 4 inches to a high of 11 inches. Rainfall was the highest on the western and northern portions of the states.

NJ Weather & Climate NETWORK ONJSC at Rutgers University

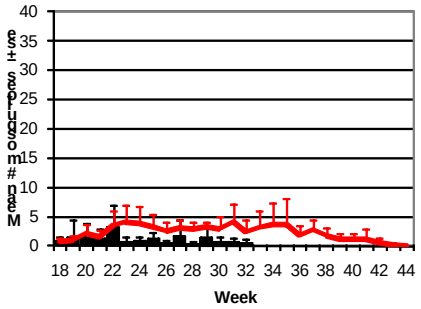
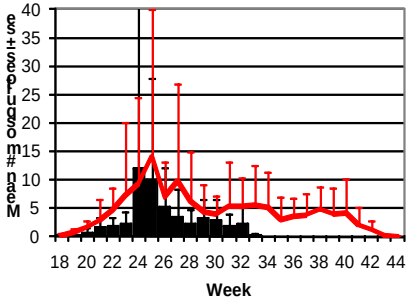
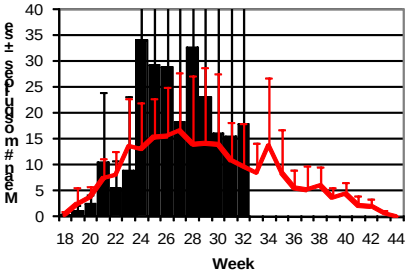
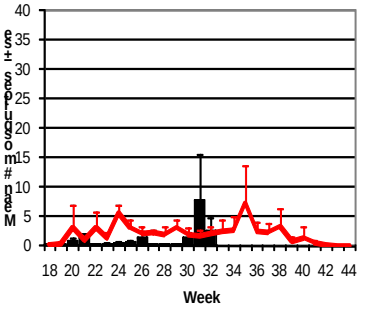
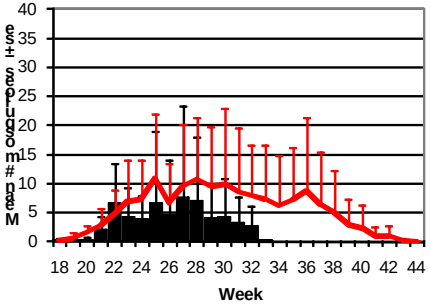
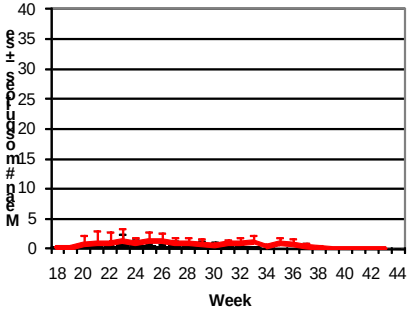
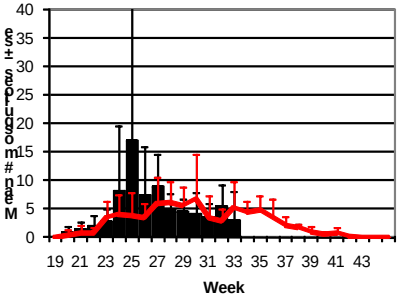
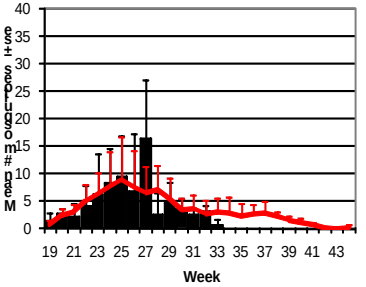
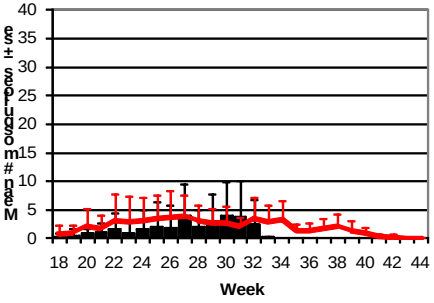
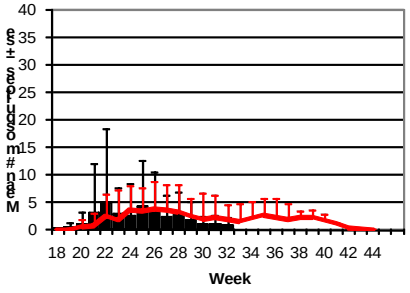
The Species Graphs: The species graph pages include a graph with two plots for each of the ten regions defined on the first page (Agricultural, Coastal, Delaware Bayshore, Delaware River, New York Metro, North-Central, Northwestern, Philadelphia Metro, Pinelands, and Suburban Corridor). Below is an example 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 these weeks are from Bergen, Burlington, Camden, Cape May, Essex, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Salem, Sussex, Union and Warren counties. Last week included Atlantic, Bergen, Burlington, Camden, Cape May, Essex, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Salem, Somerset, Sussex, Union and Warren counties. Note: County data is sent in at a variety of times during the week.



