NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 23 September to 29 September 2012, CDC Weeks 39

Prepared by Lisa M. Reed, Scott Crans and Mark Robson
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.

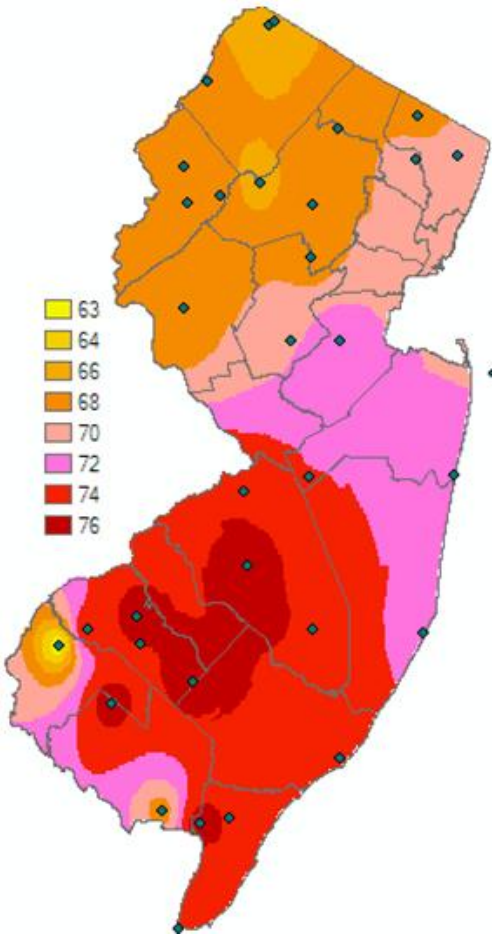
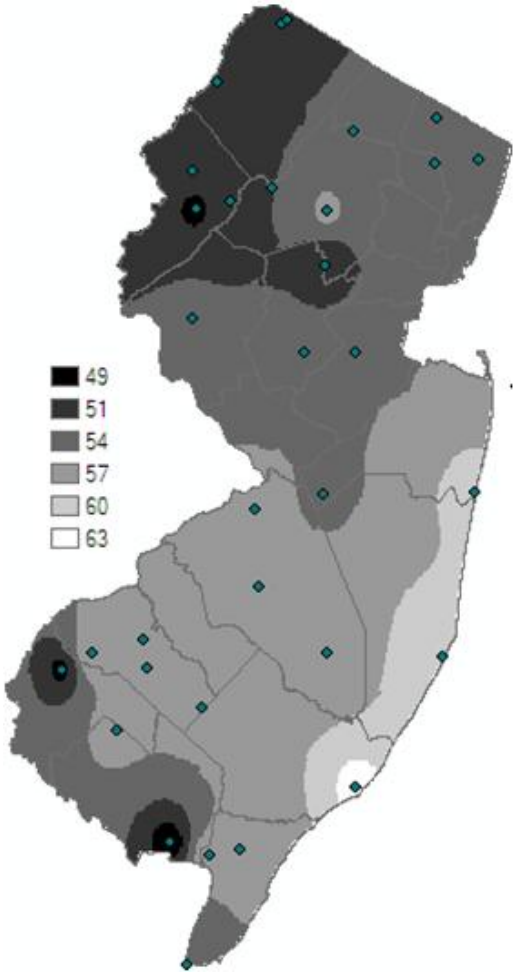
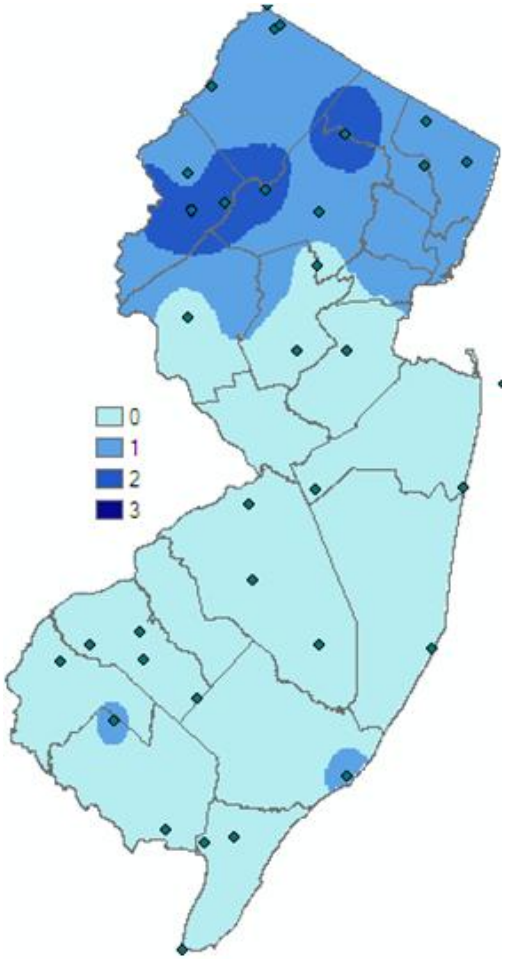
Summary Table – Week 39

	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**	**2.21**	**0**	**0.00**	**1.36**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.13**	**0**
Coastal	**14.09**	**3.69**	**4**	**7.25**	**4.45**	**2**	**0.00**	**0.00**	**0**	**2.54**	**2.17**	**1**
Delaware Bayshore	**2.49**	**2.93**	**0**	**6.14**	**4.71**	**1**	**0.00**	**0.02**	**0**	**0.09**	**1.63**	**0**
Delaware River Basin	**nd**	**1.19**	**0**	**nd**	**0.53**	**0**	**nd**	**0.00**	**0**	**nd**	**0.04**	**0**
New York Metro	**0.10**	**3.21**	**0**	**1.13**	**4.56**	**0**	**0.00**	**0.04**	**0**	**0.04**	**0.30**	**0**
North Central Rural	**0.04**	**0.50**	**0**	**0.10**	**0.08**	**1**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Northwest Rural	**5.80**	**6.66**	**0**	**1.03**	**1.53**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**5.61**	**8.21**	**0**	**1.71**	**2.52**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Pinelands	**0.58**	**1.72**	**0**	**0.71**	**2.32**	**0**	**0.00**	**0.13**	**0**	**0.00**	**0.06**	**0**
Suburban Corridor	**0.01**	**4.87**	**0**	**0.10**	**2.17**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.03**	**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: *Aedes vexans* had a significant emergence in the Coastal region. *Culex* Mix continued to be elevated in the Coastal and Delaware Bayshore and *Ae. sollicitans* showed minor activity in the Coastal region.

