NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 17 July to 23 July 2011, CDC Week 29

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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.

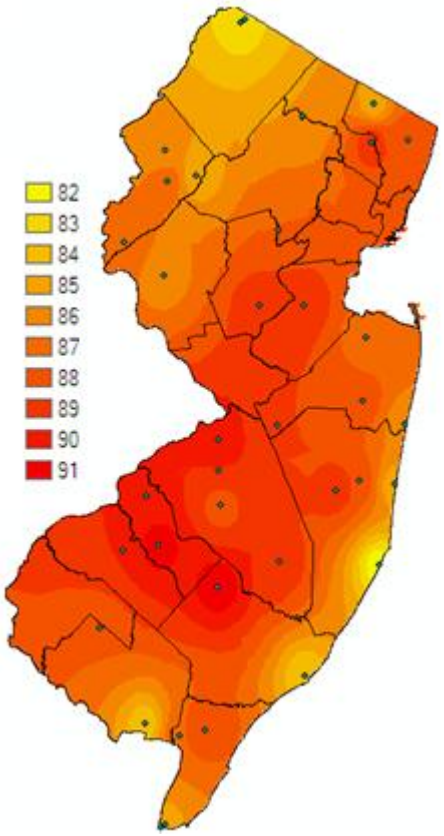
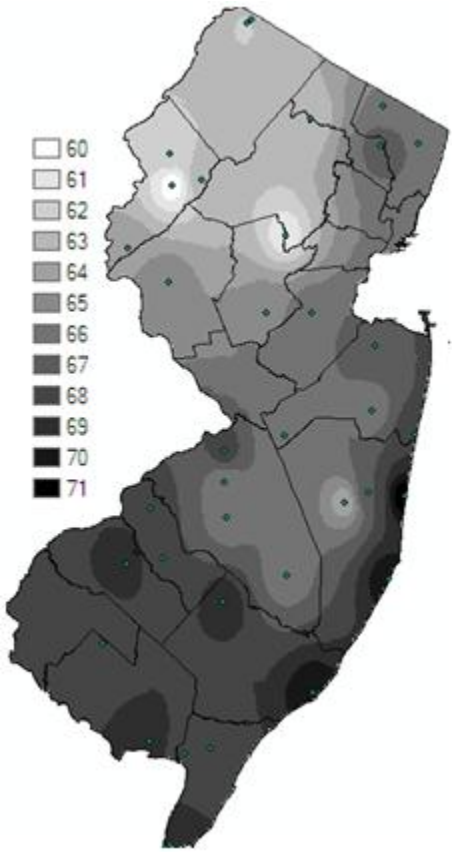
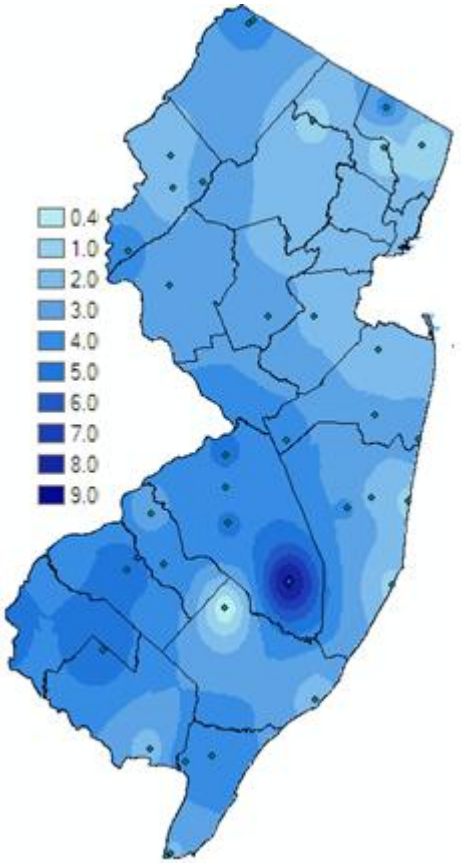
Summary Table – Week 29

	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	**1.76**	**3.30**	**0**	**0.69**	**3.25**	**0**	**1.17**	**0.29**	**4**	**0.10**	**0.10**	**0**
Coastal	**1.95**	**3.95**	**0**	**2.37**	**4.31**	**0**	**0.02**	**0.47**	**0**	**19.51**	**12.75**	**2**
Delaware Bayshore	**1.29**	**1.30**	**0**	**23.09**	**14.14**	**2**	**0.51**	**1.92**	**0**	**12.66**	**12.82**	**0**
Delaware River Basin	**1.71**	**14.44**	**0**	**0.00**	**3.00**	**0**	**0.07**	**0.28**	**0**	**0.00**	**0.06**	**0**
New York Metro	**0.93**	**4.81**	**0**	**2.73**	**9.56**	**0**	**0.01**	**0.20**	**0**	**1.49**	**0.48**	**4**
North Central Rural	**0.04**	**0.68**	**0**	**0.00**	**0.72**	**0**	**0.02**	**0.03**	**0**	**0.00**	**0.00**	**0**
Northwest Rural	**55.77**	**27.20**	**3**	**4.20**	**5.55**	**0**	**4.36**	**1.44**	**4**	**0.00**	**0.00**	**0**
Philadelphia Metro	**4.86**	**15.35**	**0**	**1.32**	**5.40**	**0**	**0.00**	**0.25**	**0**	**0.00**	**0.00**	**0**
Pinelands	**0.57**	**1.85**	**0**	**2.04**	**2.71**	**0**	**0.23**	**0.76**	**0**	**0.49**	**0.06**	**4**
Suburban Corridor	**1.36**	**10.30**	**0**	**1.45**	**2.49**	**0**	**0.21**	**0.72**	**0**	**0.02**	**0.02**	**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* abundances continued to be significantly above historical values in the Northwest Rural region. Higher numbers also continued for *Culex* species in the Delaware Bayshore region. *Coquillettidia perturbans* abundances were higher in the Agricultural and the Northwest Rural. *Aedes sollicitans* continues to be higher in the Coastal region as well as the New York Metro and the Pinelands.