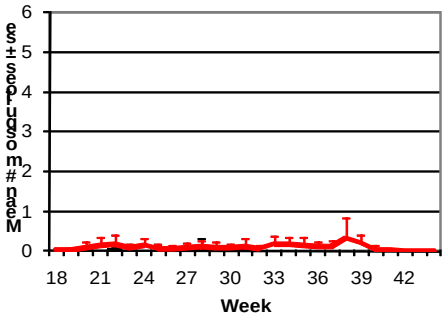
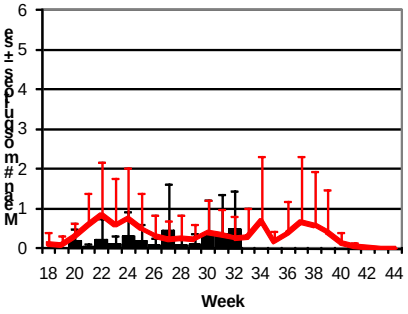
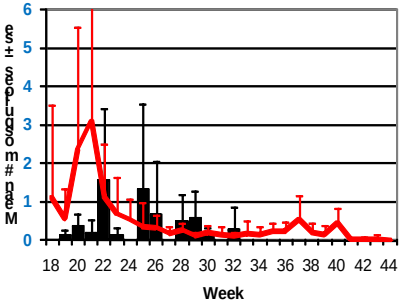
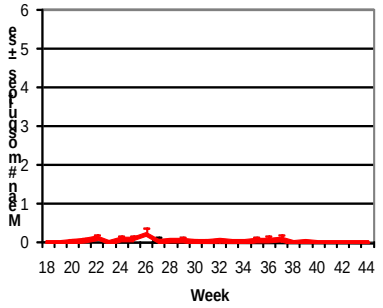
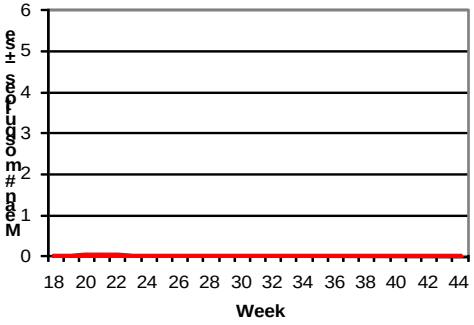
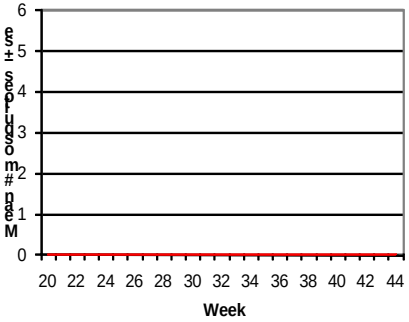
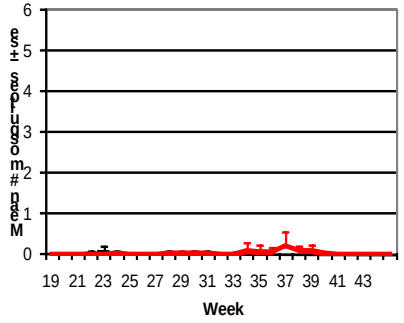
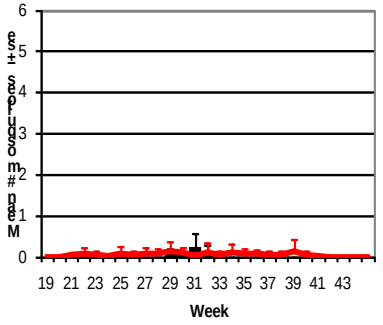
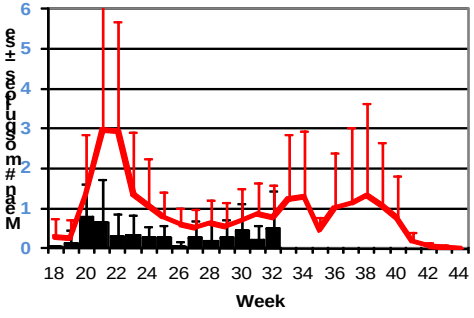
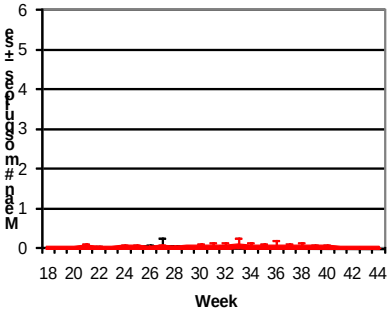
Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* populations declined from the previous week in many areas except for the Philadelphia Metro. However, this past week saw significant amounts of precipitation through much of the state, primarily in the western and northern regions. This could set the stage for high emergences in areas such as the dredge spoils along the Delaware River and other areas of typically high numbers (the Northwestern Rural) in the upcoming week.	

