RUTGERS
New Jersey Agricultural Experiment Station

NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 19 October to 25 October 2008, CDC Week 43

Prepared by Lisa M. Reed, Scott Crans, Dina Fonseca and Marc Slaff
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.

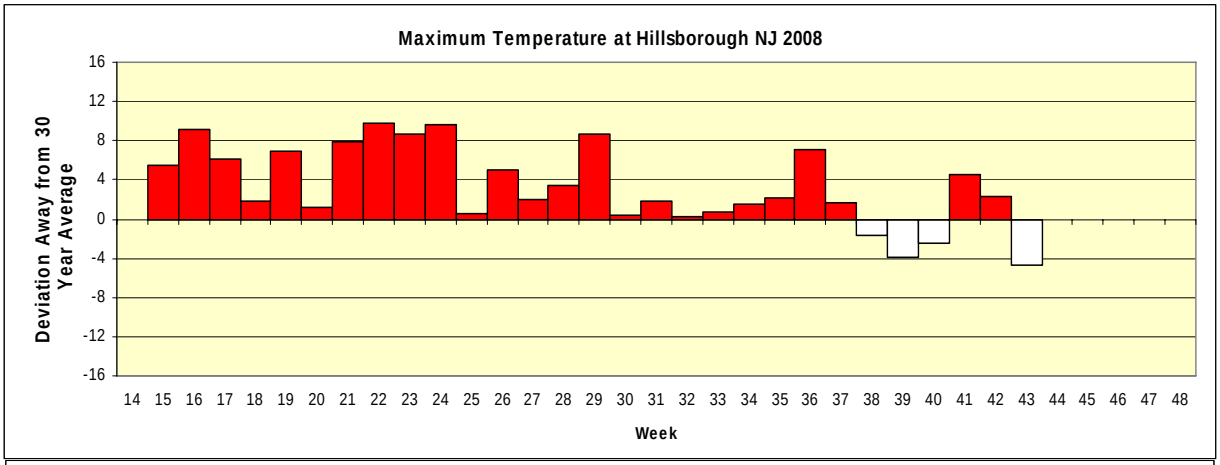
Summary table – Week 43

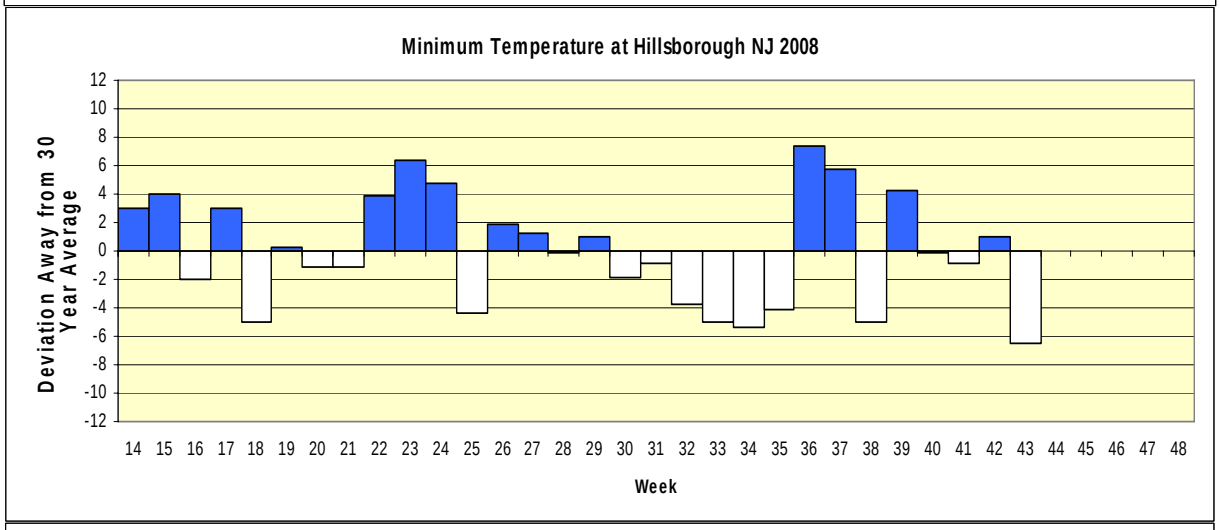
	Aedes vexans			*Culex* Mix			*Coquillettidia perturbans*			*Aedes sollicitans*		
Region	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase
Agricultural	**0.07**	**0.26**	**0**	**0.00**	**0.32**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.01**	**0**
Coastal	**0.14**	**0.12**	**1**	**0.71**	**0.24**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.10**	**0**
Delaware Bayshore	**0.10**	**0.08**	**1**	**0.33**	**1.71**	**0**	**0.00**	**0.00**	**0**	**0.10**	**0.47**	**0**
Delaware River Basin	**0.00**	**0.21**	**0**	**0.00**	**0.14**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
New York Metro	**0.09**	**0.03**	**4**	**0.43**	**0.39**	**1**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
North Central Rural	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Northwest Rural	**0.01**	**0.80**	**0**	**0.00**	**0.13**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**0.00**	**0.33**	**0**	**0.00**	**0.44**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Pinelands	**0.00**	**0.06**	**0**	**0.05**	**0.22**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Suburban Corridor	**0.01**	**0.16**	**0**	**0.02**	**0.00**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**

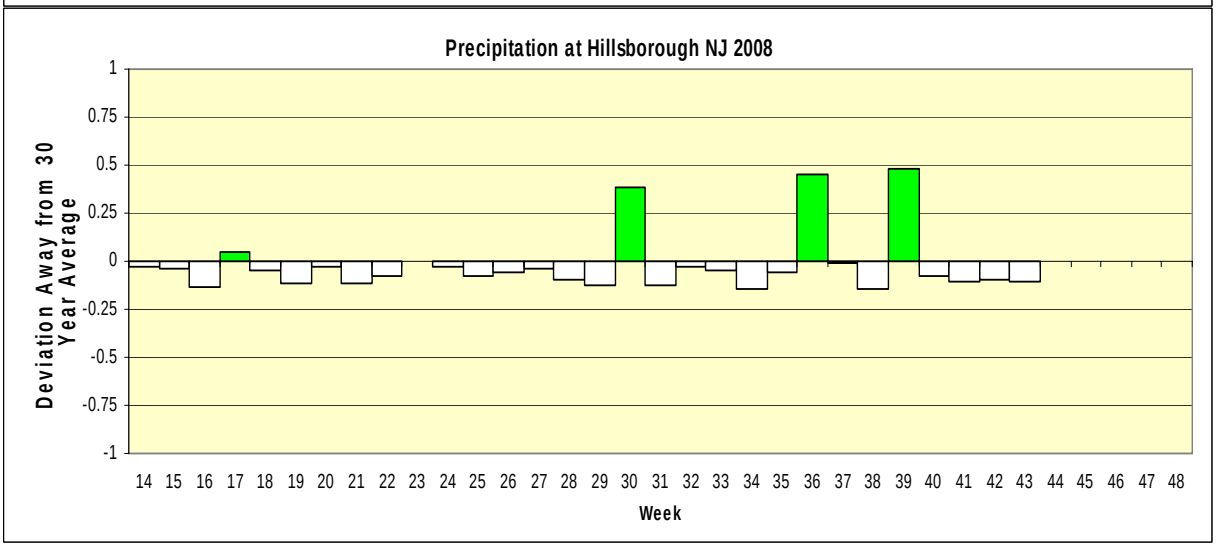
*Averages represent data from, at most, the previous 5 years. Increase is a scale of current values from historical values where no difference or a decrease is represented by 0 (blue), up to 50% greater difference by 1 (green), up to 100% greater difference by 2 (yellow), up to 150% greater difference 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.

