NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 23 October to 29 October 2011, CDC Week 43

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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.

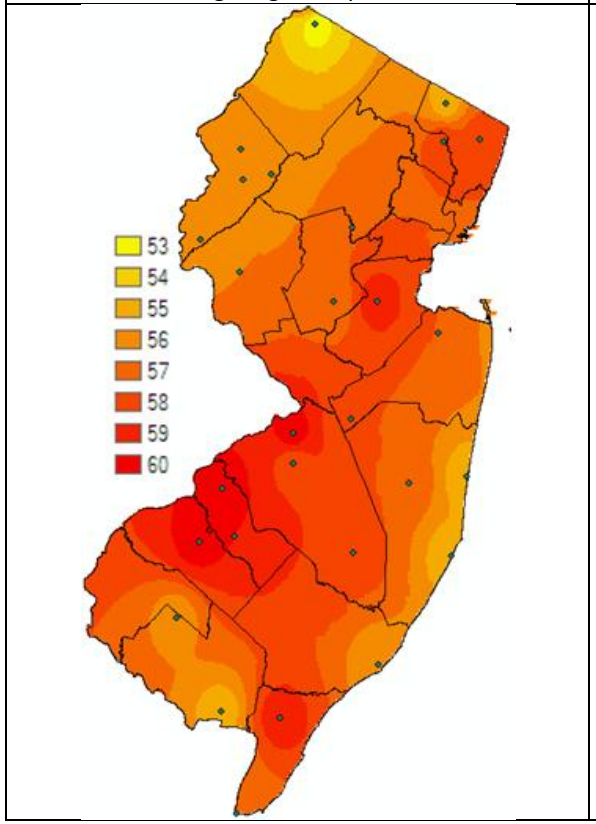
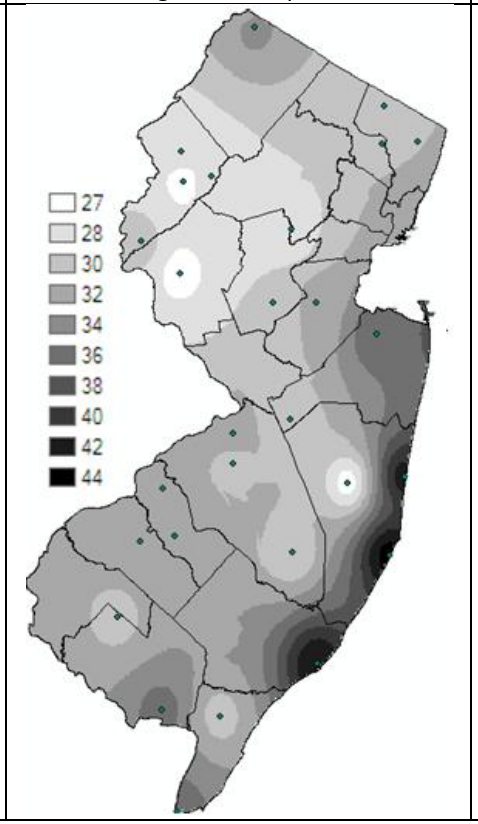
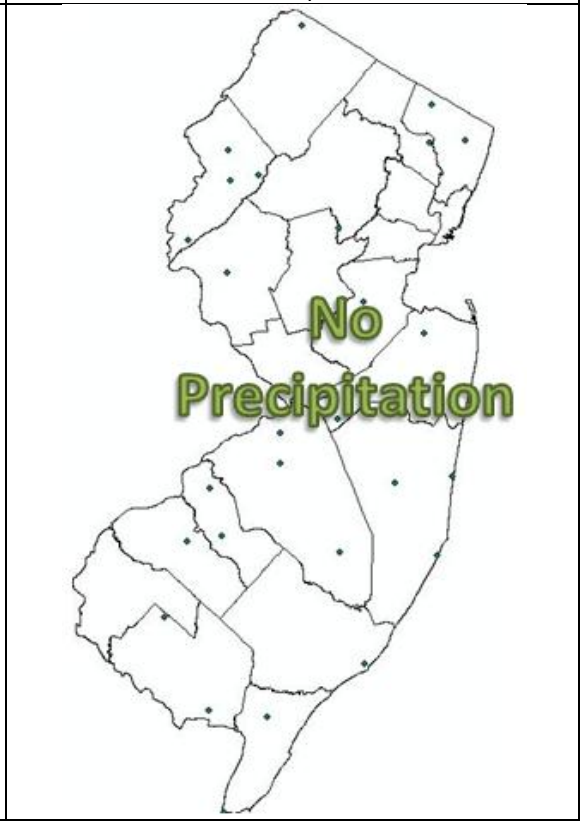
Summary Table – Week 43

	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	**0.07**	**0.17**	**0**	**0.50**	**0.21**	**3**	**0.00**	**0.00**	**0**	**0.00**	**0.06**	**0**
Coastal	**0.08**	**0.09**	**0**	**0.35**	**0.21**	**2**	**0.00**	**0.00**	**0**	**0.00**	**0.10**	**0**
Delaware Bayshore	**0.00**	**0.34**	**0**	**0.00**	**0.60**	**0**	**0.00**	**0.02**	**0**	**0.00**	**0.29**	**0**
Delaware River Basin	**0.00**	**0.16**	**0**	**0.21**	**0.02**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
New York Metro	**0.03**	**0.05**	**0**	**0.60**	**0.17**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
North Central Rural	**0.00**	**0.01**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Northwest Rural	**5.14**	**0.05**	**4**	**6.71**	**0.07**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**0.21**	**0.64**	**0**	**0.50**	**0.08**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Pinelands	**0.09**	**0.08**	**1**	**0.36**	**0.04**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.16**	**0**
Suburban Corridor	**0.01**	**0.15**	**0**	**0.12**	**0.11**	**1**	**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 in the increase column denote increases from an historic zero and thus no value can be appropriately given.

State Summary: *Aedes vexans* and *Culex* populations continue to drop in most regions. High activity is still seen in the Northwestern Rural for both groups, whereas numbers for all other regions have fallen below an average of 1 per trap per night.

