NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 24 July to 30 July 2011, CDC Week 30

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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.

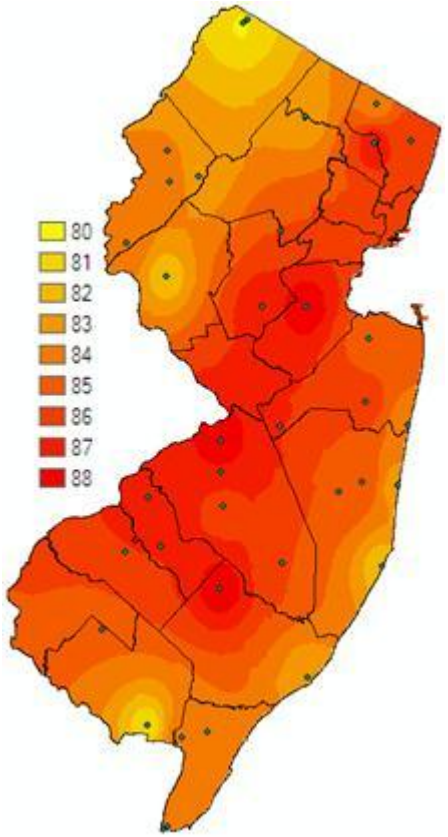
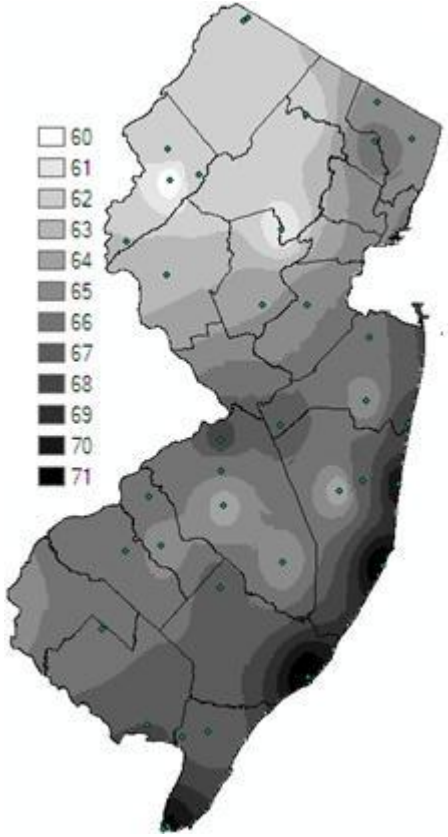
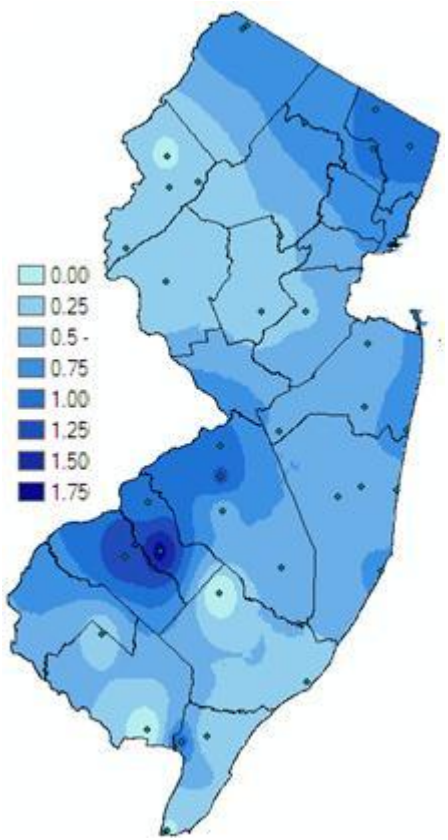
Summary Table – Week 30

Region	*Aedes vexans*			*Culex* Mix			*Coquillettidia perturbans*			*Aedes sollicitans*		
	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase
Agricultural	1.05	2.39	0	1.12	2.96	0	0.45	0.16	4	1.02	0.62	2
Coastal	0.98	3.04	0	1.57	3.90	0	0.00	0.20	0	6.11	13.34	0
Delaware Bayshore	2.20	2.52	0	16.03	13.96	1	0.14	1.51	0	3.37	13.78	0
Delaware River Basin	111.70	8.94	4	1.36	1.92	0	1.21	0.36	4	0.00	0.05	0
New York Metro	0.43	2.20	0	2.54	9.85	0	0.01	0.20	0	2.34	0.59	4
North Central Rural	0.63	0.46	1	0.59	0.59	0	0.00	0.01	0	0.00	0.00	0
Northwest Rural	11.83	12.80	0	4.11	6.75	0	0.74	1.39	0	0.00	0.00	0
Philadelphia Metro	11.18	10.36	1	3.68	3.55	1	0.57	0.27	3	0.00	0.00	0
Pinelands	3.75	1.46	4	1.86	2.72	0	0.61	0.50	1	0.04	0.06	0
Suburban Corridor	1.07	8.43	0	0.70	1.97	0	0.02	0.22	0	0.01	<0.01	4

*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: The four pestiferous species showed increased activity in several areas. *Aedes vexans* was particularly active in the Delaware River Basin, with activity also in the Pinelands, North Central Rural and Philadelphia Metro. *Culex* species were mildly active in the Delaware Bayshore and Philadelphia Metro regions. *Coquillettidia perturbans* also showed activity in the Agricultural, Delaware River Basin, Philadelphia Metro and Pineland regions while *Aedes sollicitans* had higher activity in the Agricultural, New York Metro and Suburban Corridor regions.