Climate Factors

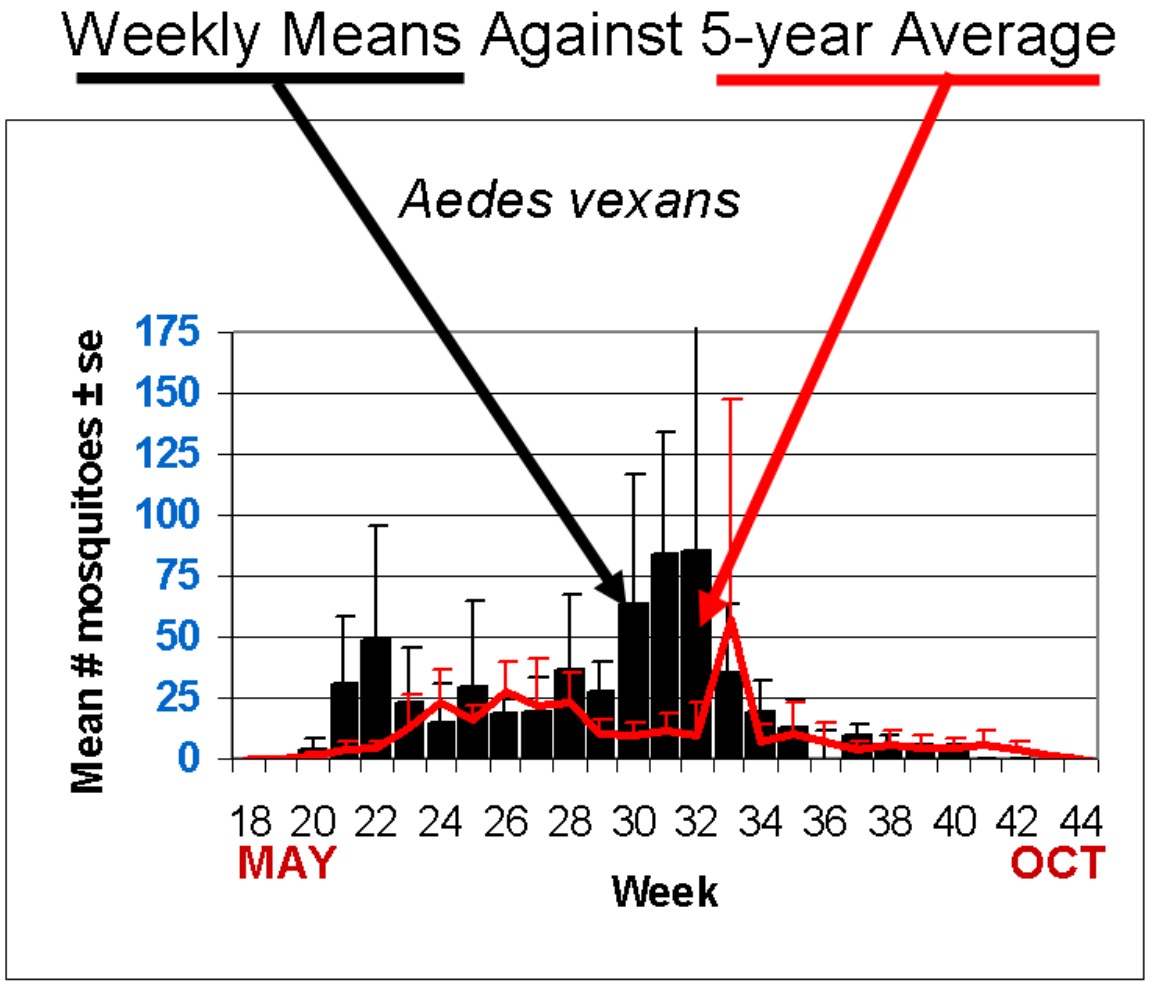
Average High Temperature	Average Low Temperature	Total Precipitation
		

The three figures show the interpolation of average maximum and minimum temperature and total precipitation from 1 July to 28 July, 2011 in New Jersey. Data points are from about 37 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points was performed using ArcMap 10.

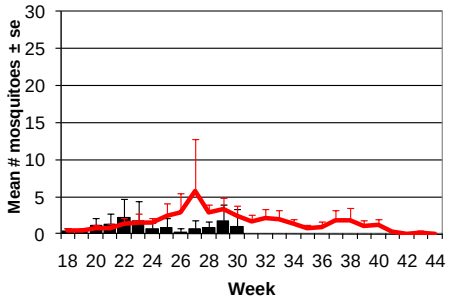
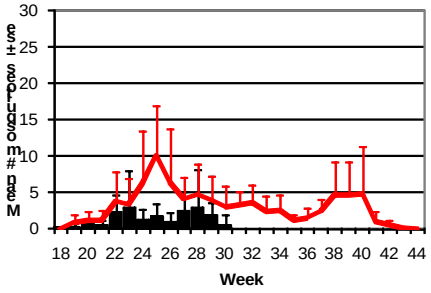
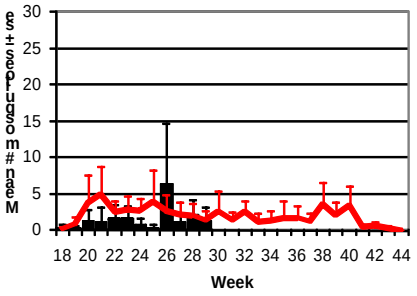
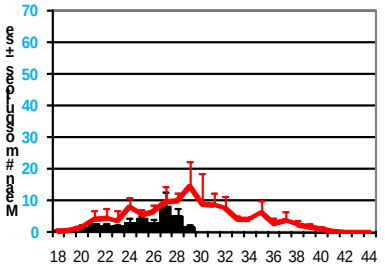
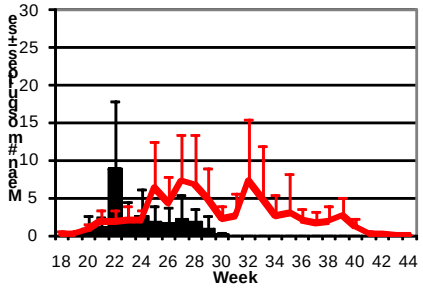
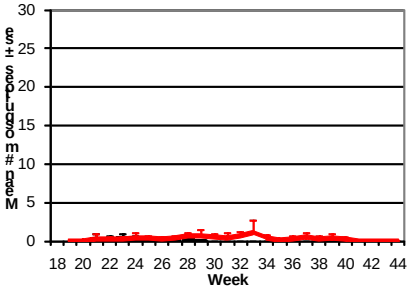
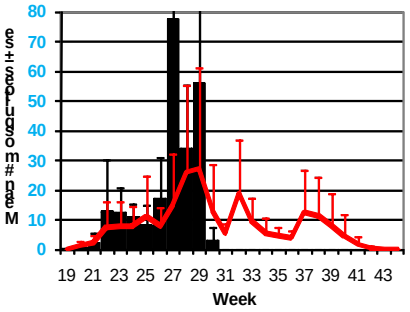
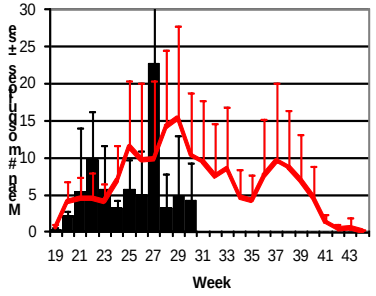
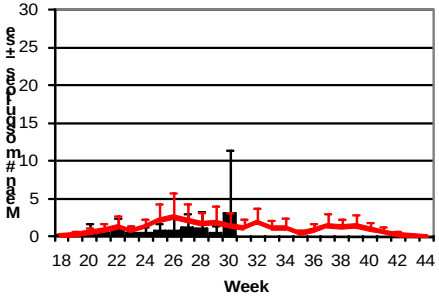
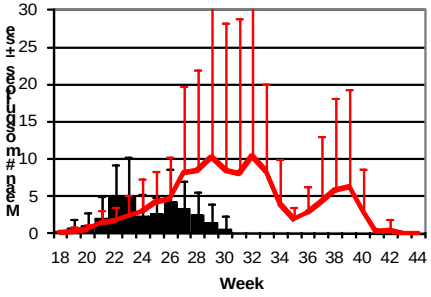
Average high temperatures increased at a few stations as New Jersey emerged from a heat wave the previous week. Average low temperatures were warmer than last week. Most places received some amount of precipitation.

