NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 30 October to 5 November 2011, CDC Week 44

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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 44

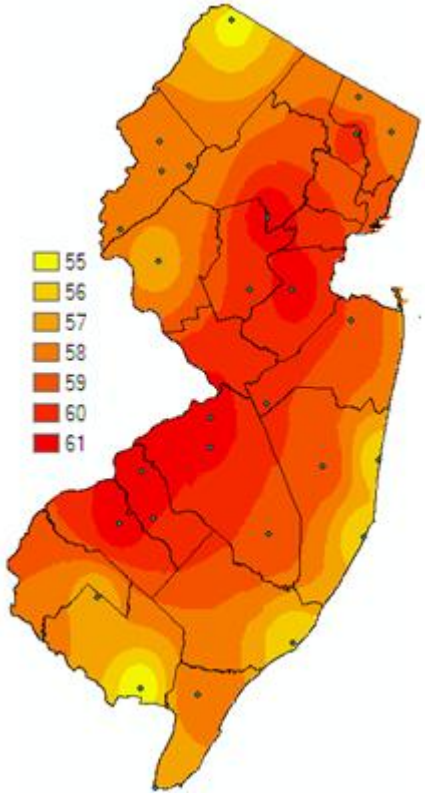
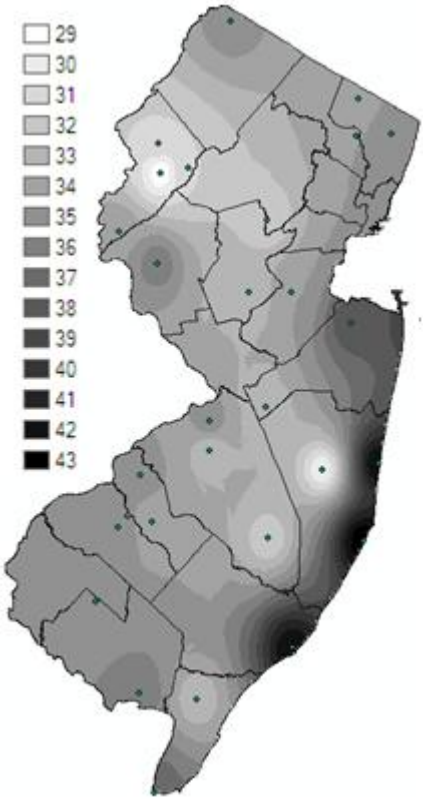
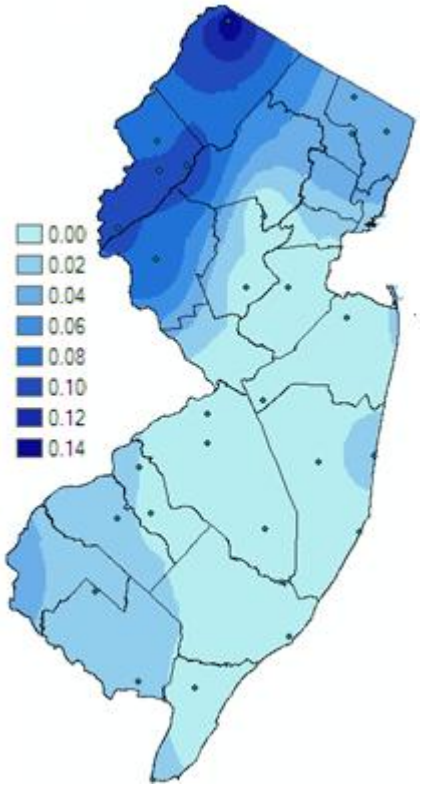
	Aedes vexans			***Culex* Mix**			***Coquillettidia perturbans***			***Aedes sollicitans***		
Region	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase
Agricultural	**0.00**	**<0.01**	**0**	**0.00**	**0.01**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Coastal	**0.00**	**0.00**	**0**	**0.05**	**0.03**	**2**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Delaware Bayshore	**nd**	**0.02**	**0**	**nd**	**0.02**	**0**	**nd**	**0.15**	**0**	**nd**	**0.23**	**0**
Delaware River Basin	**nd**	**0.00**	**0**	**nd**	**0.00**	**0**	**nd**	**0.00**	**0**	**nd**	**0.00**	**0**
New York Metro	**nd**	**<0.01**	**0**	**nd**	**0.03**	**0**	**nd**	**0.00**	**0**	**nd**	**0.00**	**0**
North Central Rural	**nd**	**nd**	**0**	**nd**	**0.00**	**0**	**nd**	**0.00**	**0**	**nd**	**0.00**	**0**
Northwest Rural	**nd**	**0.07**	**0**	**nd**	**<0.01**	**0**	**nd**	**0.00**	**0**	**nd**	**0.00**	**0**
Philadelphia Metro	**0.00**	**0.10**	**0**	**0.07**	**0.23**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Pinelands	**0.00**	**<0.01**	**0**	**0.19**	**0.06**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Suburban Corridor	**0.00**	**<0.01**	**0**	**0.00**	**0.09**	**0**	**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. nd=no data reported.

State Summary: Most county mosquito control agencies have finished this season prior to this week. This week is represented by only one agency and thus the numbers are not representative.

This is the last report of the season.

Climate Factors

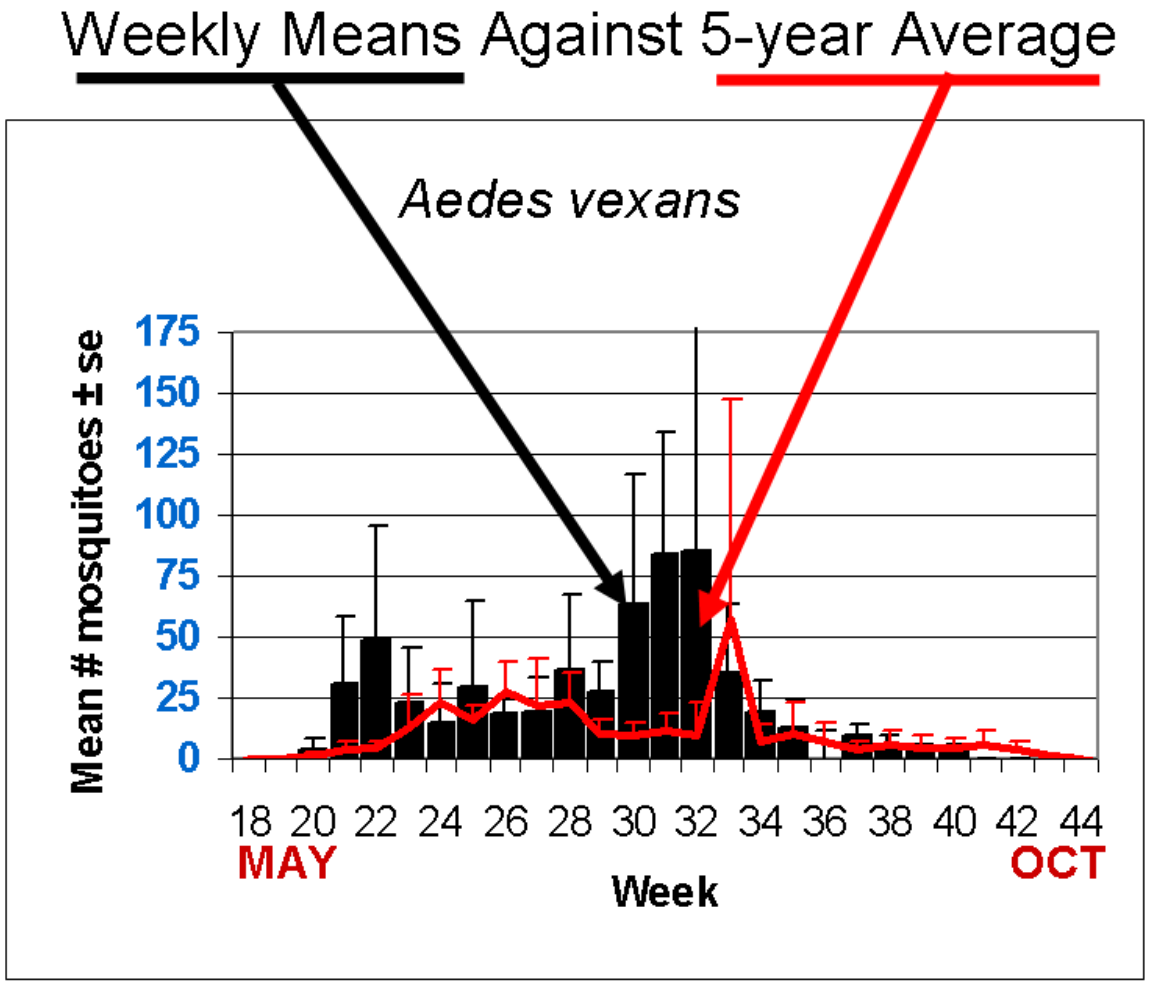
Average High Temperature	Average Low Temperature	Total Precipitation
		