Climate Factors

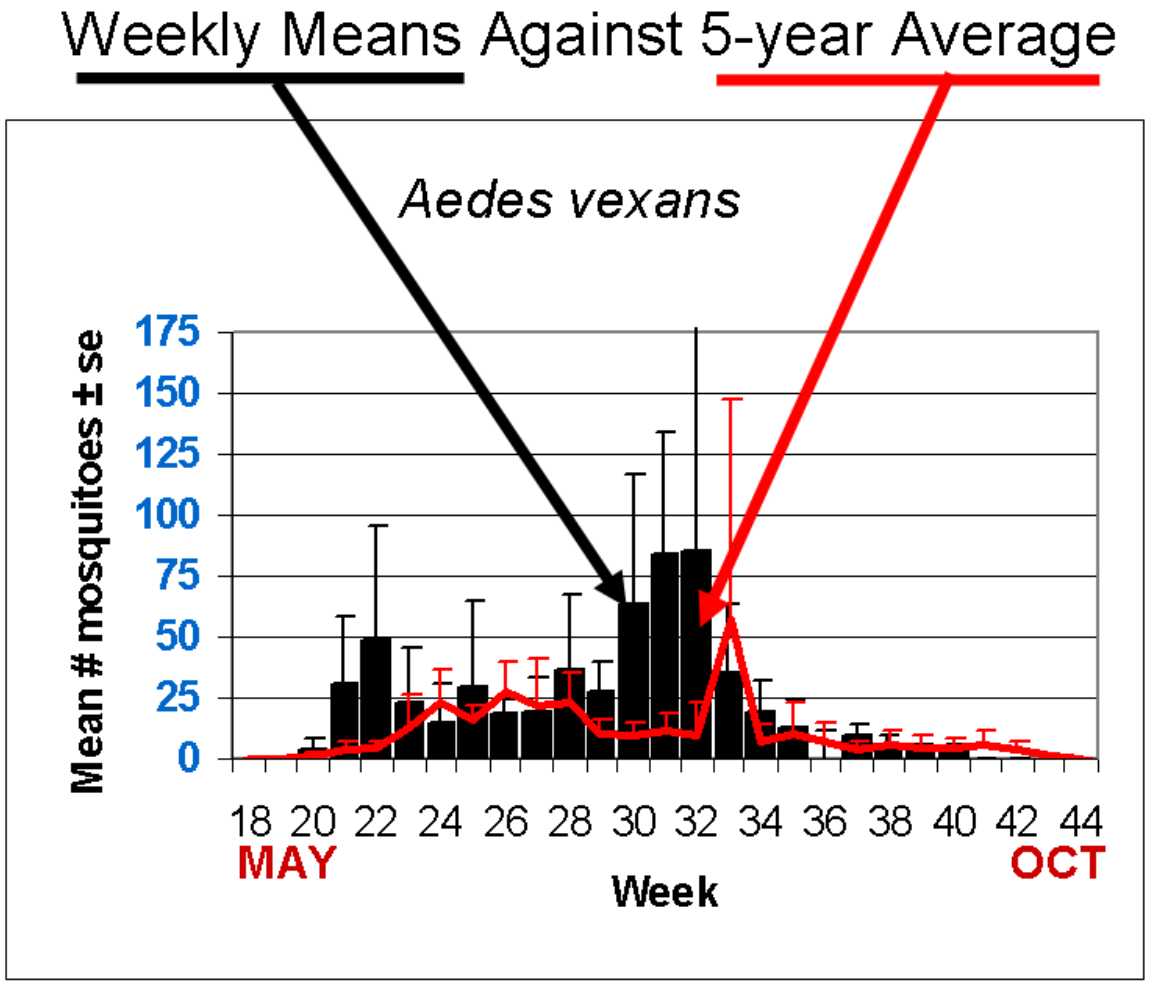
Average High Temperature	Average Low Temperature	Total Precipitation
		

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.

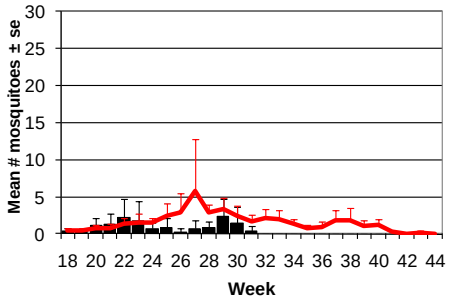
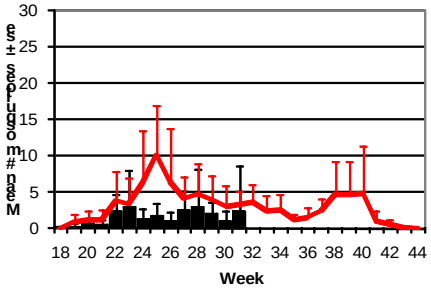
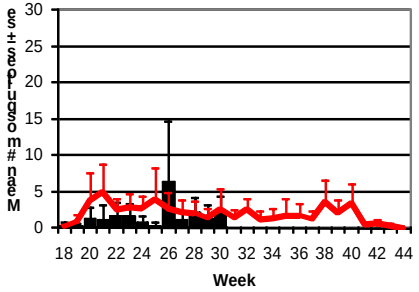
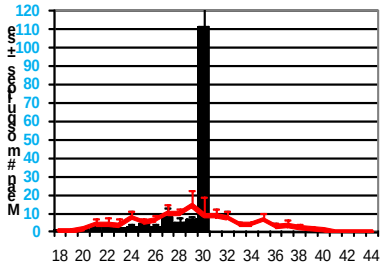
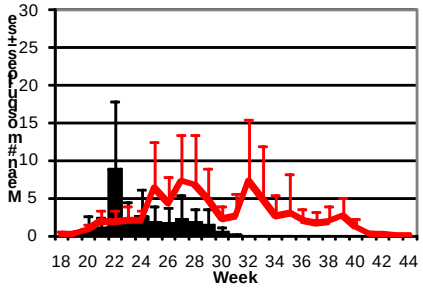
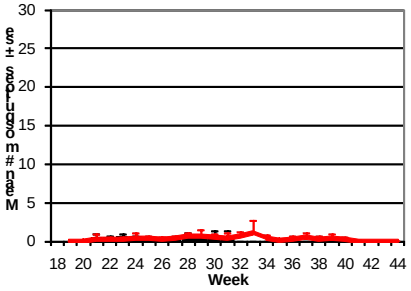
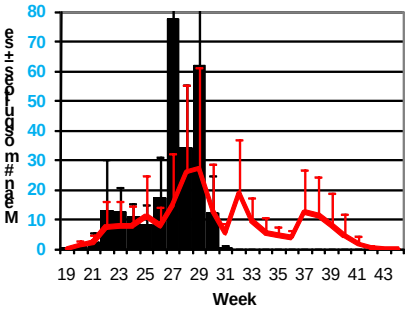
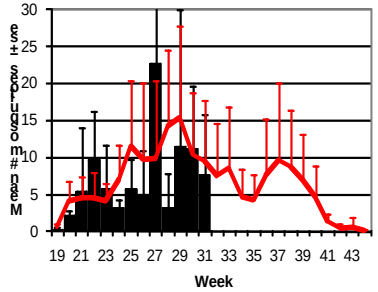
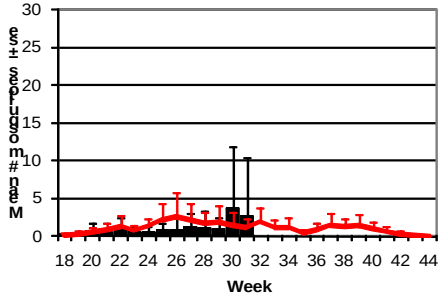
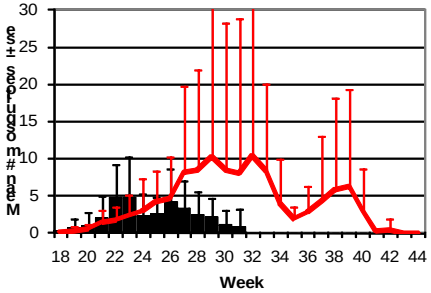
August average high temperatures began as two to three degrees cooler than July ending average. Coolest points were at High Point and in the Delaware Bayshore. Average low temperatures were also slightly lower than last month. Precipitation maps changed yet again, with highest amounts in Camden County, but also higher precipitation in Bergen County.