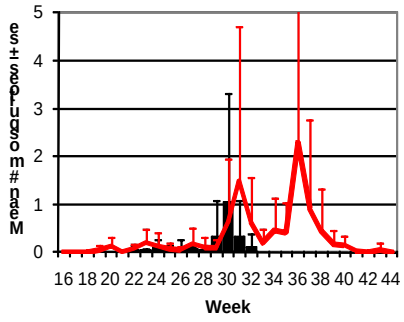
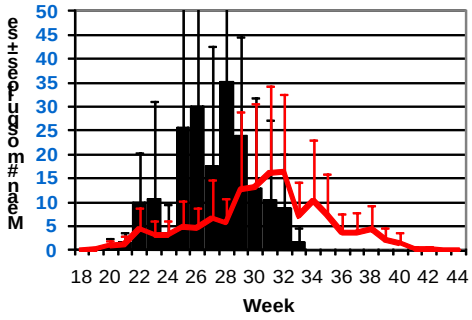
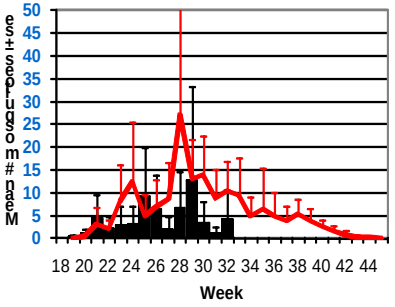
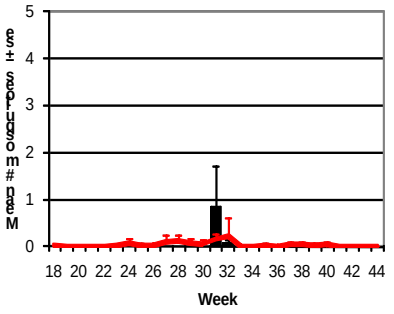
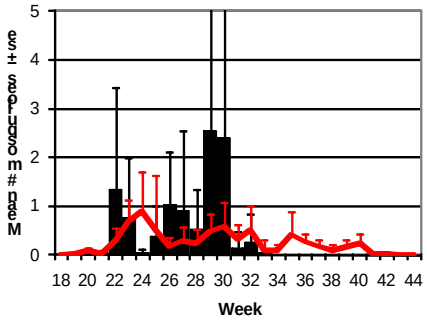
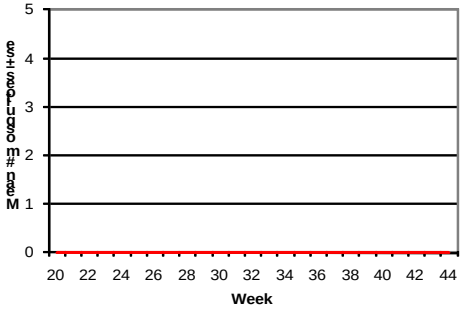
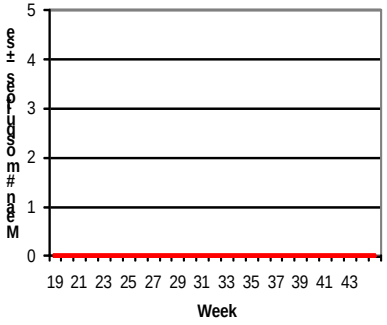
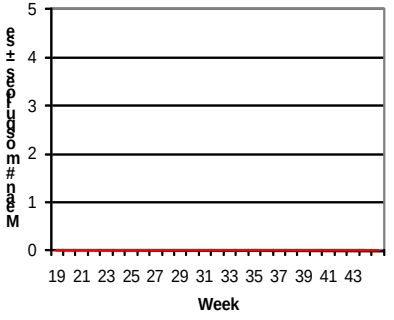
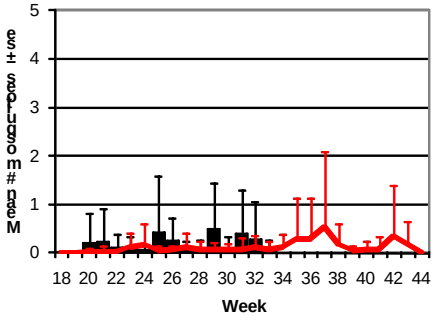
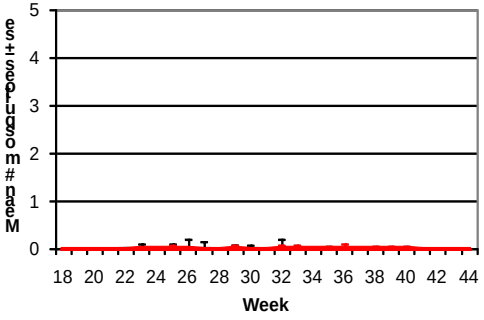
Culex Mix – Permanent Water Species
Multivoltine *Culex/Anopheles* (*Cx. pipiens* Type)

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. The Delaware Bayshore and River Basin as well as the Philadelphia Metro and Pinelands saw increased abundances above recent historical trends, although these increases were not outrageously high. Positive WNV pools from the ornithophilic *Culex* (*Cx. pipiens* and *Cx. restuans*) have been found since early July.	