The three figures show the interpolation of average maximum and minimum temperature and total precipitation through 1 November to 11 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.

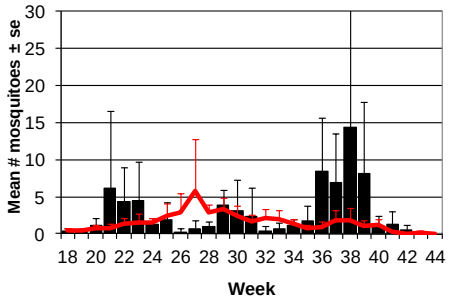
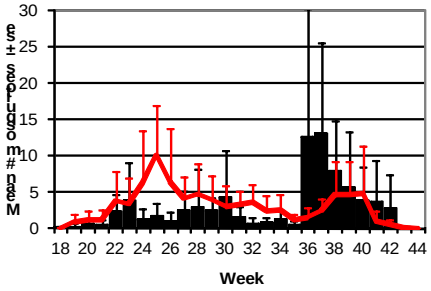
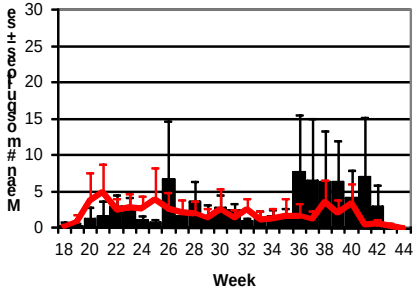
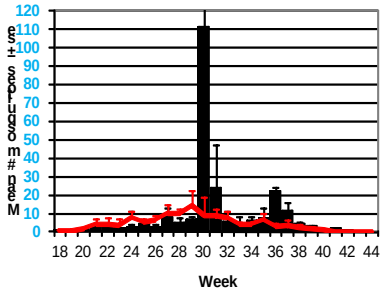
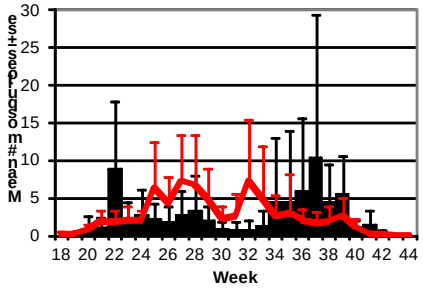
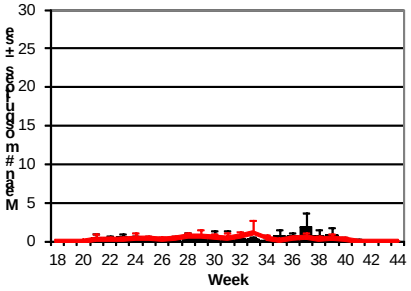
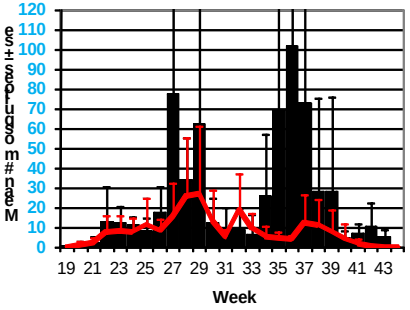
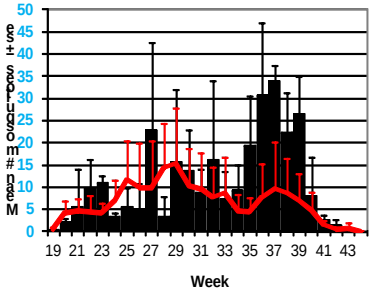
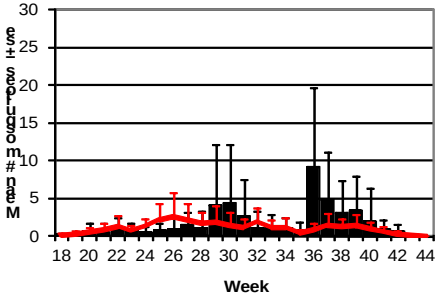
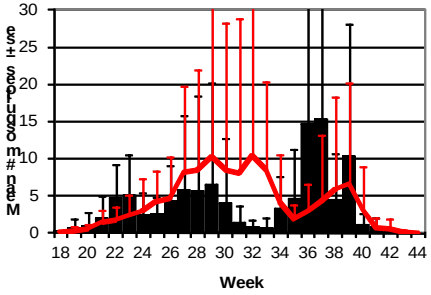
Average High and low temperatures increased slightly from the previous week. Precipitation remained minimal for the month of November.