Climate Factors

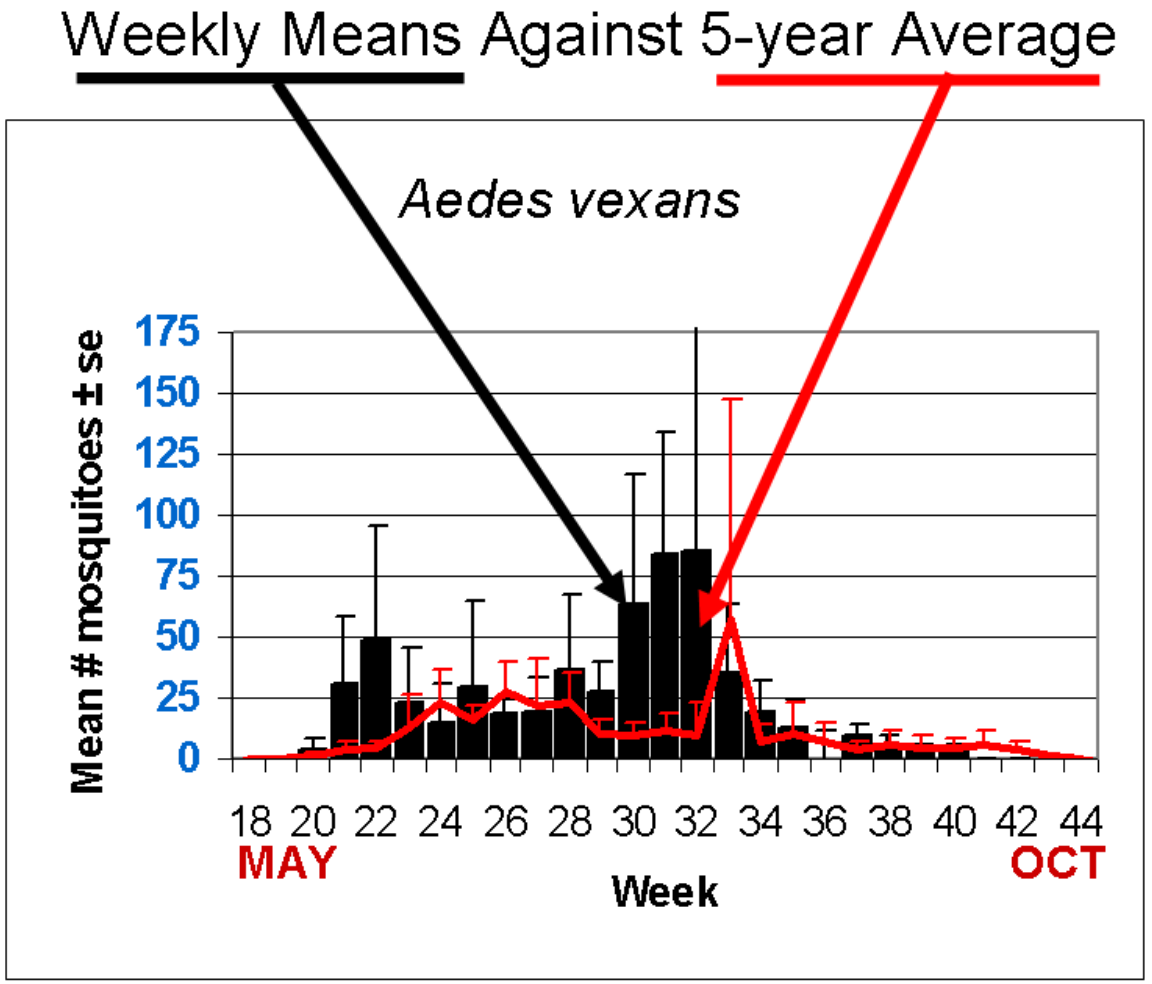
Average High Temperature	Average Low Temperature	Total Precipitation
		

The three figures show the interpolation of average maximum and minimum temperature and total precipitation through 1 November to 3 November, 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.

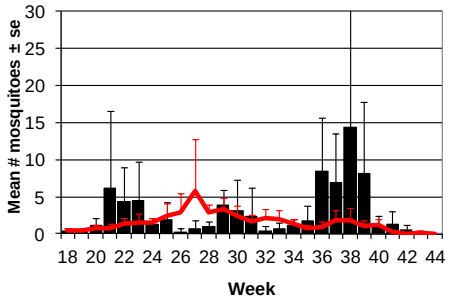
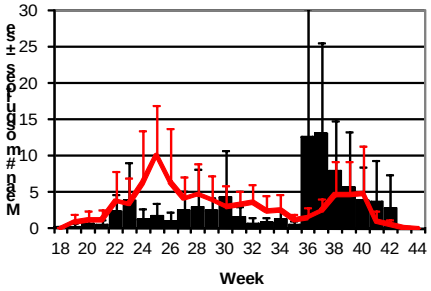
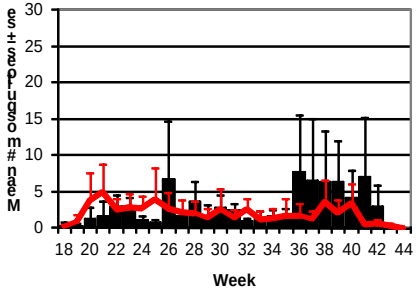
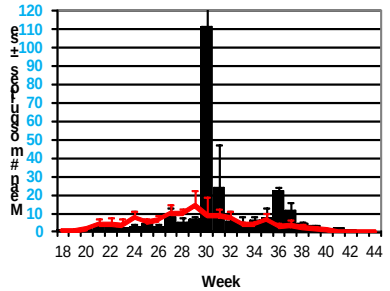
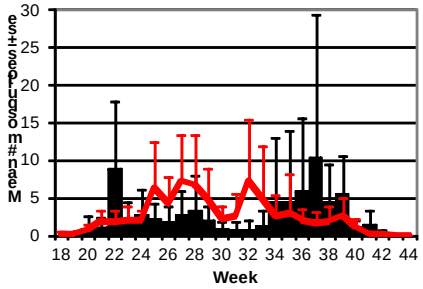
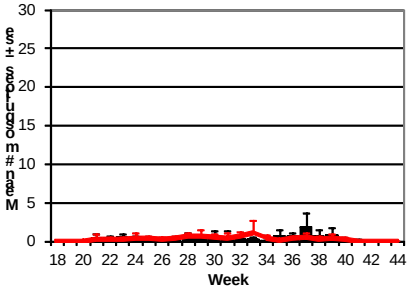
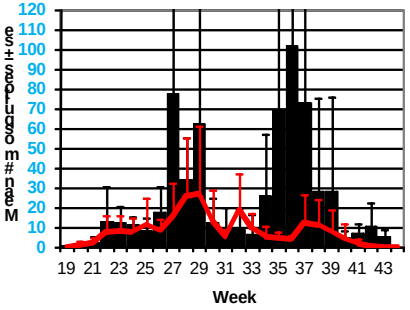
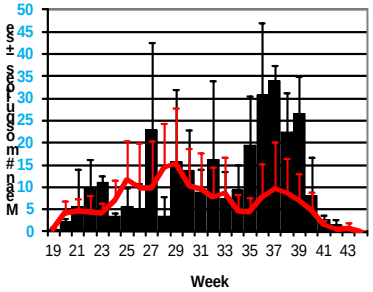
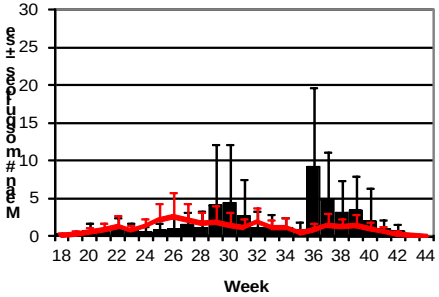
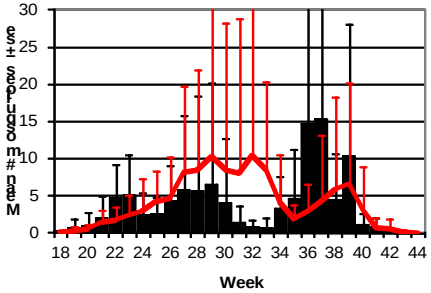
Both average high and low temperatures fell considerably after the passing of a recent 29-Oct cold front that brought significant snow fall to much of the state.