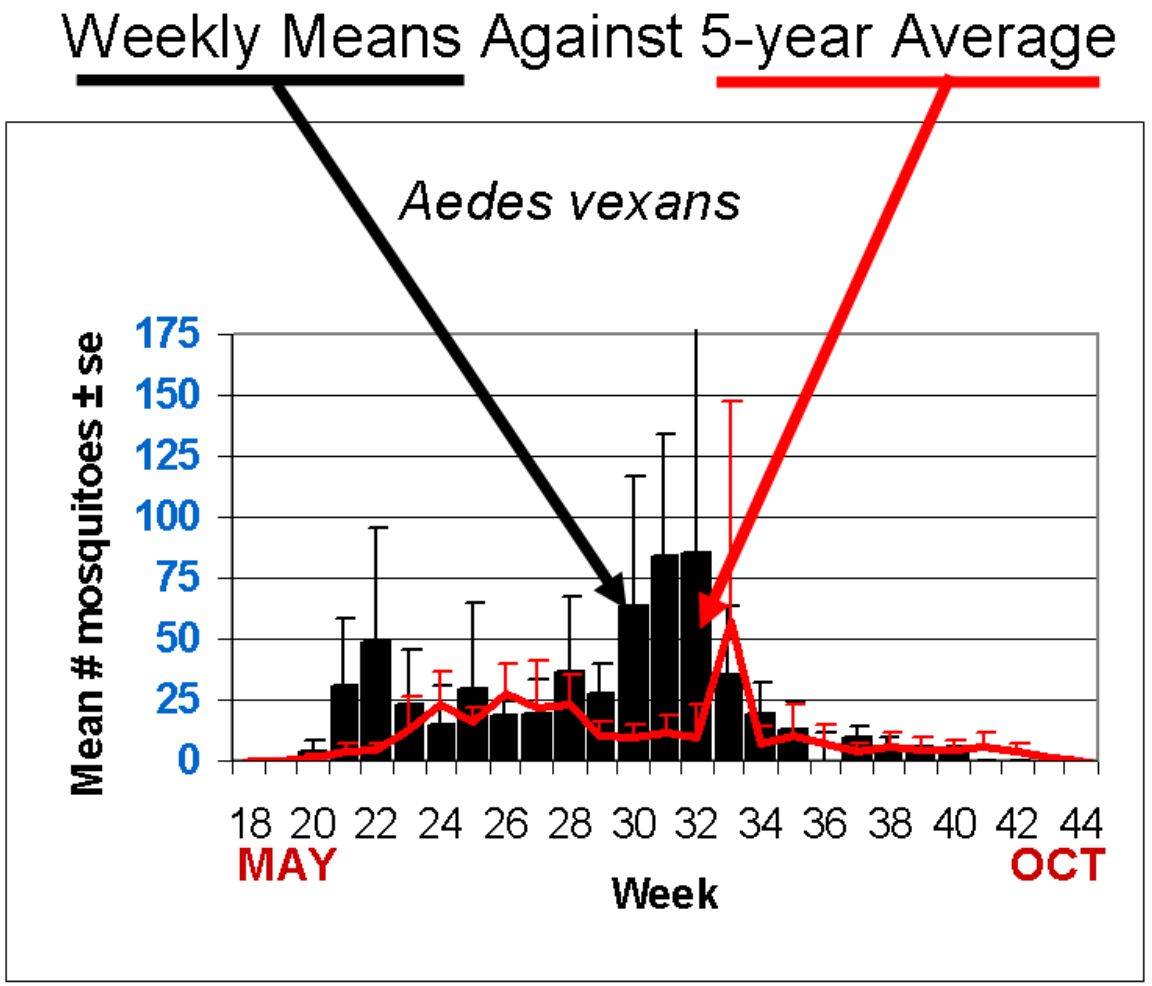
Climate Factors

Average High Temperature	Average Low Temperature	Total Precipitation
		

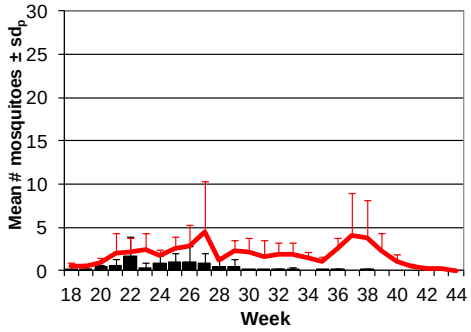
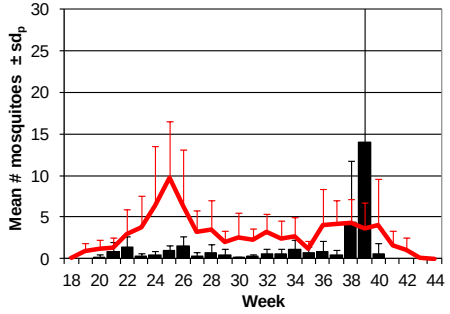
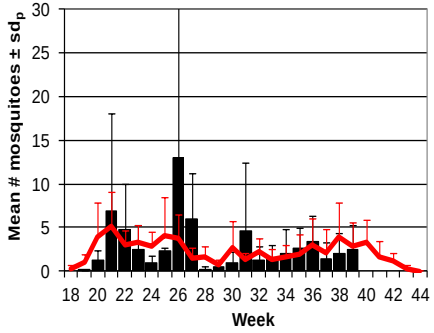
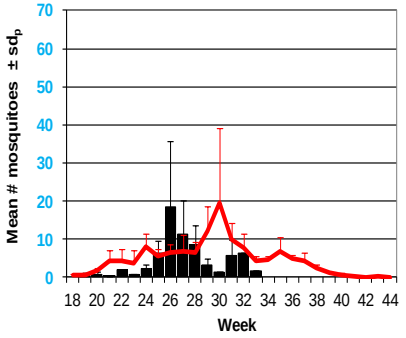
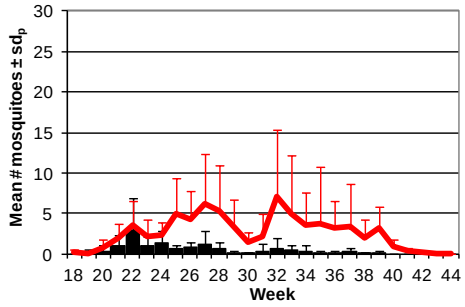
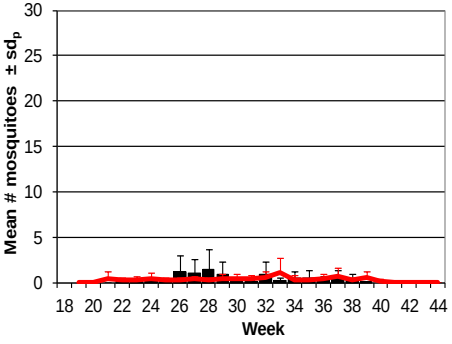
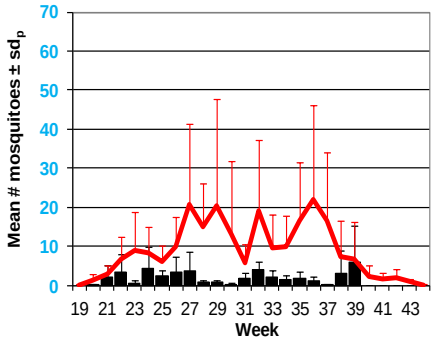
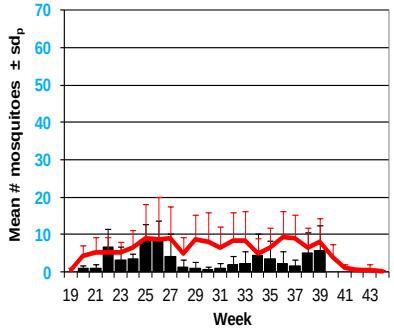
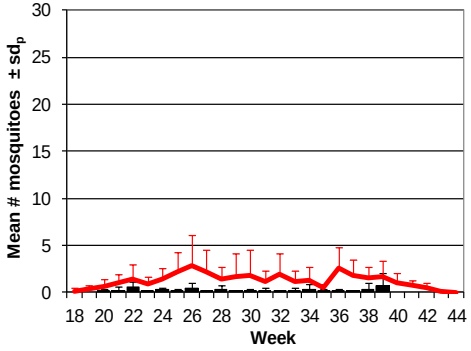
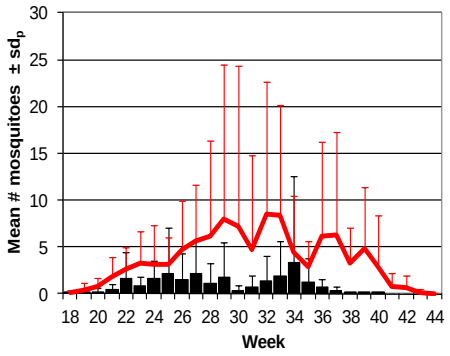
The three figures show the interpolation of average maximum and minimum temperature and total precipitation for Oct 1-4, 2012 in New Jersey. Data points are from about 35 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points 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 report are from Atlantic, Camden, Cape May, Essex, Hudson, Monmouth, Morris, Ocean, Somerset, Sussex, Union and Warren counties. Data for the previous week is from Atlantic, Camden, Cape May, Essex, Hudson, Mercer, 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. Some counties have discontinued their traps for the season.

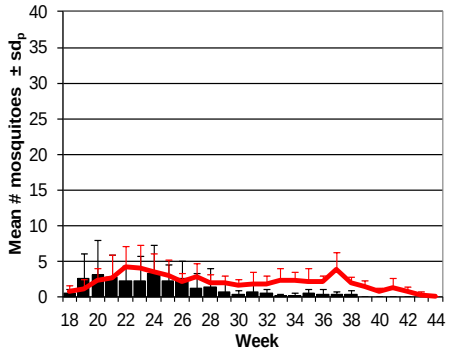


Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

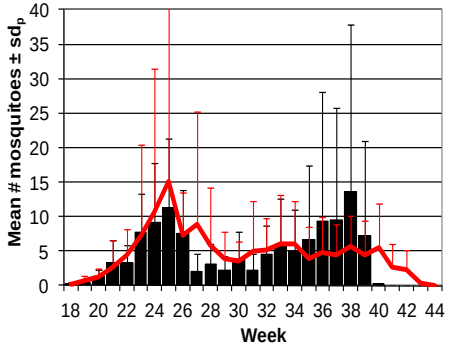
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* populations surged after a long quiescence in the Coastal region. Most other regions continued to show smaller than usual abundances of this floodwater species. http://droughtmonitor.unl.edu/DM_northeast.htm	