NJ Weather & Climate NETWORK ONJSC at Rutgers University

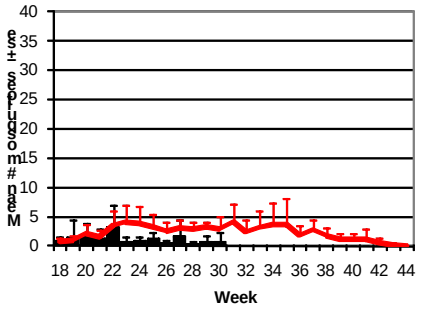
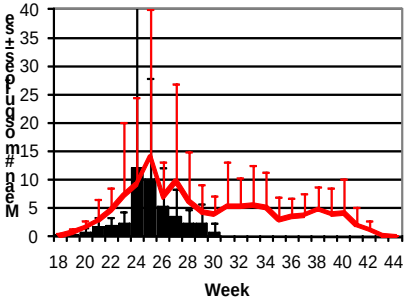
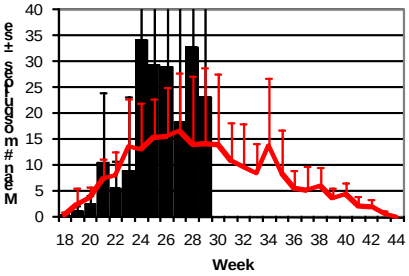
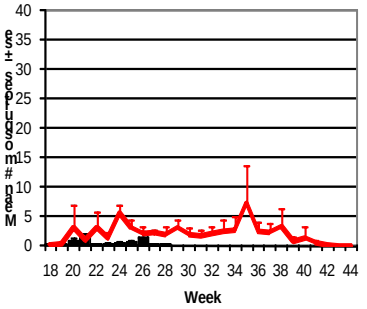
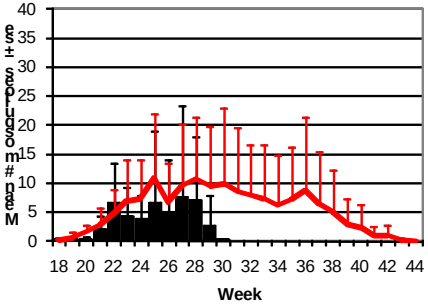
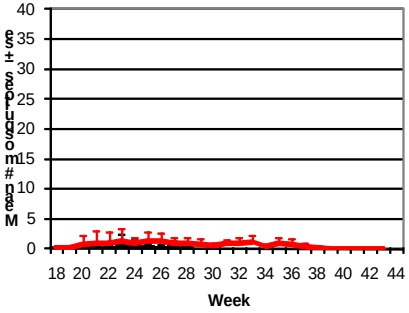
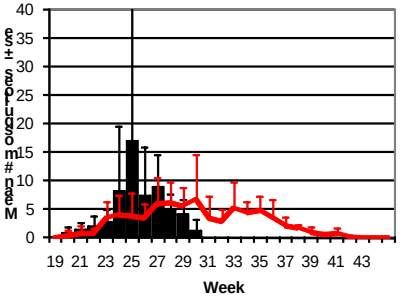
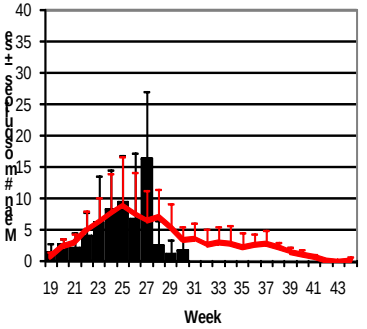
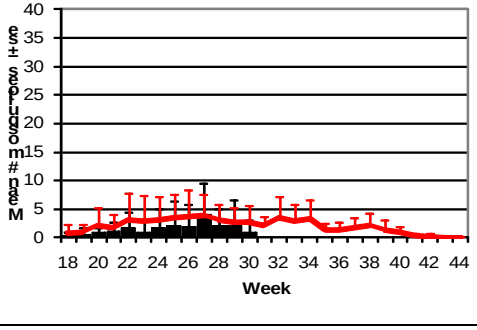
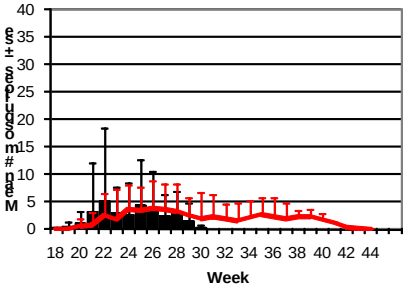
The Species Graphs: The species graph pages include a graph with two plots for each of the ten regions defined on the first page (Agricultural, Coastal, Delaware Bayshore, Delaware River, New York Metro, North-Central, Northwestern, Philadelphia Metro, Pinelands, and Suburban Corridor). Below is an example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



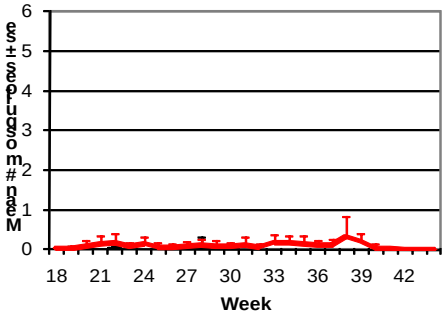
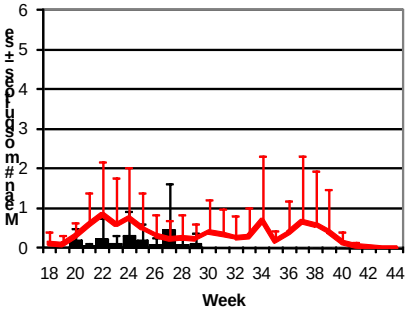
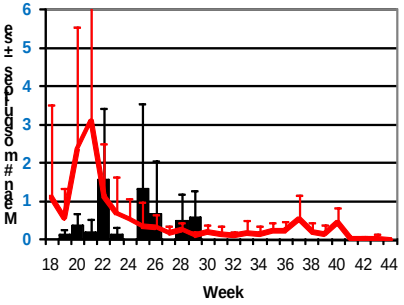
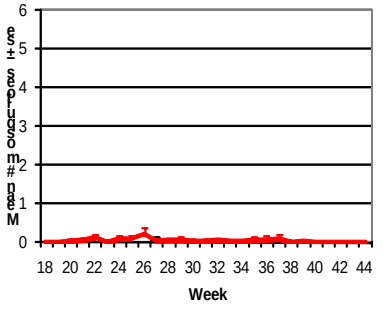
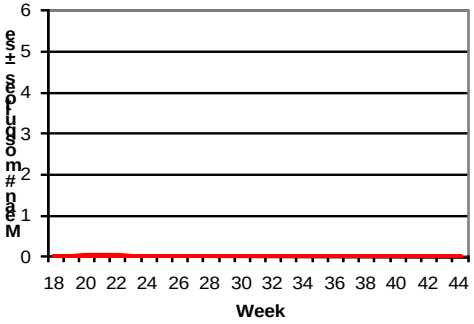
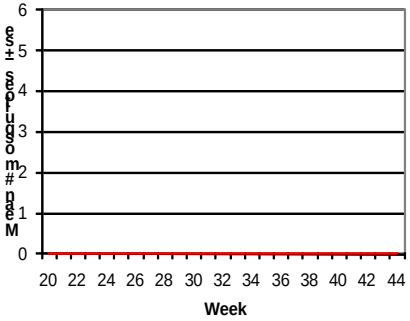
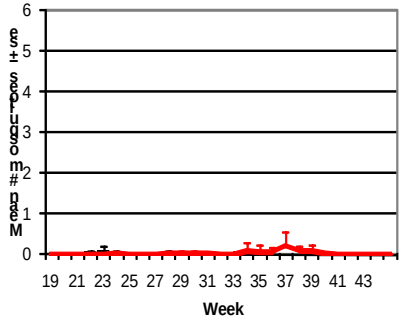
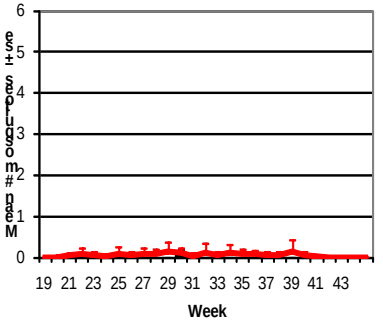
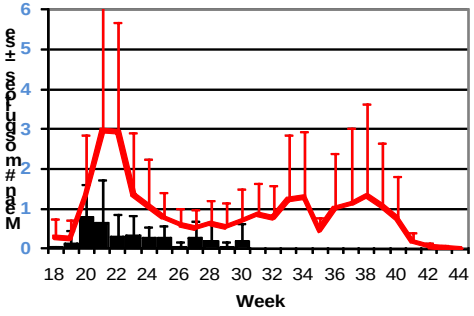
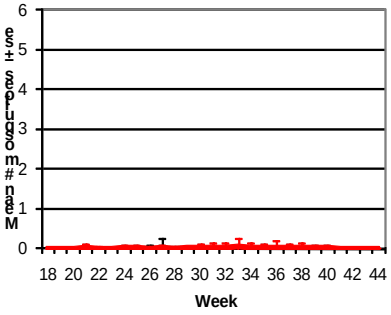
Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* populations continued to be above historical values in the Northwest Rural region. Other regions showing lower population levels (below historical) show the localized nature of precipitation. As the general pattern of rainfall has traveled south, numbers are picking up in the Pineland region where in this current week (CDC 30), *Ae. vexans* abundances are higher than historical values.	

