NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 9 October to 15 October 2011, CDC Week 41

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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.

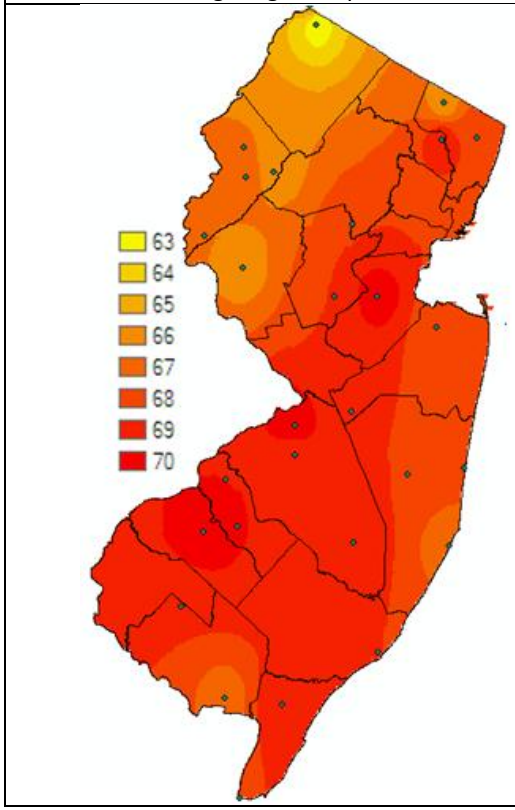
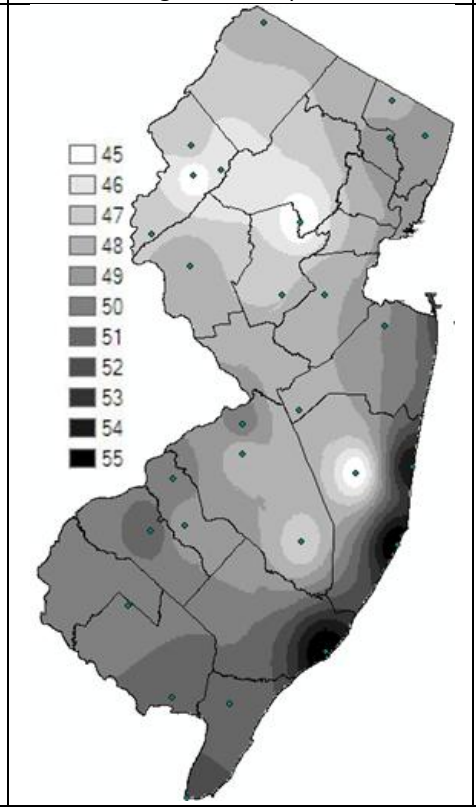
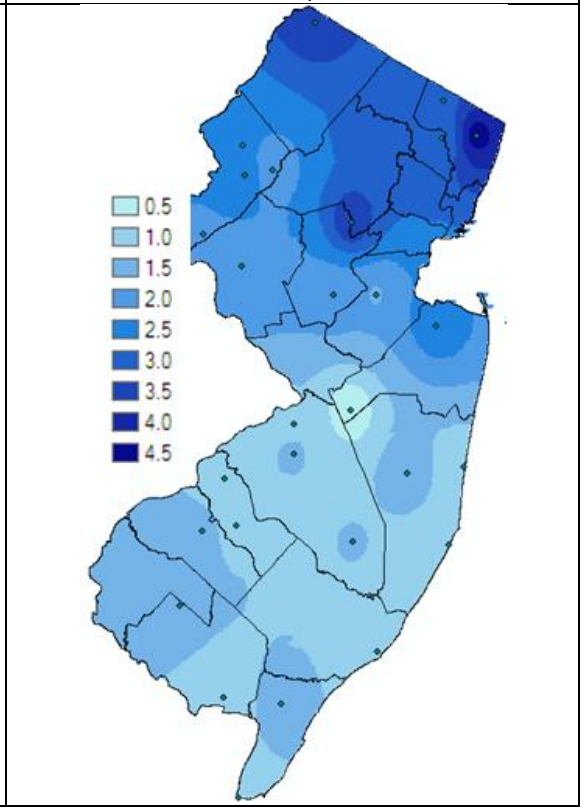
Summary Table – Week 41

	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	**1.36**	**0.26**	**4**	**1.88**	**1.21**	**2**	**0.00**	**0.00**	**0**	**0.00**	**0.01**	**0**
Coastal	**3.71**	**1.02**	**4**	**3.52**	**2.08**	**2**	**0.00**	**0.00**	**0**	**0.46**	**0.35**	**1**
Delaware Bayshore	**6.97**	**0.50**	**4**	**6.49**	**2.18**	**4**	**0.00**	**0.00**	**0**	**0.31**	**1.53**	**0**
Delaware River Basin	**2.00**	**0.19**	**4**	**1.50**	**0.52**	**4**	**0.00**	**0.03**	**0**	**0.00**	**0.00**	**0**
New York Metro	**1.40**	**0.27**	**4**	**1.67**	**1.04**	**2**	**0.00**	**0.00**	**0**	**0.10**	**0.21**	**0**
North Central Rural	**0.12**	**0.03**	**4**	**0.27**	**0.01**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Northwest Rural	**6.94**	**1.58**	**4**	**6.17**	**0.80**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**2.57**	**1.37**	**2**	**5.36**	**0.77**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Pinelands	**0.96**	**0.62**	**2**	**1.48**	**0.42**	**4**	**0.00**	**0.00**	**0**	**0.01**	**0.08**	**0**
Suburban Corridor	**0.81**	**0.70**	**1**	**1.27**	**1.09**	**1**	**0.00**	**0.01**	**<0.01**	**0.00**	**0.00**	**<0.01**

*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* populations near the end of the season continue to be higher than historical values in all regions. *Culex* numbers also remain elevated. *Aedes sollicitans* numbers are higher in the Coastal region, but at low over values.