NJ Weather & Climate NETWORK ONJSC at Rutgers University

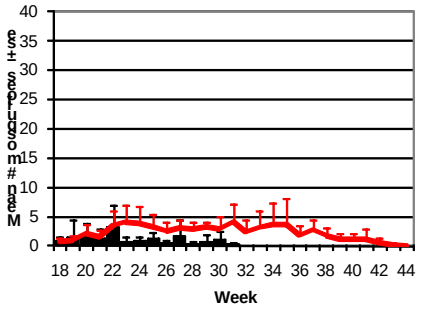
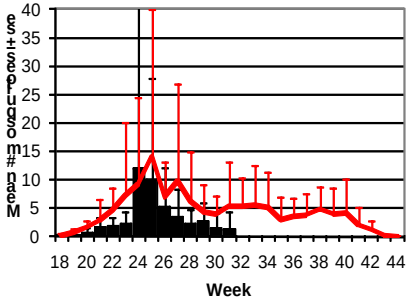
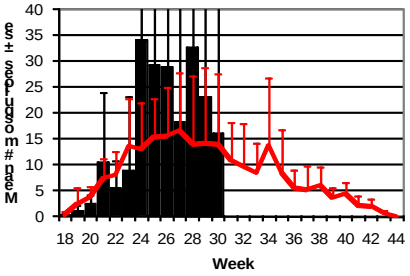
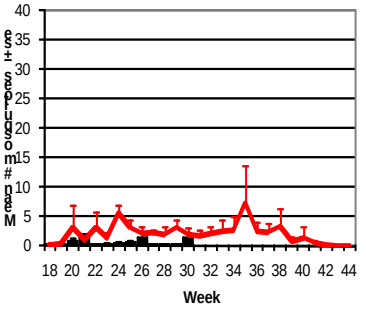
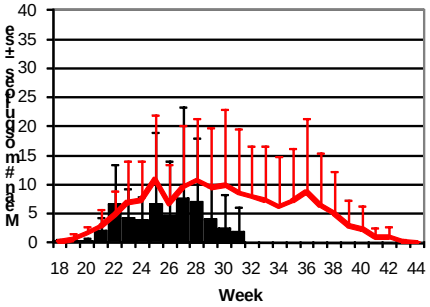
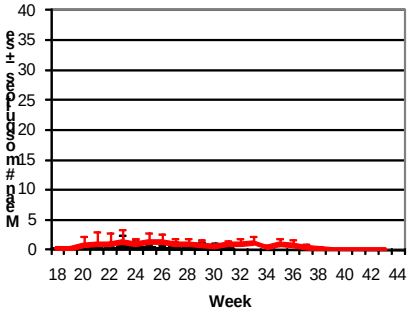
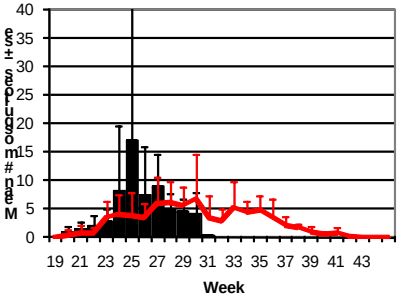
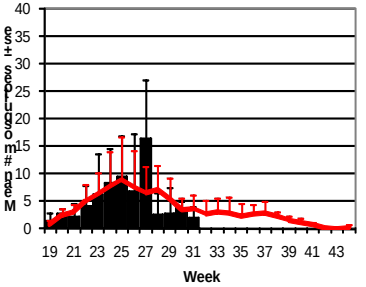
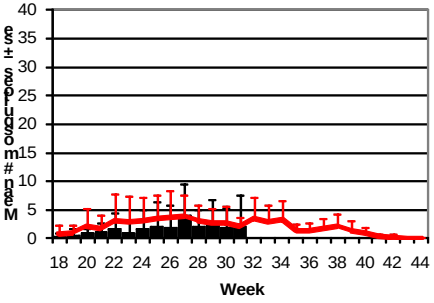
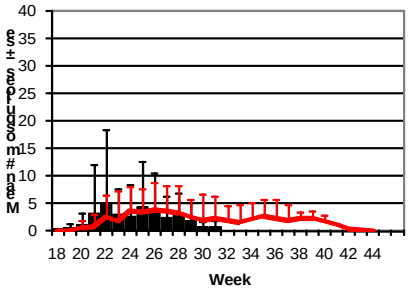
The Species Graphs: The species graph pages include a graph with two plots for each of the ten regions defined on the first page (Agricultural, Coastal, Delaware Bayshore, Delaware River, New York Metro, North-Central, Northwestern, Philadelphia Metro, Pinelands, and Suburban Corridor). Below is an example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



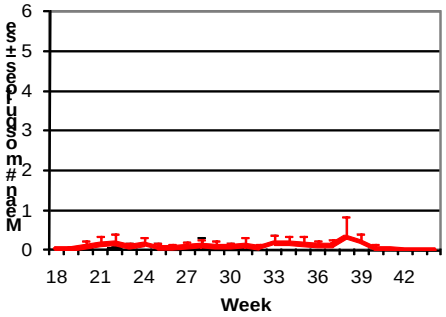
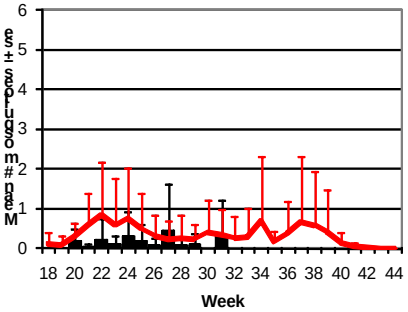
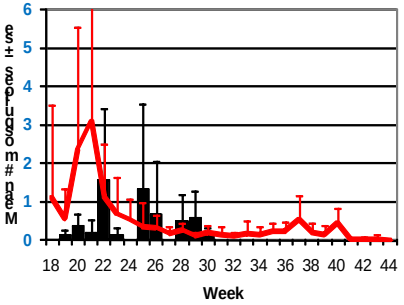
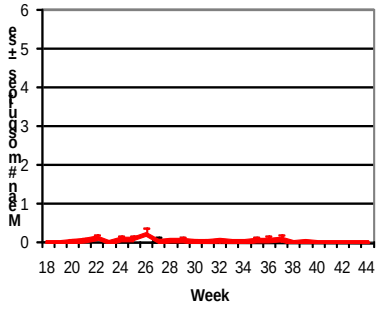
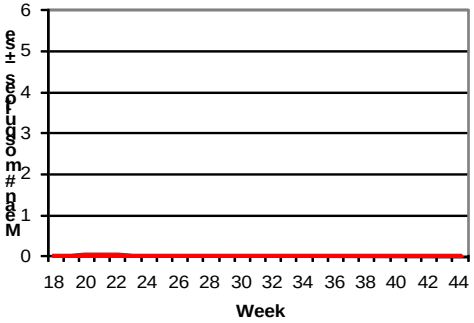
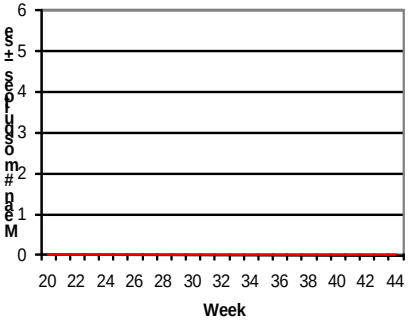
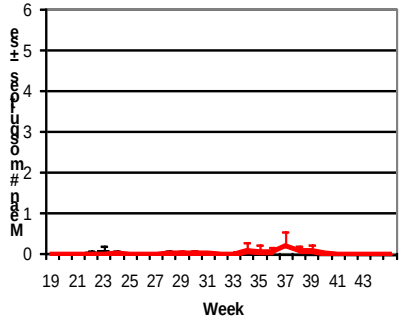
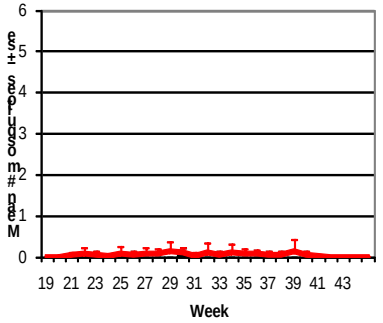
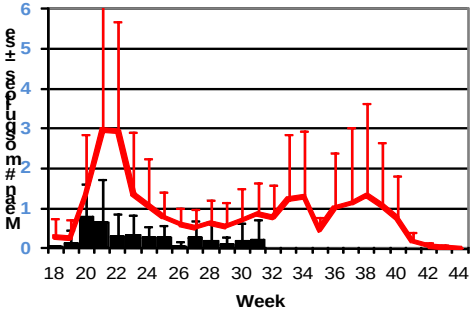
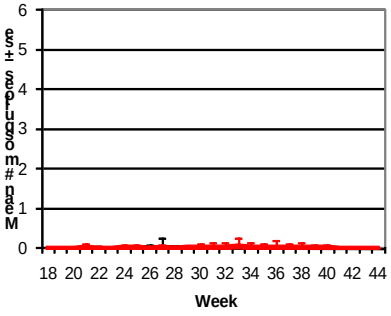
Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* populations exploded in the Delaware River Basin region as dredge spoil activity began for the season. Cracks in the basins of the spoils are prime habitat for deposition of eggs of this fresh floodwater species. When flooded, hatches can be epic. Activity was higher in the North Central Rural, Philadelphia Metro and the Pinelands (although at much lower rates).	