NJ Weather & Climate NETWORK ONJSC at Rutgers University

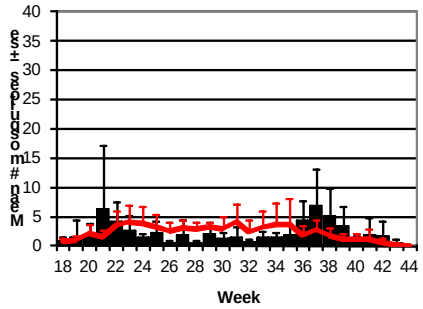
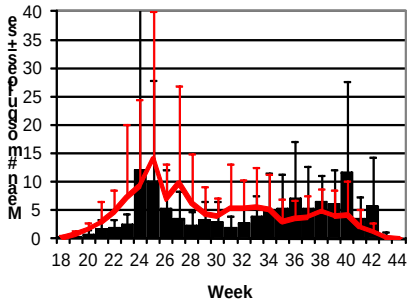
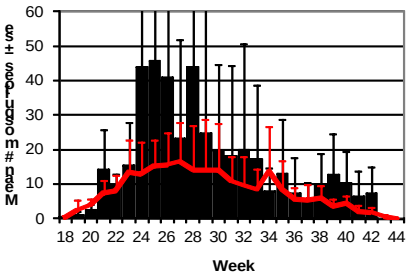
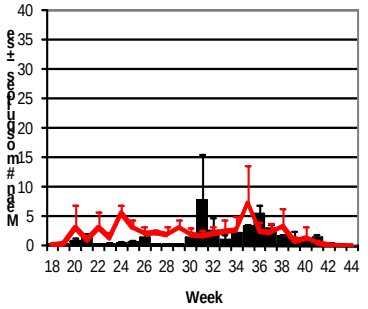
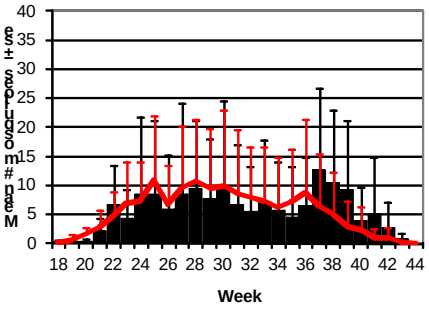
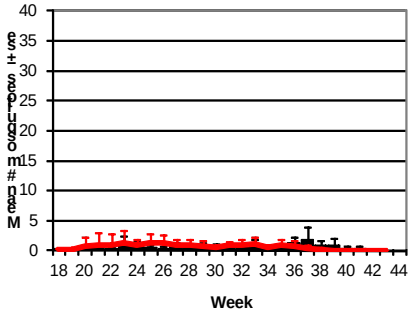
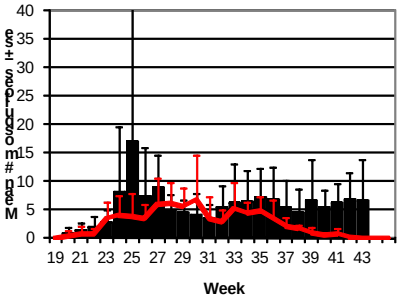
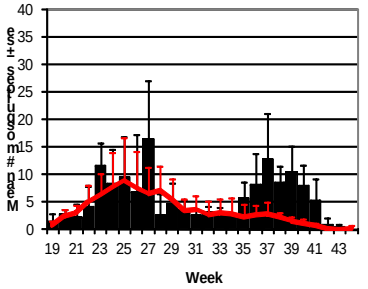
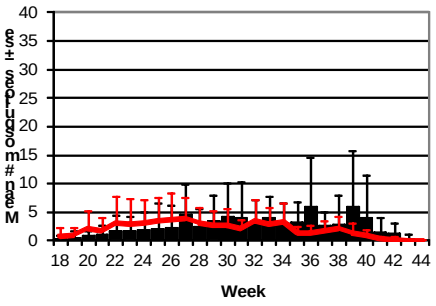
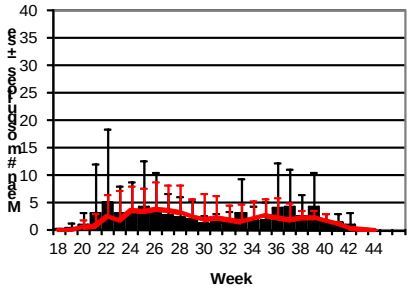
The Species Graphs: The species graph pages include a graph with two plots for each of the ten regions defined on the first page (Agricultural, Coastal, Delaware Bayshore, Delaware River, New York Metro, North-Central, Northwestern, Philadelphia Metro, Pinelands, and Suburban Corridor). Below is an example 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 Bergen, Burlington, Essex, Middlesex, Monmouth, Salem, Sussex and Warren counties. Previous week included Atlantic, Bergen, Burlington, Cape May, Essex, Middlesex, Monmouth, Salem, 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.