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

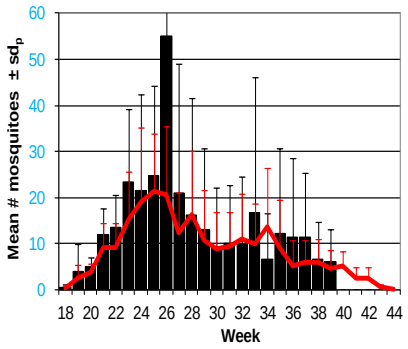
Agricultural



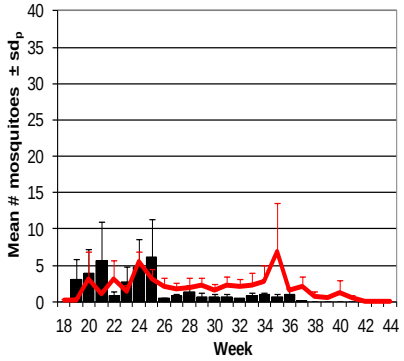
Coastal



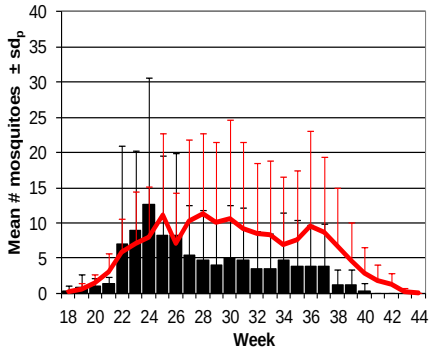
Delaware Bayshore



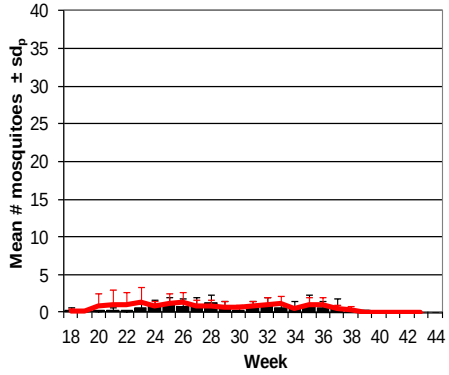
Delaware River Basin



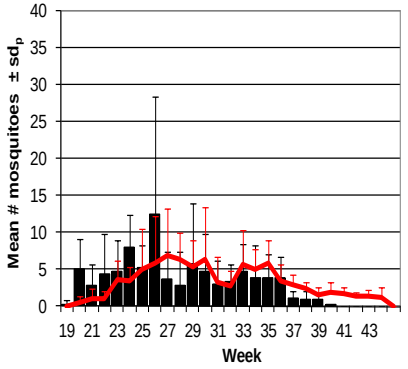
New York Metro



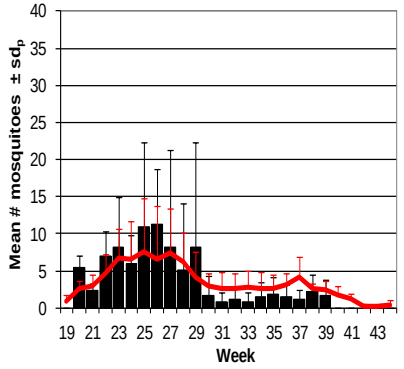
North Central Rural



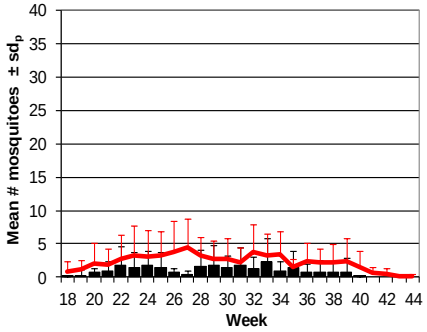
Northwestern Rural



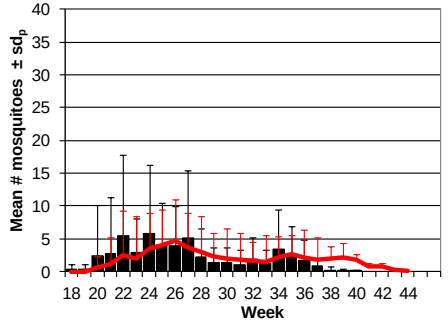
Philadelphia Metro



Pinelands



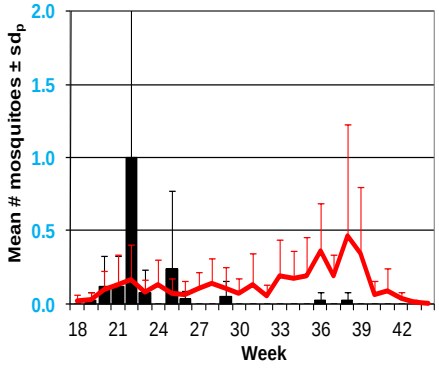
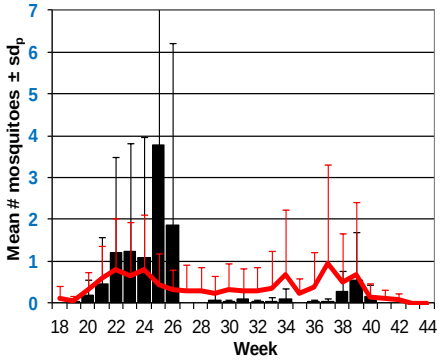
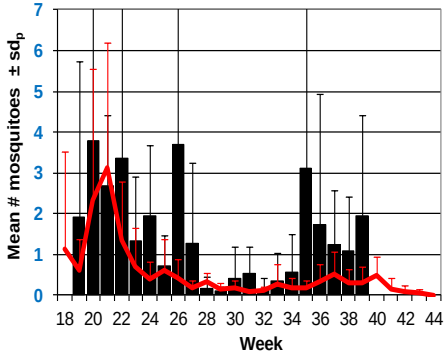
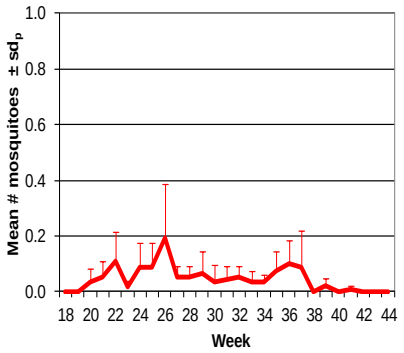
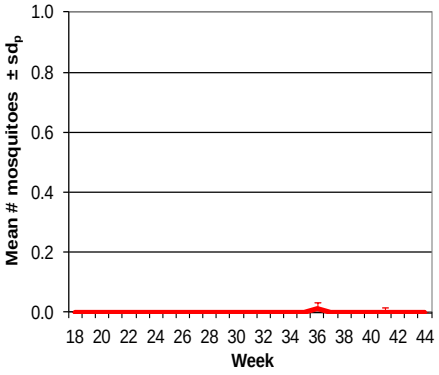
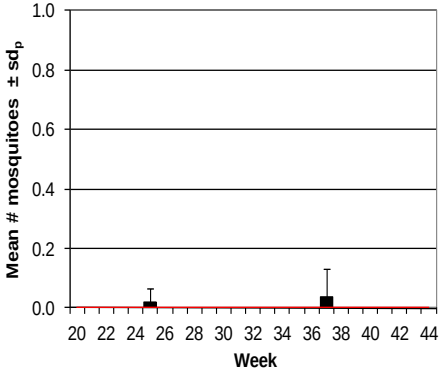
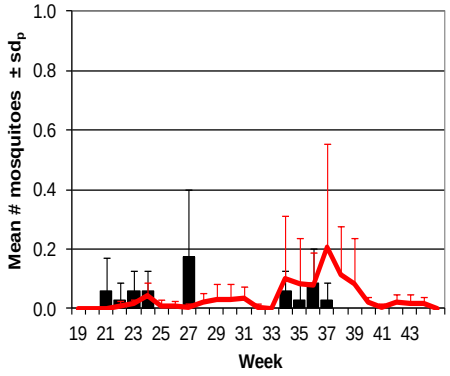
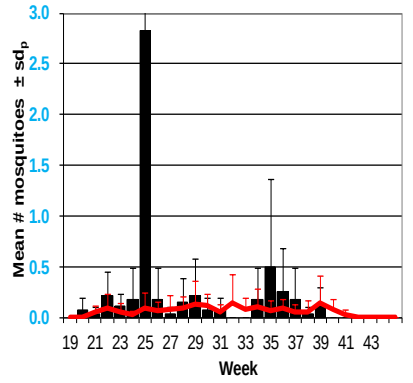
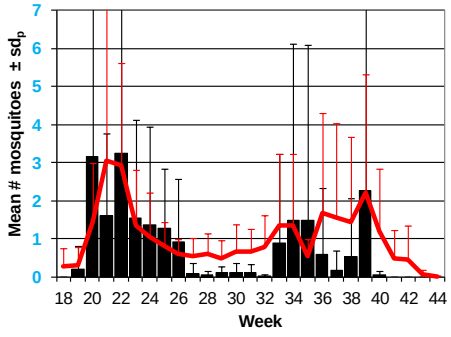
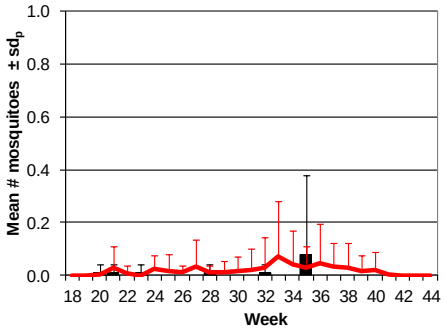
Suburban Corridor