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

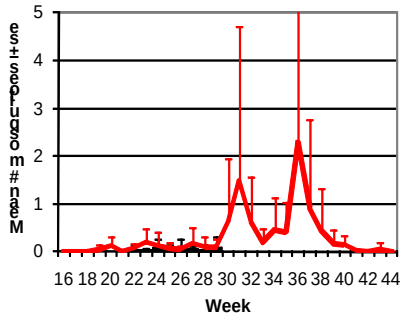
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culex* Mix is composed of *Culex pipiens, Cx. restuans* and *Cx. salinarius*. These three species (especially *pipiens* and *restuans*) are often difficult to tell apart after encountering the damaging blades of the New Jersey light trap. The Delaware Bayshore continued to experience significant number of *Cx. salinarius* as well as *Culex* classified as Mix. Other regions have populations that are either at historical levels (Pinelands, Suburban Corridor) or are below historical levels (Agricultural and the Delaware Bayshore, for example).	

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

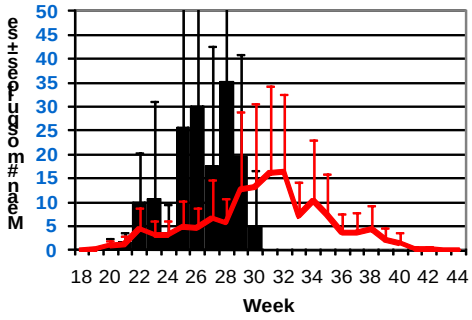
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culiseta melanura* is the enzootic ornithophilic vector of eastern equine encephalitis. *Cs. melanura* populations, while still below historical trends, may be increasing slowly. Numbers continue to be above historical levels in the Delaware Bayshore region. Resting box values from the vector surveillance program continue to also show low numbers. There have been no positive eastern equine encephalitis pools of any species detected yet in New Jersey.	