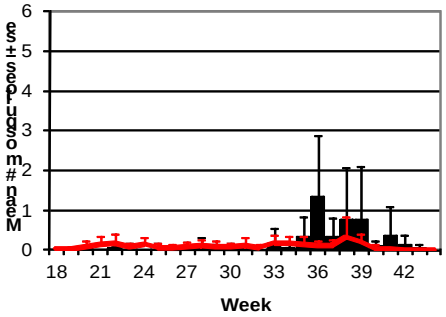
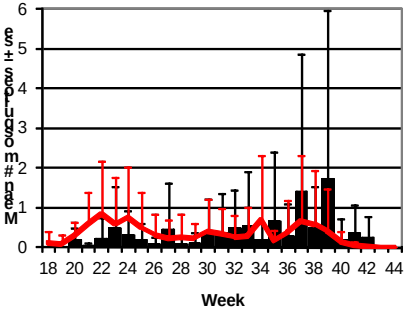
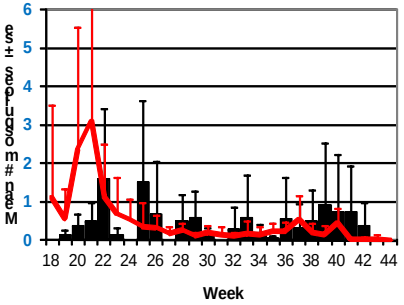
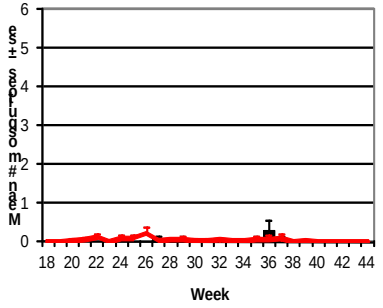
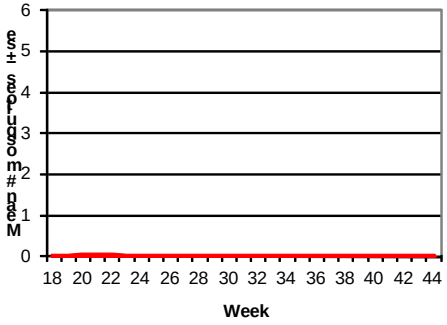
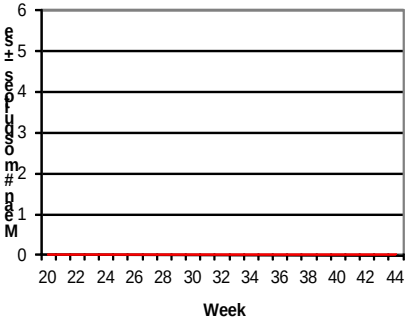
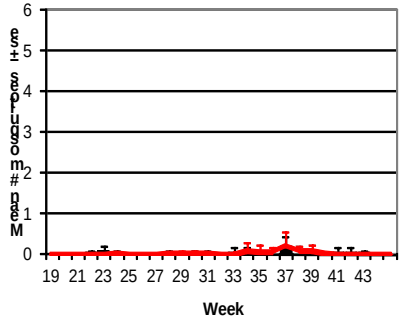
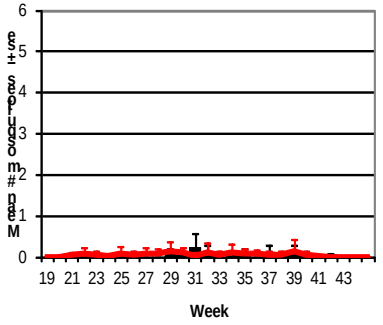
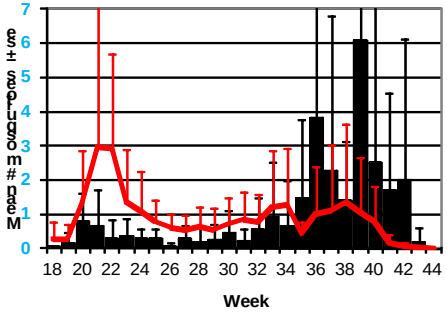
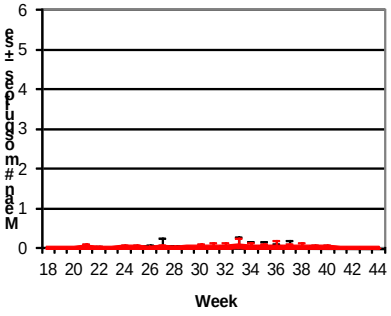
Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* populations levels are finally decreasing, partially due, no doubt to the end of the season as well as mosquito control agencies, particularly in the north, ending their own surveillance for the season. The Northwest Rural (also for *Culex*, see next page) is showing much higher numbers, from several sites of both agencies that contribute for this region.	

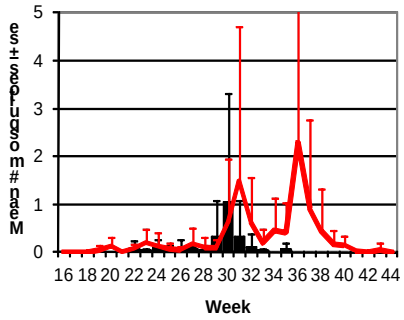
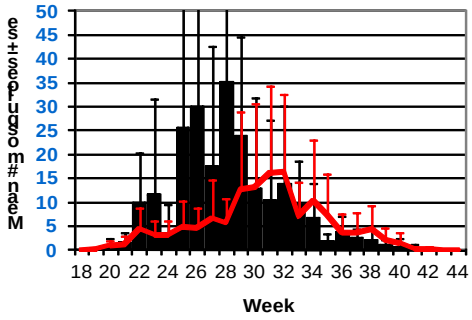
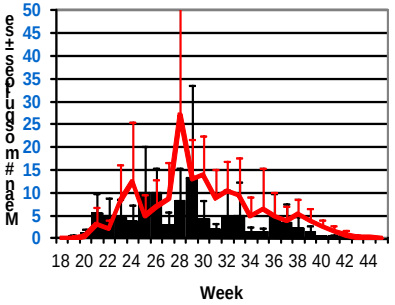
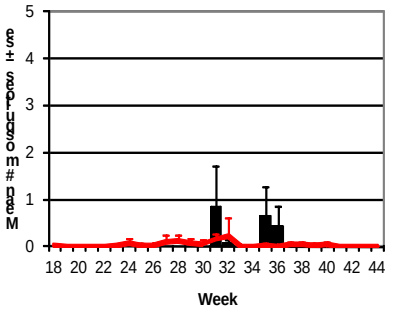
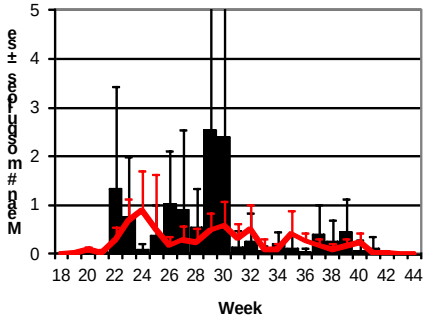
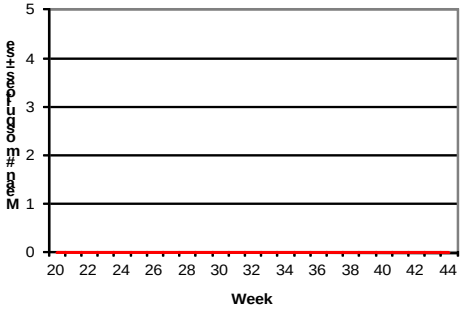
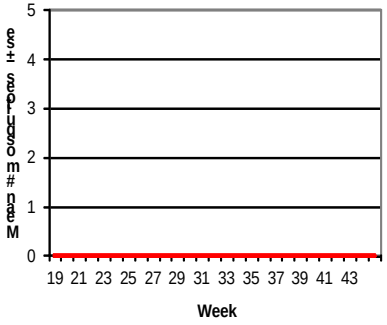
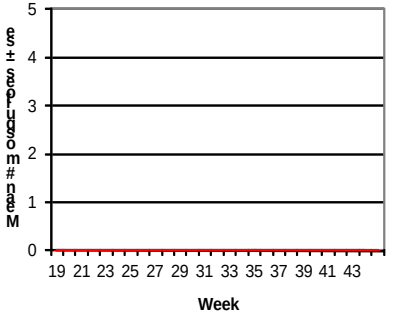
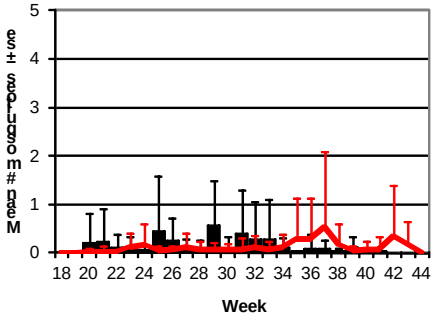
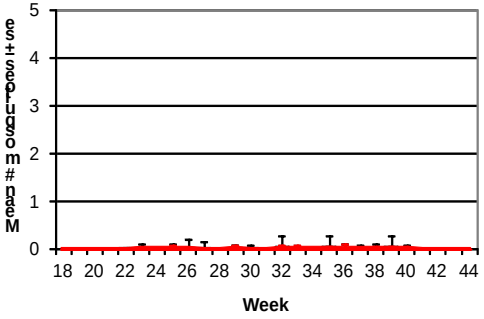
Culex Mix – Permanent Water Species
Multivoltine *Culex/Anopheles* (*Cx. pipiens* Type)