State Summary: At end of season time, few mosquitoes are on the wing, except those who are very cold-hardy or who have found protective shelter against dropping nighttime temperatures. Changes in the Increase columns for the above table are essentially insignificant as these populations are on the extreme end of their declining seasonal curve. This is the last regular report of the 2008 season.

Climate Deviations

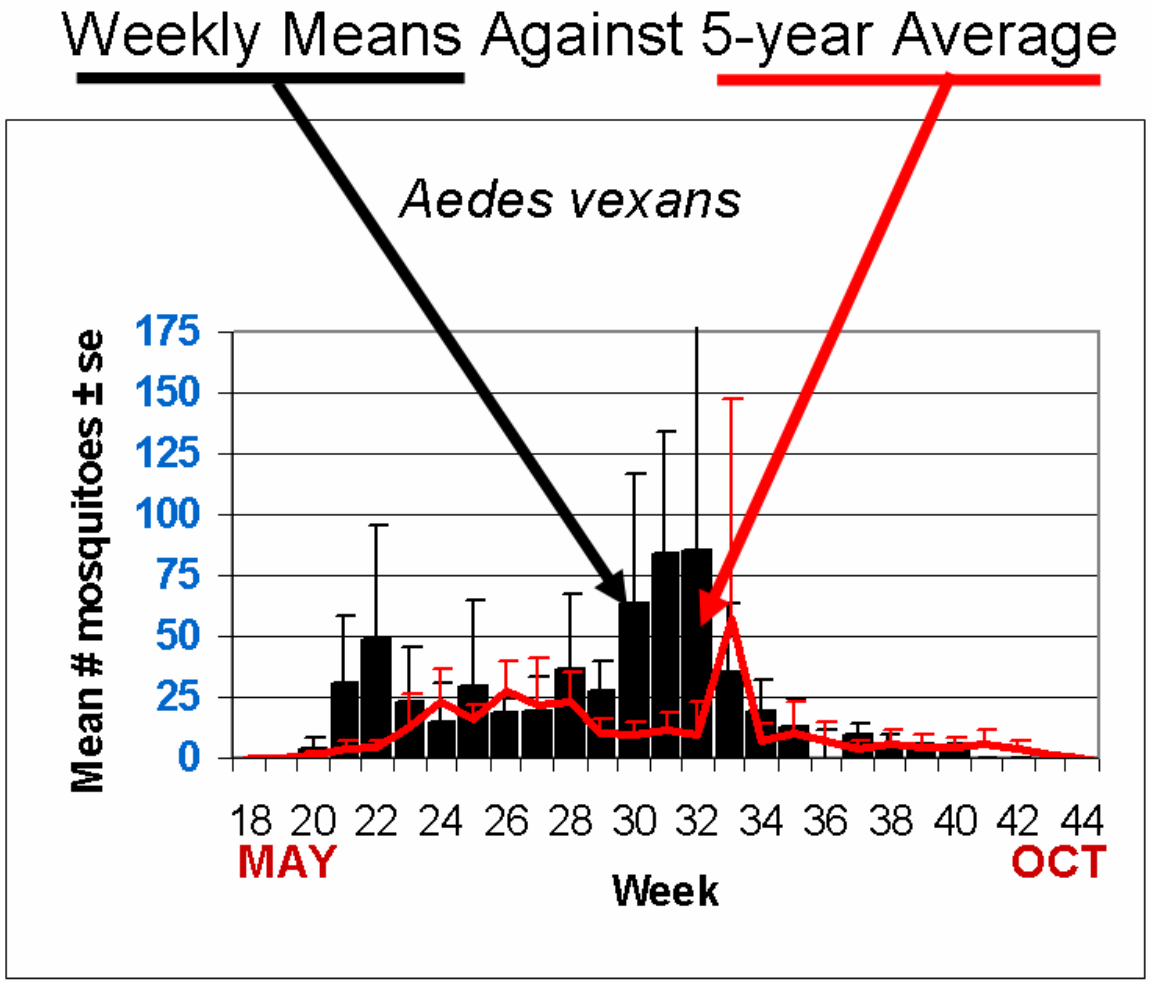






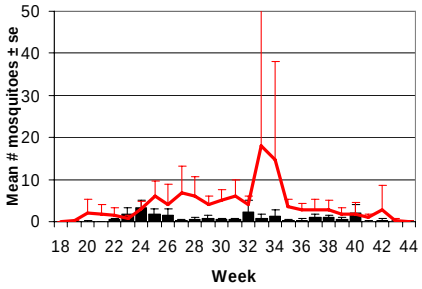
The figures show the average maximum temperature, minimum temperature and precipitation deviations from 30 year averages. Current data are from the Hillsborough NJ weather station (a station close to central NJ which recorded all three parameters and was available online at the NJ state climatologist) while historical data was from the New Brunswick weather station. Color bars above the zero line indicate warmer maximum or minimum temperatures and wetter conditions while white bars indicate cooler temperatures and dryer conditions.

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 week are from Atlantic, Bergen, Cape May, Cumberland, Mercer, Middlesex and Warren counties. Note: County data is sent in at a variety of times during the week, and some counties suspend light trap operation in October.