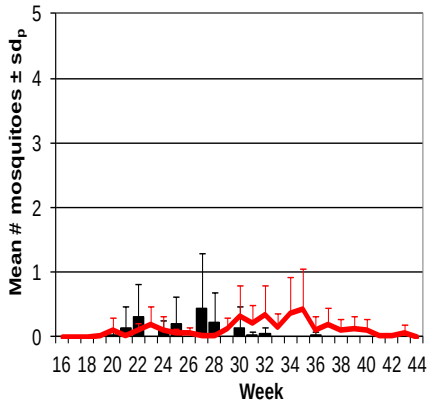
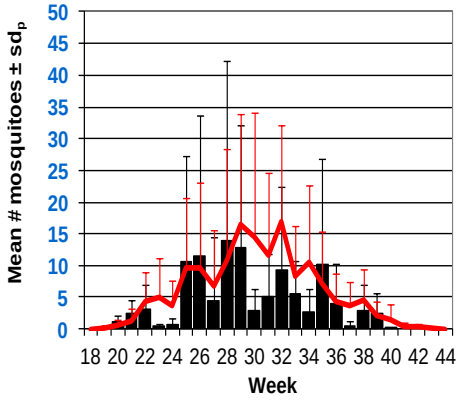
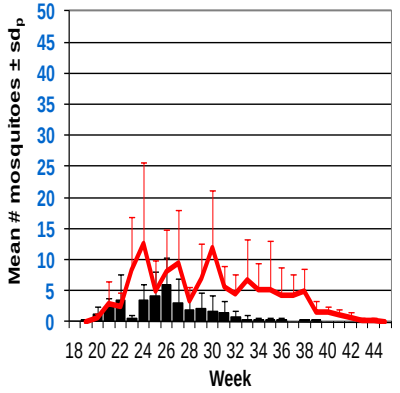
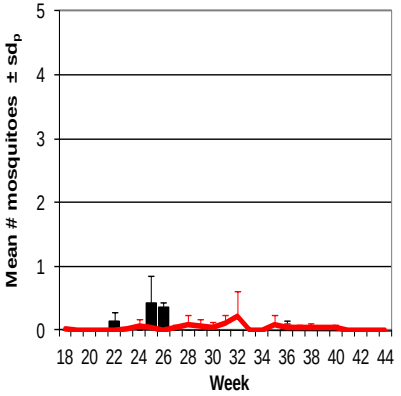
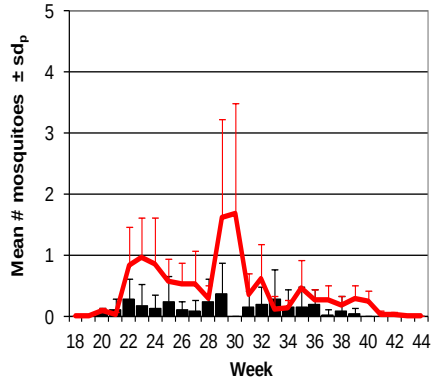
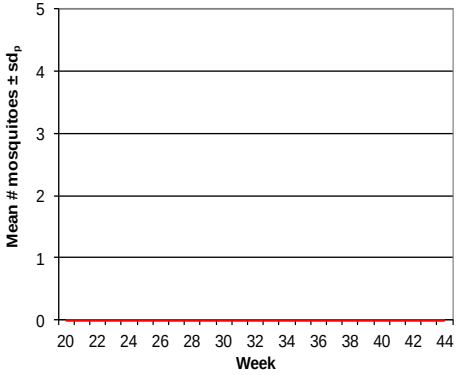
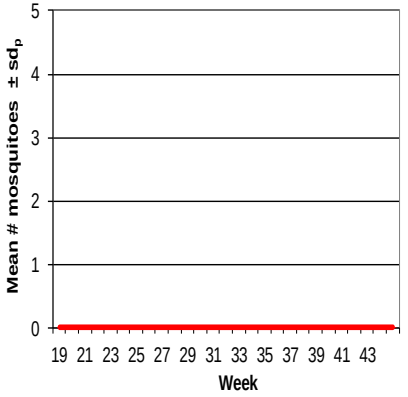
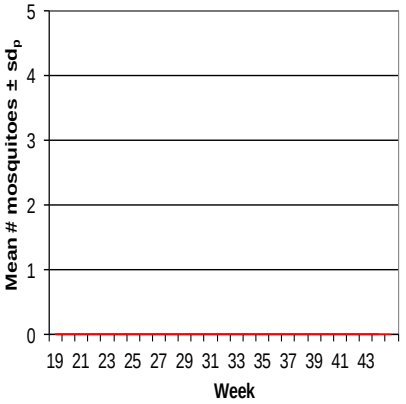
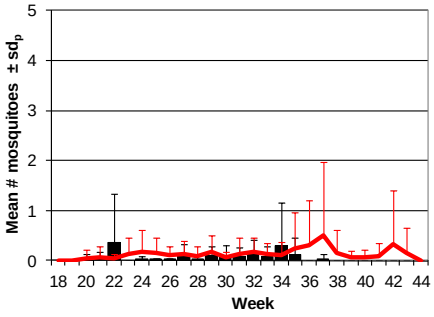
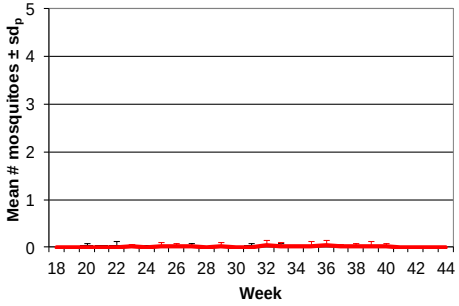
Comments

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 remain elevated in the Coastal and Delaware Bayshore regions. North Central Rural region also showed relatively higher *Culex* abundances. Individuals should be seeking out hibernaculae (caves, basements) to overwinter in.

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

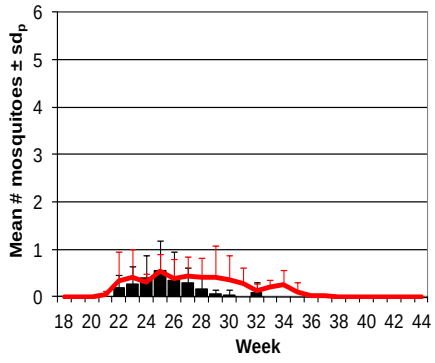
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culiseta melanura* is the enzootic ornithophilic vector of eastern equine encephalitis. Again, populations in the Delaware Bayshore remain elevated. Resting box collections from that area have picked up from one site, but overall, activity from those traps and from the western side of the state are not as active as light traps might suggest. EEE activity has been found not only in this species, but in *Culex erraticus* as well. http://www.cdc.gov/ncidod/dvbid/westnile/RepellentUpdates.htm	

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

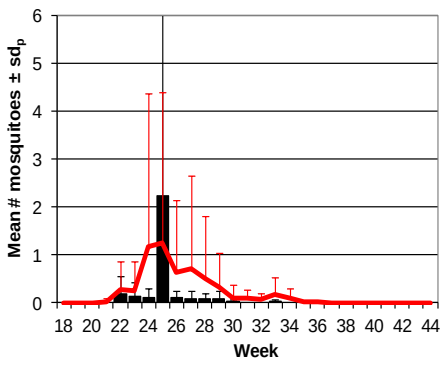
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* continues to decline. Some slight activity in the Coastal region occurred with the previous lunar tide and the same conditions that resulted in a significant emergence of another floodwater species, *Ae. vexans.*	

Coquillettidia perturbans
Monotypic (*Coquillettidia perturbans* Type)