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. This complex is showing significant late season activity (likely stopped at the end of this CDC week), and is particularly noteworthy in the Northwestern Rural region where numbers have been consistent at one particular site.	

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 slightly above historical trends in the Pineland region.	

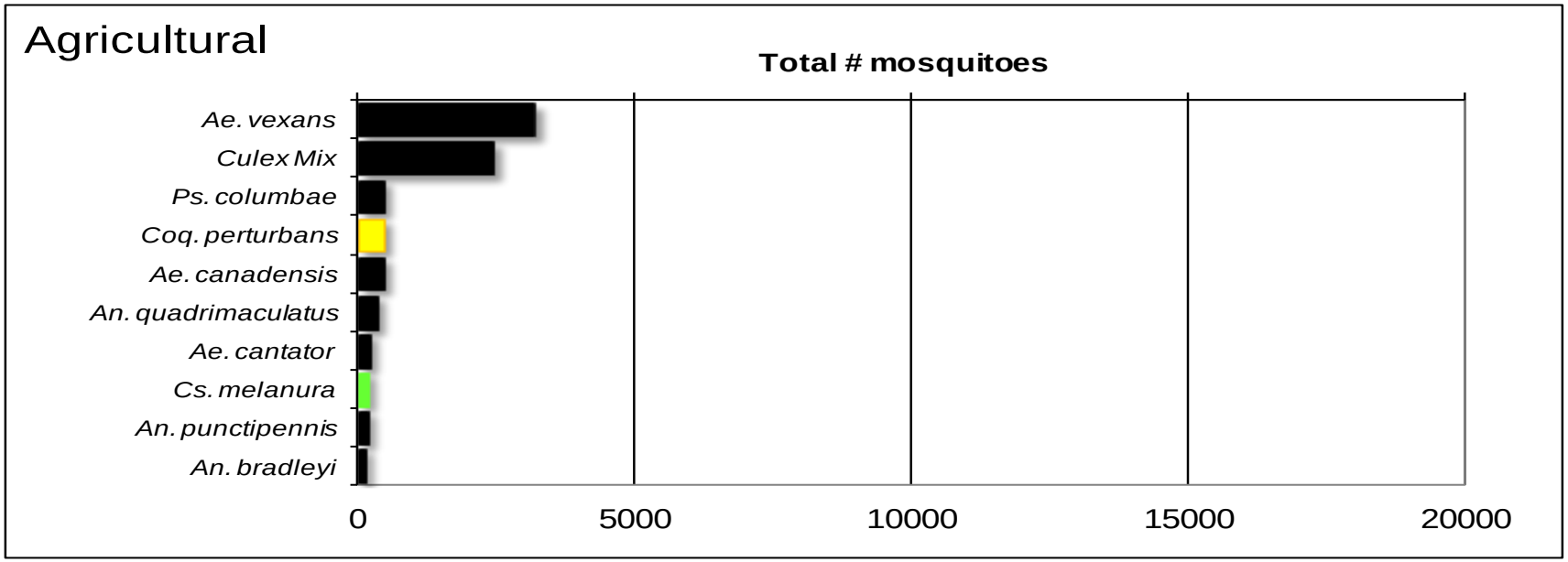
Aedes sollicitans - Salt Floodwater Species
Multivoltine Aedine (*Ae. sollicitans* Type)

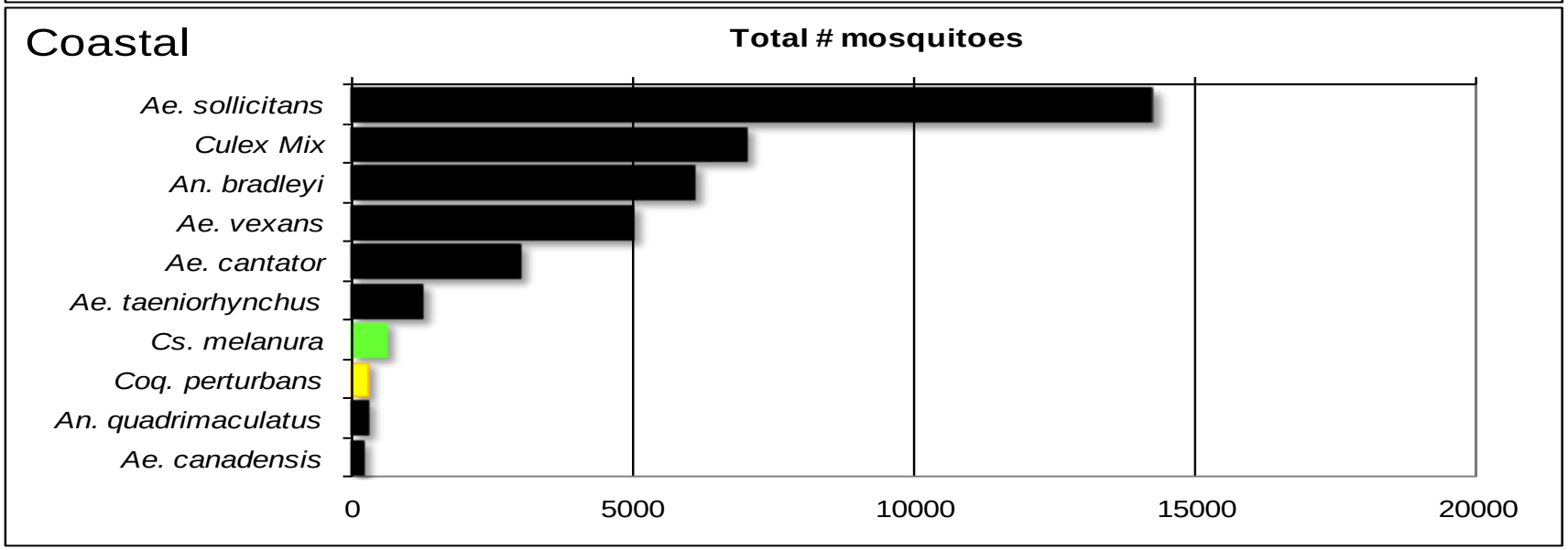
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* continue their seasonal decline. There appeared to be five emergences detected in the Coastal, Delaware Bayshore and New York Metropolitan regions.	