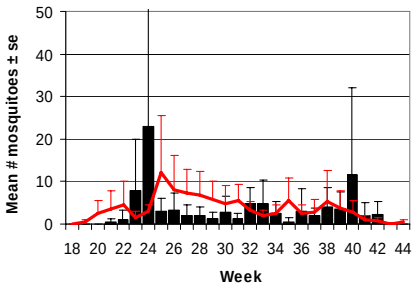


Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

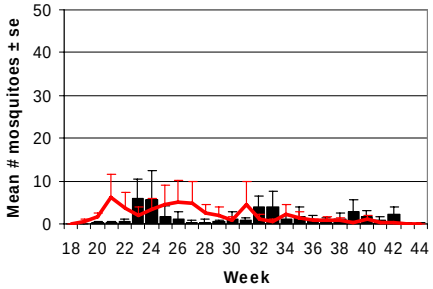
Agricultural



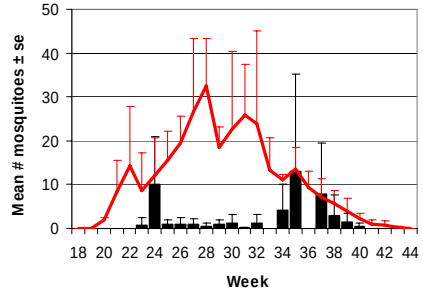
Coastal



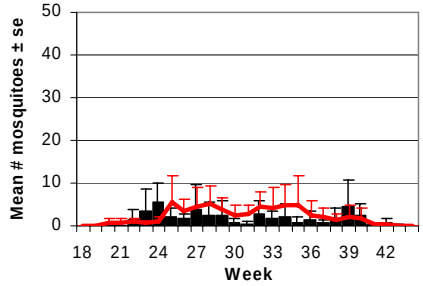
Delaware Bayshore



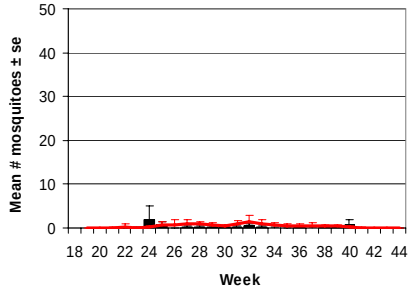
Delaware River Basin



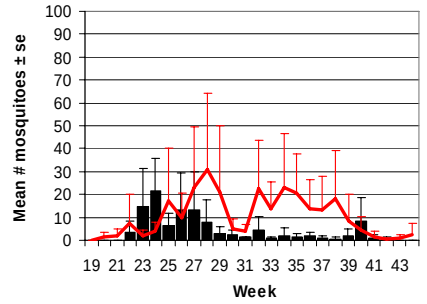
New York Metro



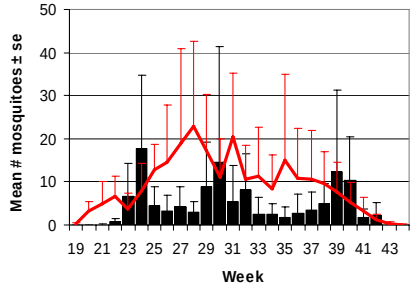
North Central Rural



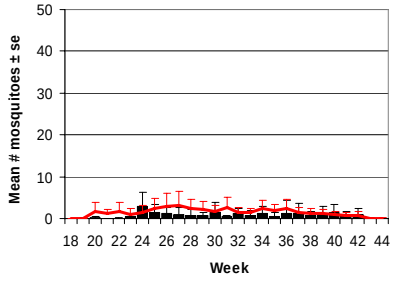
Northwestern Rural



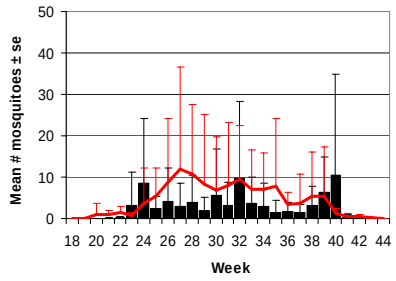
Philadelphia Metro



Pinelands



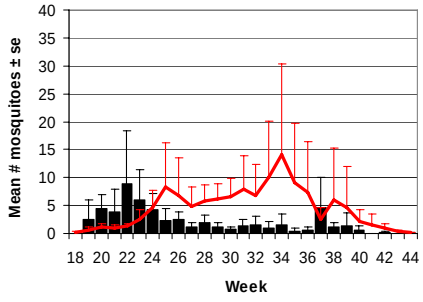
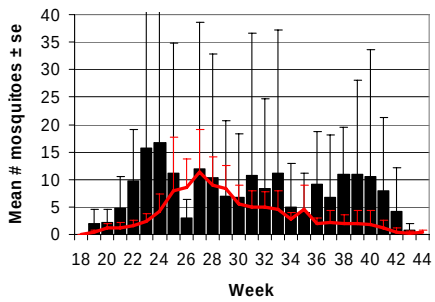
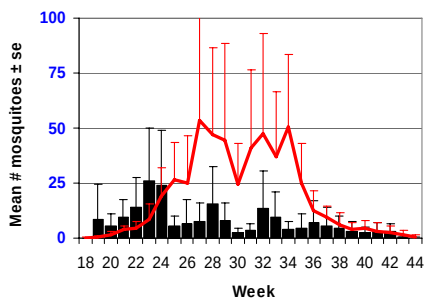
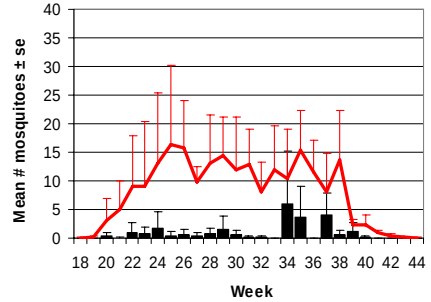
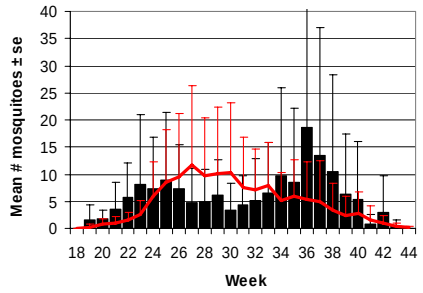
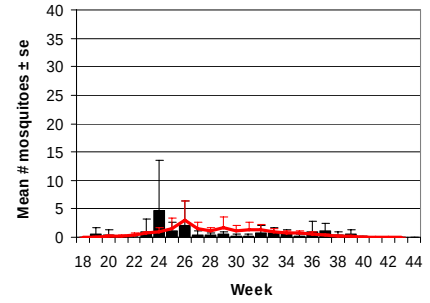
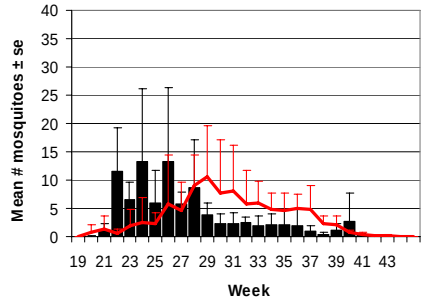
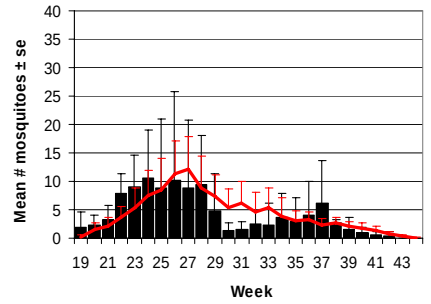
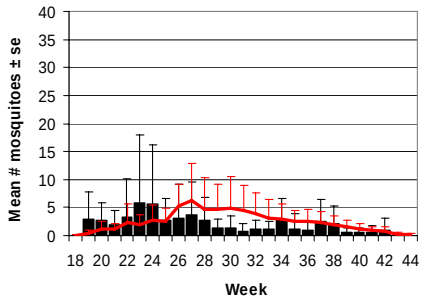
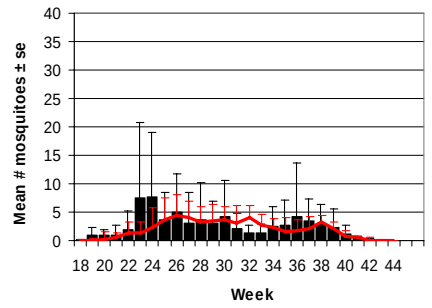
Suburban Corridor