Climate Factors

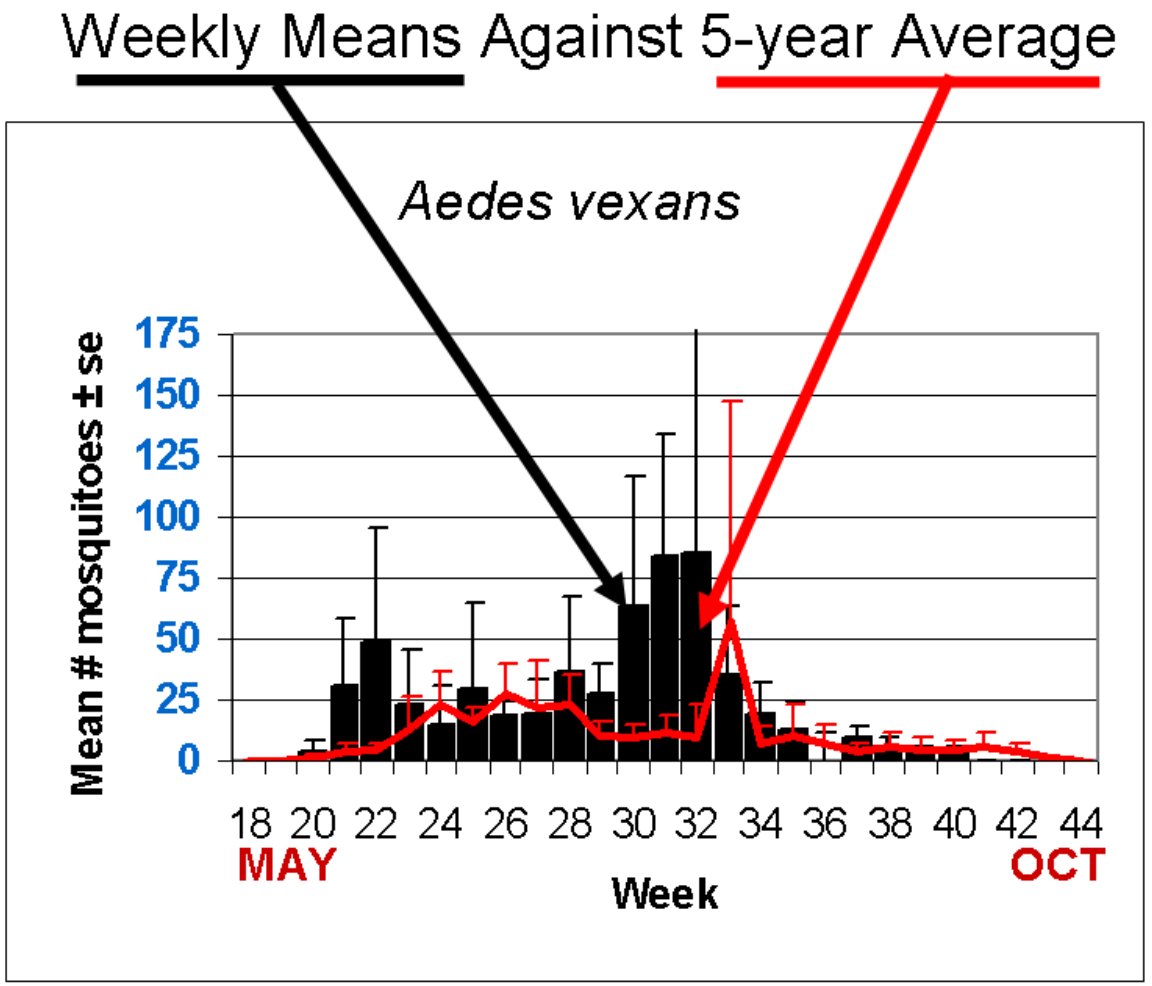
Average High Temperature	Average Low Temperature	Total Precipitation
		

The three figures show the interpolation of average maximum and minimum temperature and total precipitation through 1 October to 21 October, 2011 in New Jersey. Data points are from about 32 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points was performed using ArcMap 10. Several stations were eliminated from the maps due to going offline (recognizably incomplete data) from Hurricane Irene.

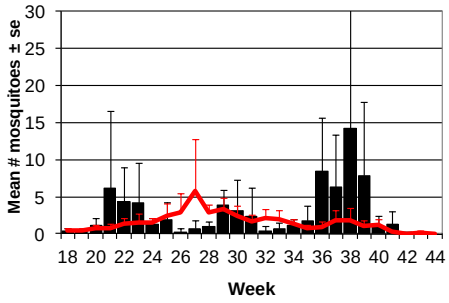
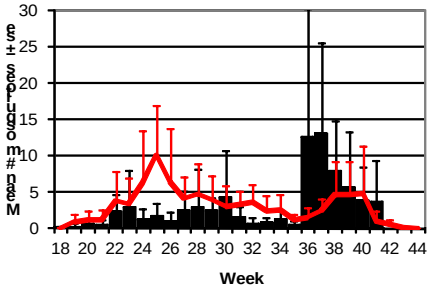
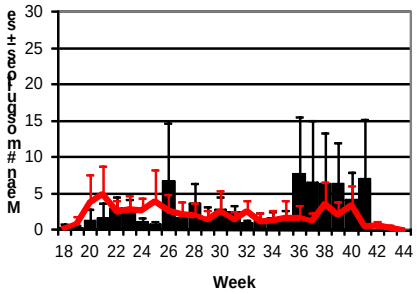
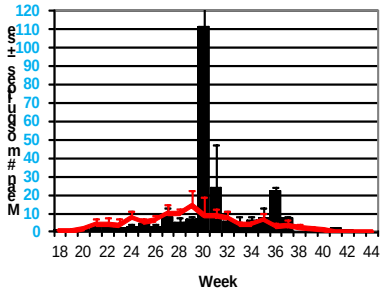
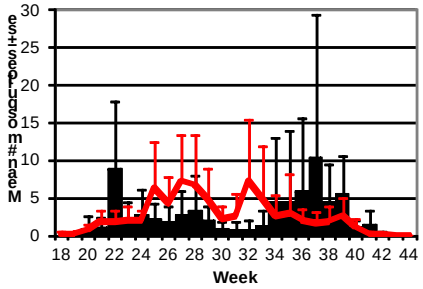
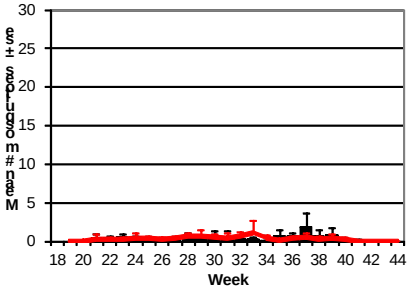
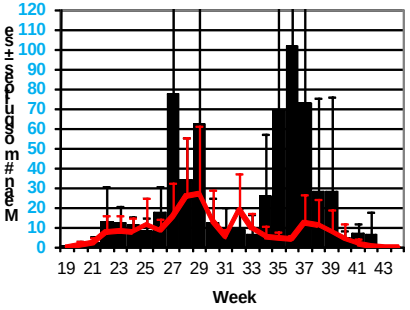
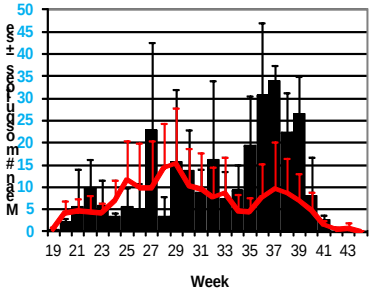
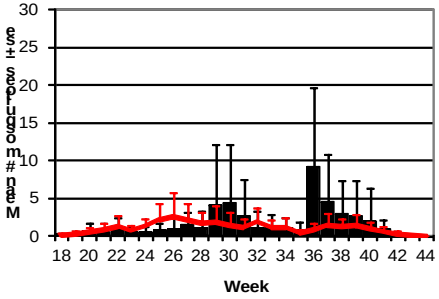
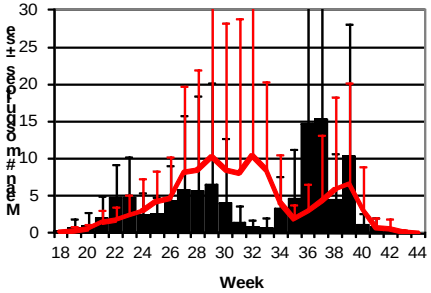
Both average high and low temperatures changed little from the previous week. Precipitation added about one inch to previous totals, with the majority of the rainfall continuing in the northern portions of the state.