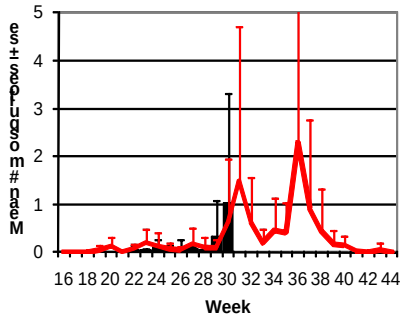
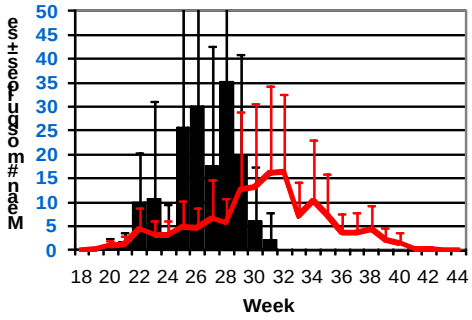
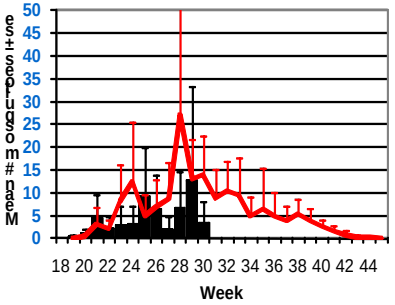
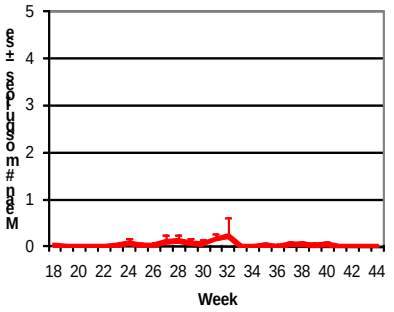
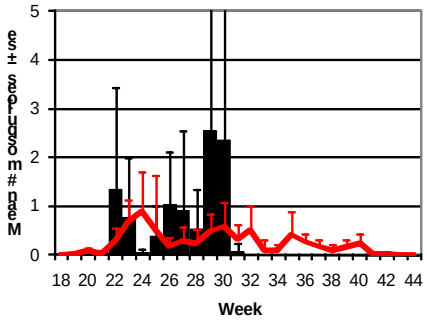
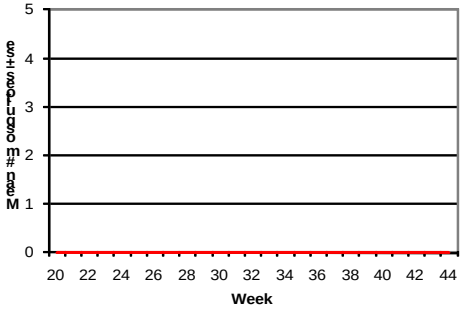
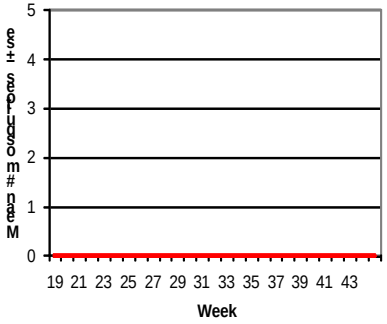
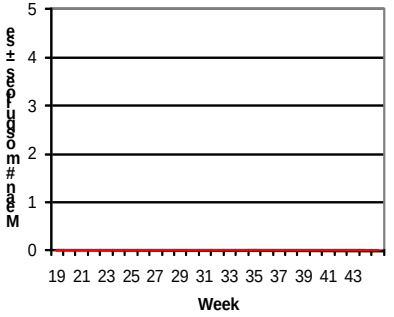
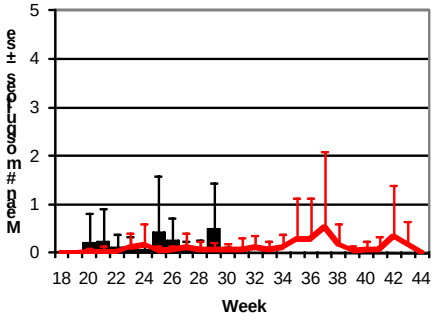
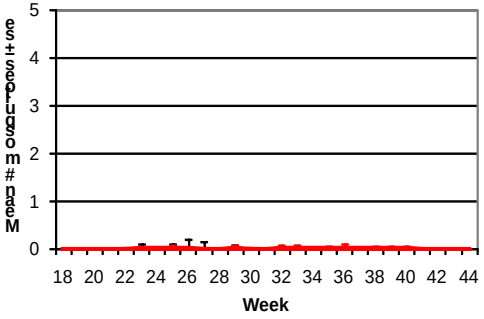
Culex Mix – Permanent Water Species
Multivoltine *Culex/Anopheles* (*Cx. pipiens* Type)

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 has decreased in their *Culex* populations, but they still remain above historical levels. The Philadelphia Metro region was also higher than historical. WNV activity has picked up the ornithophilic *Culex.*	