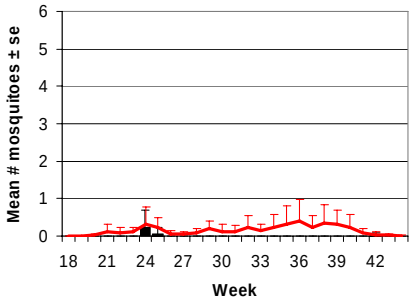
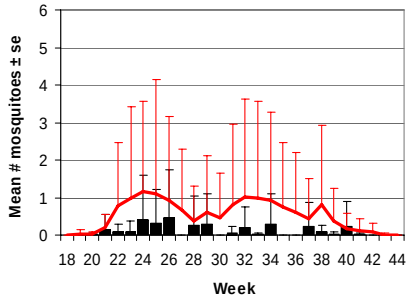
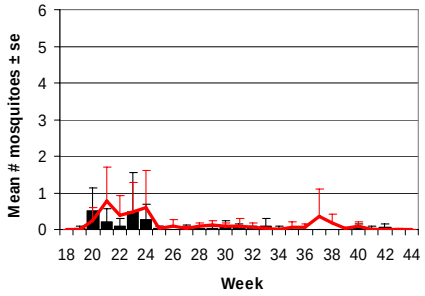
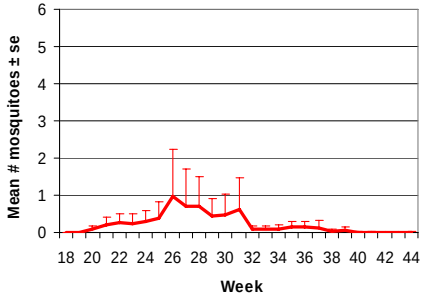
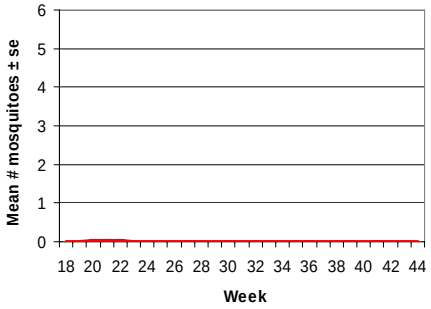
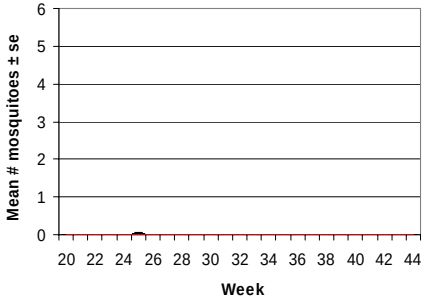
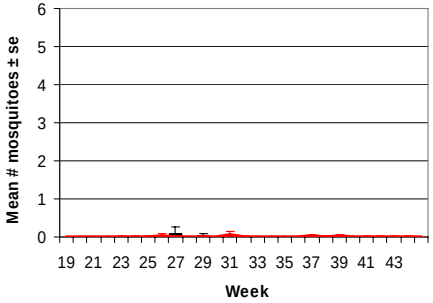
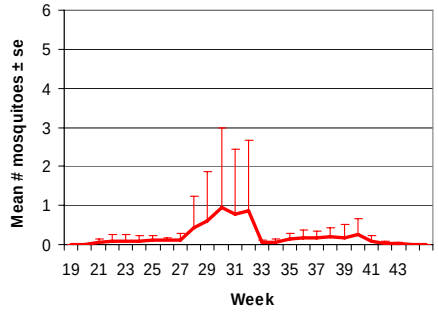
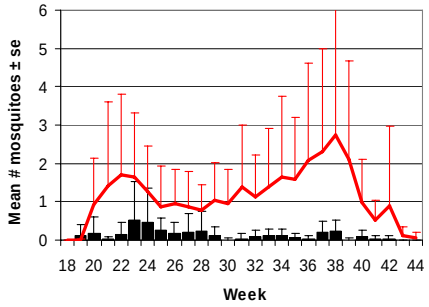
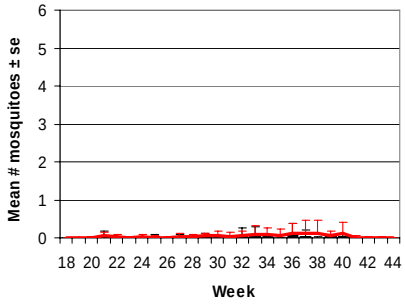
Comments

Aedes vexans continue to decline, particularly from areas where populations levels were low overall.

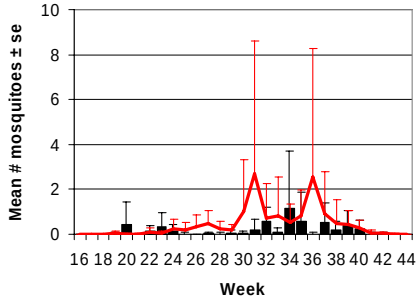
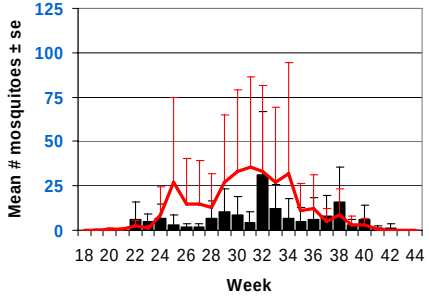
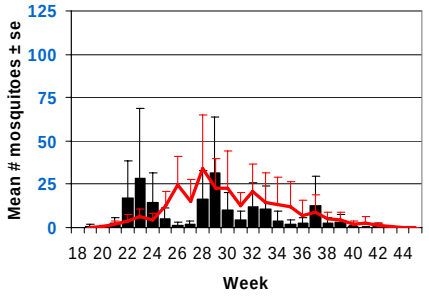
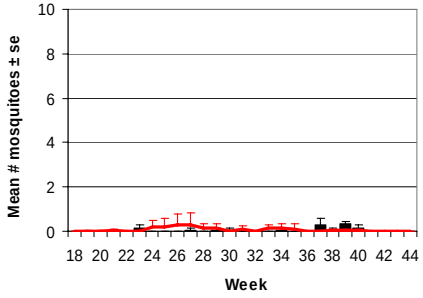
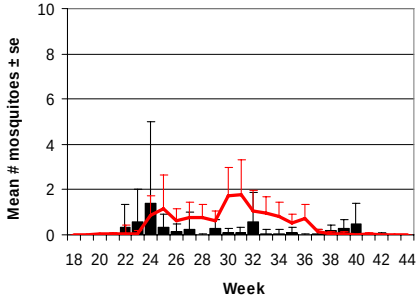
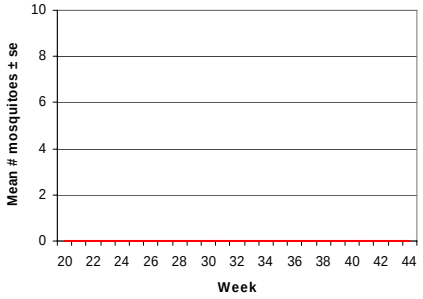
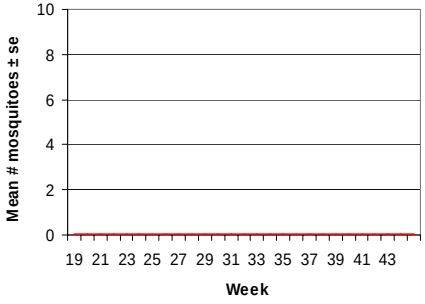
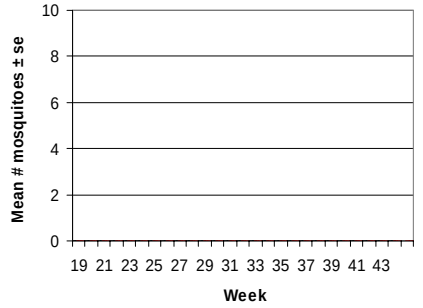
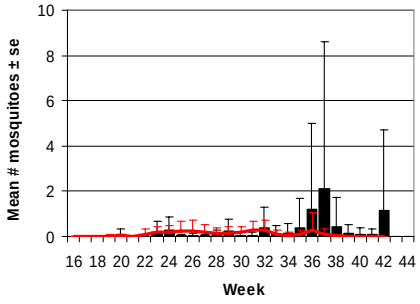
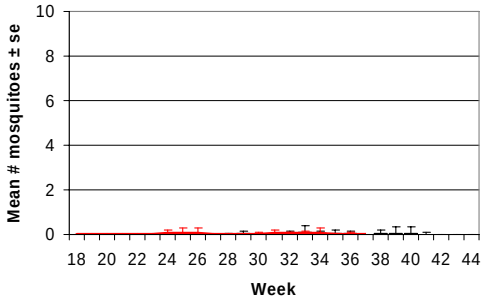
Culex Mix – Permanent Water Species
Multivoltine *Culex*/*Anopheles* (*Cx. pipiens* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culex* populations continue their decline as they make their way into hibernaculae.	