NJ Weather & Climate NETWORK ONJSC at Rutgers University

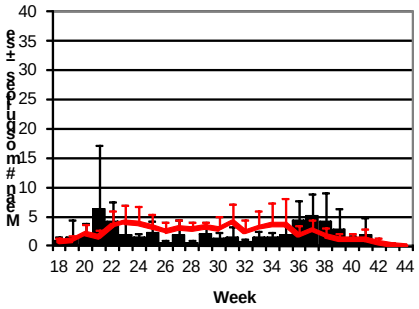
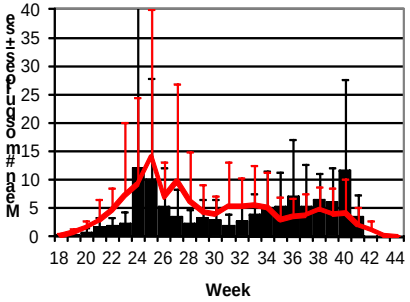
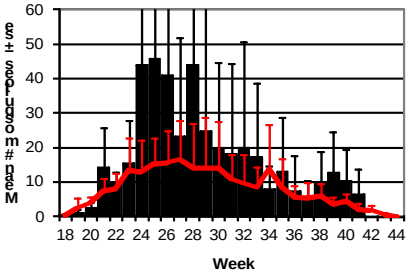
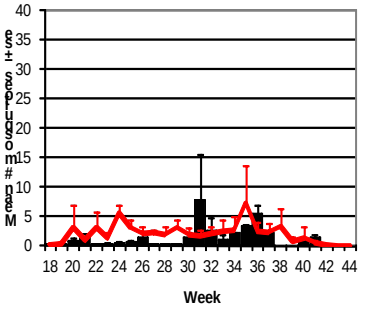
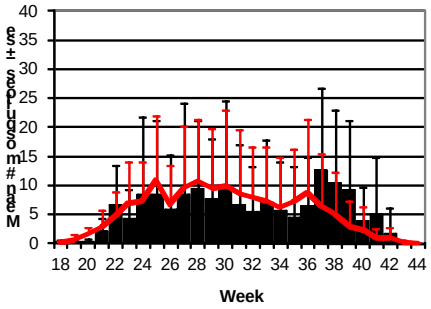
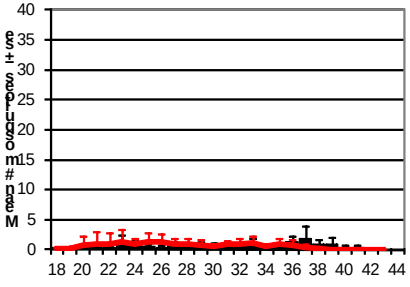
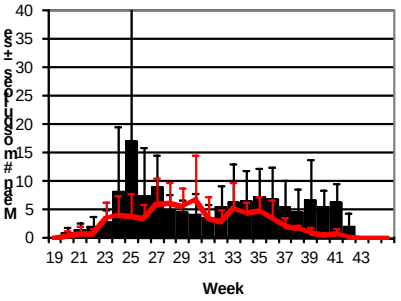
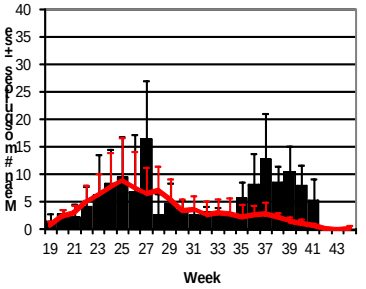
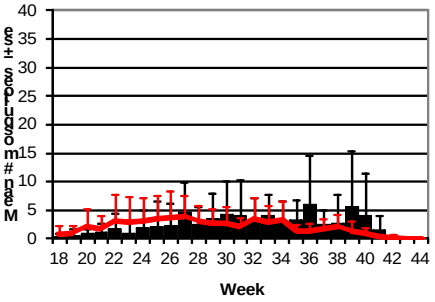
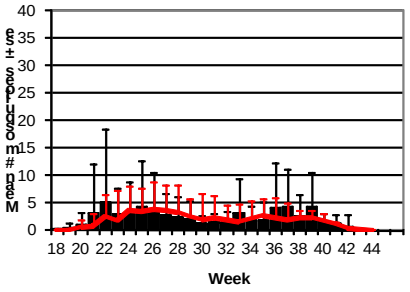
The Species Graphs: The species graph pages include a graph with two plots for each of the ten regions defined on the first page (Agricultural, Coastal, Delaware Bayshore, Delaware River, New York Metro, North-Central, Northwestern, Philadelphia Metro, Pinelands, and Suburban Corridor). Below is an example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