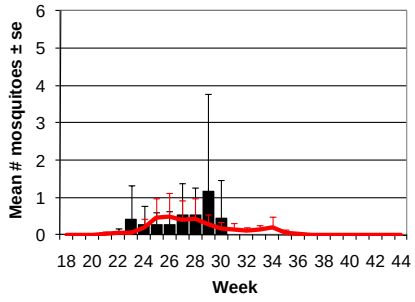
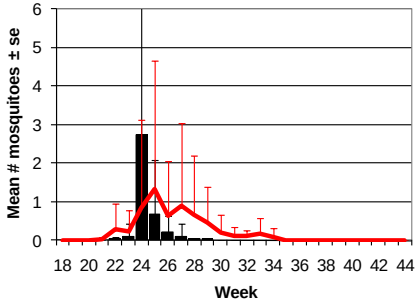
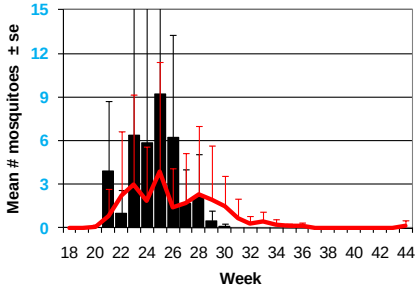
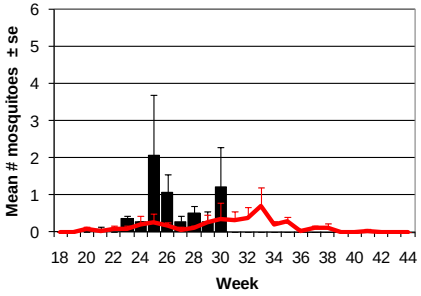
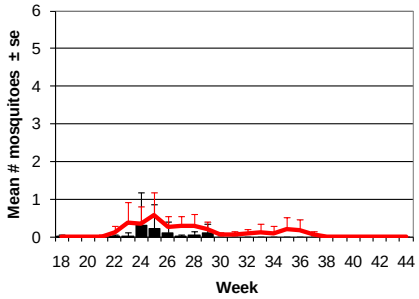
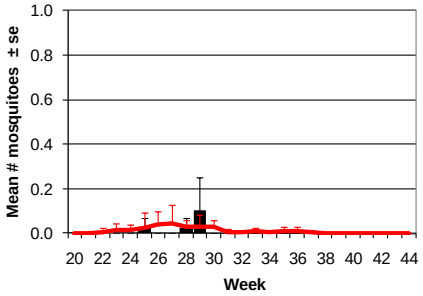
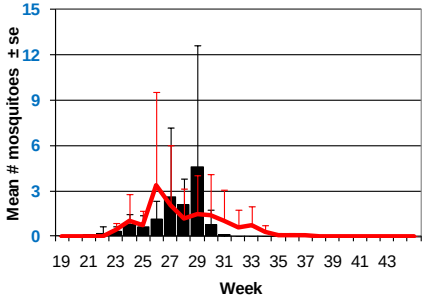
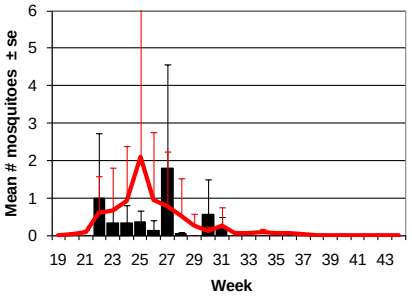
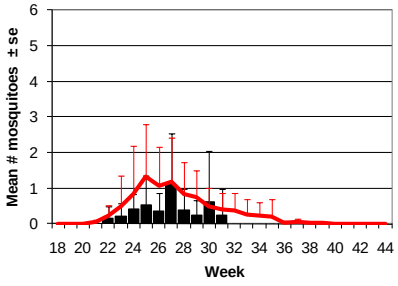
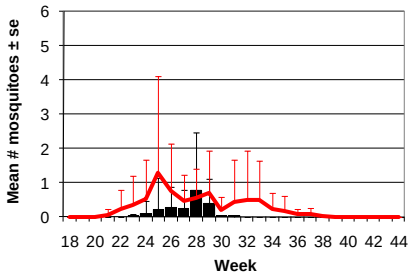
Culiseta melanura – Miscellaneous Group Unique (*Cs. melanura* Type)

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. Apart from some brief activity in the Delaware Bayshore region, activity for this species continues to remain below historical levels and continues to reflect the low level of abundances seen in the resting boxes of the vector surveillance program.	

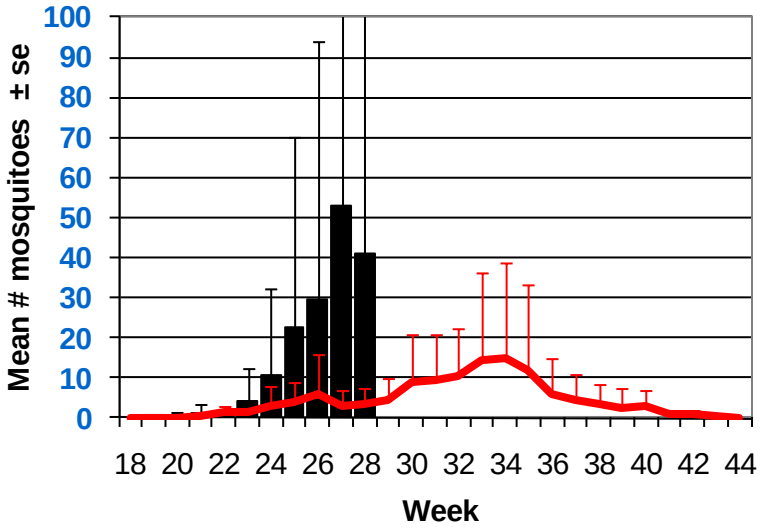
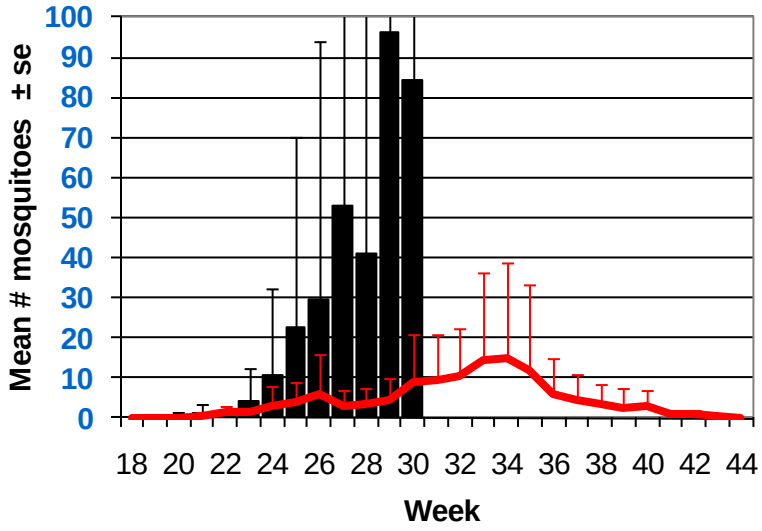
Aedes sollicitans - Salt Floodwater Species
Multivoltine Aedine (*Ae. sollicitans* Type)

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 has decreased, likely indicating an end to the emergence of the last brood. Abundances in the New York Metro region are significantly higher than historical, and populations in the Suburban Corridor are also higher than historical, although the absolute numbers there are very low. 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 have increased in several areas including the Agricultural, Delaware River Basin, Philadelphia Metro and the Pinelands regions.	