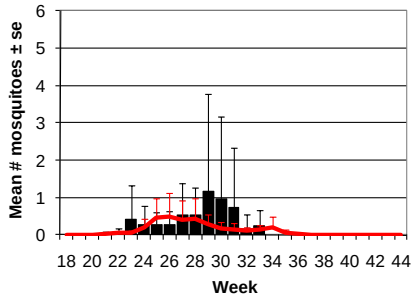
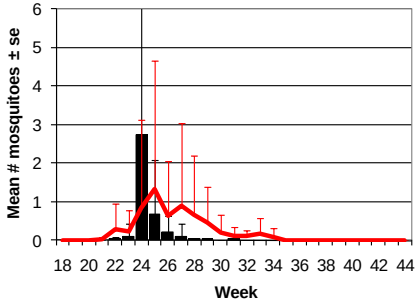
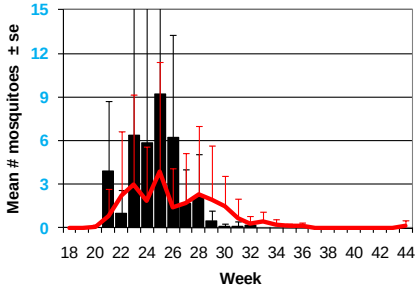
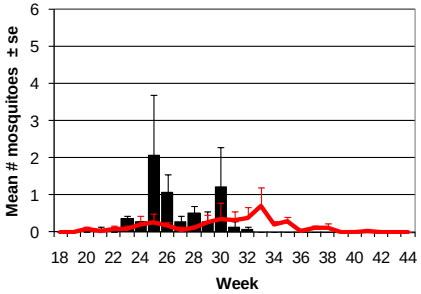
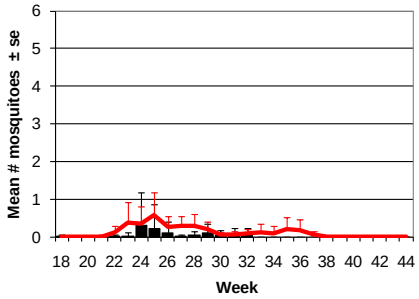
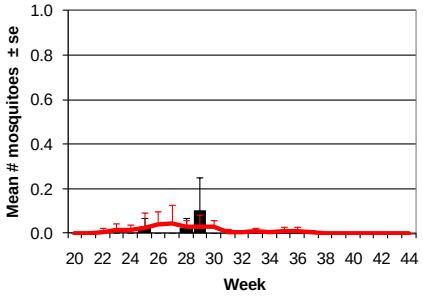
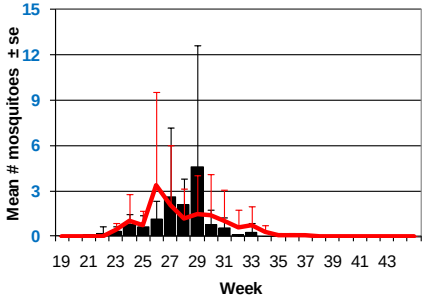
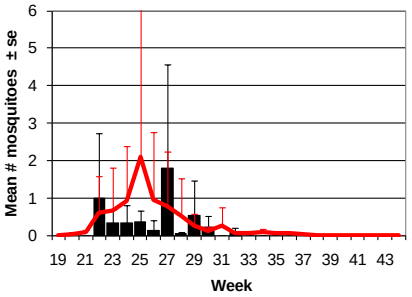
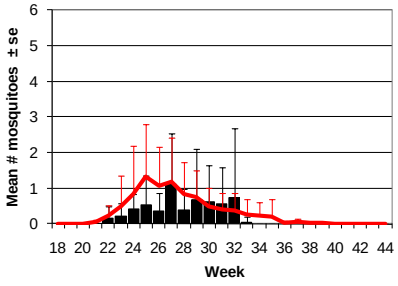
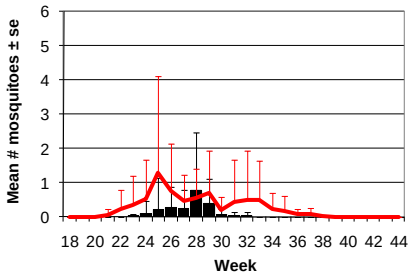
Culiseta melanura – Miscellaneous Group Unique (*Cs. melanura* Type)

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. *Cs. melanura* abundances may be showing a slight increase in the Pinelands as the second generation emerges to join the general population. Numbers have been low this year and the only positive pools for this species seen to date have been for WNV and not EEE. However, we have seen in the past that even with low populations, EEE transmitted to horses, and continued vigilance is always necessary with this disease cycle. Populations of the next two species, potential coastal and inland bridge vectors, should also be kept in mind.	

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* population abundances were again higher than historical values in the Pinelands as well as in the Suburban Corridor. Both of these areas, particularly the Suburban Corridor, illustrate the long- distance migration of this species and thus making it a state rather than just coastal problem. This high tide was accompanied with significant rainfall and could potentially create factors that could result in a significant emergence for this salt floodwater species. This species has been implicated in the potential transmission of EEE in coastal areas. Next Full Moon: 12 September.	