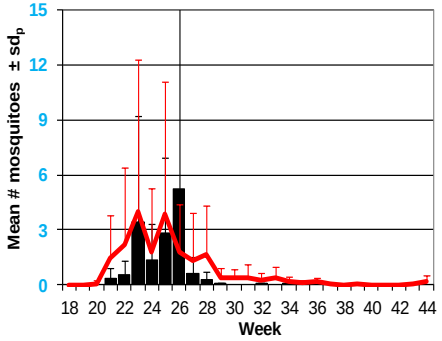
Agricultural



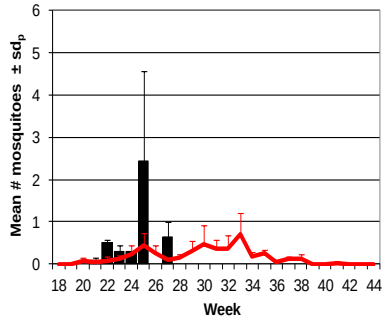
Coastal



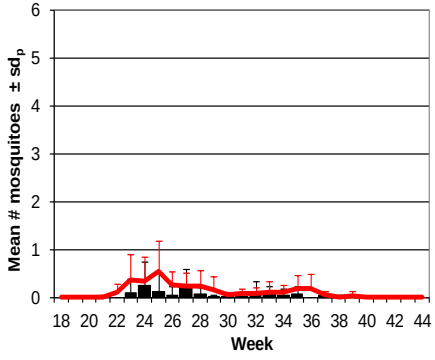
Delaware Bayshore



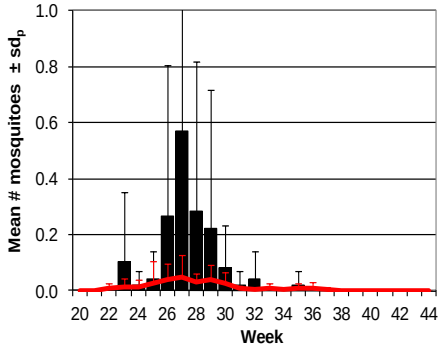
Delaware River Basin



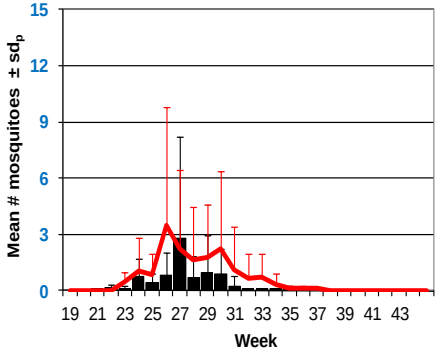
New York Metro



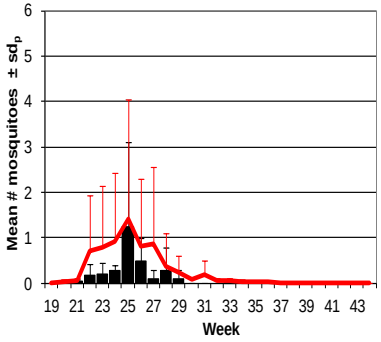
North Central Rural



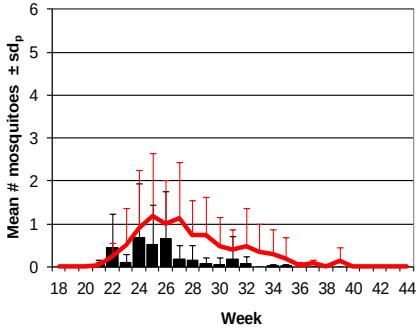
Northwestern Rural



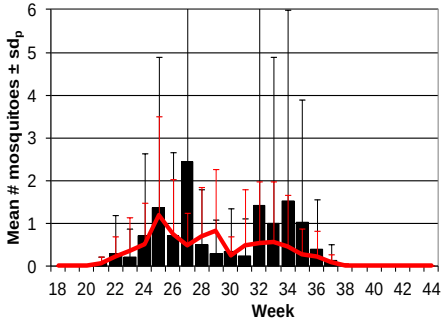
Philadelphia Metro



Pinelands



Suburban Corridor



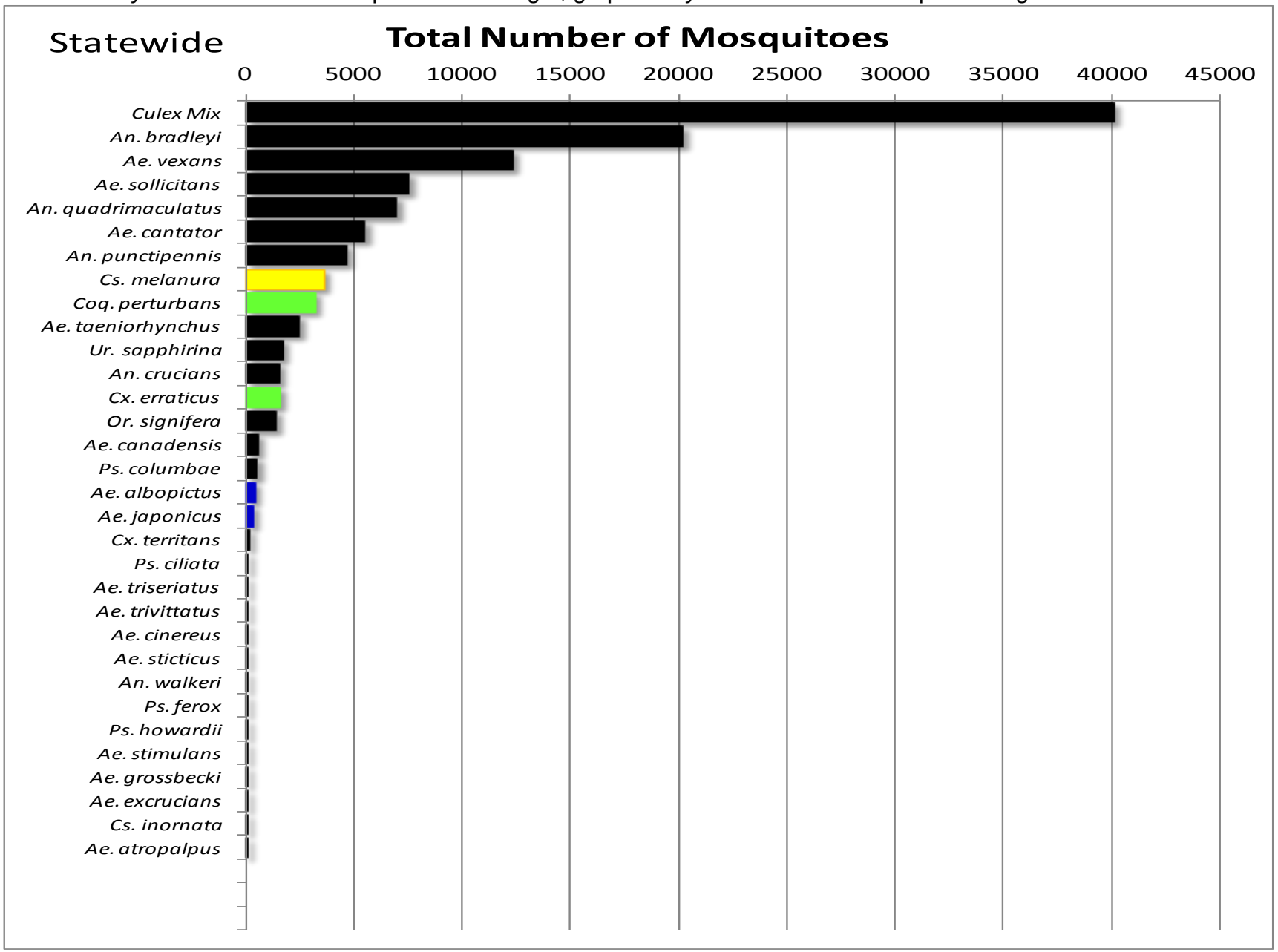
Comments

Coquillettidia perturbans populations are reported at zero and the season is essentially over for this species. This is the last report for this species this year.