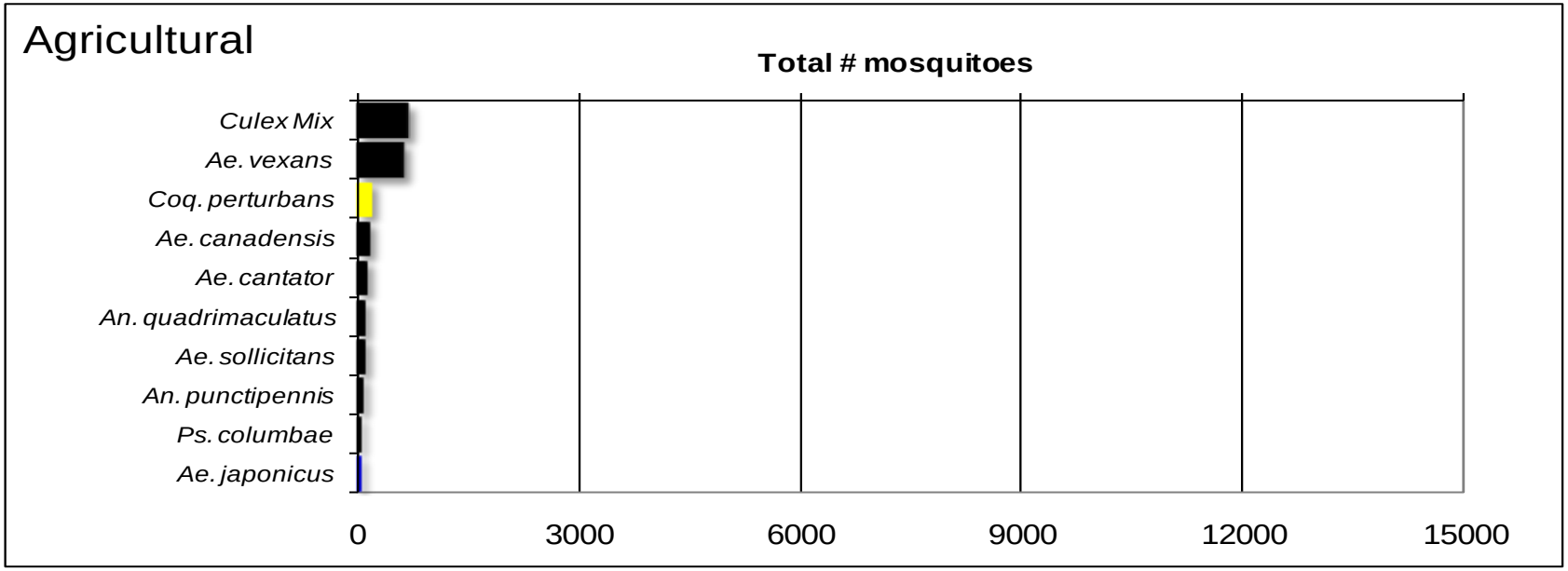
Anopheles bradleyi in the Delaware Bayshore: Two weeks ago, numbers of *An. bradleyi* were well above historical values. These high values have continued through this current week.

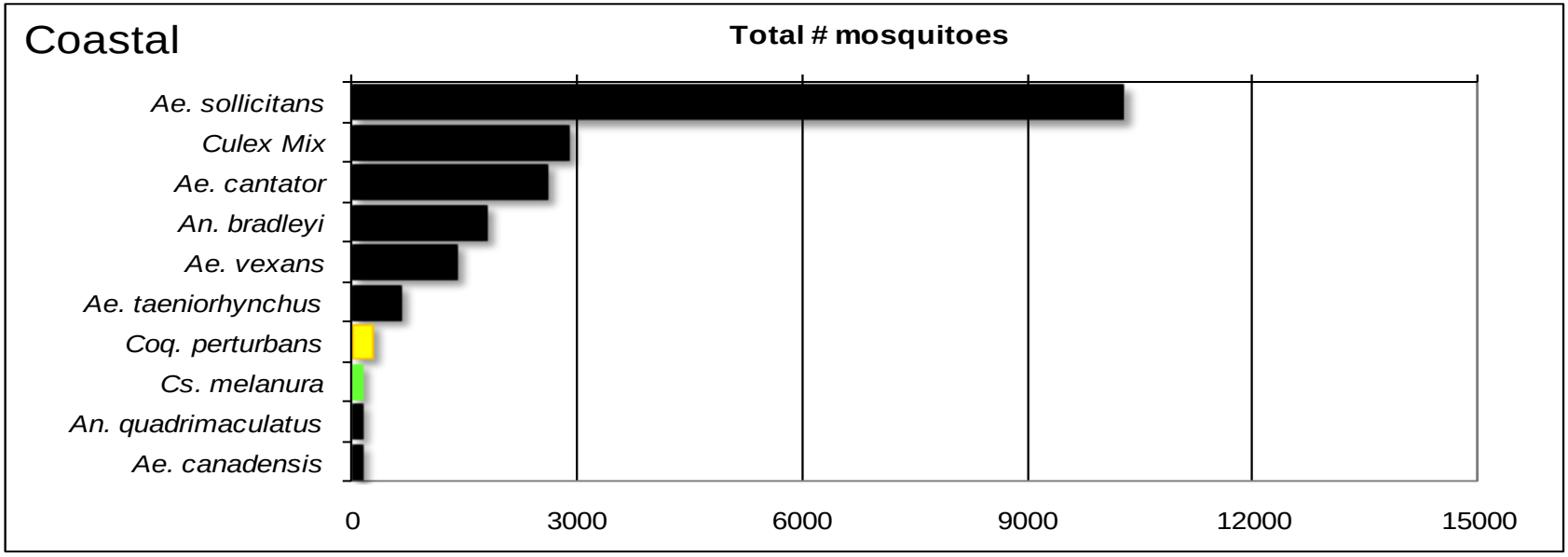
Last Week	This Week
	

WNV *EEE*

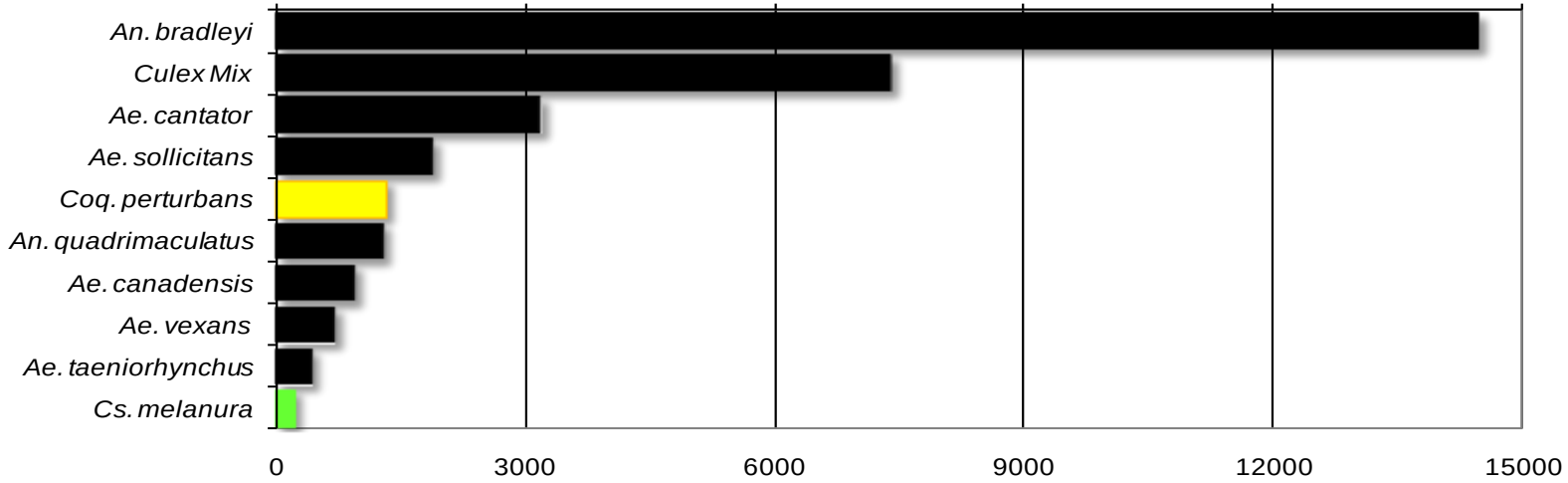
Top Ten Mosquito Species/Region - *Ae. albopictus,* *Ae. japonicus (invasives);* *Cs. melanura or Cx. erraticus* *Coq. perturbans*