NJ Weather & Climate NETWORK ONJSC at Rutgers University

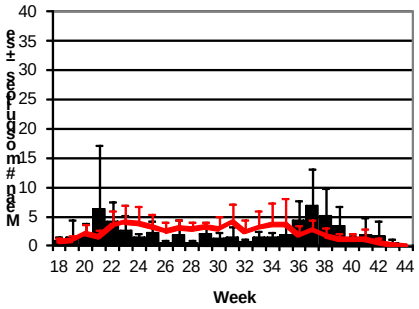
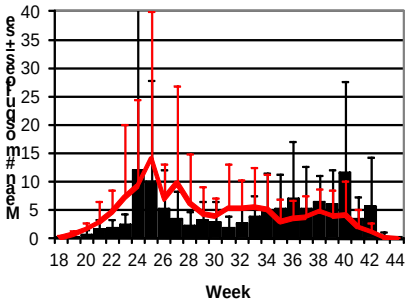
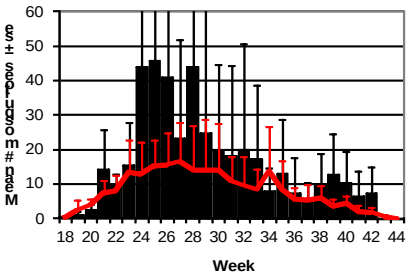
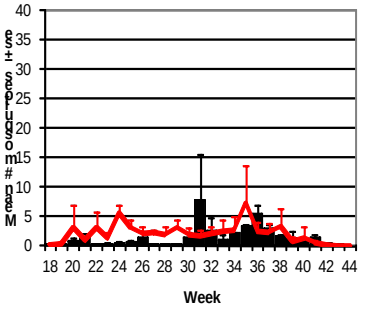
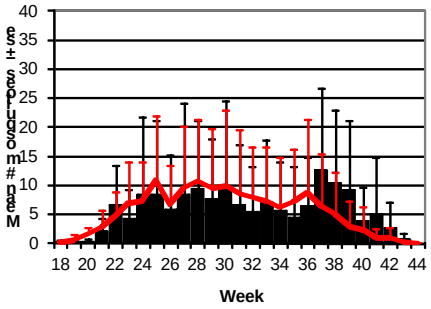
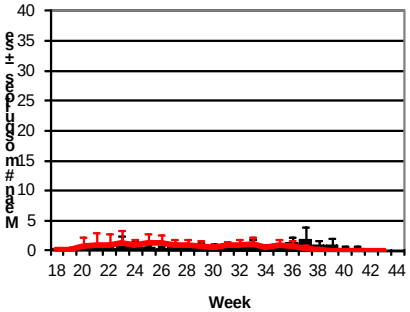
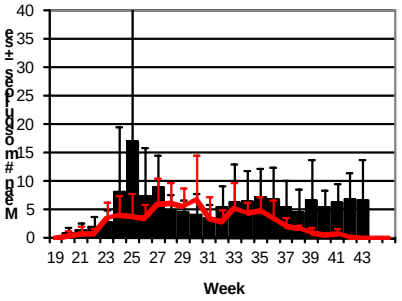
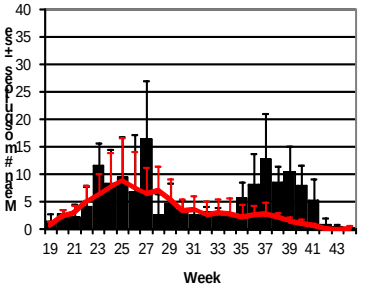
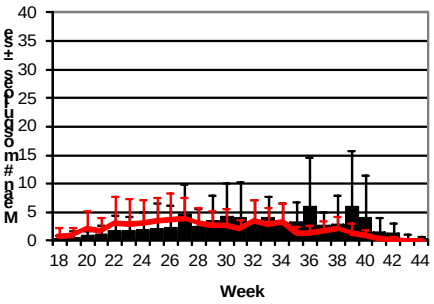
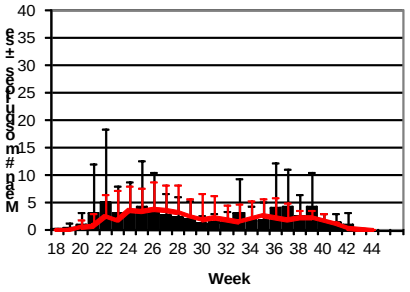
The Species Graphs: The species graph pages include a graph with two plots for each of the ten regions defined on the first page (Agricultural, Coastal, Delaware Bayshore, Delaware River, New York Metro, North-Central, Northwestern, Philadelphia Metro, Pinelands, and Suburban Corridor). Below is an example 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 Burlington County. 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. Most counties have brought in their light traps for the season, particularly in the north.



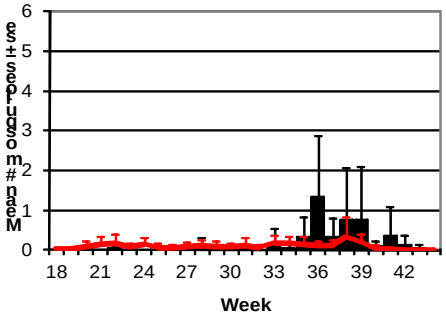
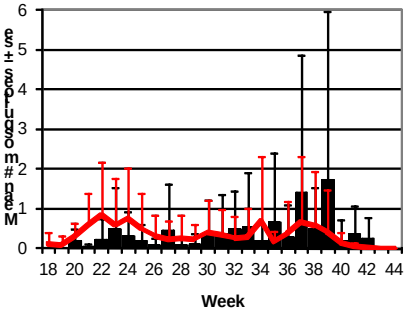
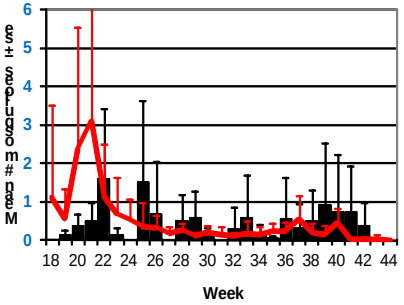
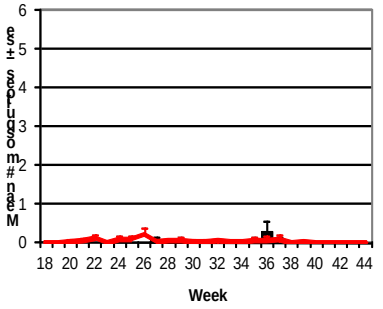
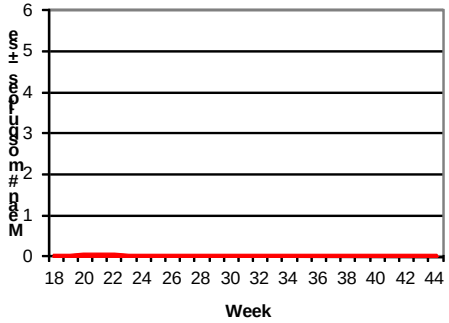
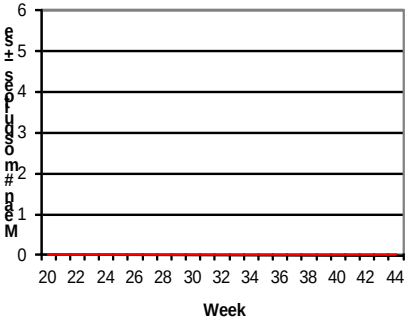
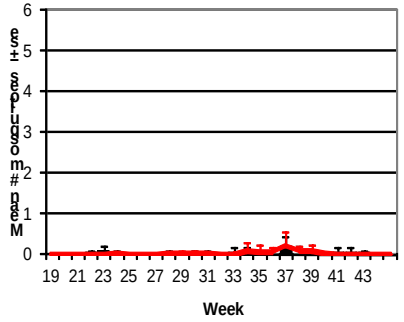
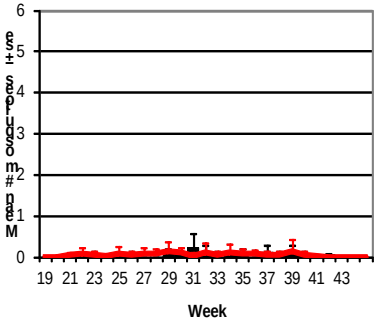
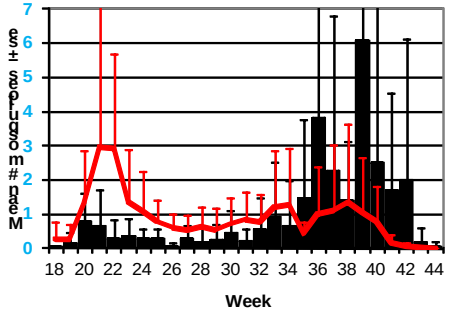
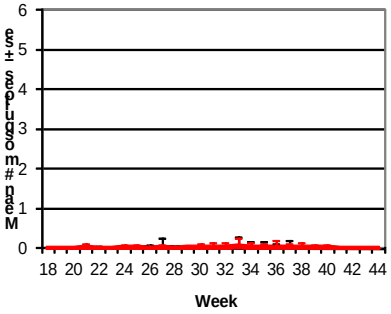
Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* population levels have decreased as the season draws to a close.	