WNV *EEE*

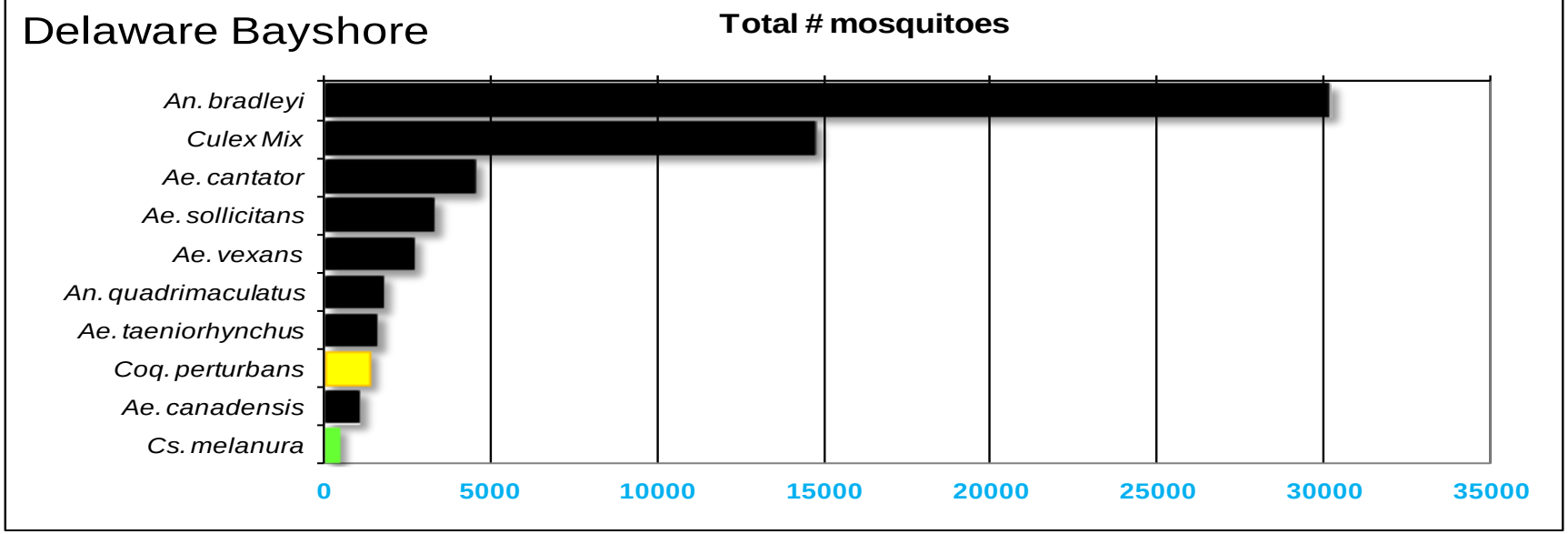
Top Ten Mosquito Species/Region - *Ae. albopictus,* *Ae. japonicus (invasives);* *Cs. melanura or Cx. erraticus* *Coq. perturbans*