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

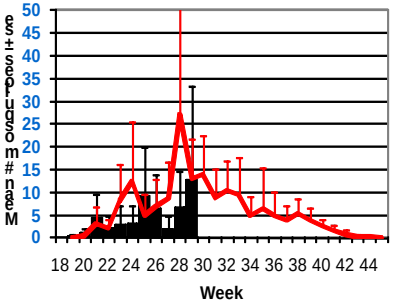
Agricultural



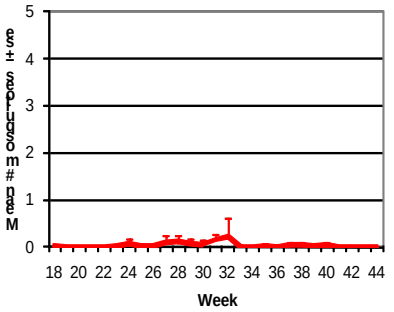
Coastal



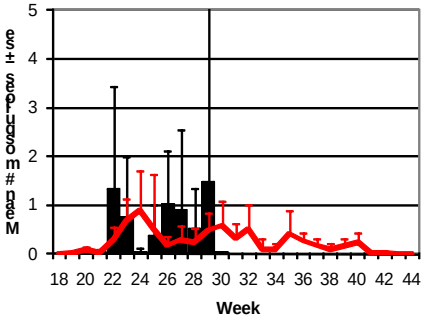
Delaware Bayshore



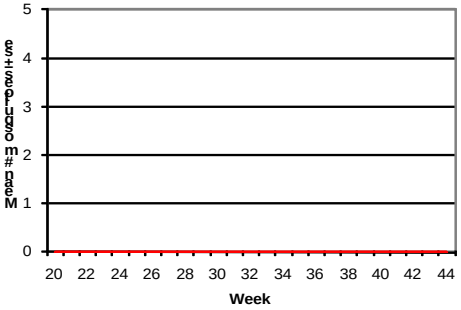
Delaware River Basin



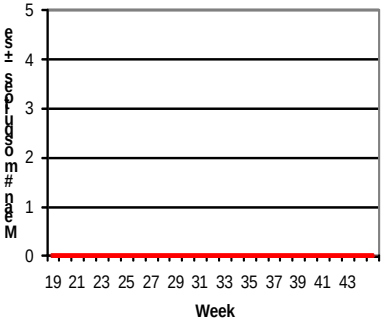
New York Metro



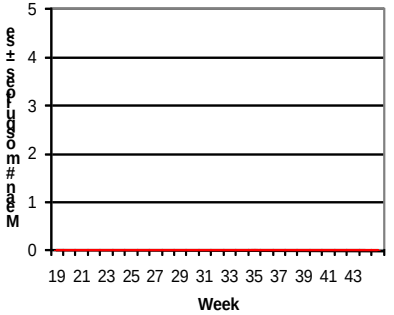
North Central Rural



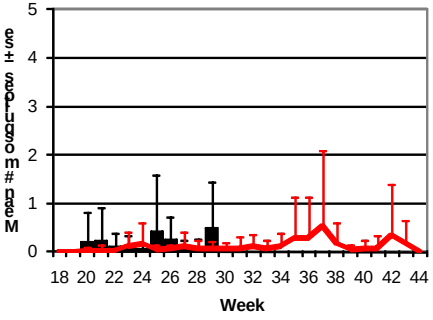
Northwestern Rural



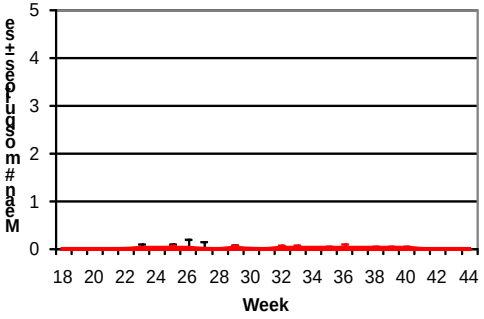
Philadelphia Metro



Pinelands



Suburban Corridor

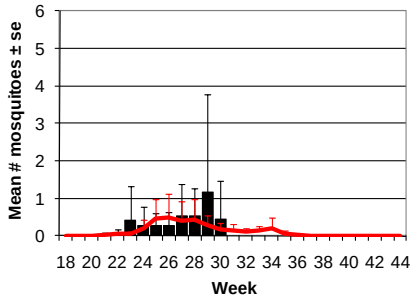
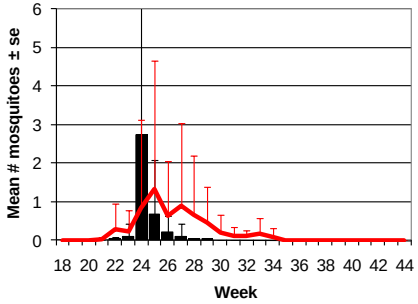
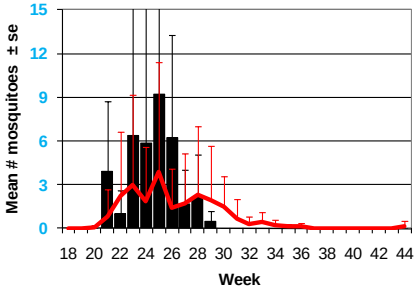
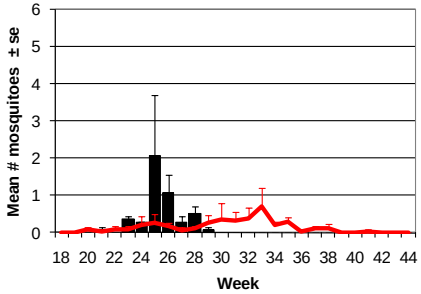
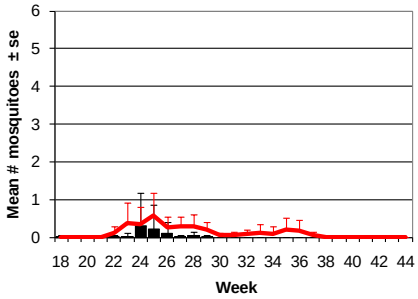
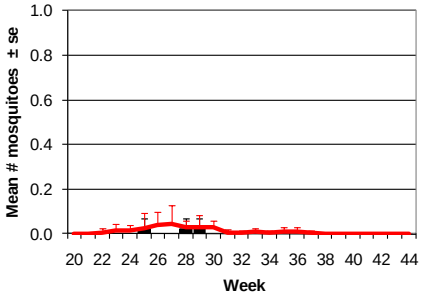
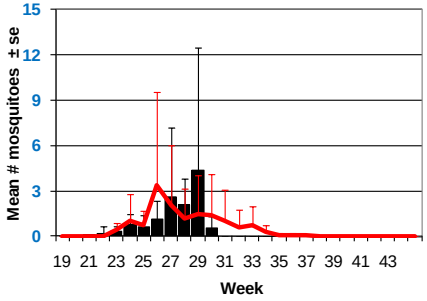
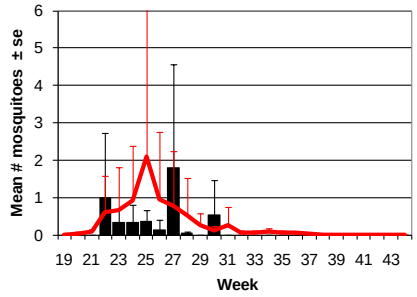
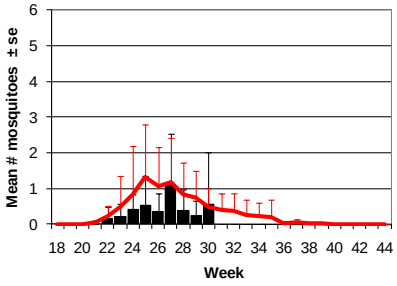
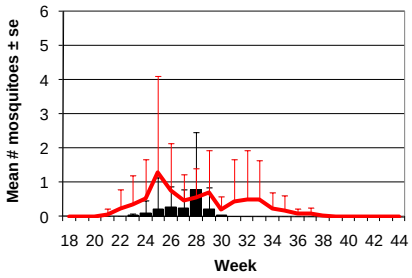


Comments

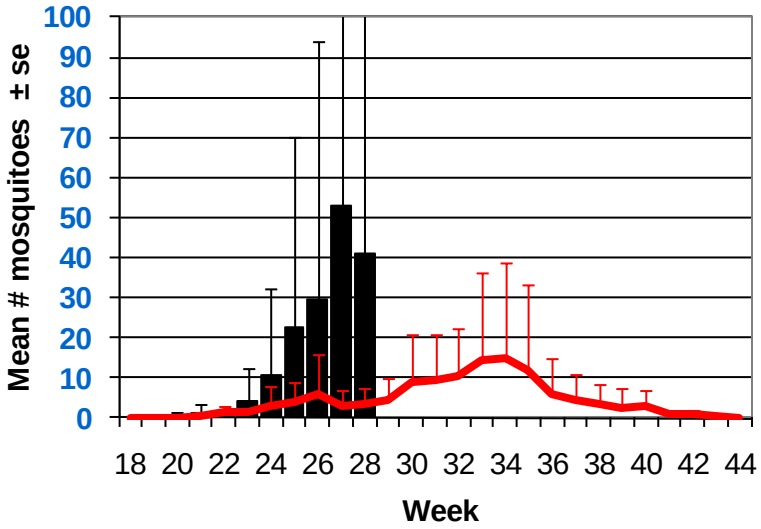
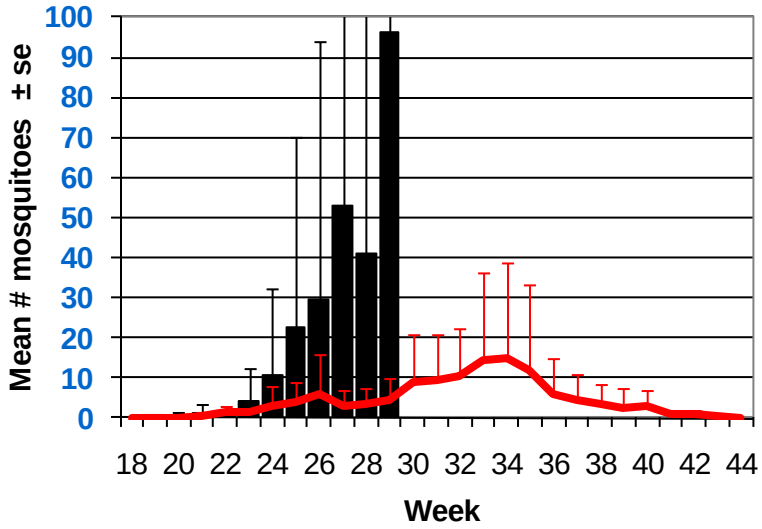
Aedes sollicitans population abundances in the Coastal region continued to be above historical trends with increases also seen in the New York Metropolitan region as well as the Pinelands. This species of mosquito is infamous for their migratory abilities, causing discomfort for people located well away from their natal habitat, the saltmarsh. *Ae. sollicitans* can vector dog heartworm and may be responsible for coastal cases of EEE.

Next Full Moon: 13 August.

Coquillettidia perturbans
Monotypic (*Coq. 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* abundances continued to be higher in the Agricultural, and the Northwest Rural regions as compared to historical values. Eastern equine encephalitis has been detected in this species, and may play a role in inland cases of this disease.	