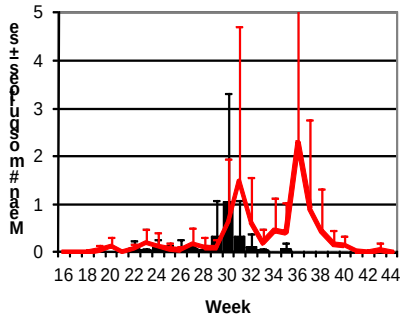
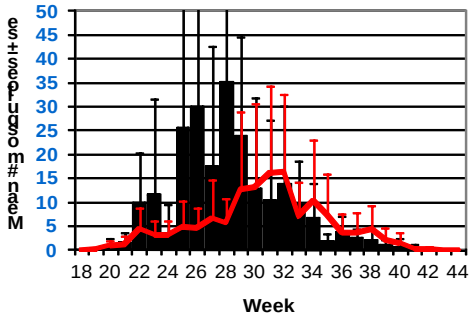
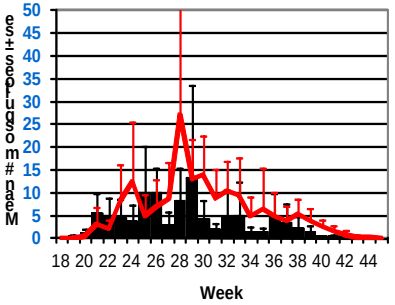
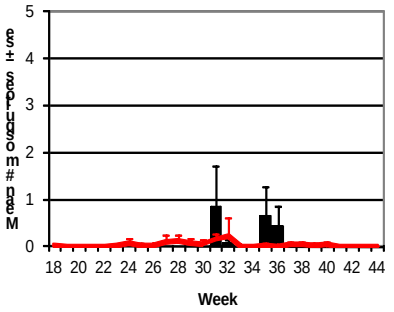
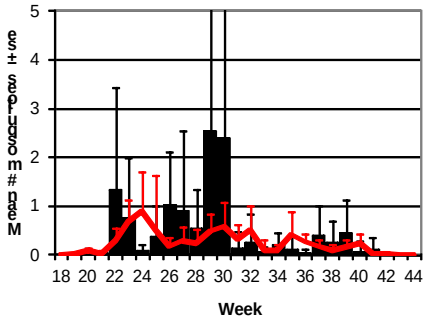
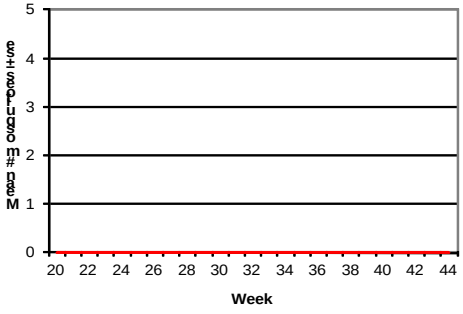
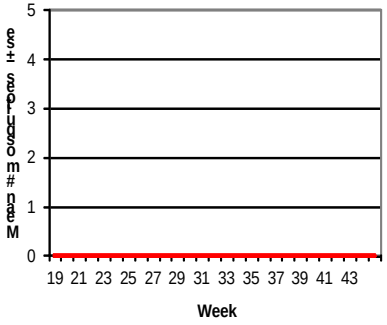
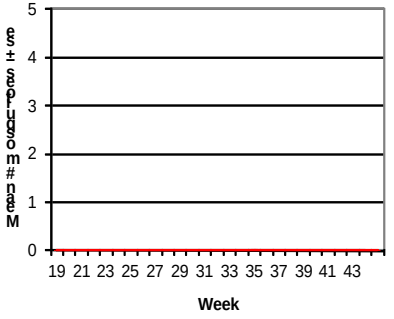
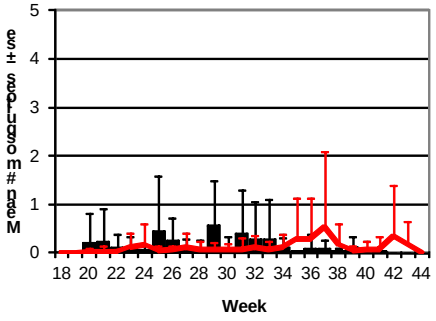
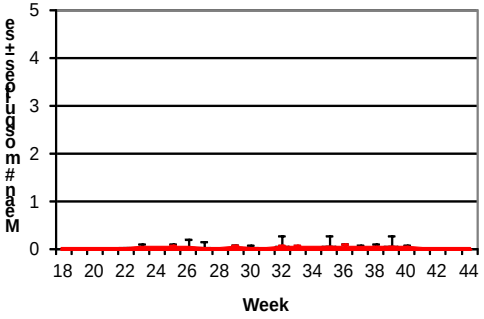
Culex Mix – Permanent Water Species
Multivoltine *Culex/Anopheles* (*Cx. pipiens* Type)