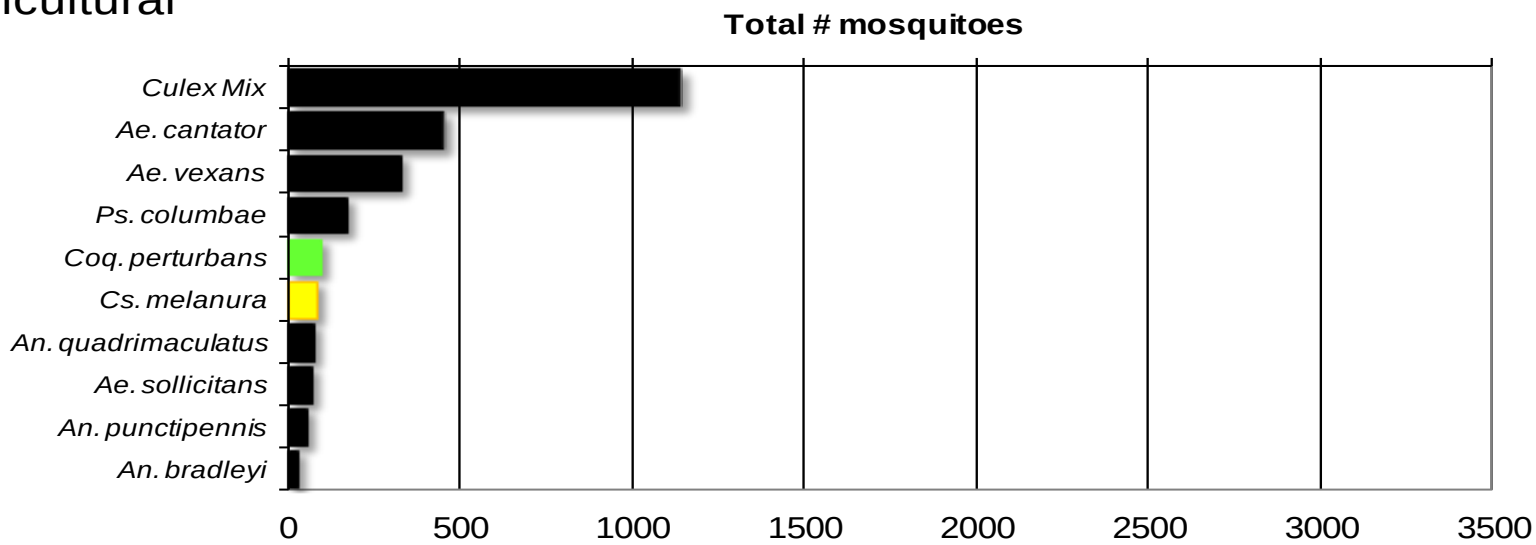
WNV *EEE*

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

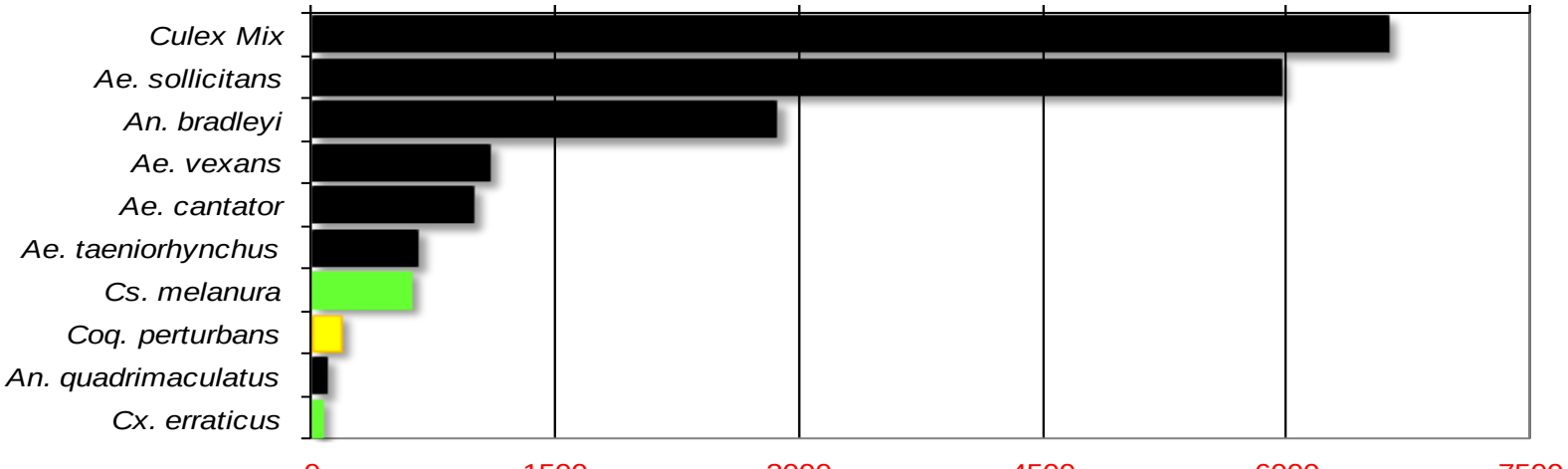
Note: In early season when fewer species are caught, graphs may show less than ten species/region or 25 statewide.