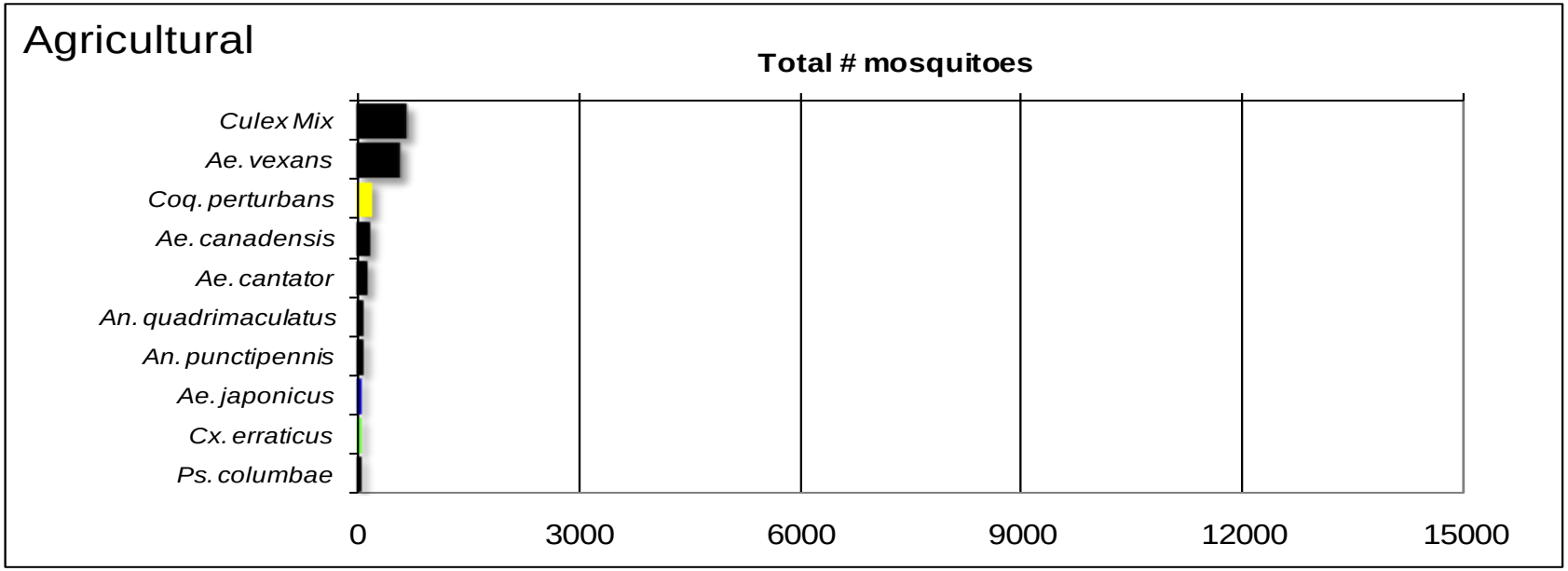
Anopheles bradleyi in the Delaware Bayshore: Last week, numbers of *An. bradleyi* were well above historical values. This week, their population exploded, particularly at one trap, where 2000 individuals were caught.

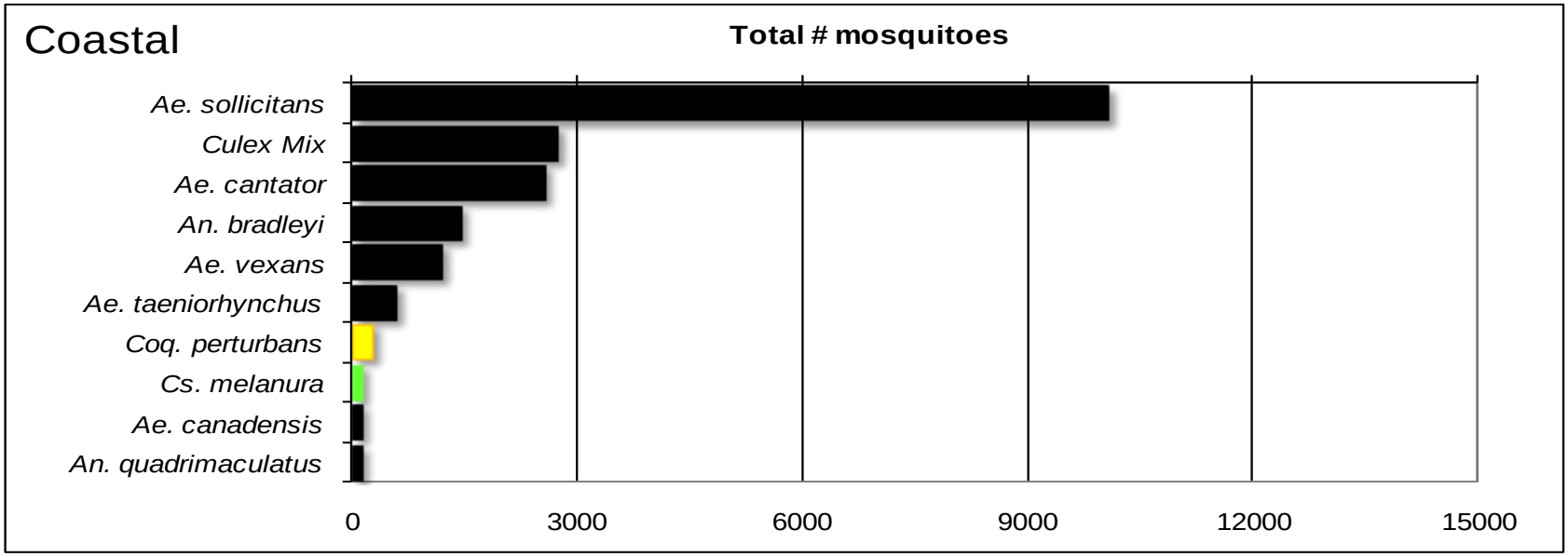
Last Week	This Week
	

WNV *EEE*

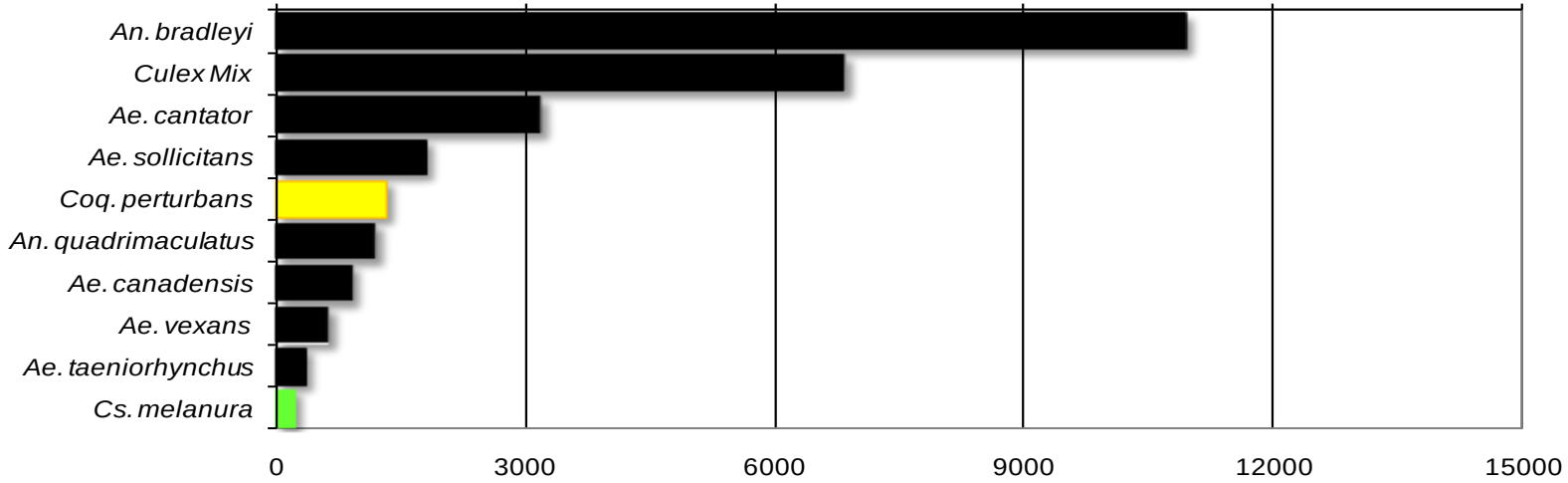
Top Ten Mosquito Species/Region - *Ae. albopictus,* *Ae. japonicus (invasives);* *Cs. melanura or Cx. erraticus* *Coq. perturbans*