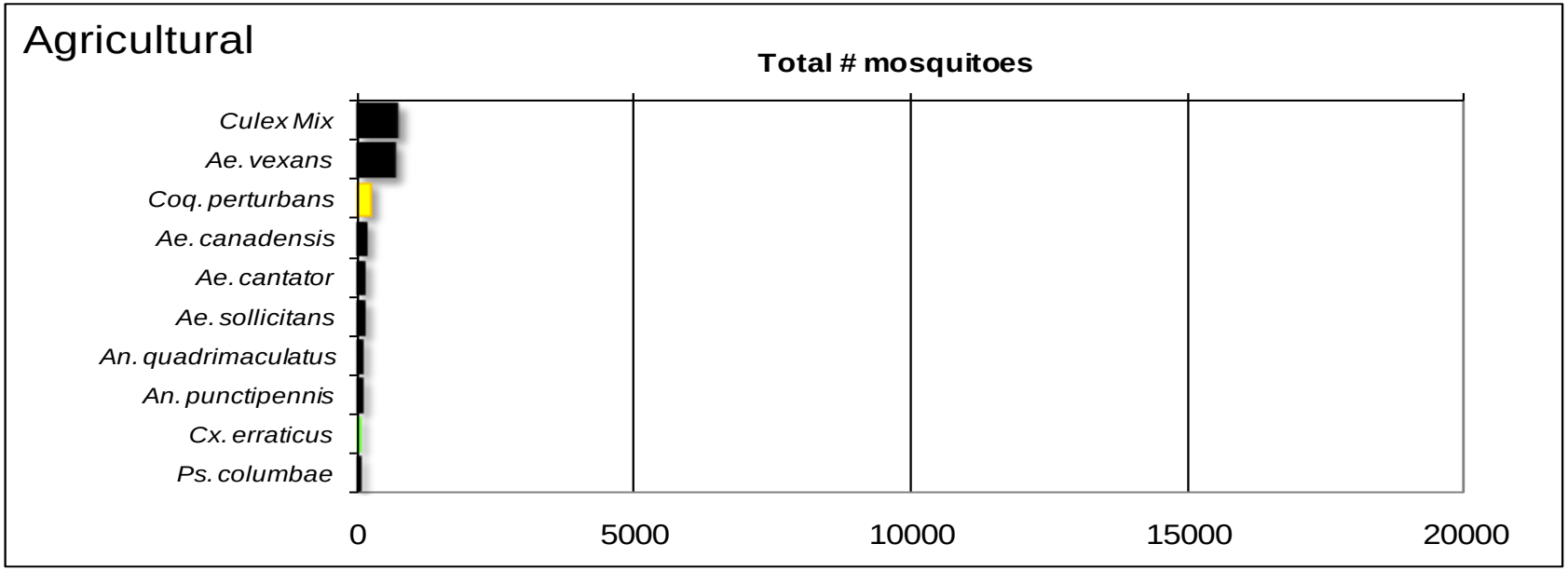
Coquillettidia perturbans
Monotypic (*Coq. perturbans* Type)

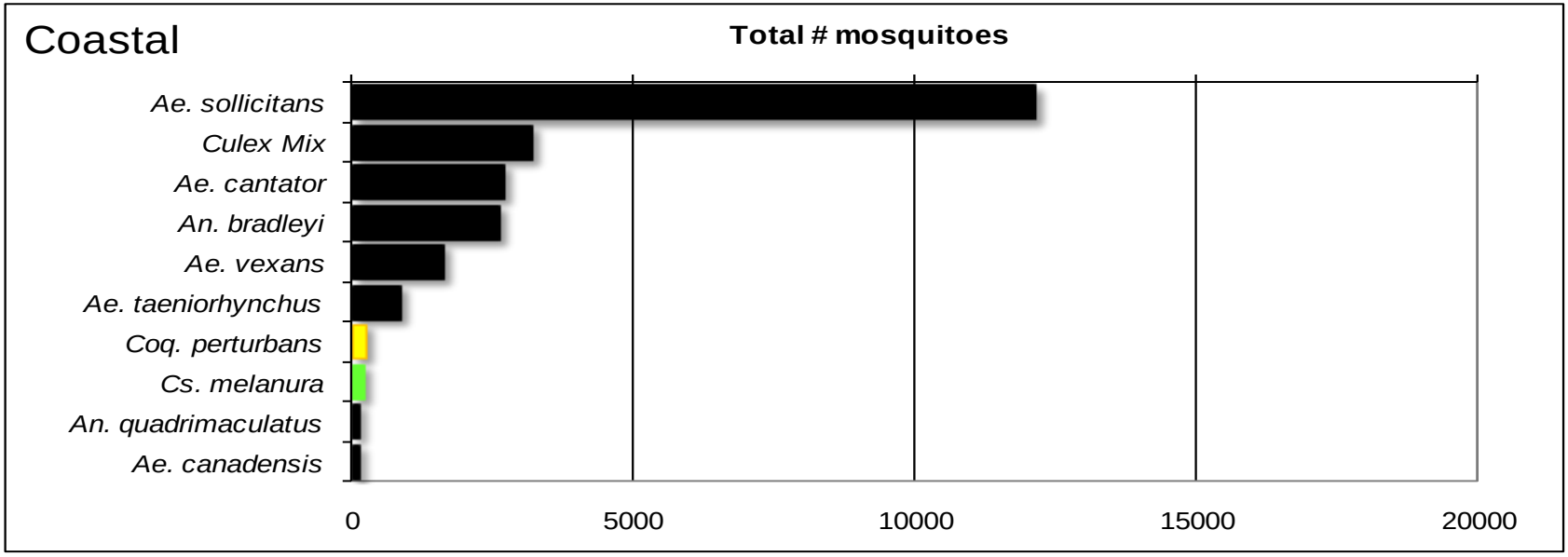
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Coquillettidia perturbans* numbers continued to be above historical values, but appear to be decreasing relatively compared to the weeks just prior. Numbers are also higher in the Philadelphia Metro and Pinelands. While EEE has not yet been detected in New Jersey, areas with high *Coq. perturbans* populations should be monitored closely as this species has been implicated in the inland transmission of EEE.	