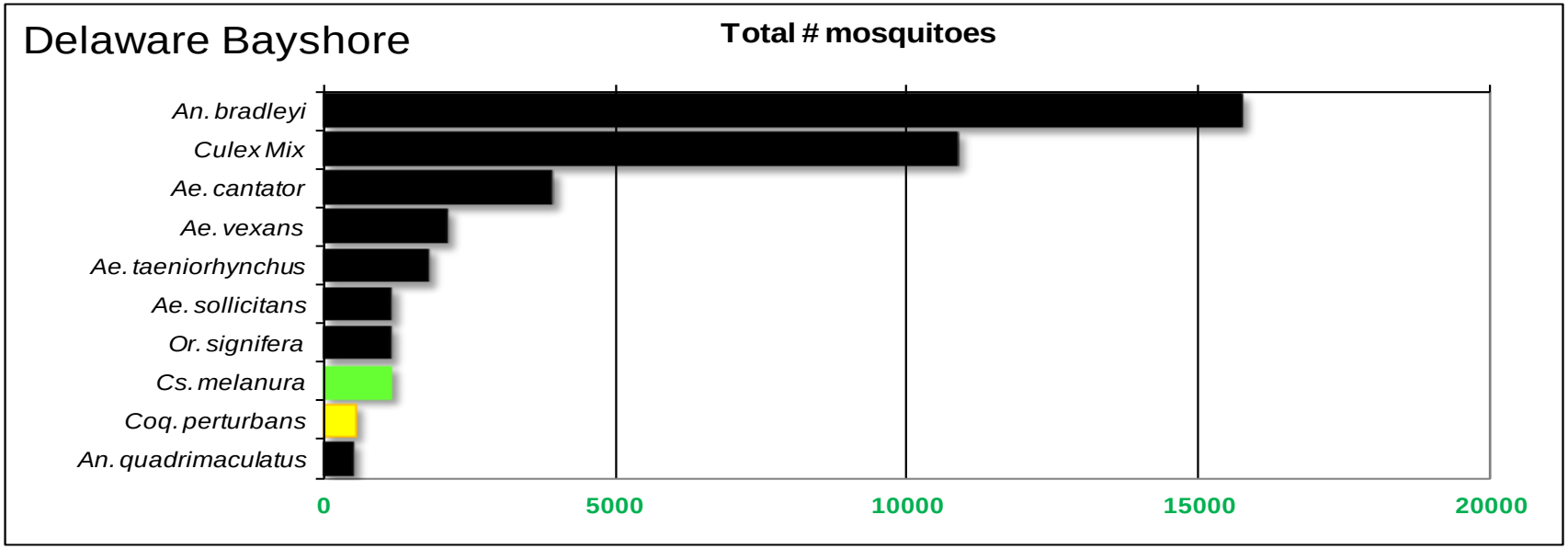


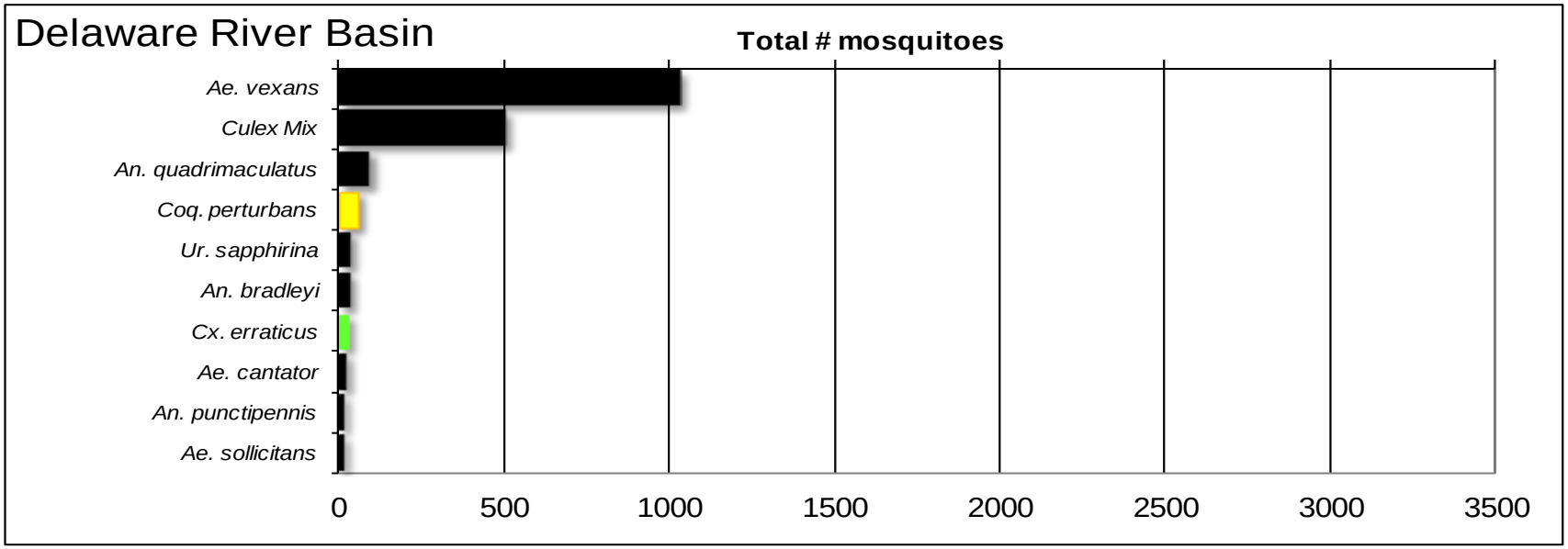
Agricultural



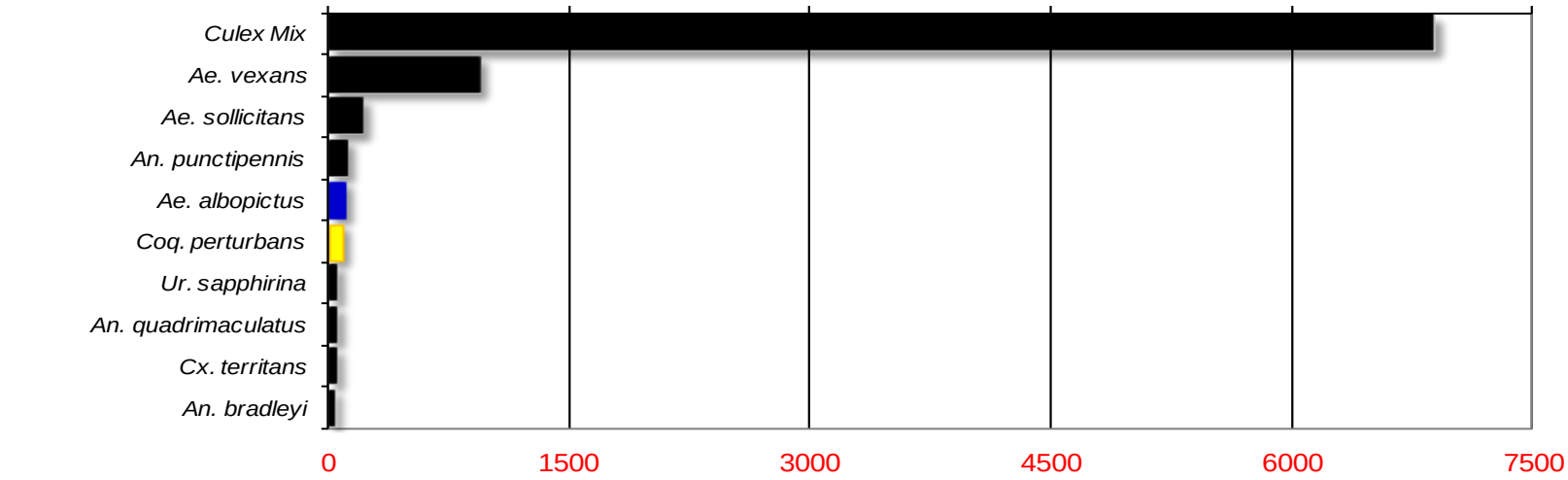
Coastal



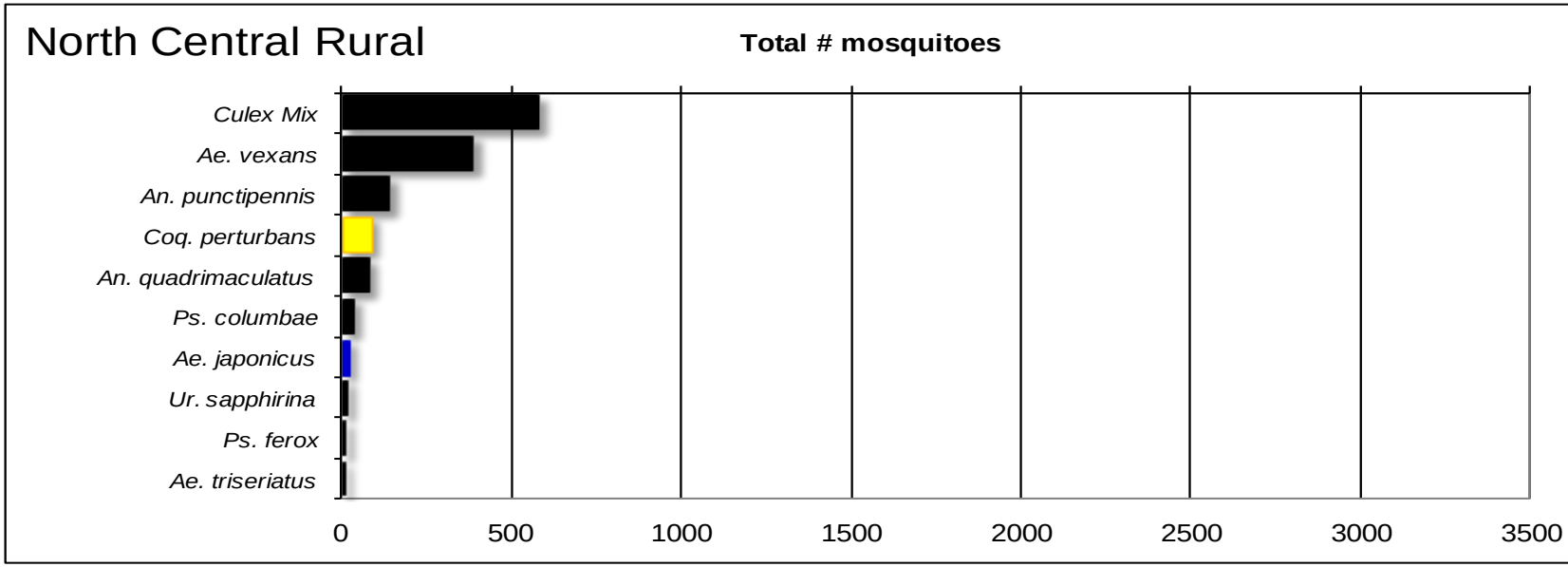

Delaware Bayshore
Total # mosquitoes
An. bradleyi
Culex Mix
Ae. cantator
Ae. vexans
Ae. taeniorhynchus
Ae. sollicitans
Or. signifera
Cs. melanura
Coq. perturbans
An. quadrimaculatus
0
5000
10000
15000
20000


Delaware River Basin
Total # mosquitoes
Ae. vexans
Culex Mix
An. quadrimaculatus
Coq. perturbans
Ur. sapphirina
An. bradleyi
Cx. erraticus
Ae. cantator
An. punctipennis
Ae. sollicitans
0
500
1000
1500
2000
2500
3000
3500