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

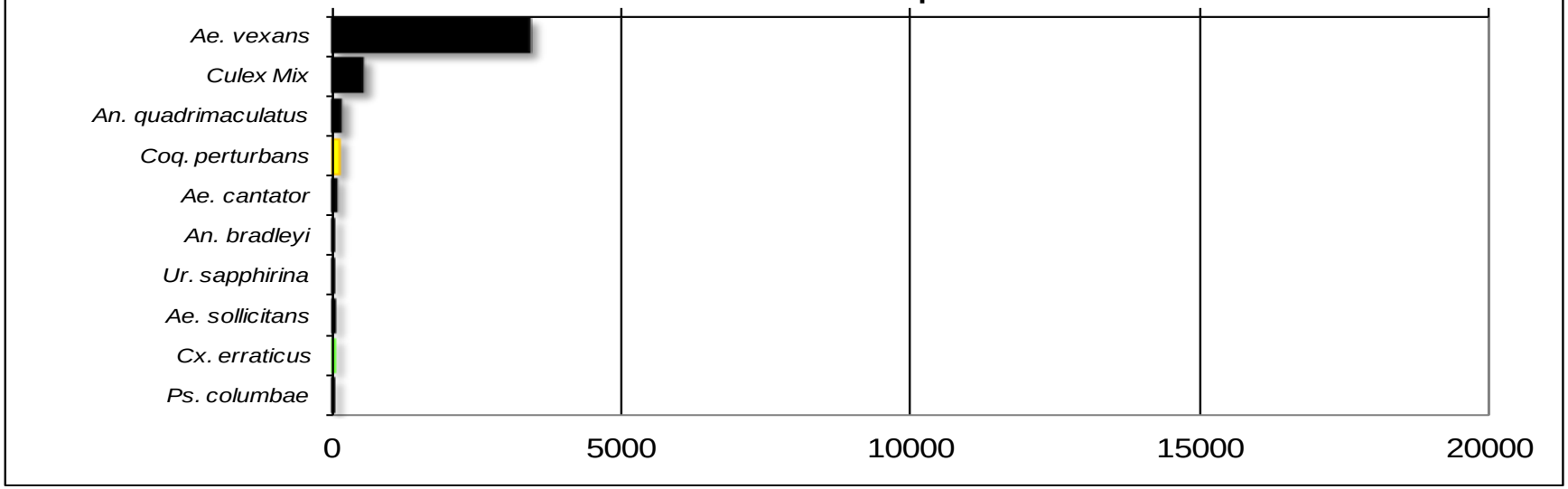


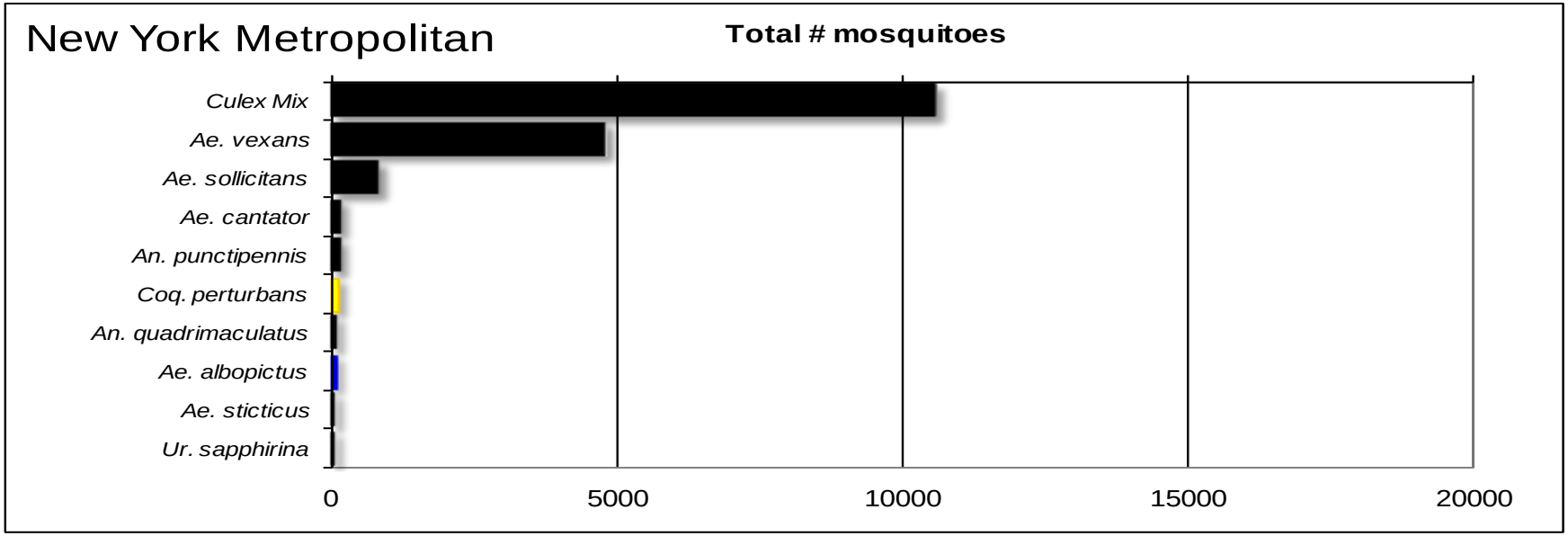


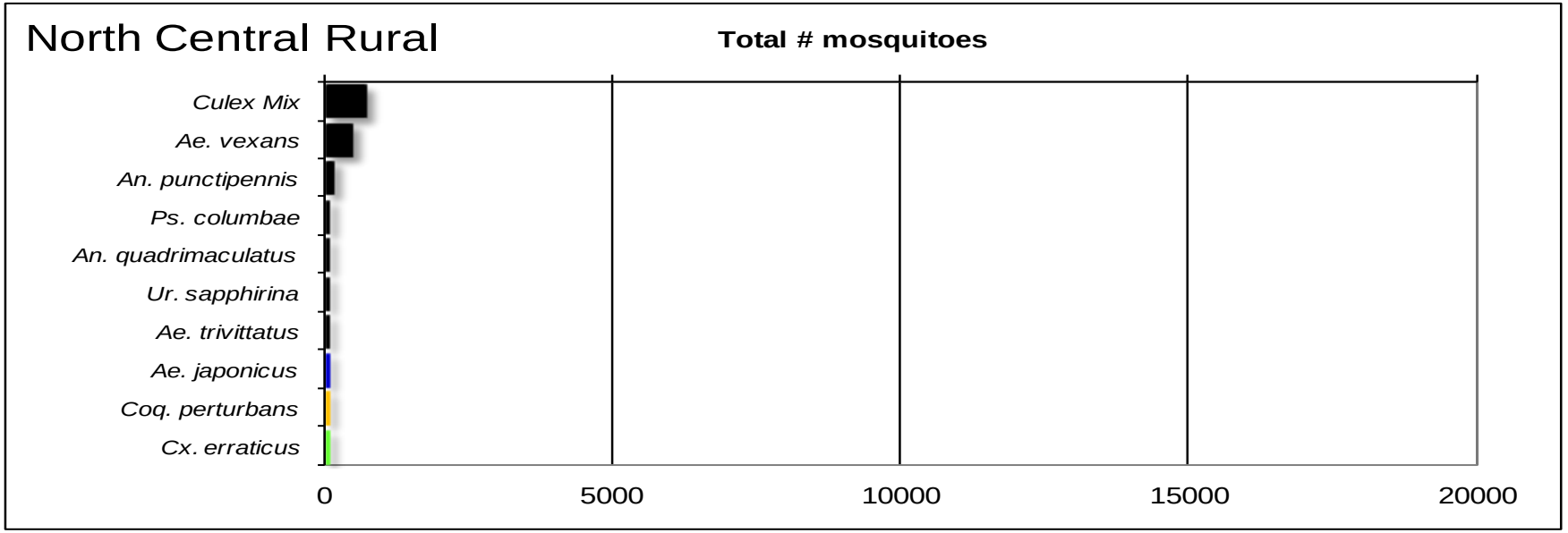
Delaware Bayshore



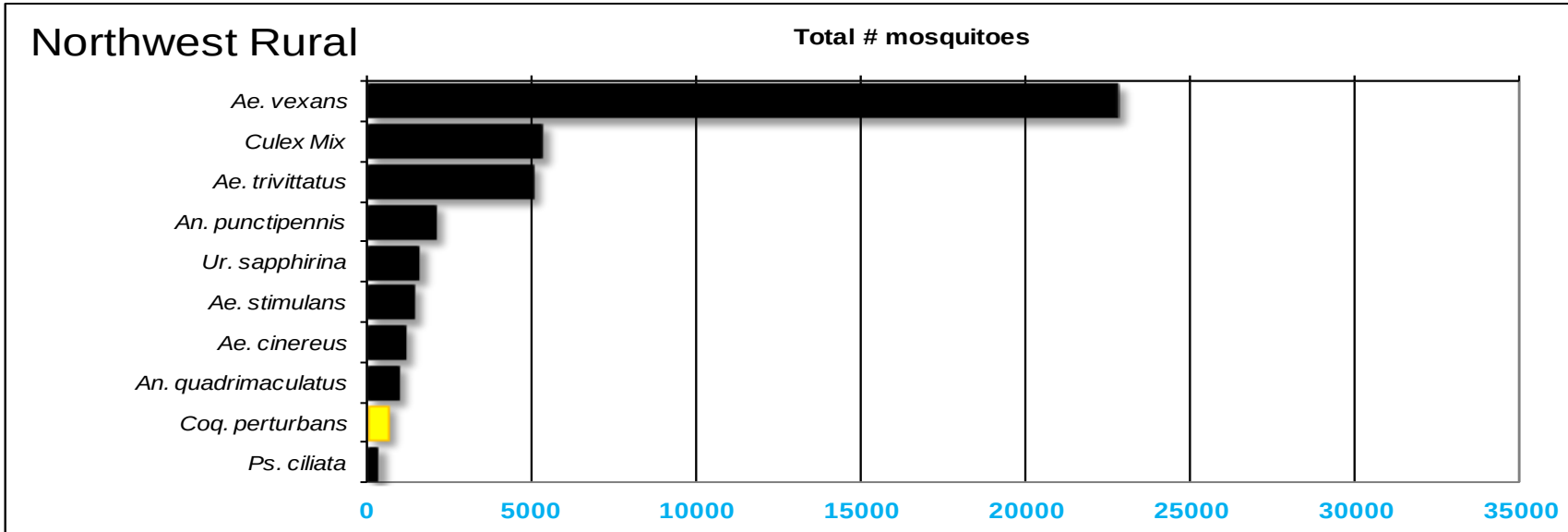
Delaware River Basin



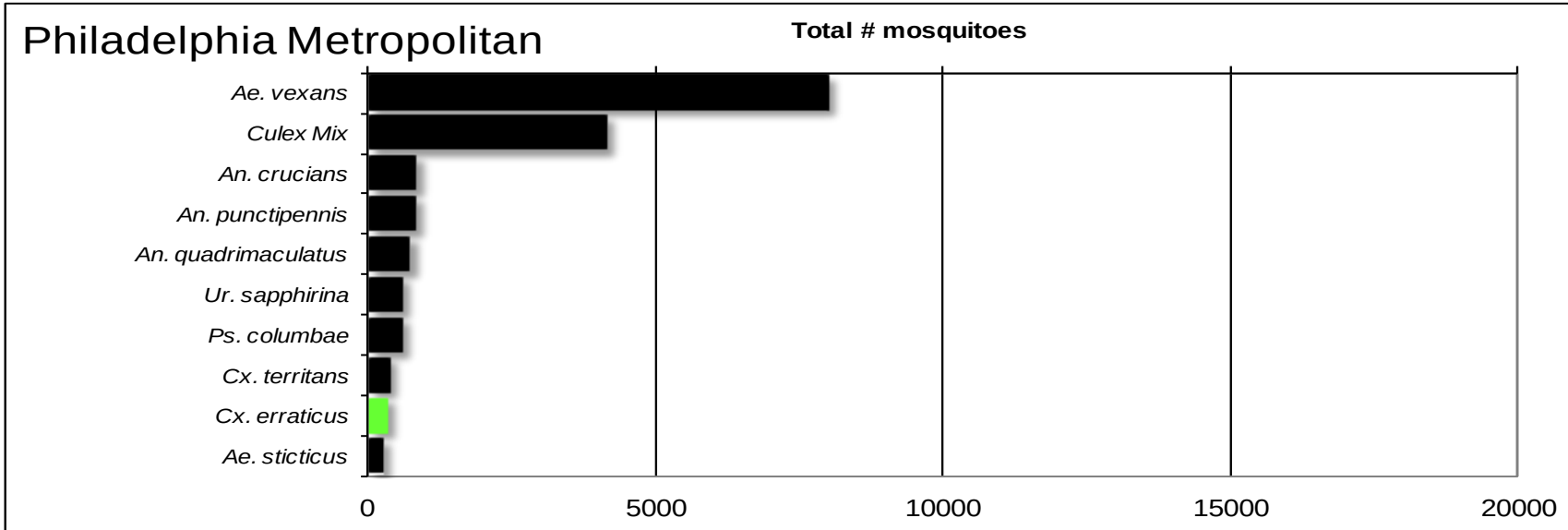

New York Metropolitan
Total # mosquitoes