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

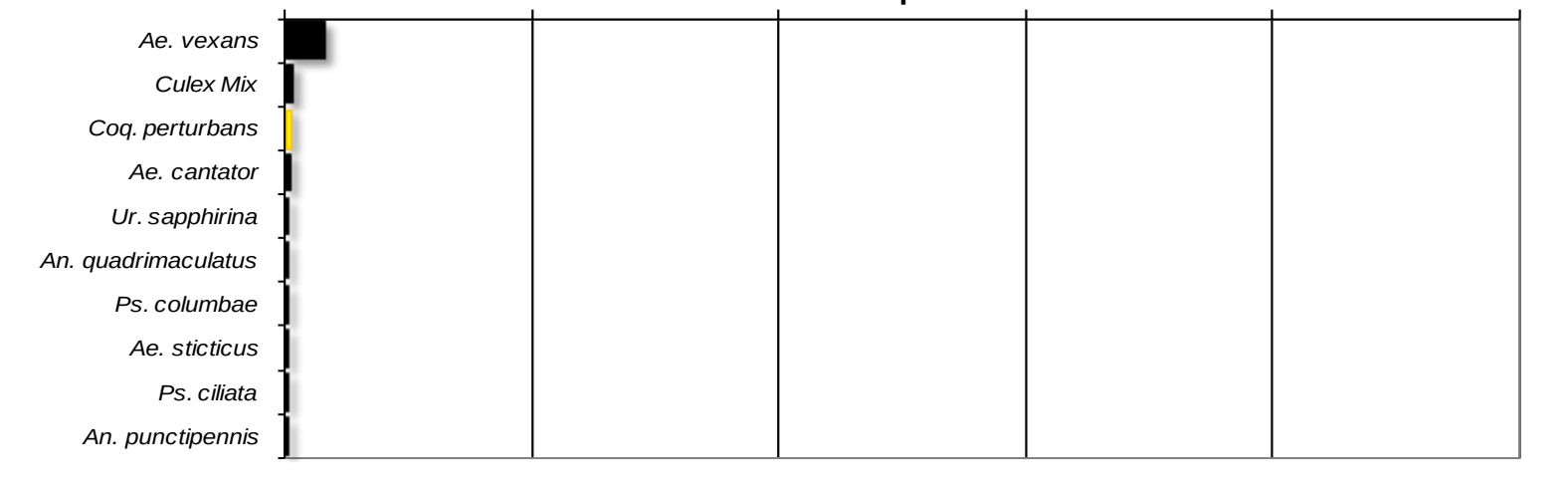




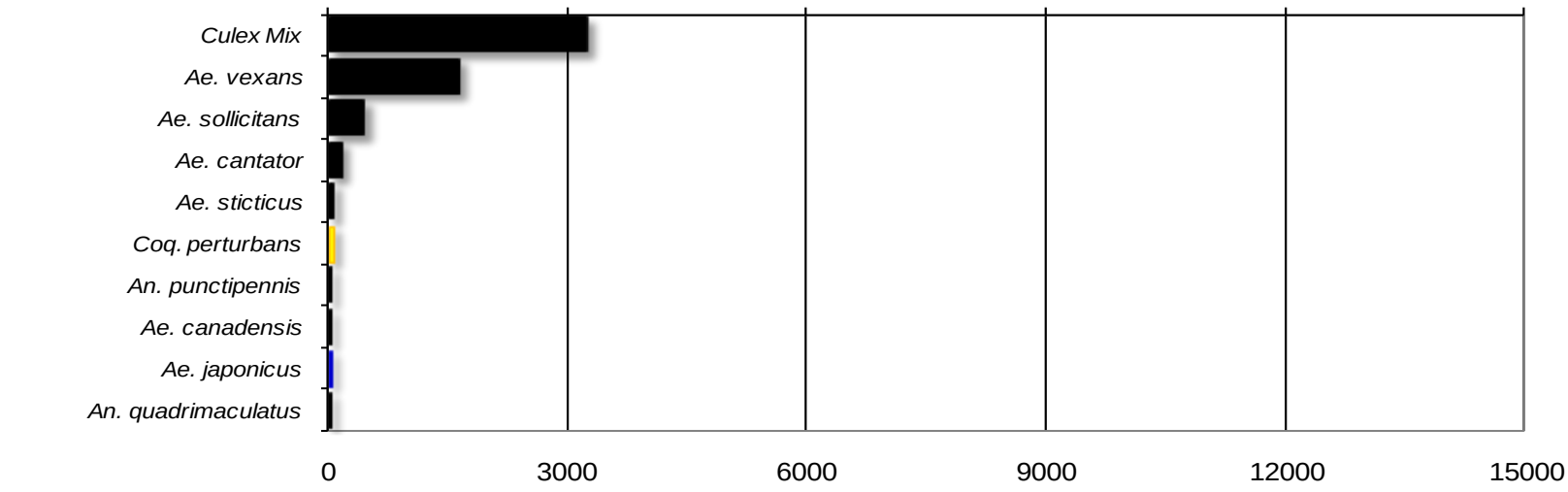
Delaware Bayshore



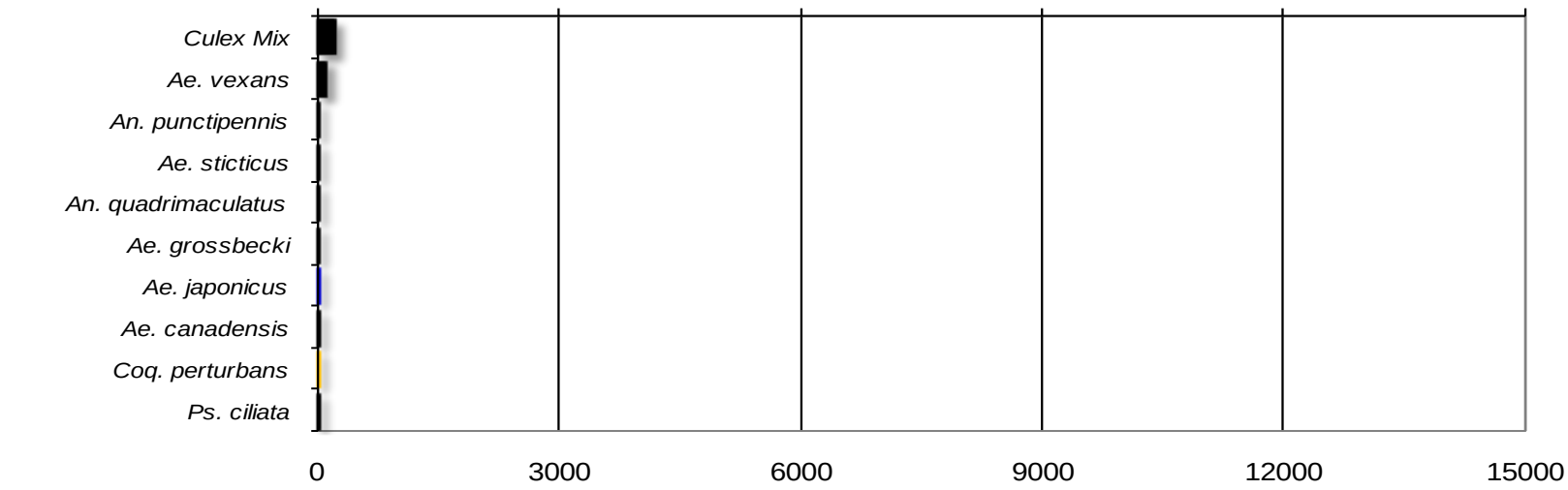
Delaware River Basin