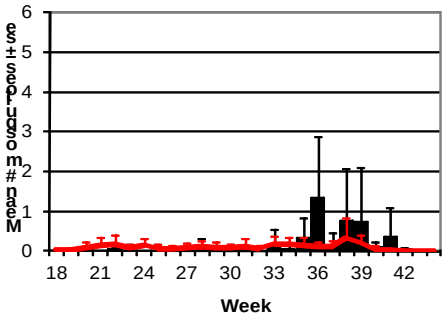
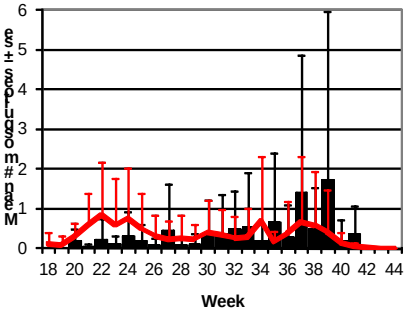
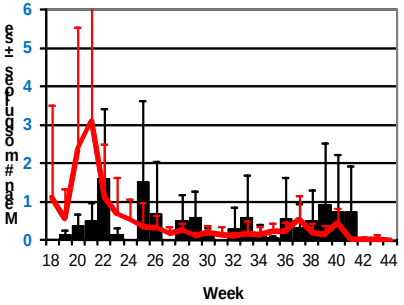
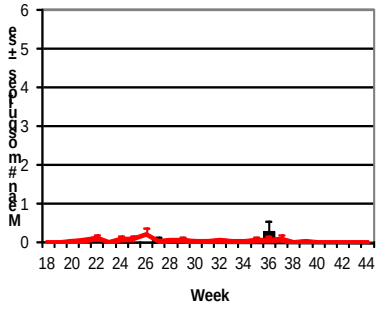
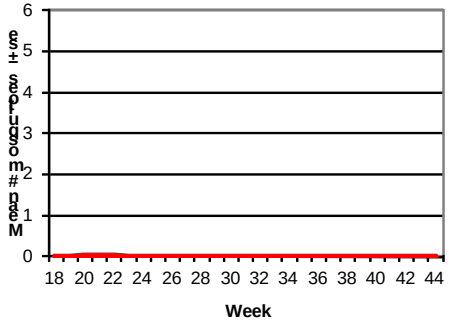
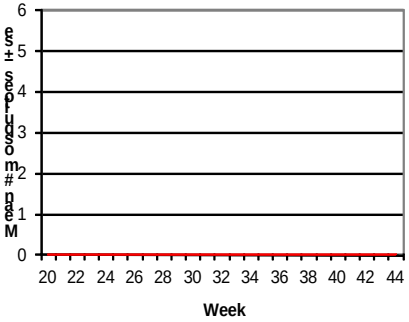
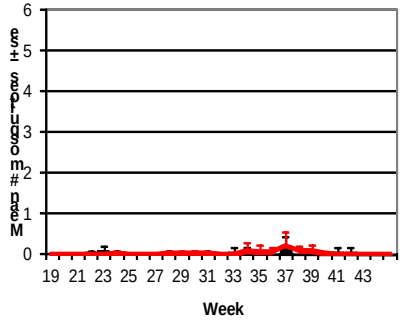
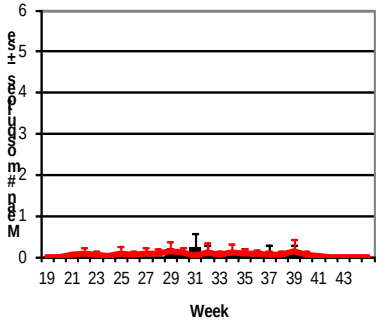
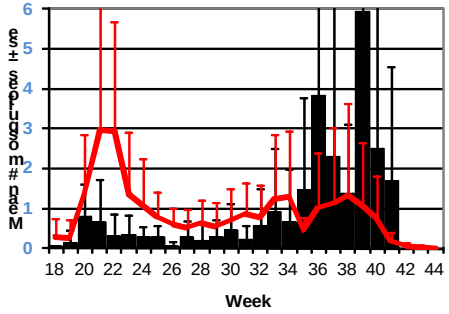
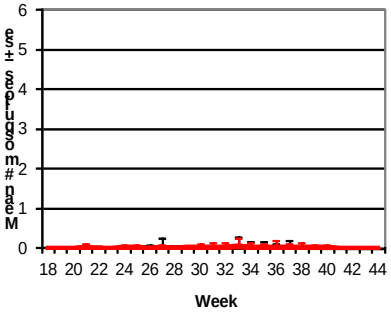
Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		The effect of precipitation is still evident as *Aedes vexans* populations continue to show significant activity in all regions. However, the absolute numbers continue to decrease as the season winds down such that the very high numbers seen a few weeks ago are much reduced. Flight activity will become severely reduced when temperatures reach about the mid 40's.	

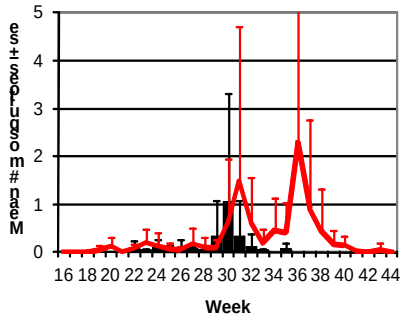
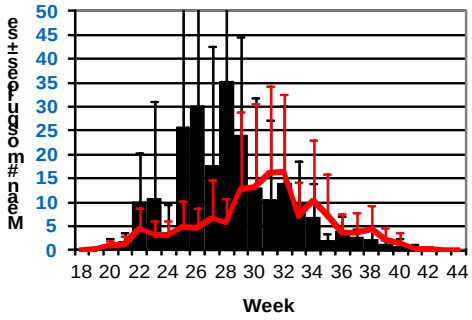
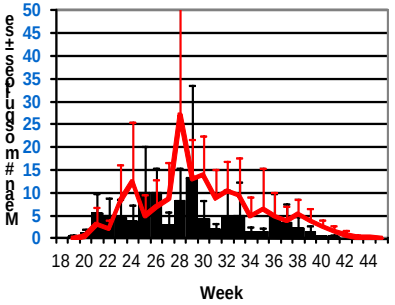
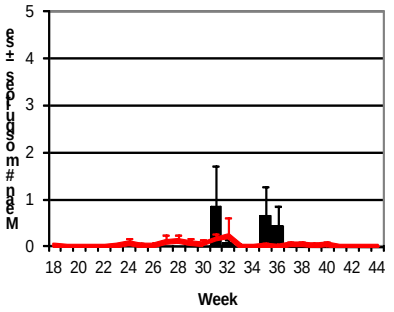
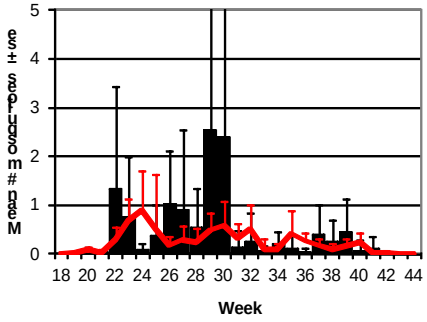
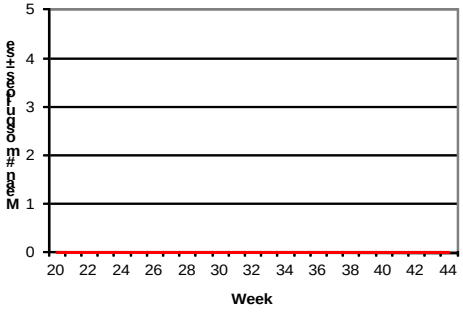
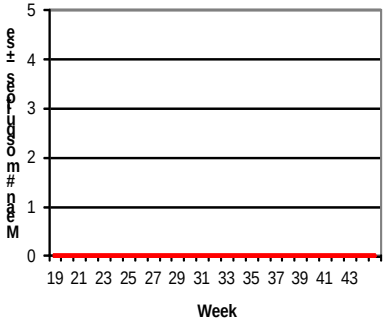
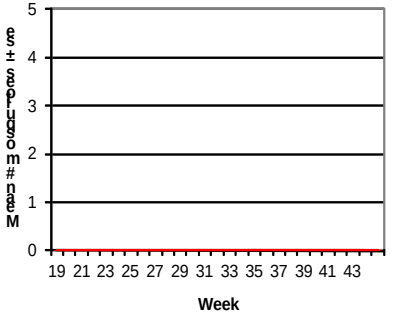
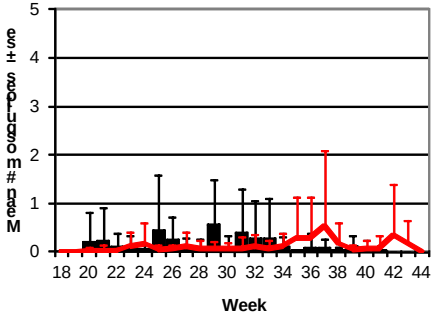
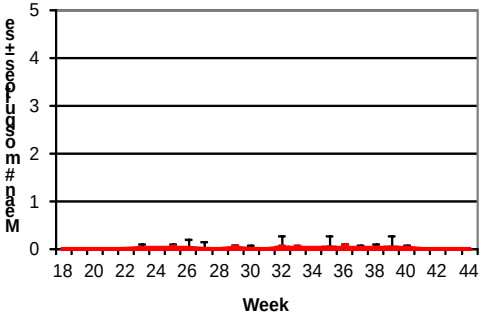
Culex Mix – Permanent Water Species
Multivoltine *Culex/Anopheles* (*Cx. pipiens* Type)

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. As with *Aedes vexans*, all regions show significant *Culex* activity. While overall population levels are decreasing as inseminated females seek out hibernaculae to overwinter, most activity may reflect that of *Culex salinarius* (Delaware Bayshore and the New York Metropolitan regions). This species does not enter diapause as does *Cx. pipiens*.	