Culex Mix
Ae. vexans
Ae. sollicitans
Ae. cantator
An. punctipennis
Coq. perturbans
An. quadrimaculatus
Ae. albopictus
Ae. sticticus
Ur. sapphirina
0
5000
10000
15000
20000


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

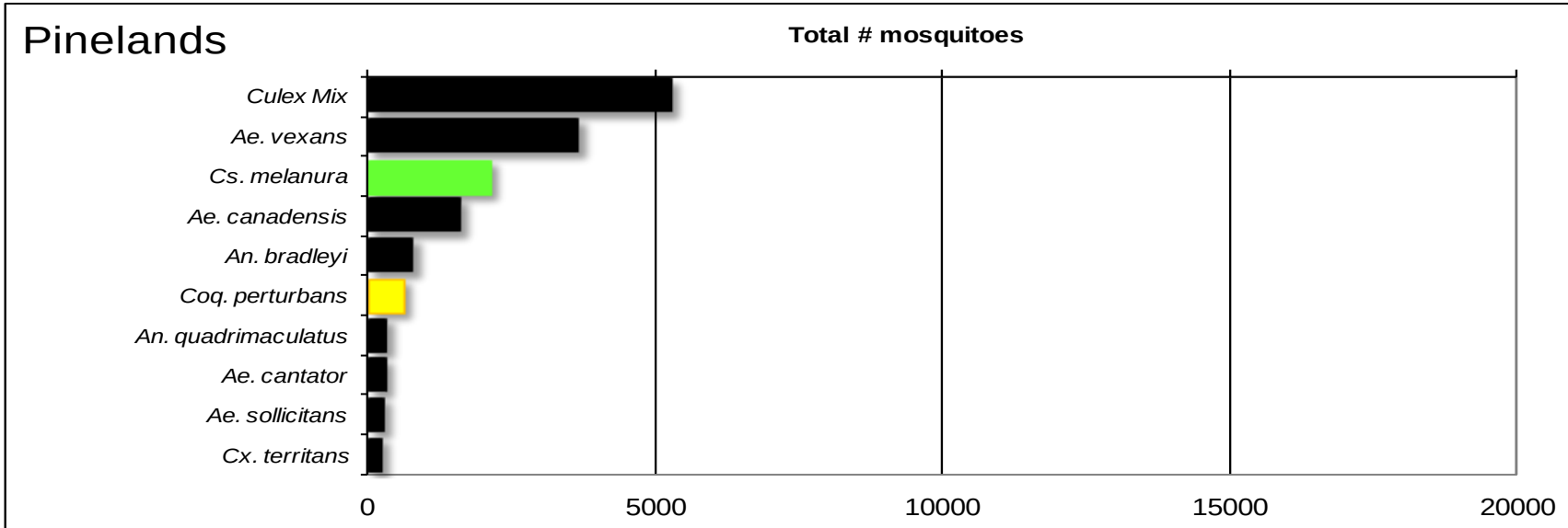
Northwest Rural



Philadelphia Metropolitan



Pinelands



Suburban Corridor