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* populations have declined, although the resting box population at one of the monitoring sites (in the Pinelands) of the Vector Surveillance program showed an increase. However, these populations continue to remain small in comparison to historical data. Eastern equine encephalitis virus was still detected this year in these reduced populations.	

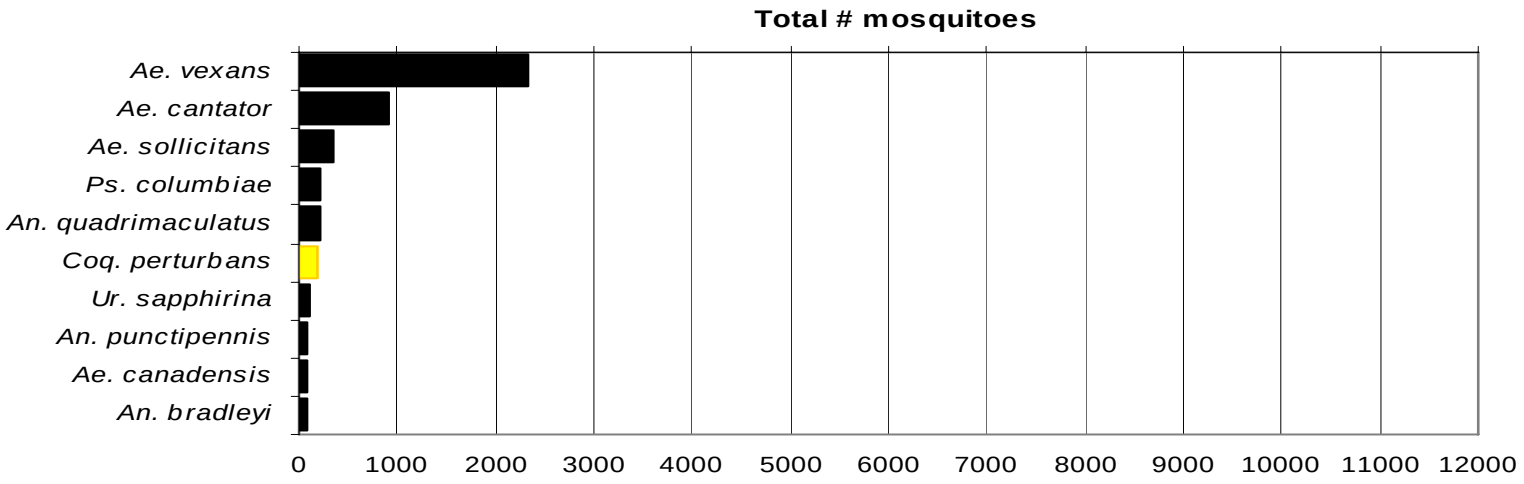
Aedes sollicitans - Salt Floodwater Species
Multivoltine Aedine (*Ae. sollicitans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* populations were only reported in the Delaware Bayshore, although some populations may still be on the wing. The previous week, a relatively large number of *Ae. sollicitans* were reported in the pinelands, possibly some individuals searching for bloodmeals/nectar.	