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 continue to be above historical values in the Agricultural, Coastal, Delaware Bayshore and Pinelands regions.	

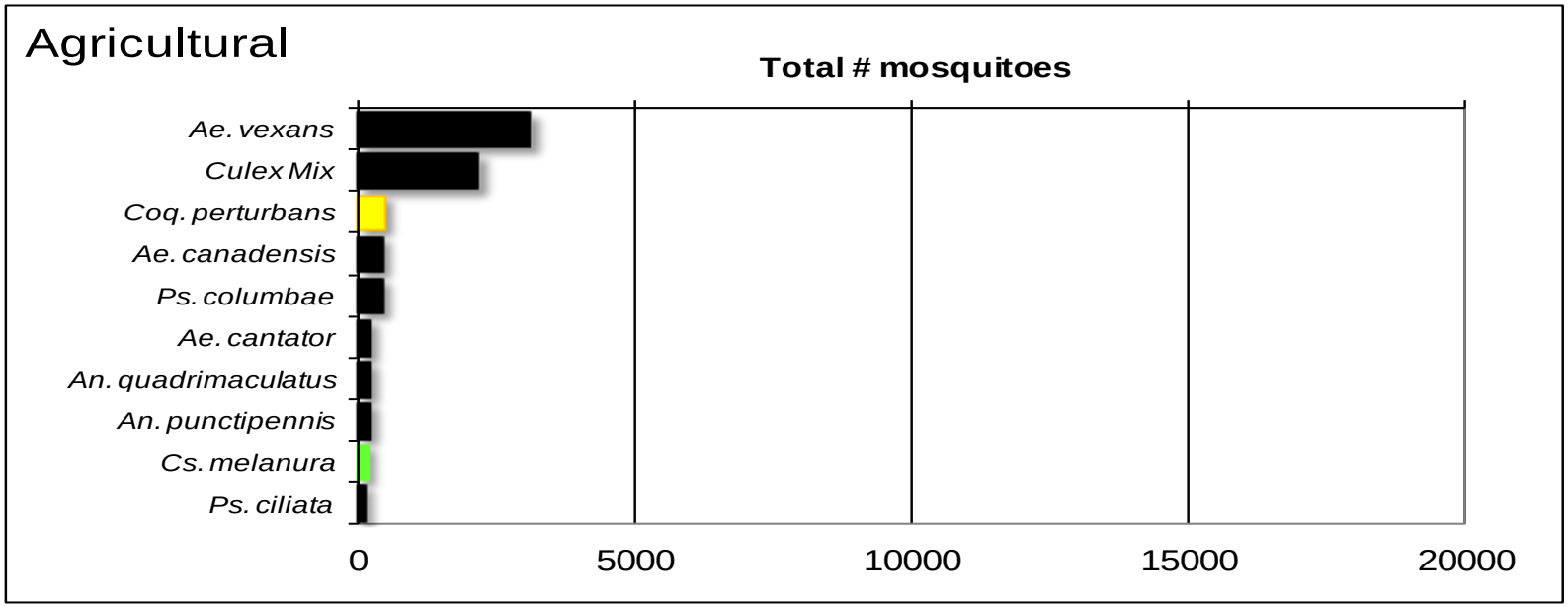
Aedes sollicitans - Salt Floodwater Species
Multivoltine Aedine (*Ae. sollicitans* Type)

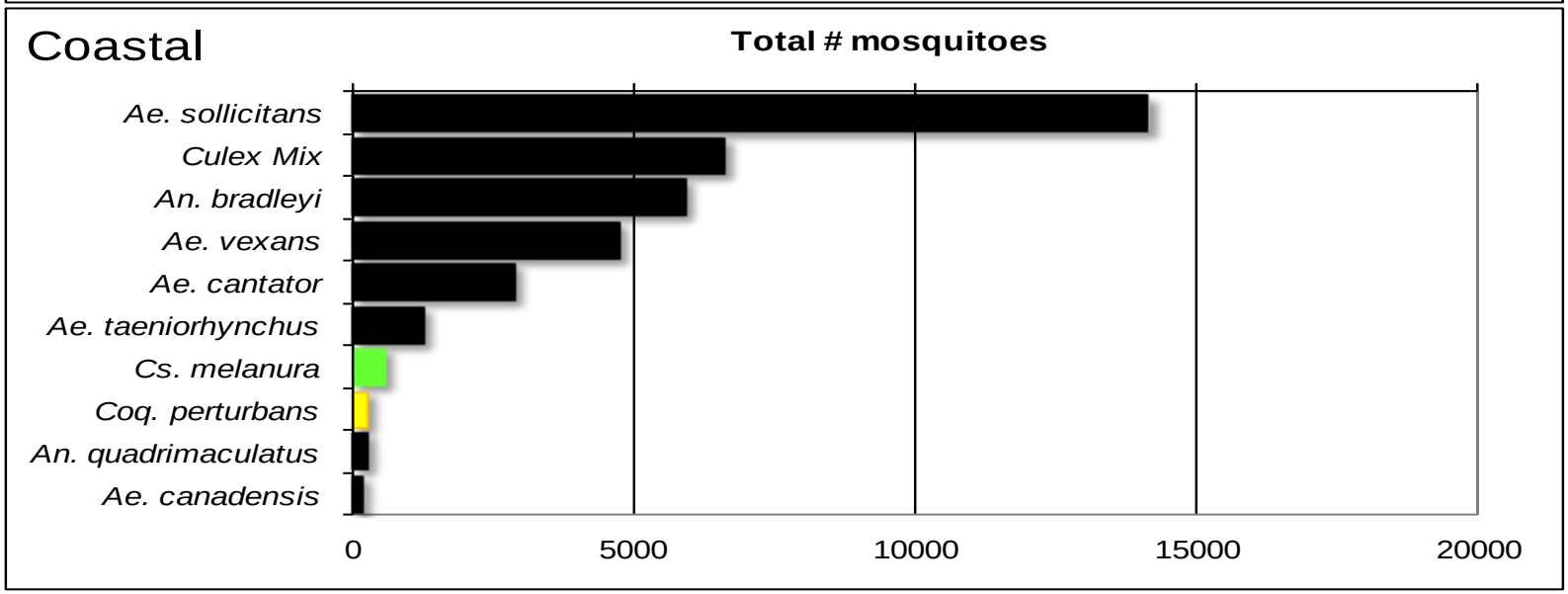
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* continue their seasonal decline. The Coastal region had modestly higher populations than historical value. There is little chance of seeing much emergence as eggs have likely gone into diapause.	