WNV *EEE*

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

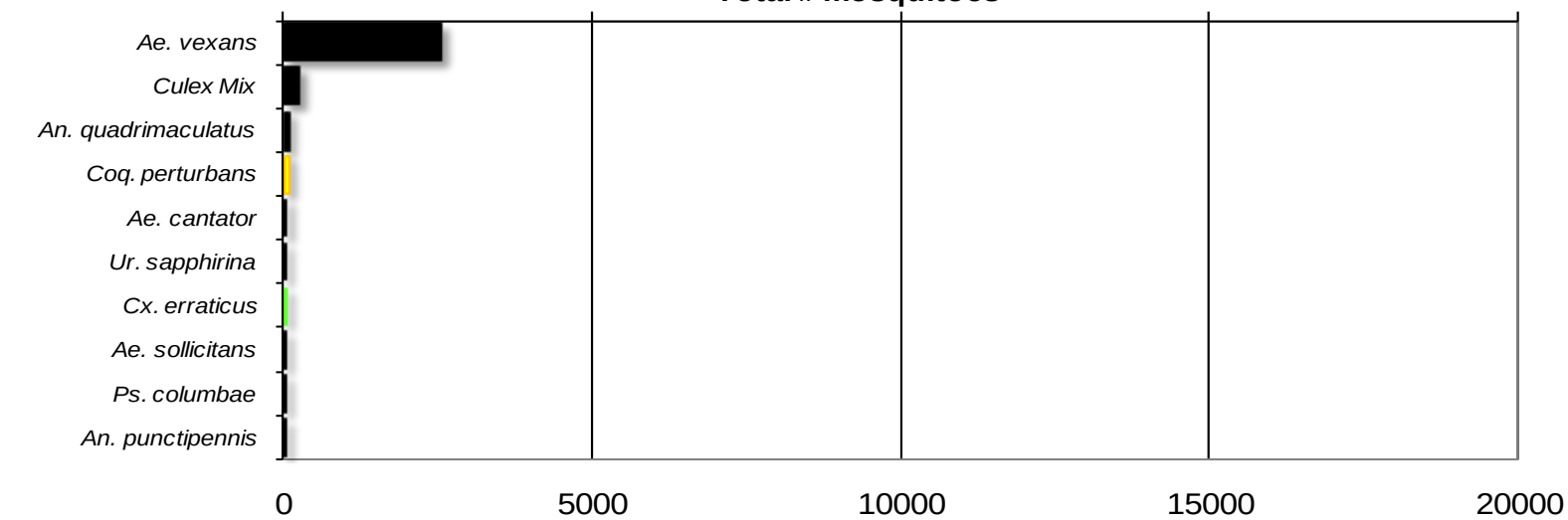
Note: In early season when fewer species are caught, graphs may show less than ten species listed.