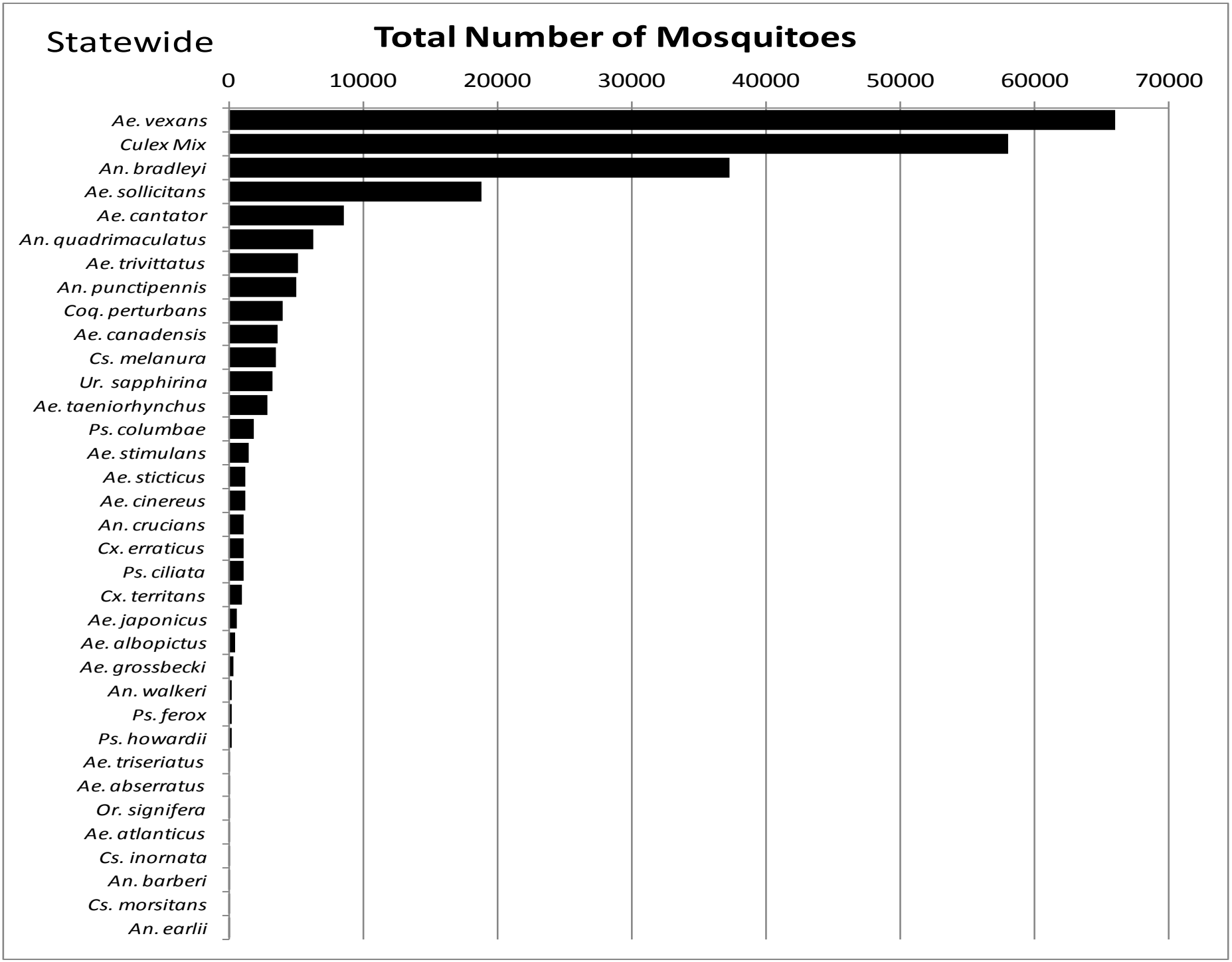
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culex* Mix is composed of *Culex pipiens, Cx. restuans* and *Cx. salinarius*. These three species (especially *pipiens* and *restuans*) are often difficult to tell apart after encountering the damaging blades of the New Jersey light trap. This complex continued to show unusual late season activity right to the end of the season in several regions at a time when mated females are usually seeking overwintering sites.	

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 have dropped significantly in the Pinelands and other areas where higher light trap populations have been noted. This season, resting box numbers were particularly low through the season as compared to the increases seen in late season light trap numbers. This incongruence apparently translated into no detection of EEE in the *Cs. melanura* sampled from resting boxes. Yet transmission occurred with a horse case in Gloucester County. This suggests that there is a threshold below which EEE might not be detected when mosquito populations are low. Were there factors that resulted in fewer *Cs. melanura* using resting boxes?	

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

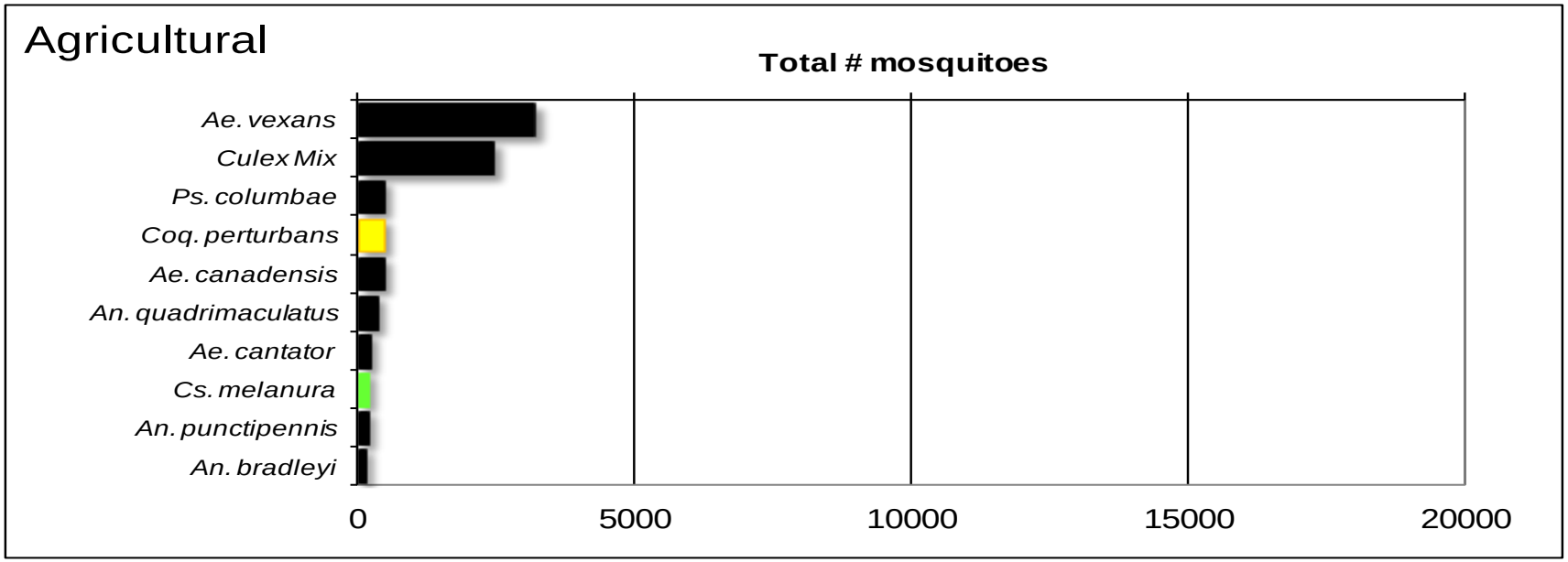
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* continue their seasonal decline. There appeared to be five emergences detected in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