WNV *EEE*

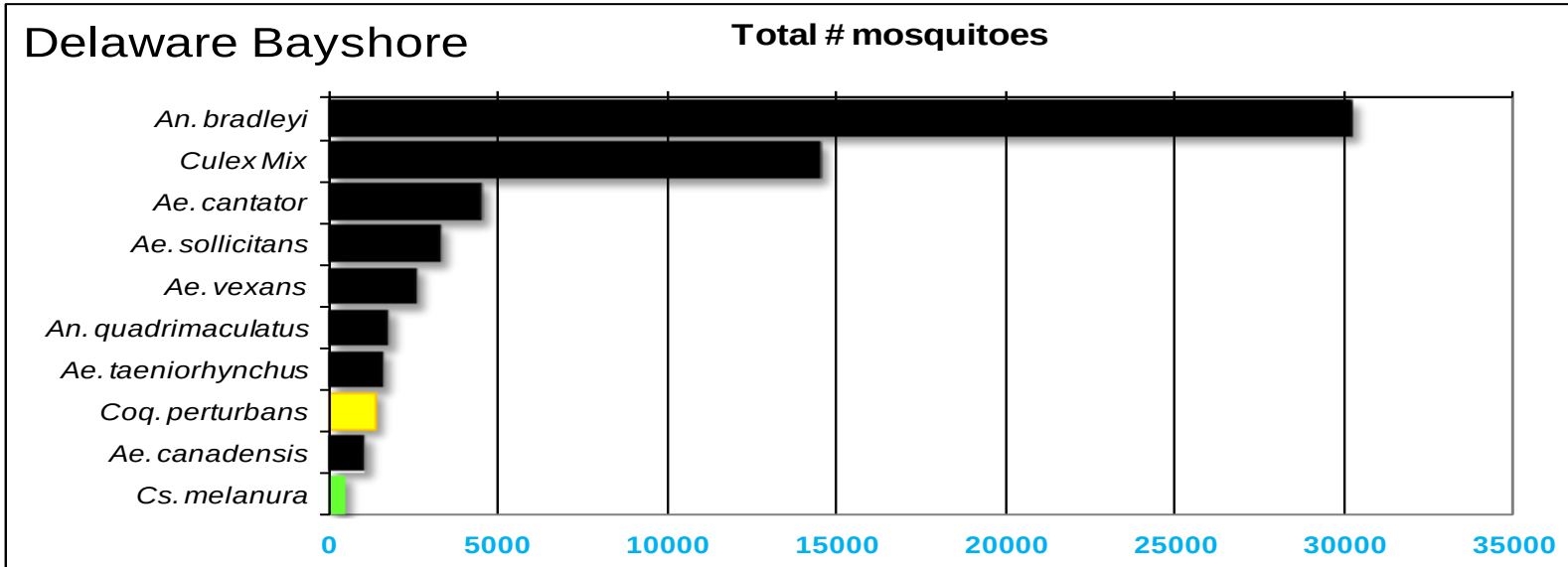
Top Ten Mosquito Species/Region - *Ae. albopictus,* *Ae. japonicus (invasives);* *Cs. melanura or Cx. erraticus* *Coq. perturbans*