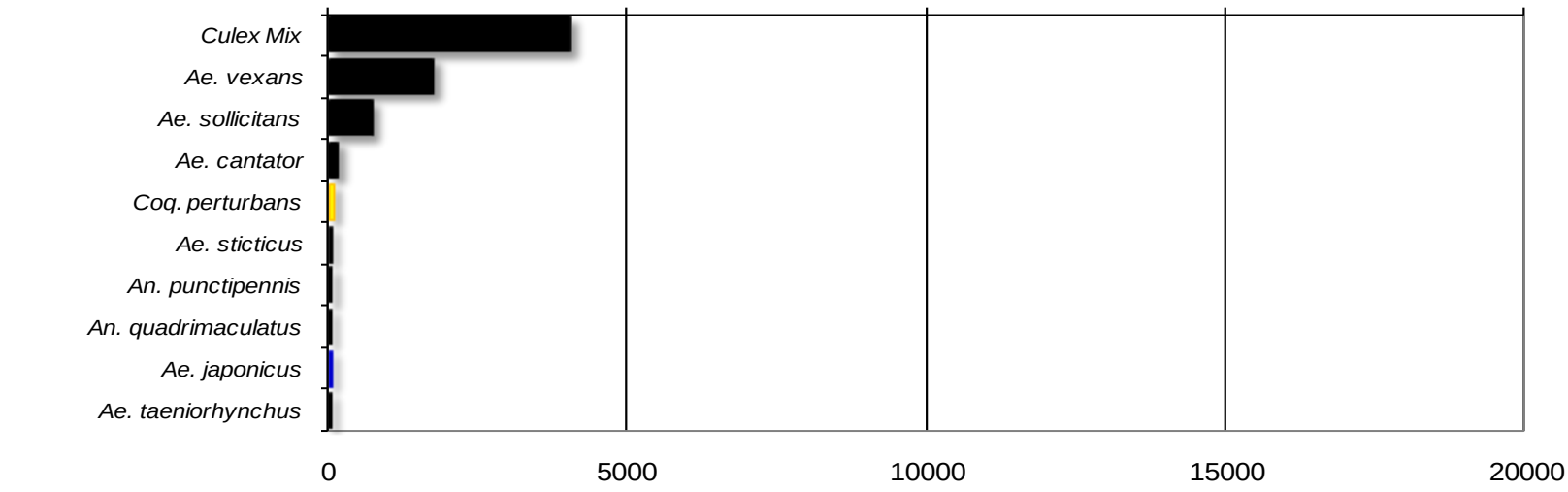


Delaware Bayshore

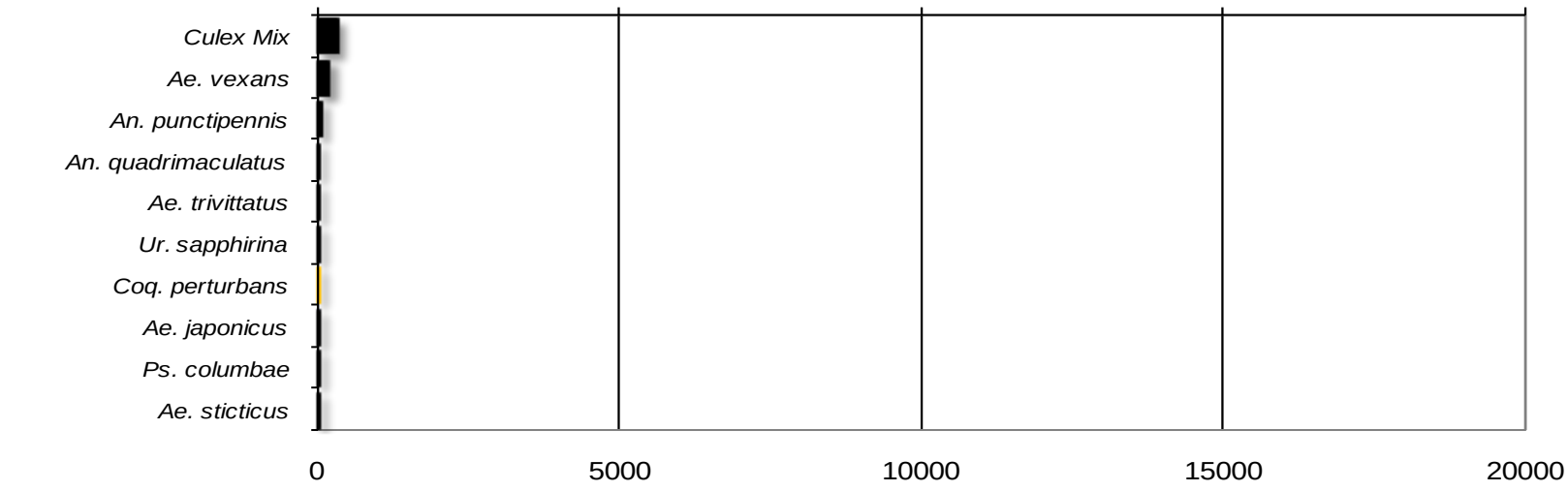
Delaware River Basin

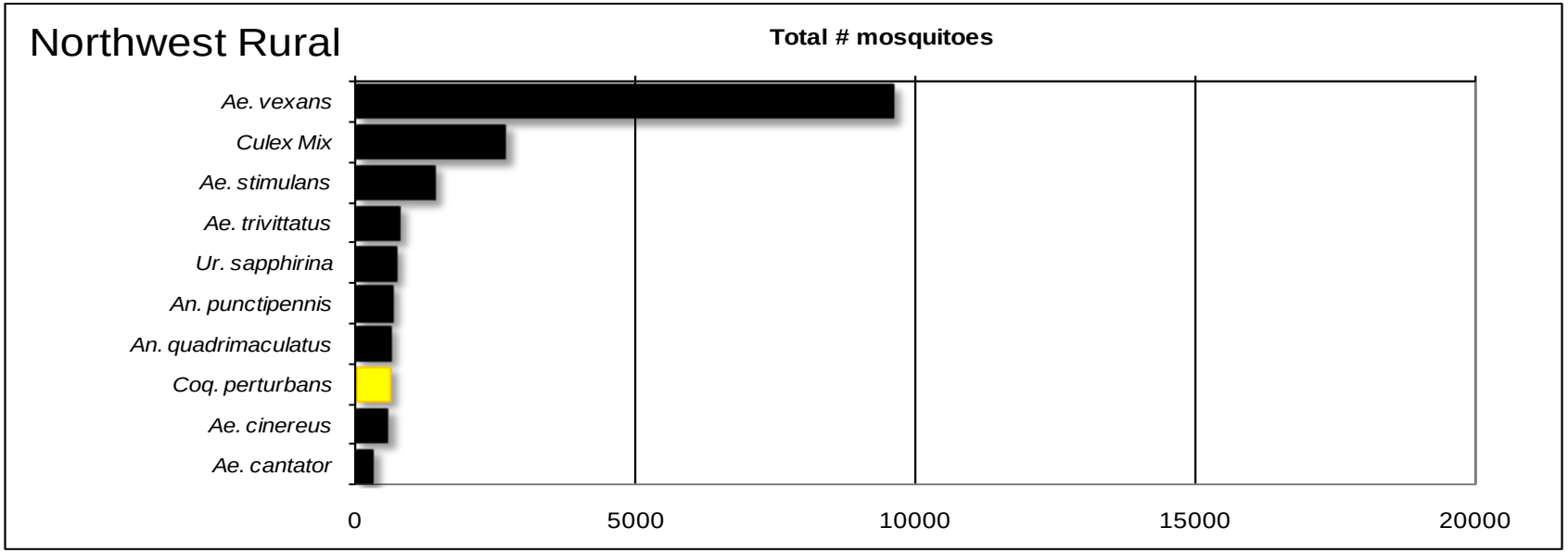


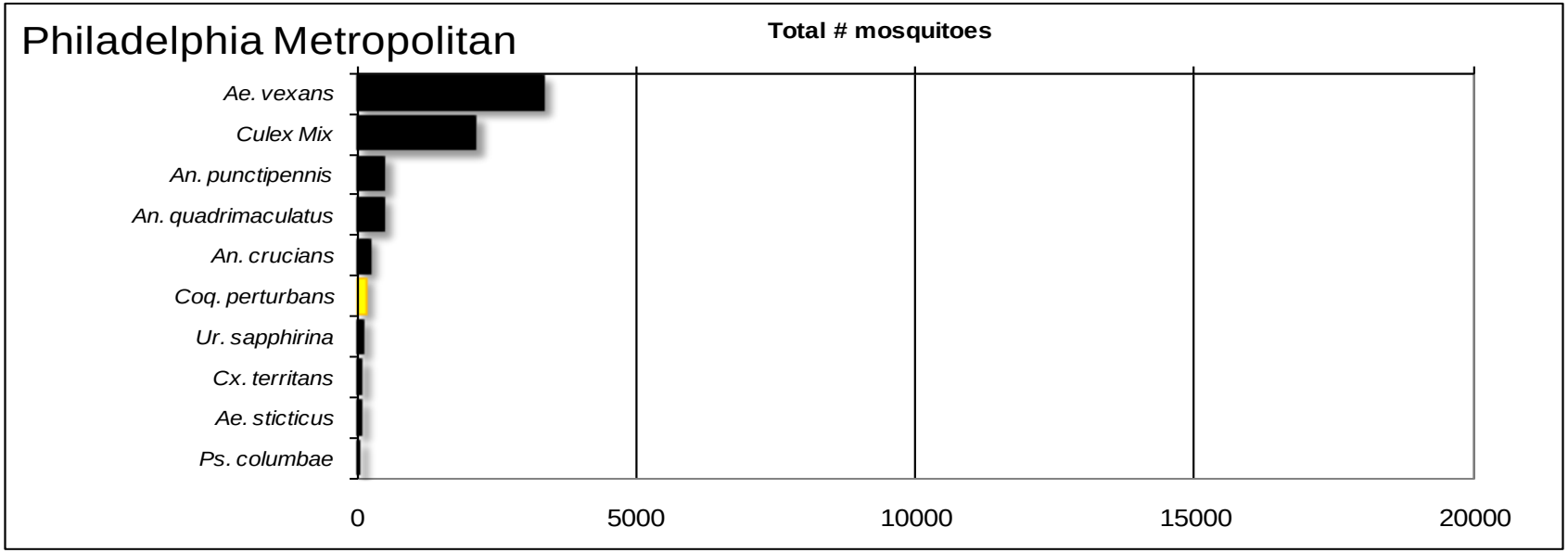
New York Metropolitan



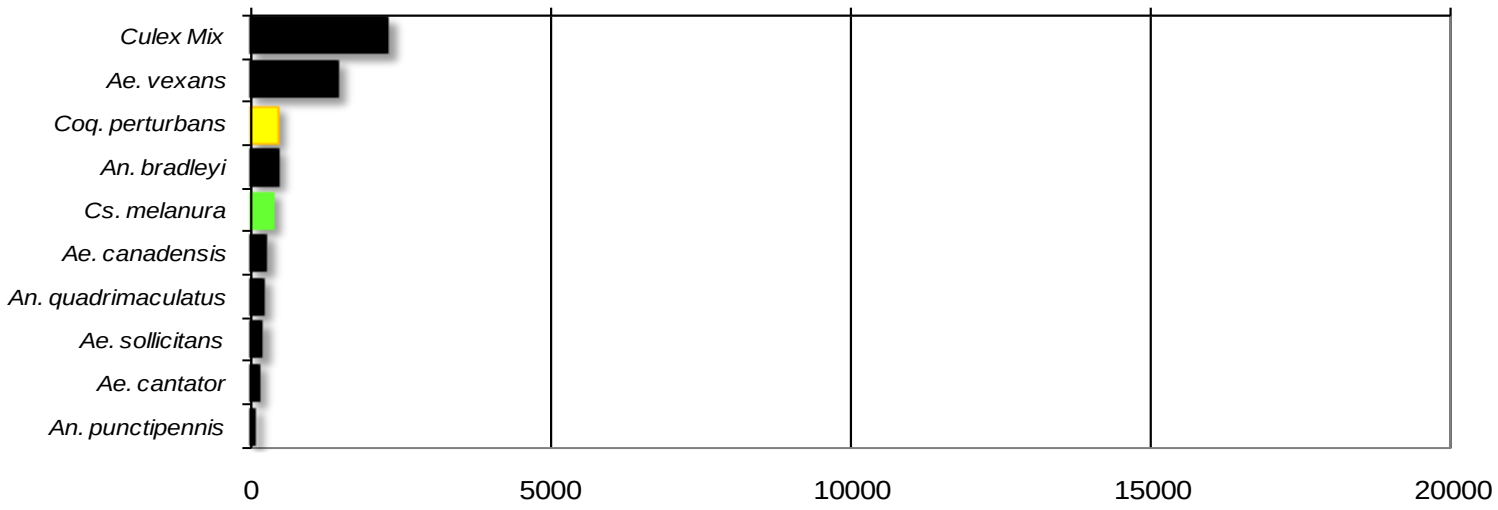
North Central Rural




Northwest Rural
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. stimulans
Ae. trivittatus
Ur. sapphirina
An. punctipennis
An. quadrimaculatus
Coq. perturbans
Ae. cinereus
Ae. cantator
0
5000
10000
15000
20000


Philadelphia Metropolitan
Total # mosquitoes
Ae. vexans
Culex Mix
An. punctipennis
An. quadrimaculatus
An. crucians
Coq. perturbans
Ur. sapphirina
Cx. territans
Ae. sticticus
Ps. columbae
0
5000
10000
15000
20000

Pinelands



Suburban Corridor