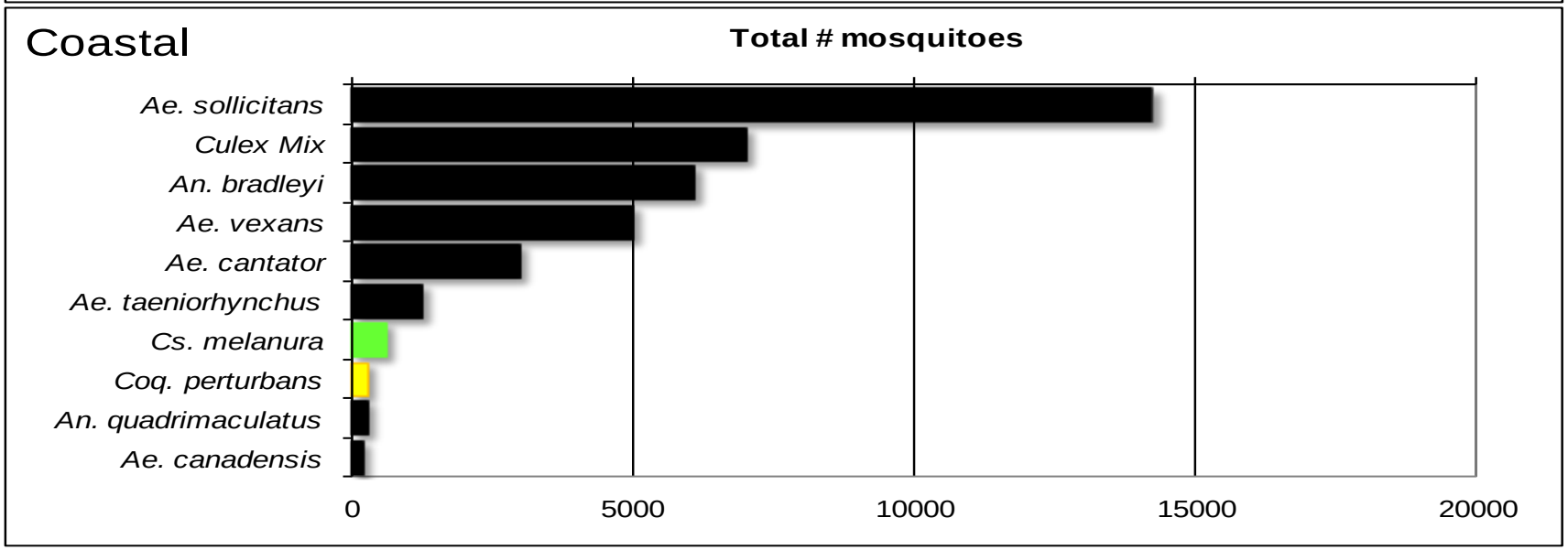

Statewide
Total Number of Mosquitoes
0
10000
20000
30000
40000
50000
60000
70000
Ae. vexans
Culex Mix
An. bradleyi
Ae. sollicitans
Ae. cantator
An. quadrimaculatus
Ae. trivittatus
An. punctipennis
Coq. perturbans
Ae. canadensis
Cs. melanura
Ur. sapphirina
Ae. taeniorhynchus
Ps. columbae
Ae. stimulans
Ae. sticticus
Ae. cinereus
An. crucians
Cx. erraticus
Ps. ciliata
Cx. territans
Ae. japonicus
Ae. albopictus
Ae. grossbecki
An. walkeri
Ps. ferox
Ps. howardii
Ae. triseriatus
Ae. abserratus
Or. signifera
Ae. atlanticus
Cs. inornata
An. barberi
Cs. morsitans
An. earlii

WNV *EEE*

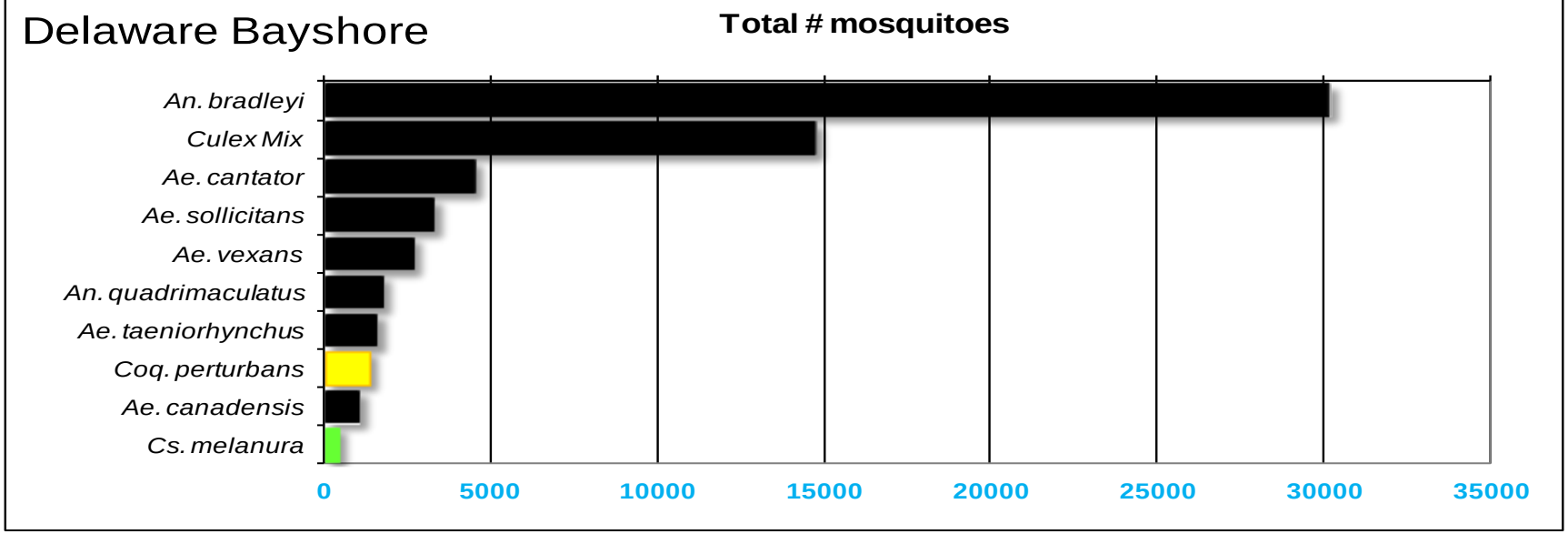
Top Ten Mosquito Species/Region - *Ae. albopictus,* *Ae. japonicus (invasives);* *Cs. melanura or Cx. erraticus* *Coq. perturbans*