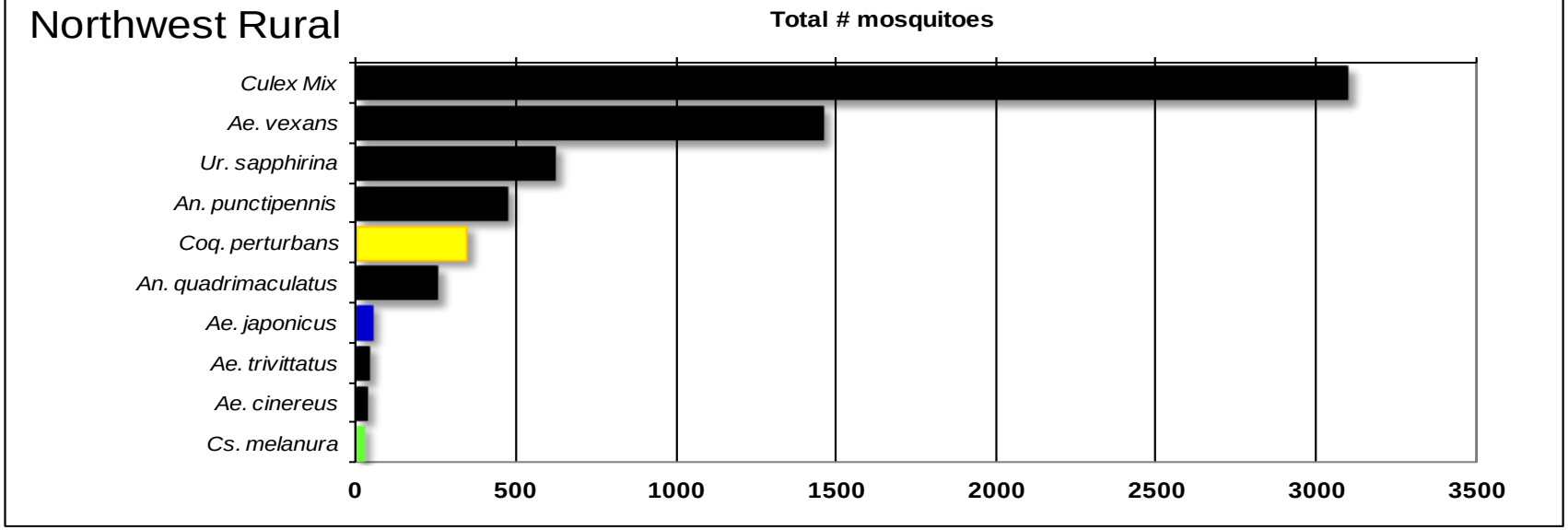
New York Metropolitan



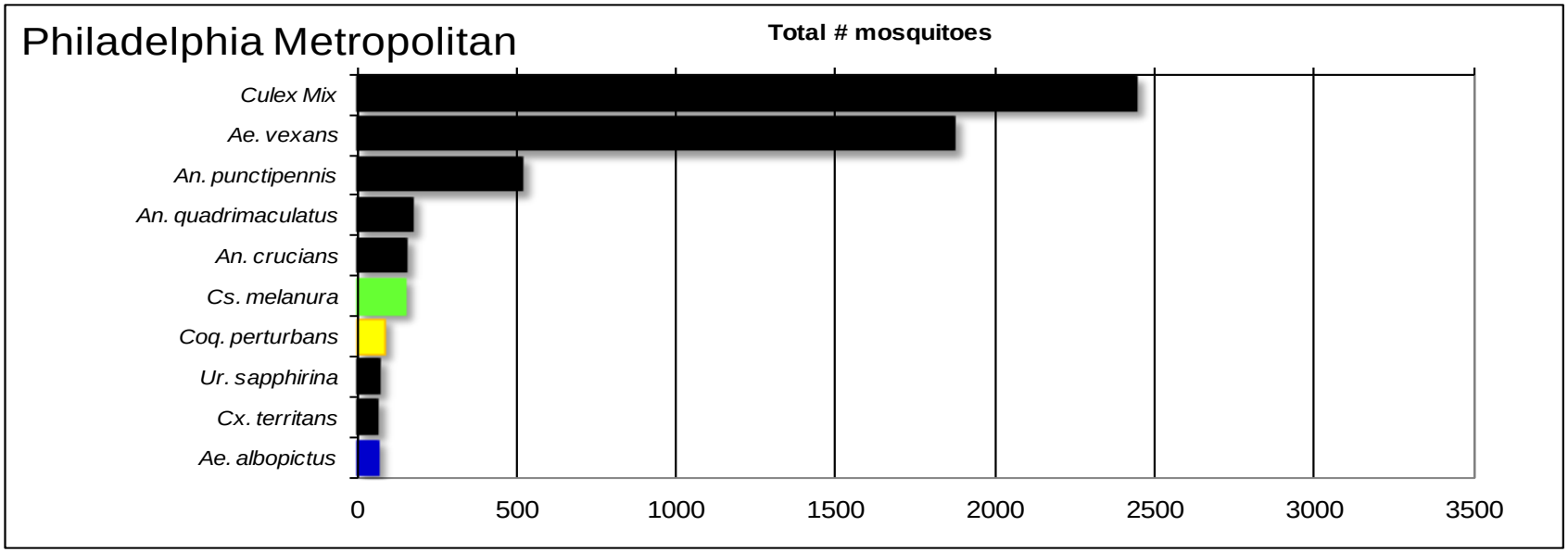
North Central Rural

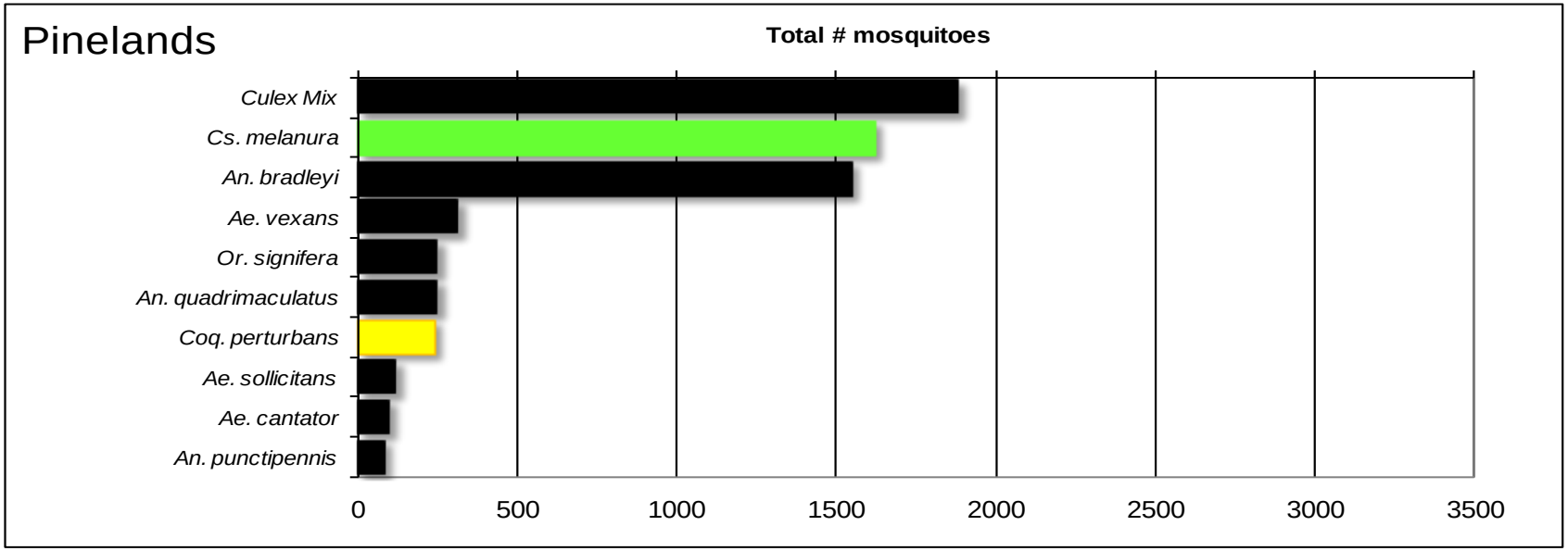


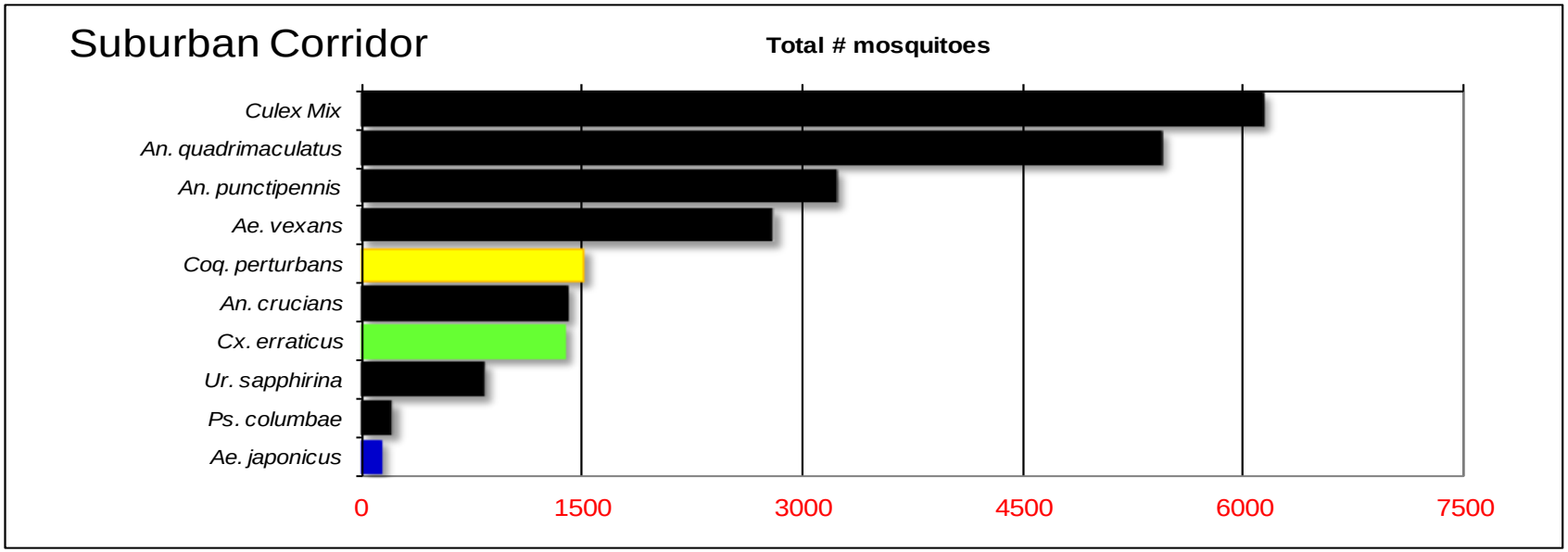
Northwest Rural



Philadelphia Metropolitan




Pinelands
Total # mosquitoes
Culex Mix
Cs. melanura
An. bradleyi
Ae. vexans
Or. signifera
An. quadrimaculatus
Coq. perturbans
Ae. sollicitans
Ae. cantator
An. punctipennis
0
500
1000
1500
2000
2500
3000
3500


Suburban Corridor
Total # mosquitoes
Culex Mix
An. quadrimaculatus
An. punctipennis
Ae. vexans
Coq. perturbans
An. crucians
Cx. erraticus
Ur. sapphirina
Ps. columbae
Ae. japonicus
0
1500
3000
4500
6000
7500