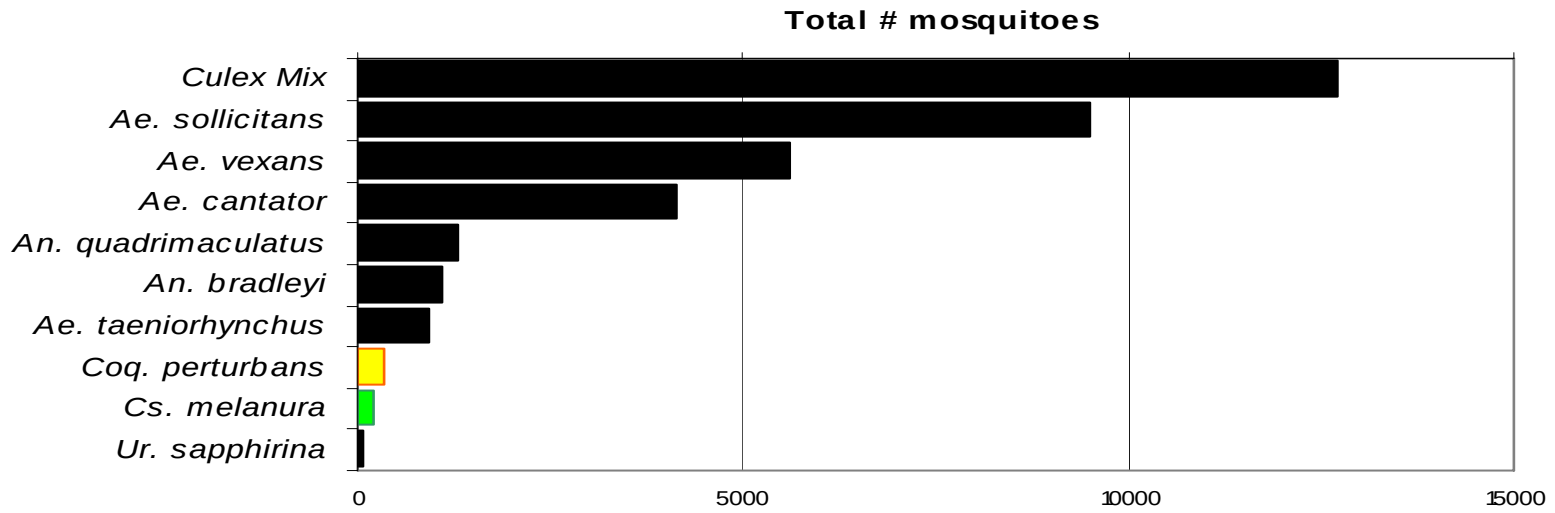
WNV *EEE*

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

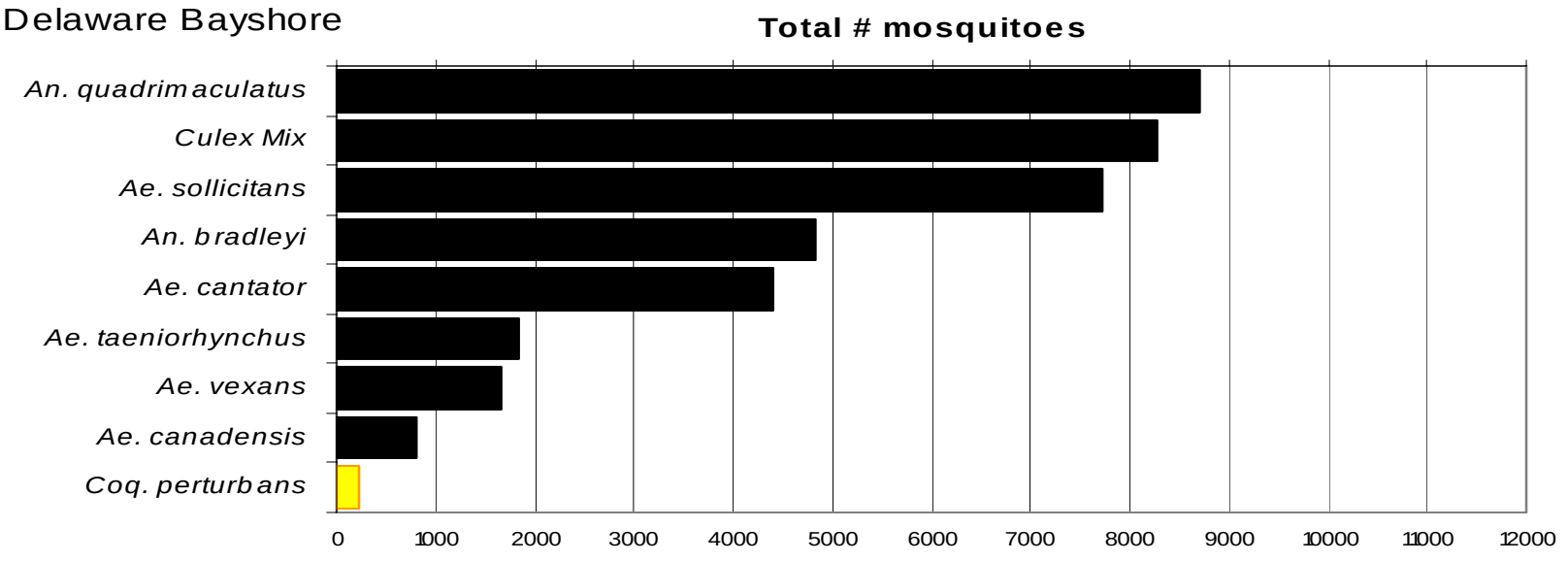
Agricultural



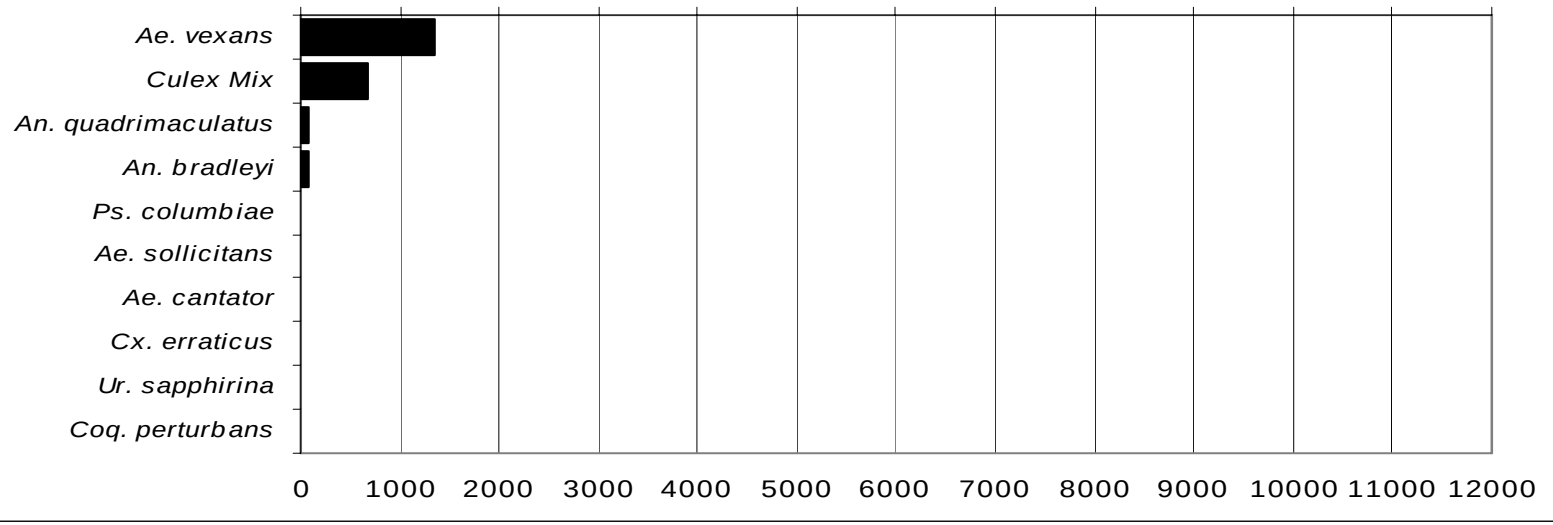
Coastal

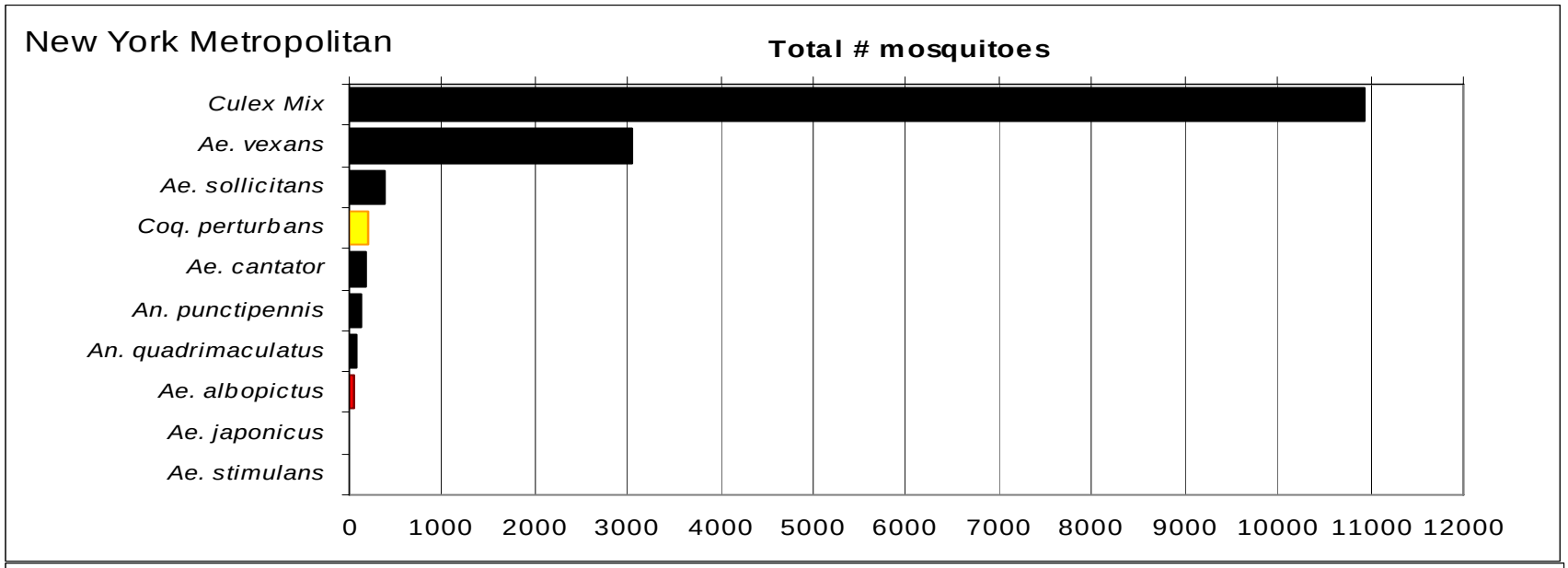


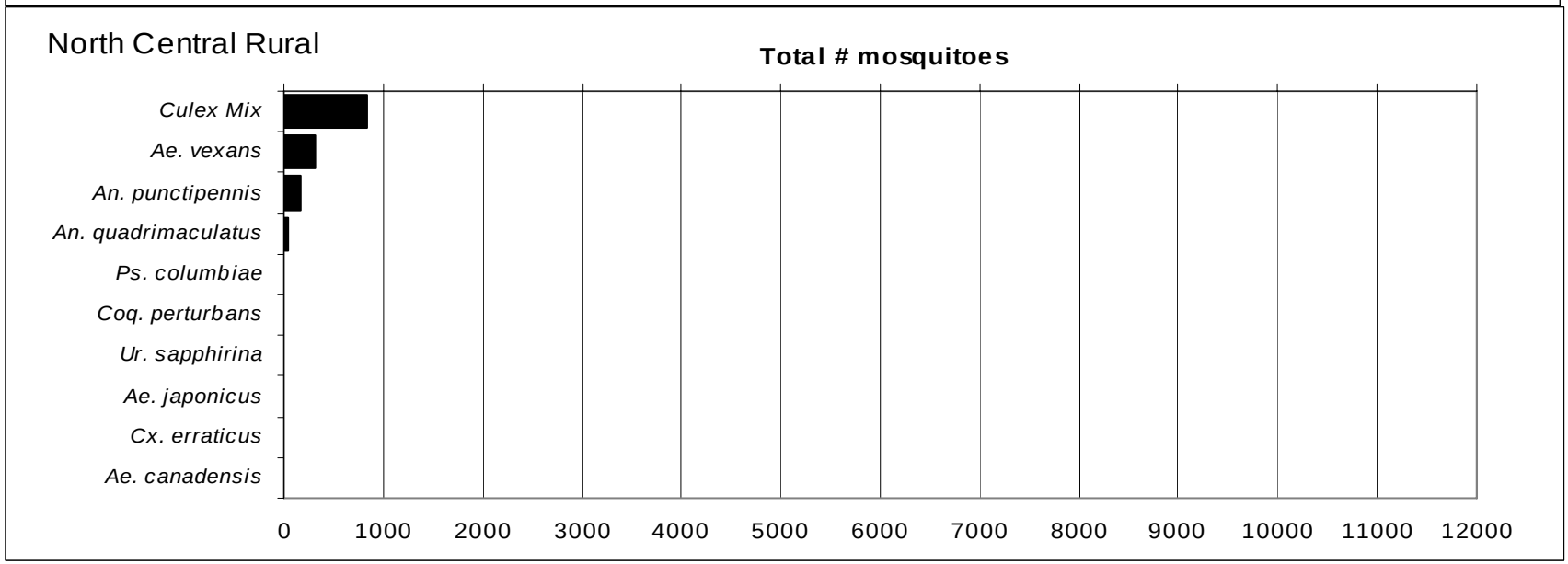
Delaware Bayshore