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

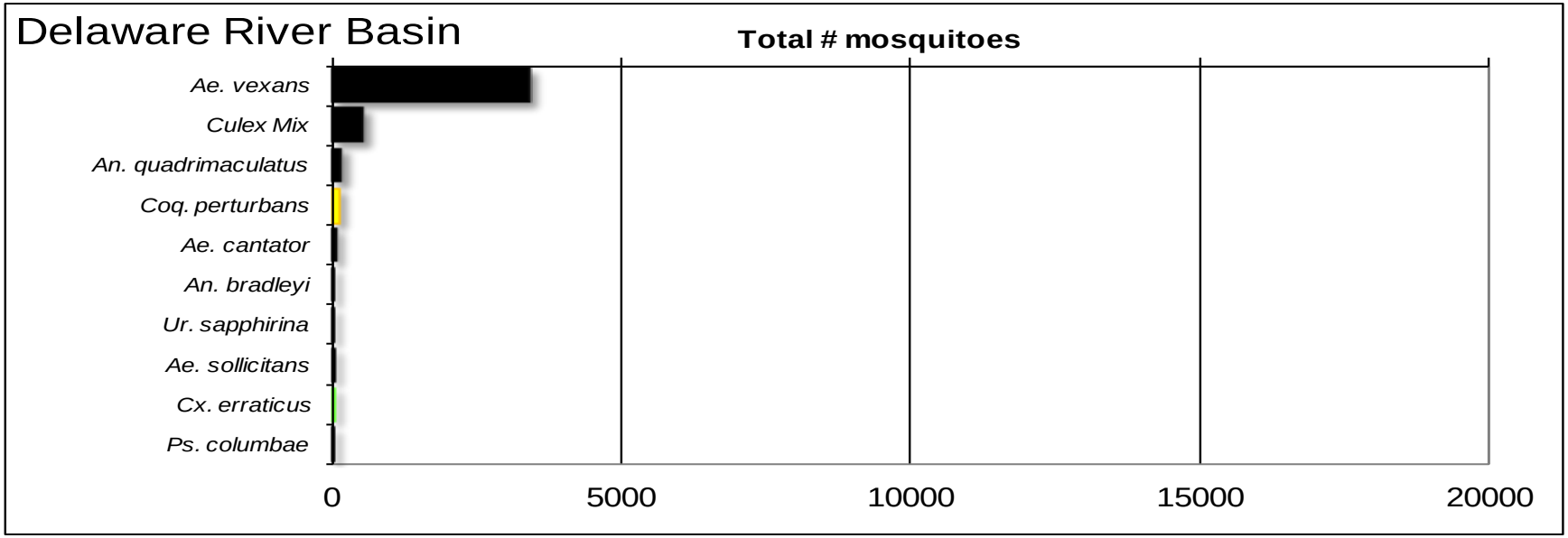


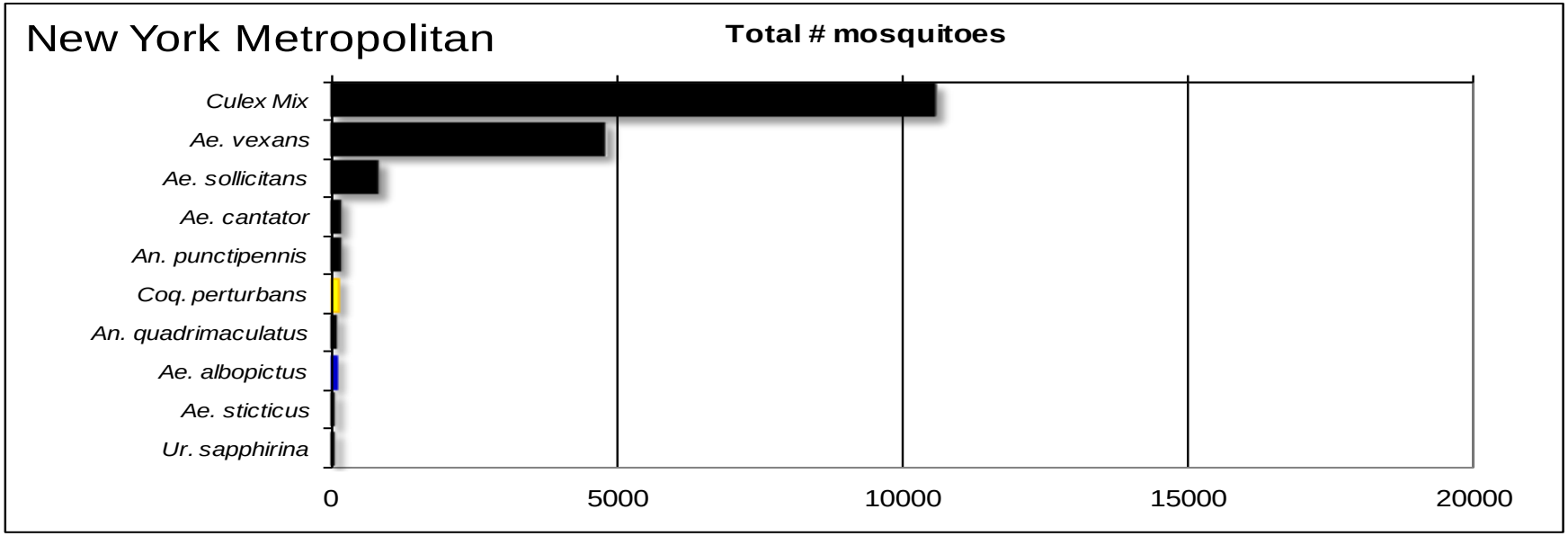


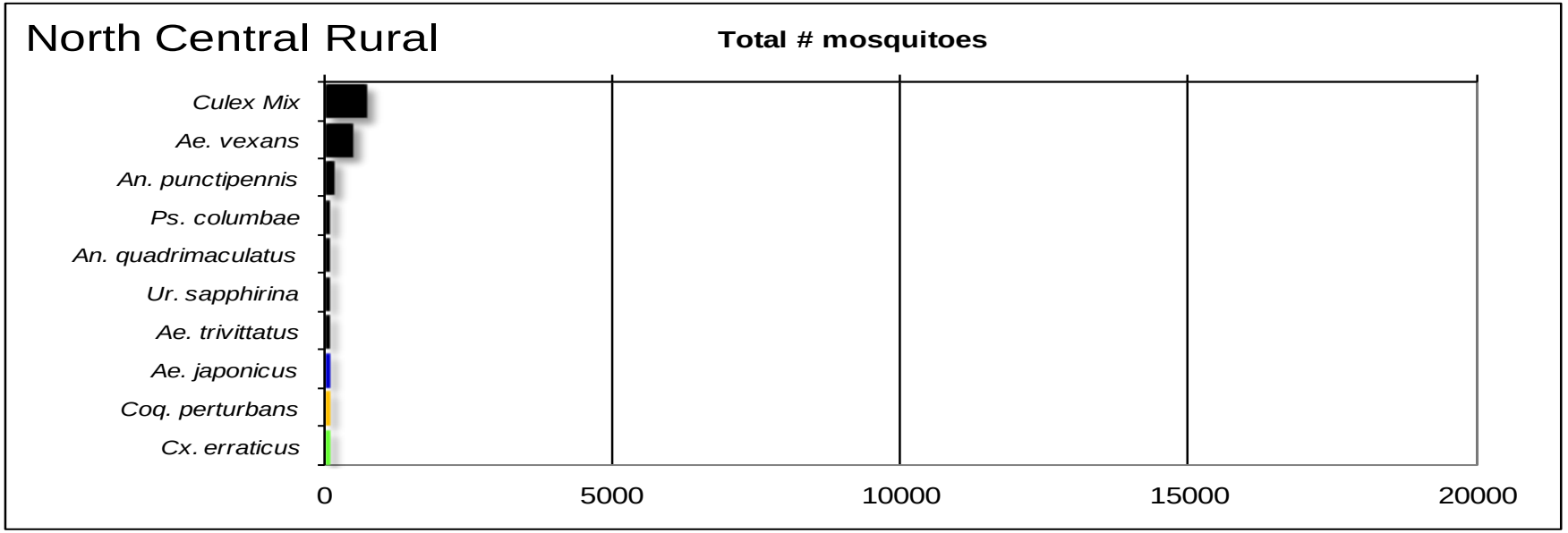
Delaware Bayshore

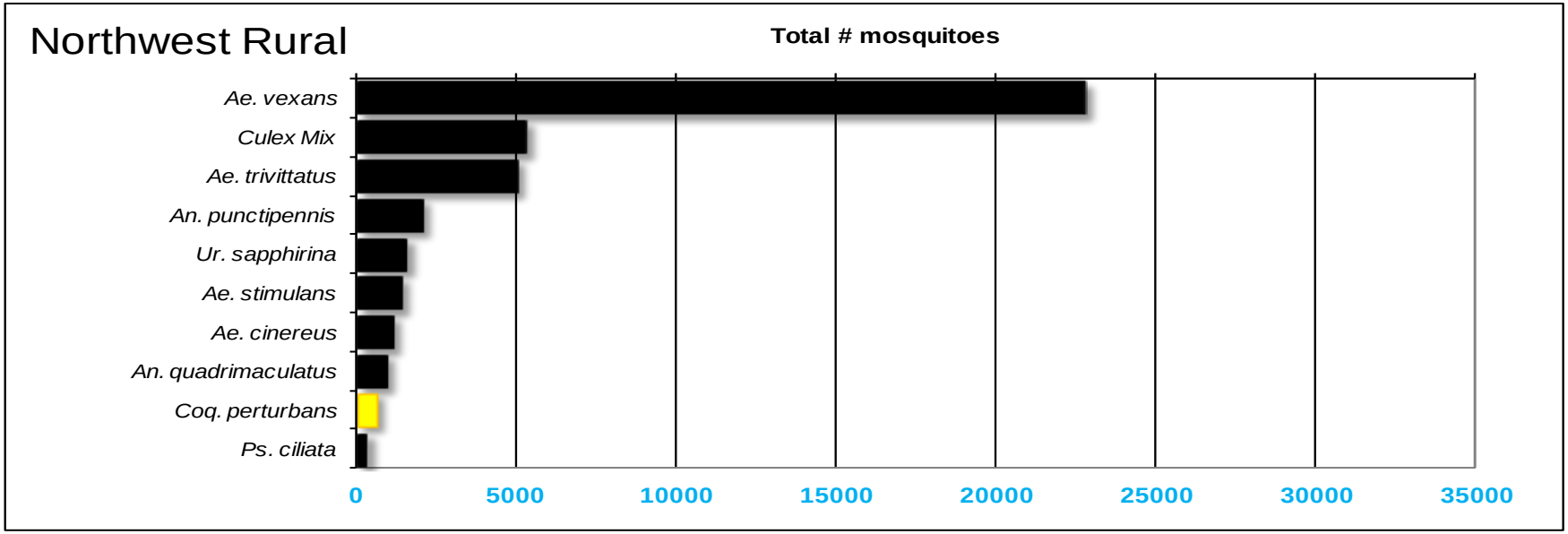


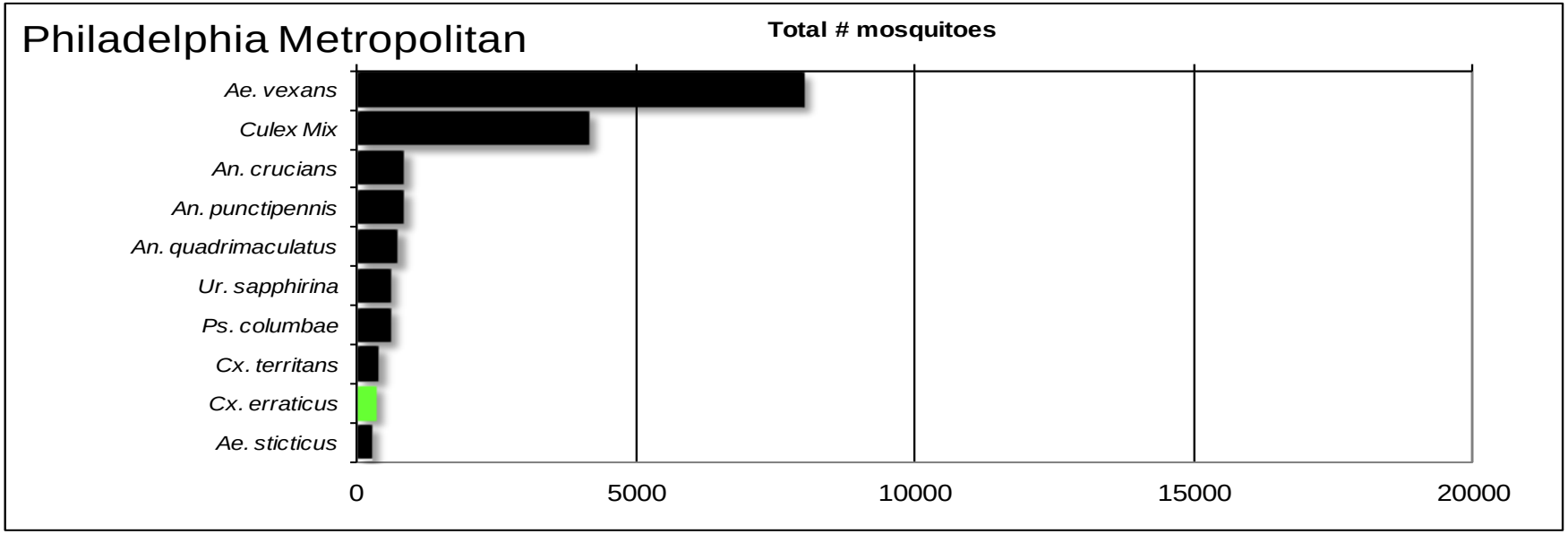
Delaware River Basin



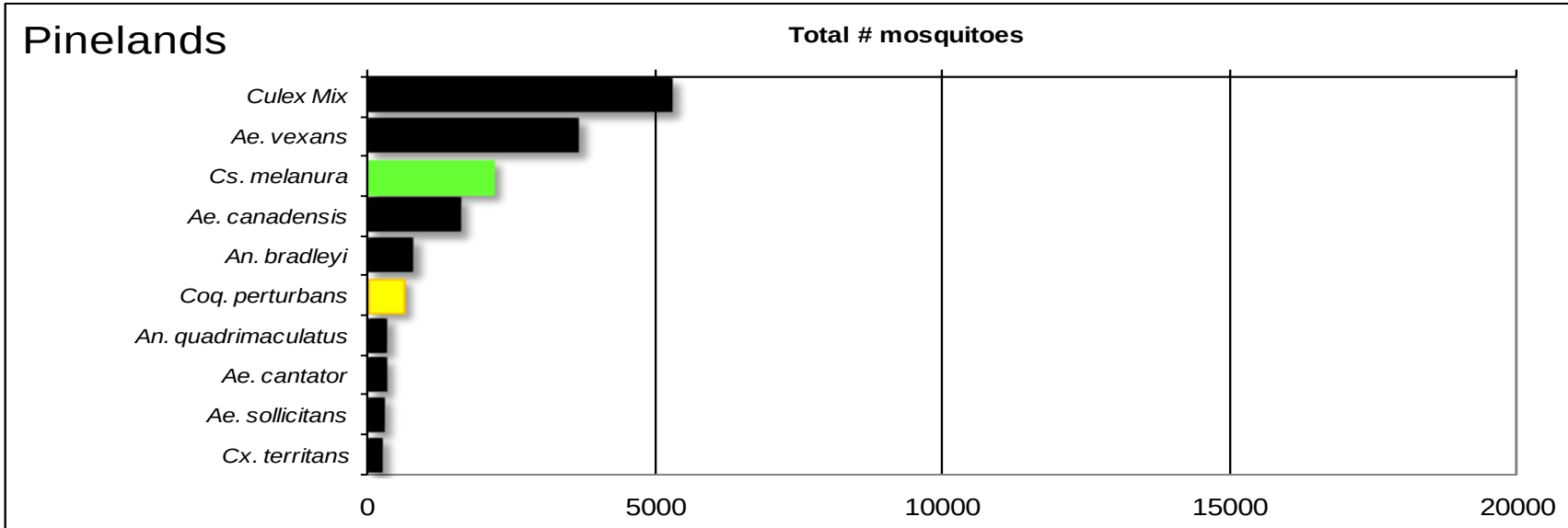

New York Metropolitan
Total # mosquitoes
Culex Mix
Ae. vexans
Ae. sollicitans
Ae. cantator
An. punctipennis
Coq. perturbans
An. quadrimaculatus
Ae. albopictus
Ae. sticticus
Ur. sapphirina
0
5000
10000
15000
20000


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
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. trivittatus
An. punctipennis
Ur. sapphirina
Ae. stimulans
Ae. cinereus
An. quadrimaculatus
Coq. perturbans
Ps. ciliata
0
5000
10000
15000
20000
25000
30000
35000


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

Pinelands



Suburban Corridor