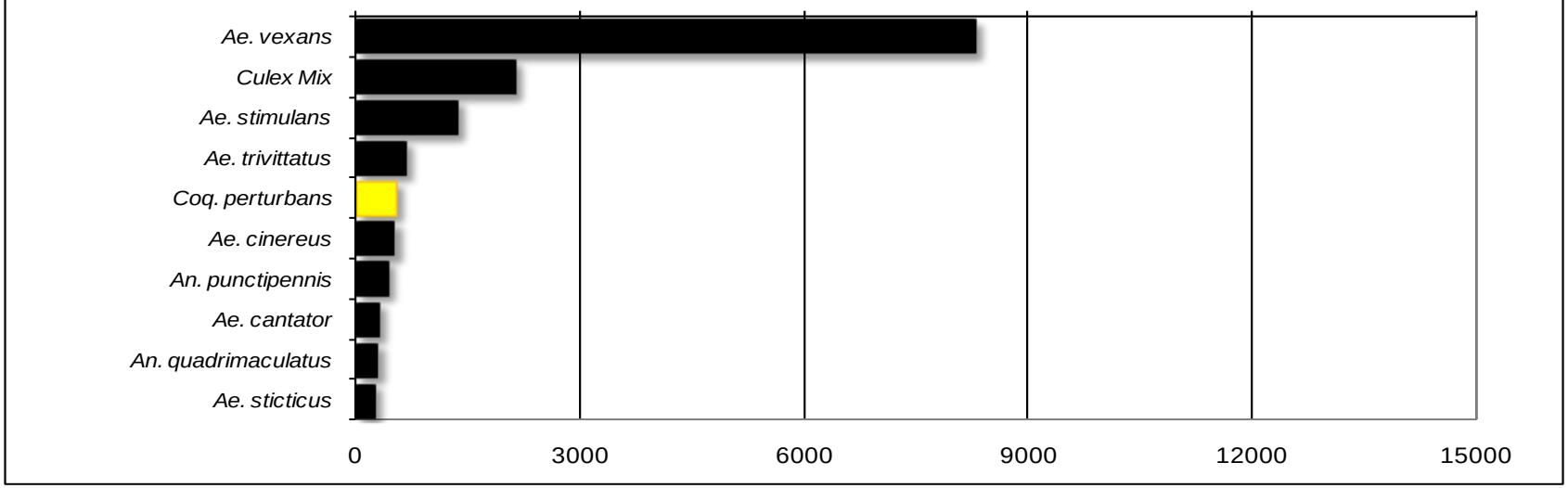
New York Metropolitan



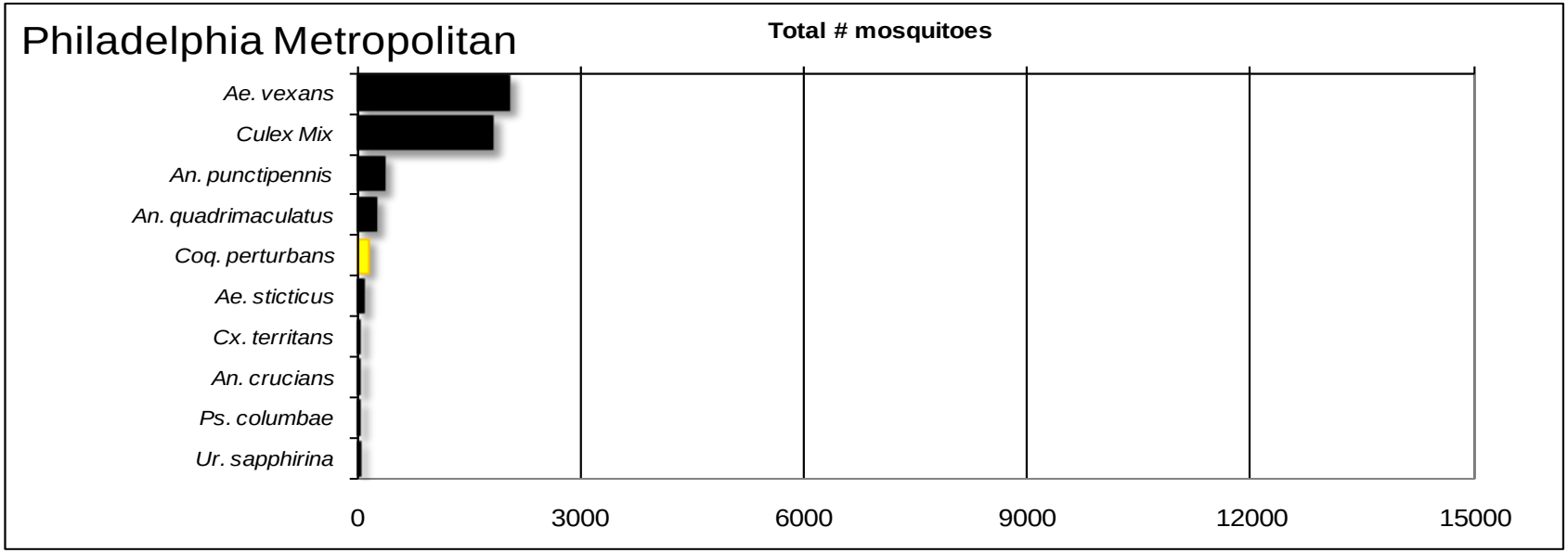
North Central Rural



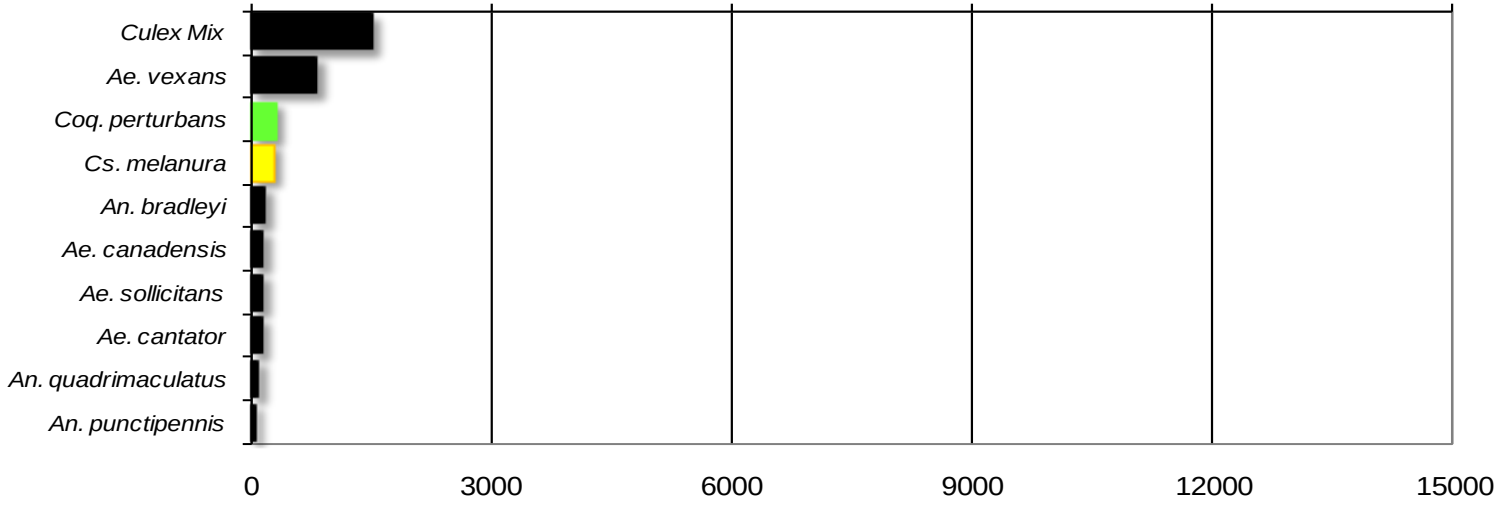
Northwest Rural



Philadelphia Metropolitan



Pinelands



Suburban Corridor