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

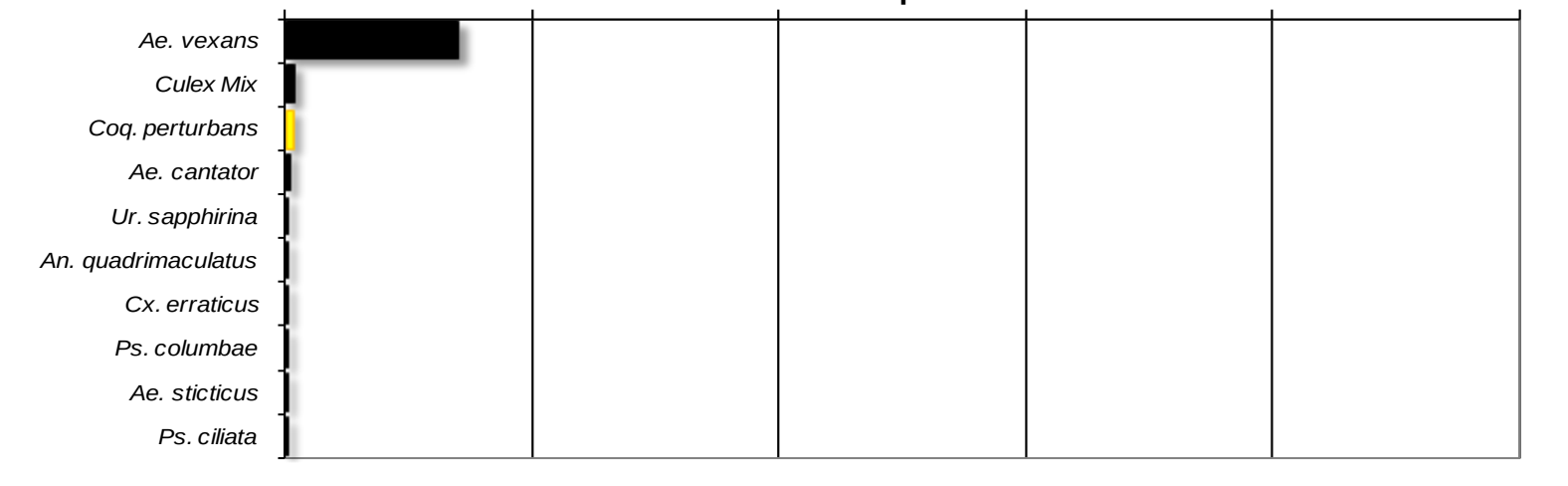




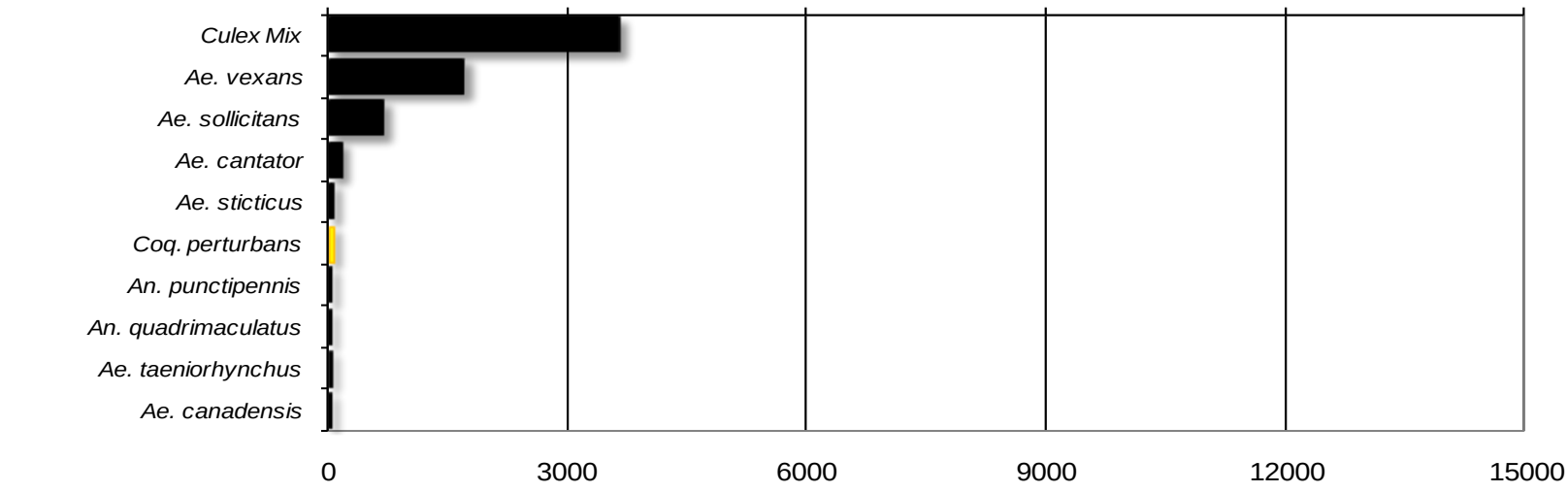
Delaware Bayshore