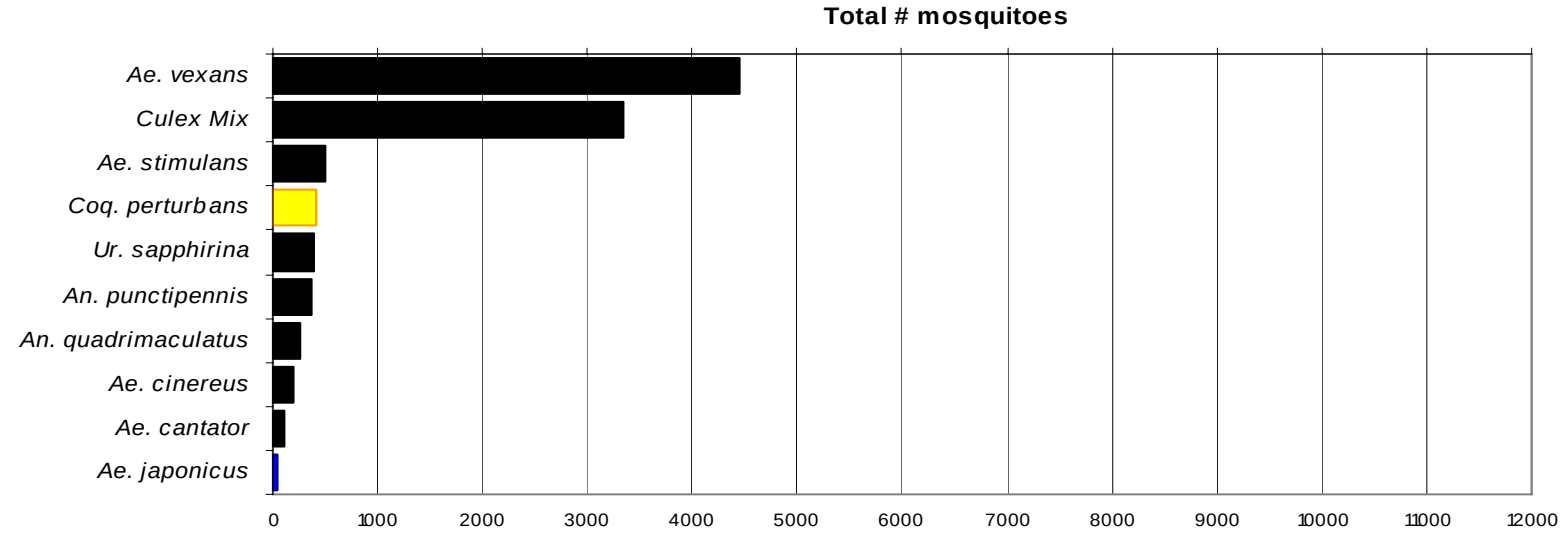
Delaware River Basin



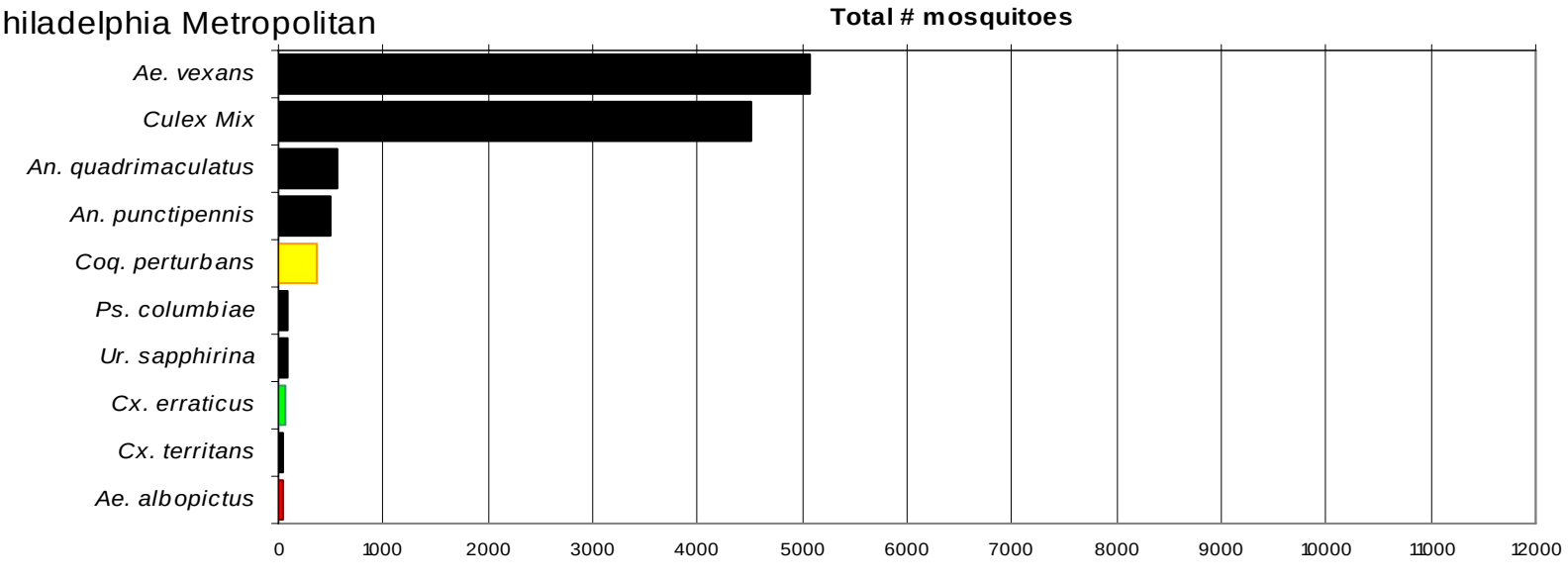

New York Metropolitan
Total # mosquitoes
Culex Mix
Ae. vexans
Ae. sollicitans
Coq. perturbans
Ae. cantator
An. punctipennis
An. quadrimaculatus
Ae. albopictus
Ae. japonicus
Ae. stimulans
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000