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

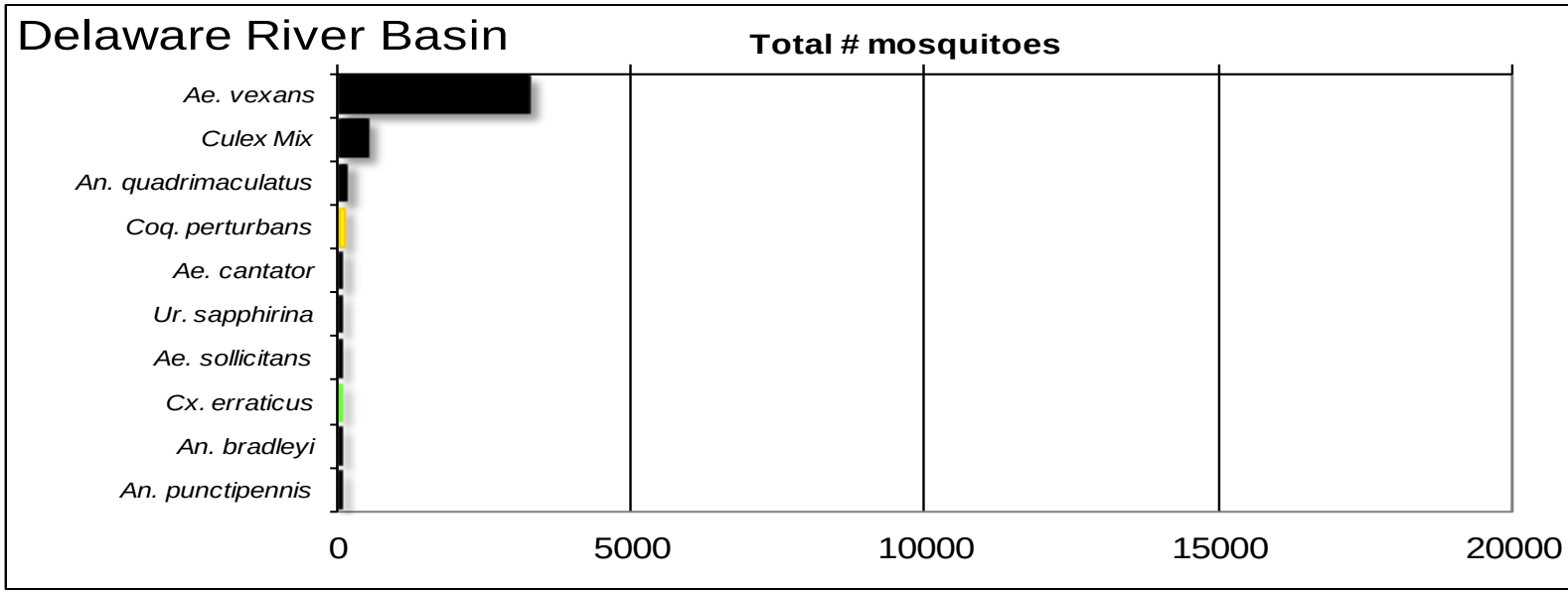


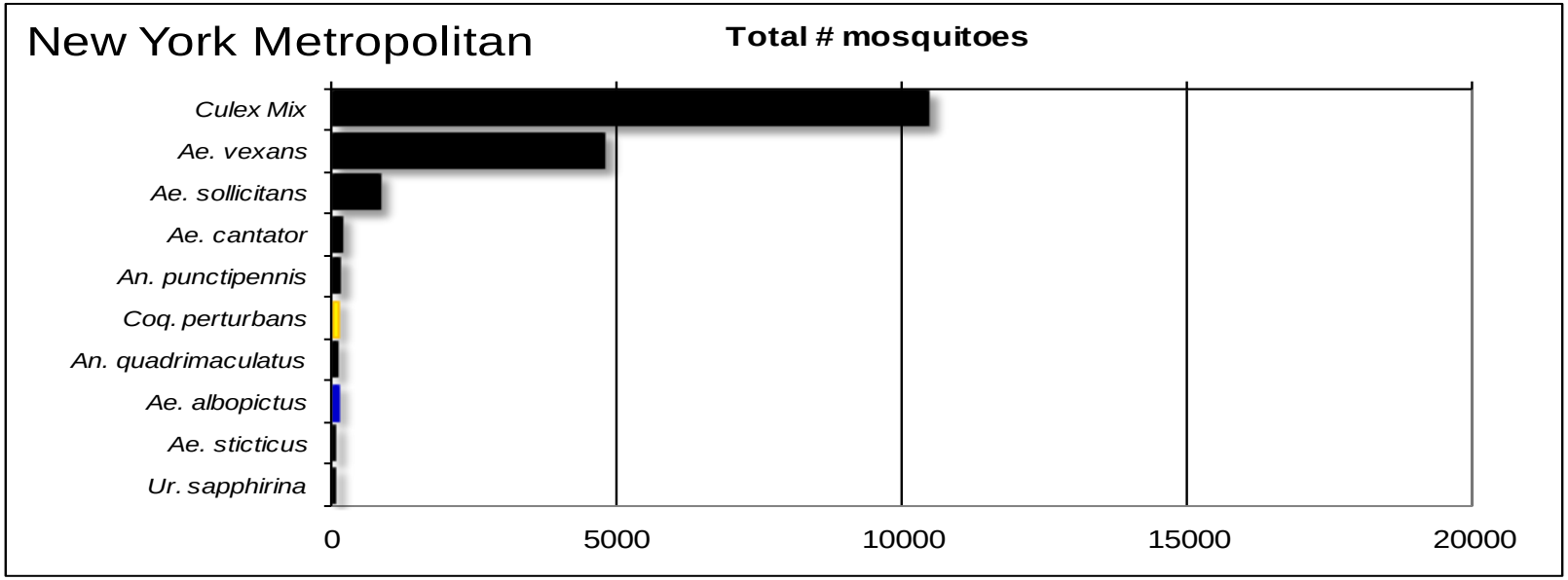


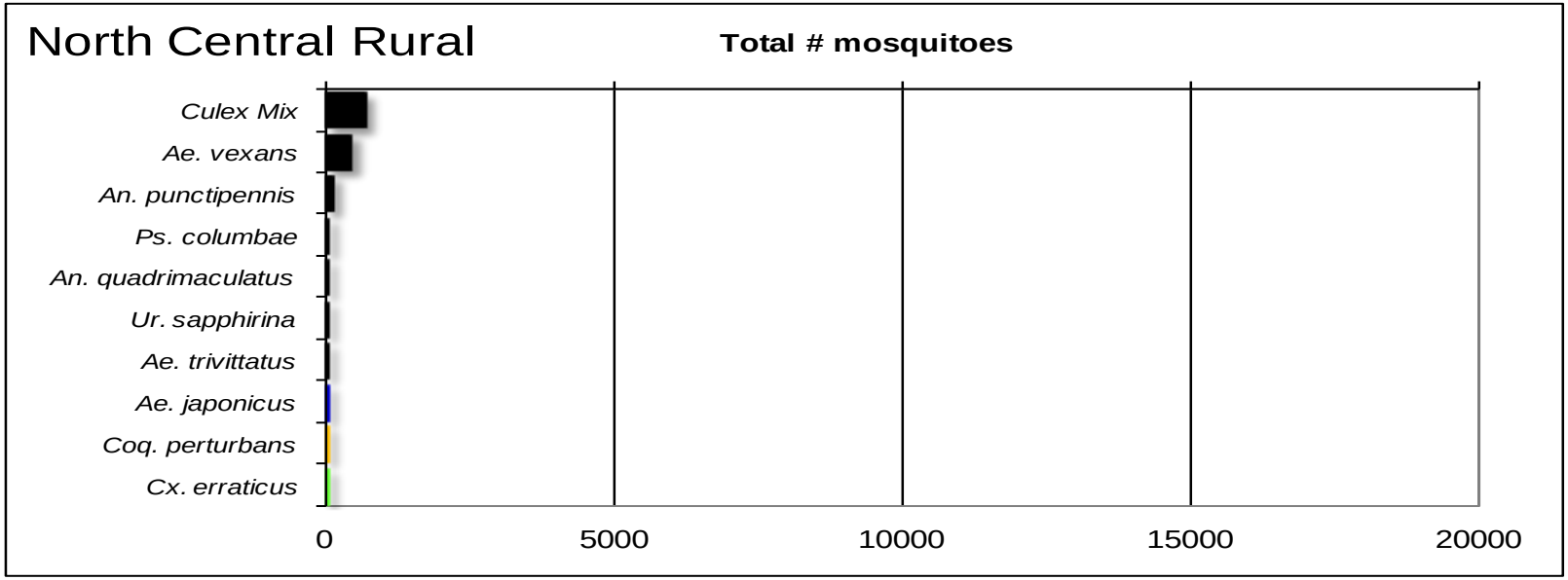
Delaware Bayshore



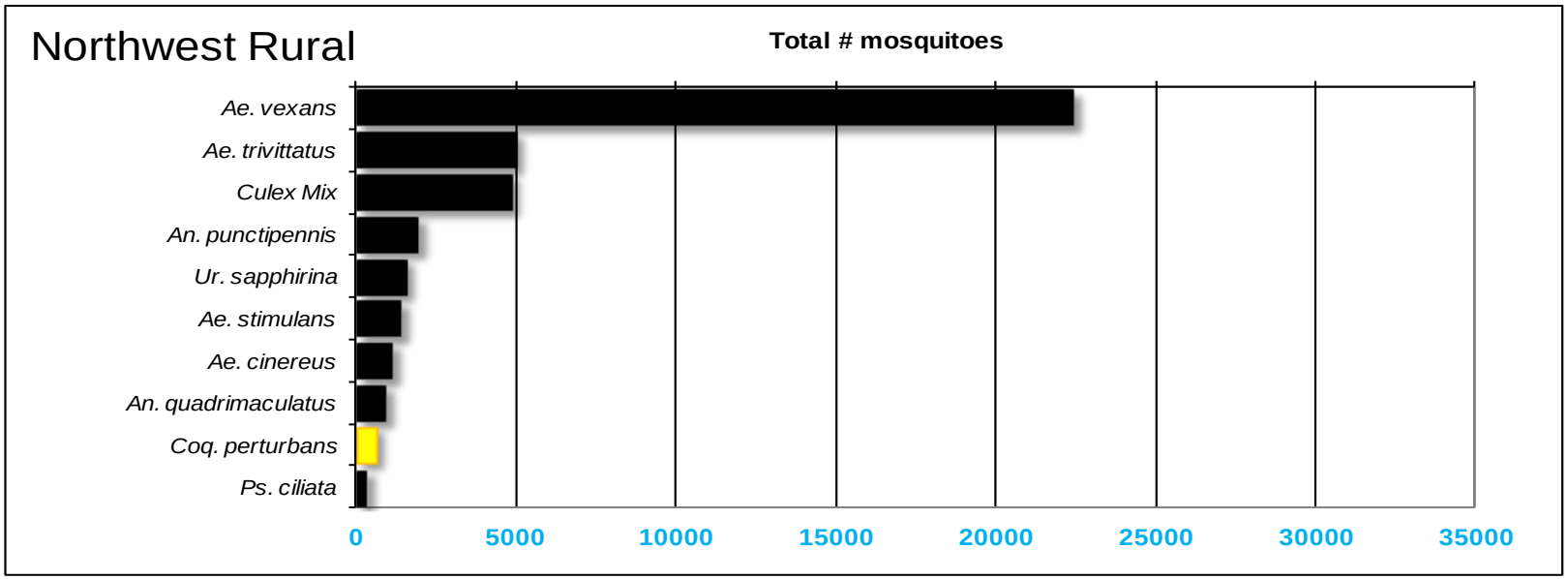
Delaware River Basin



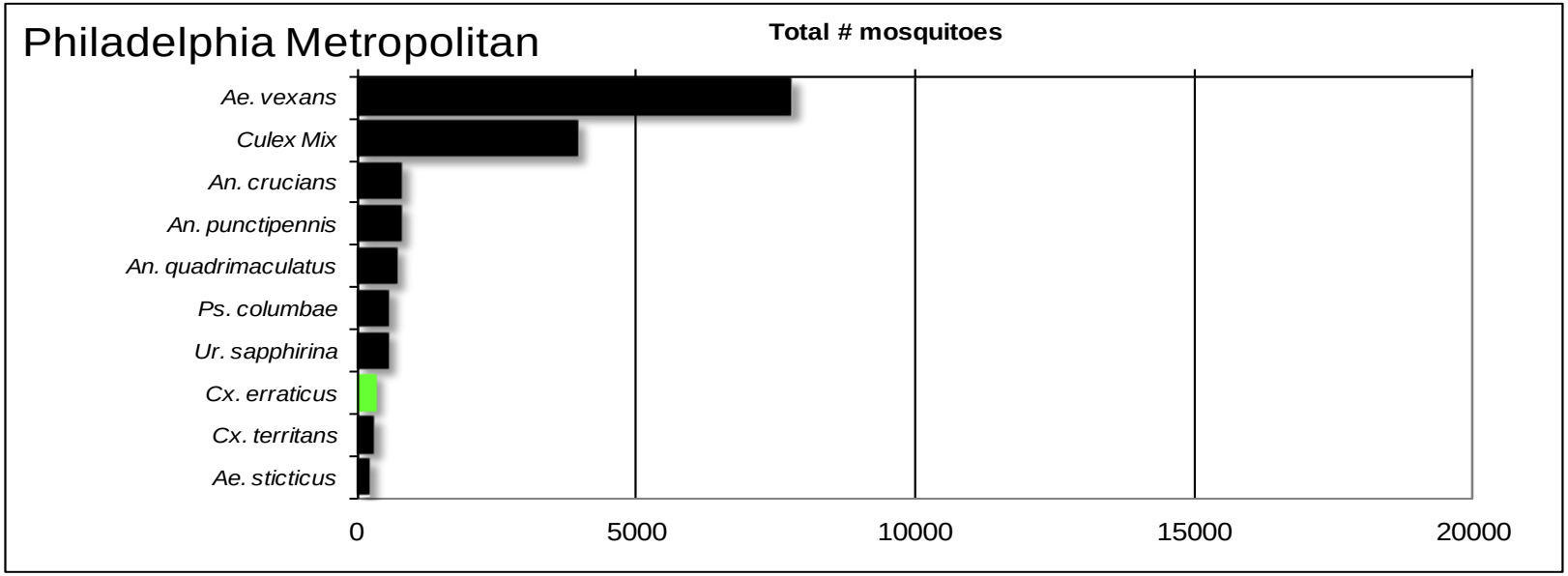

New York Metropolitan
Total # mosquitoes
Culex Mix
Ae. vexans
Ae. sollicitans
Ae. cantator
An. punctipennis
Coq. perturbans