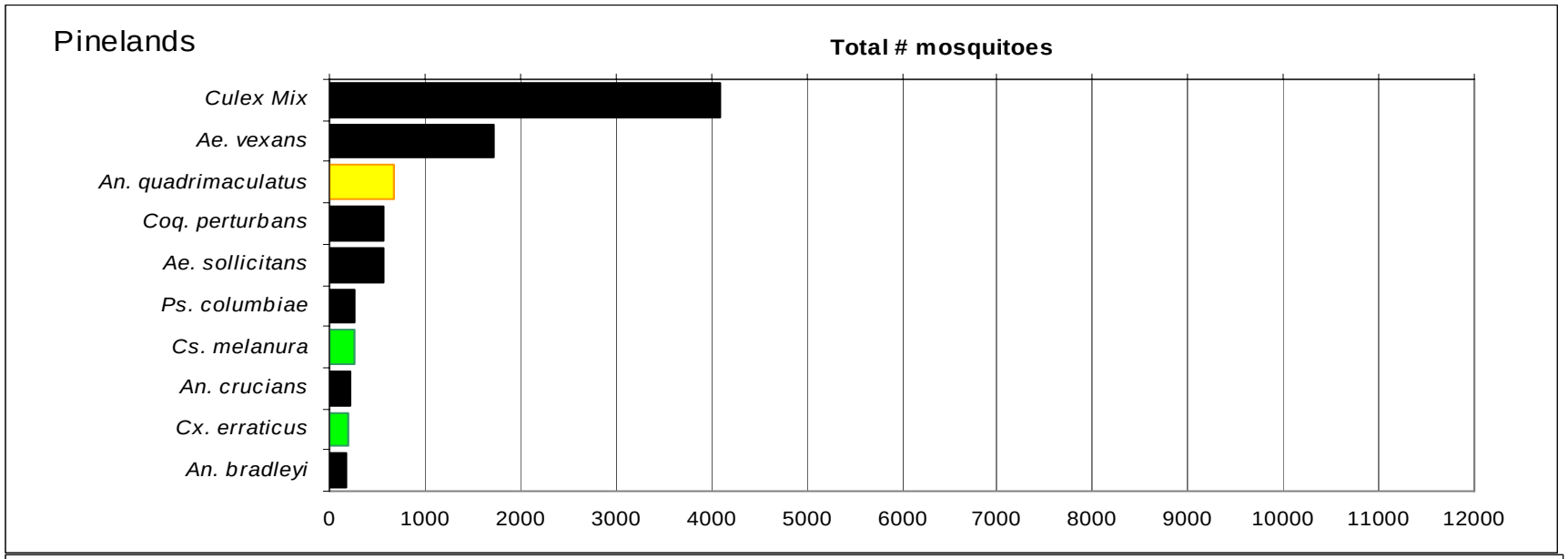

North Central Rural
Total # mosquitoes
Culex Mix
Ae. vexans
An. punctipennis
An. quadrimaculatus
Ps. columbiae
Coq. perturbans
Ur. sapphirina
Ae. japonicus
Cx. erraticus
Ae. canadensis
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000

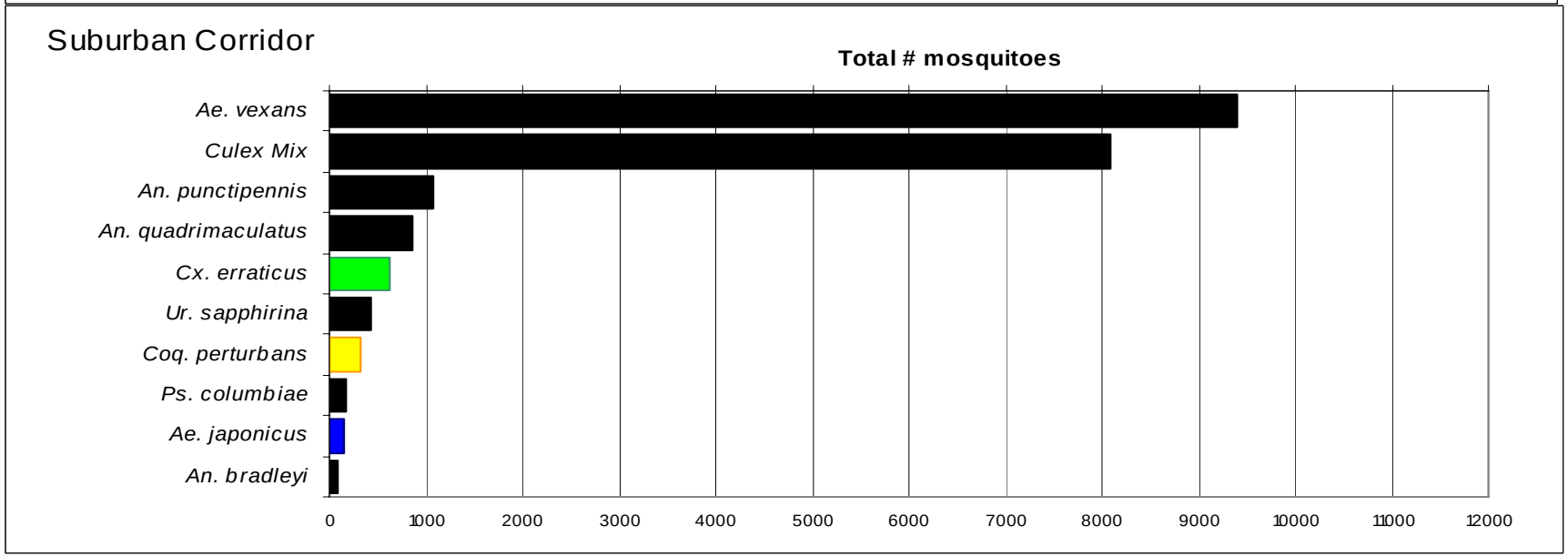
Northwest Rural



Philadelphia Metropolitan




Pinelands
Total # mosquitoes
Culex Mix
Ae. vexans
An. quadrimaculatus
Coq. perturbans
Ae. sollicitans
Ps. columbiae
Cs. melanura
An. crucians
Cx. erraticus
An. bradleyi
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000


Suburban Corridor
Total # mosquitoes
Ae. vexans
Culex Mix
An. punctipennis
An. quadrimaculatus
Cx. erraticus
Ur. sapphirina
Coq. perturbans
Ps. columbiae
Ae. japonicus
An. bradleyi
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000