An. quadrimaculatus
Ae. albopictus
Ae. sticticus
Ur. sapphirina
0
5000
10000
15000
20000


North Central Rural
Total # mosquitoes
Culex Mix
Ae. vexans
An. punctipennis
Ps. columbae
An. quadrimaculatus
Ur. sapphirina
Ae. trivittatus
Ae. japonicus
Coq. perturbans
Cx. erraticus
0
5000
10000
15000
20000

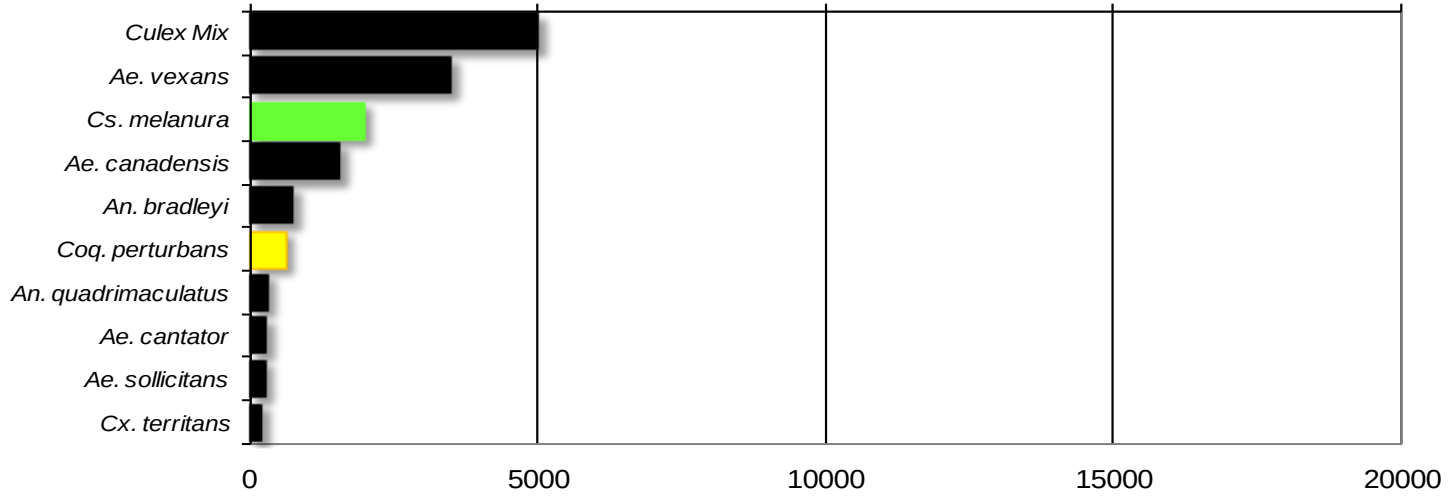
Northwest Rural



Philadelphia Metropolitan



Pinelands



Suburban Corridor