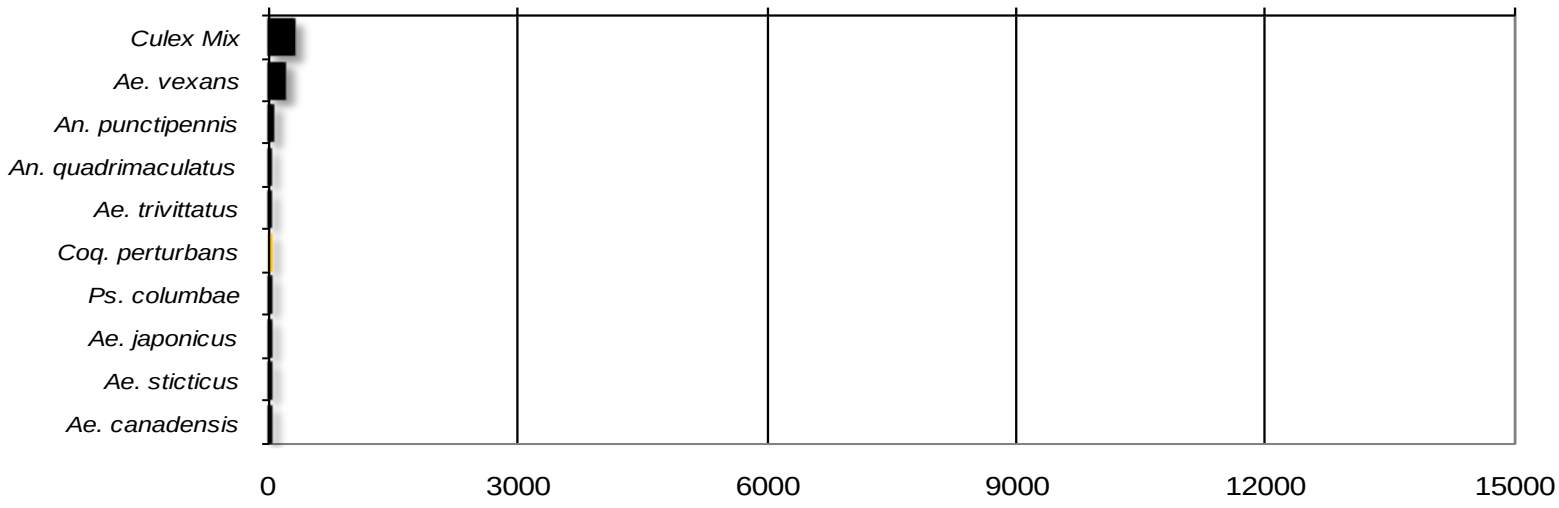
Delaware River Basin



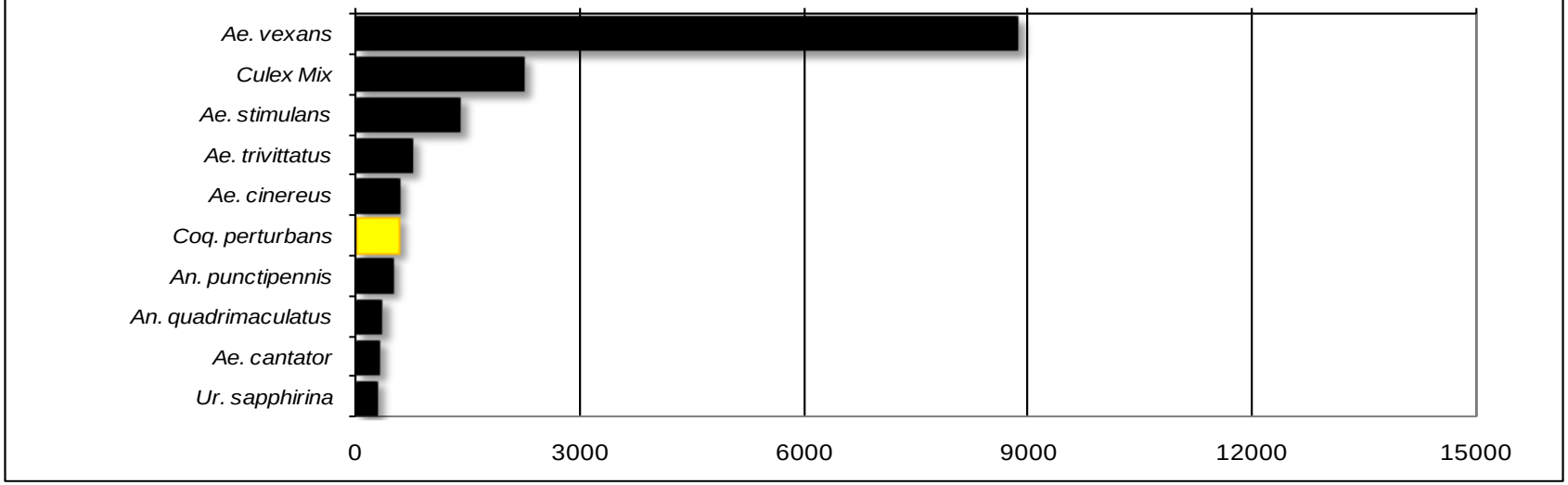
New York Metropolitan



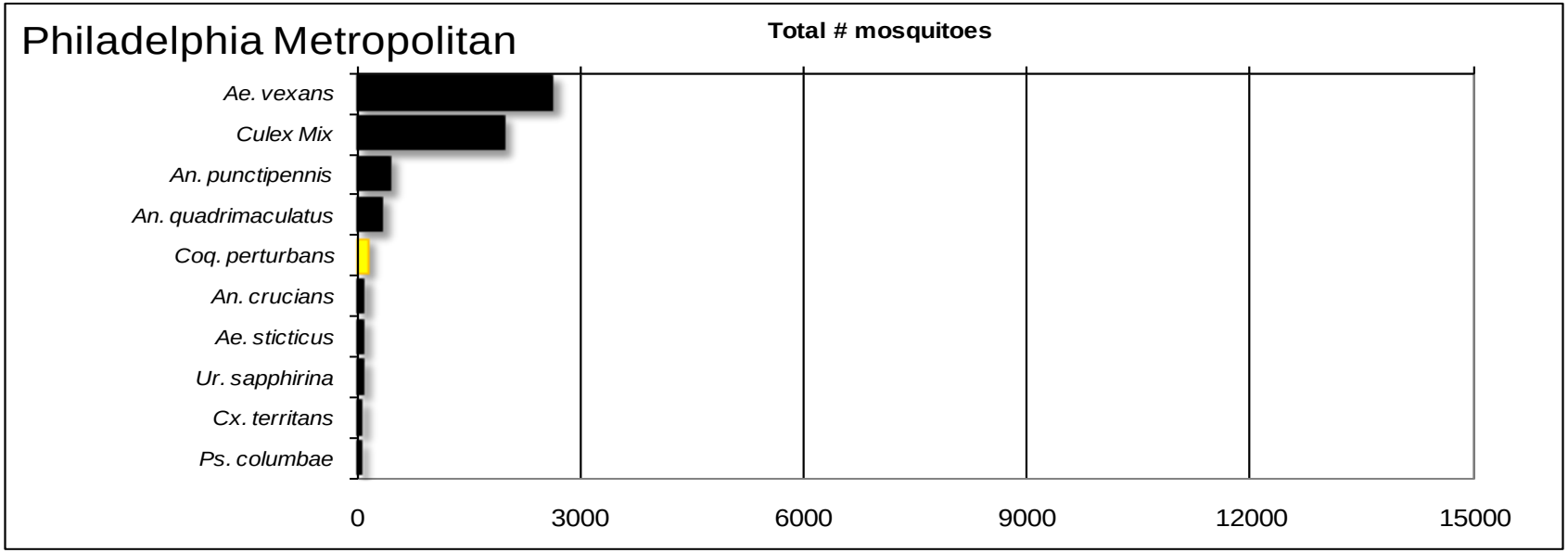
North Central Rural



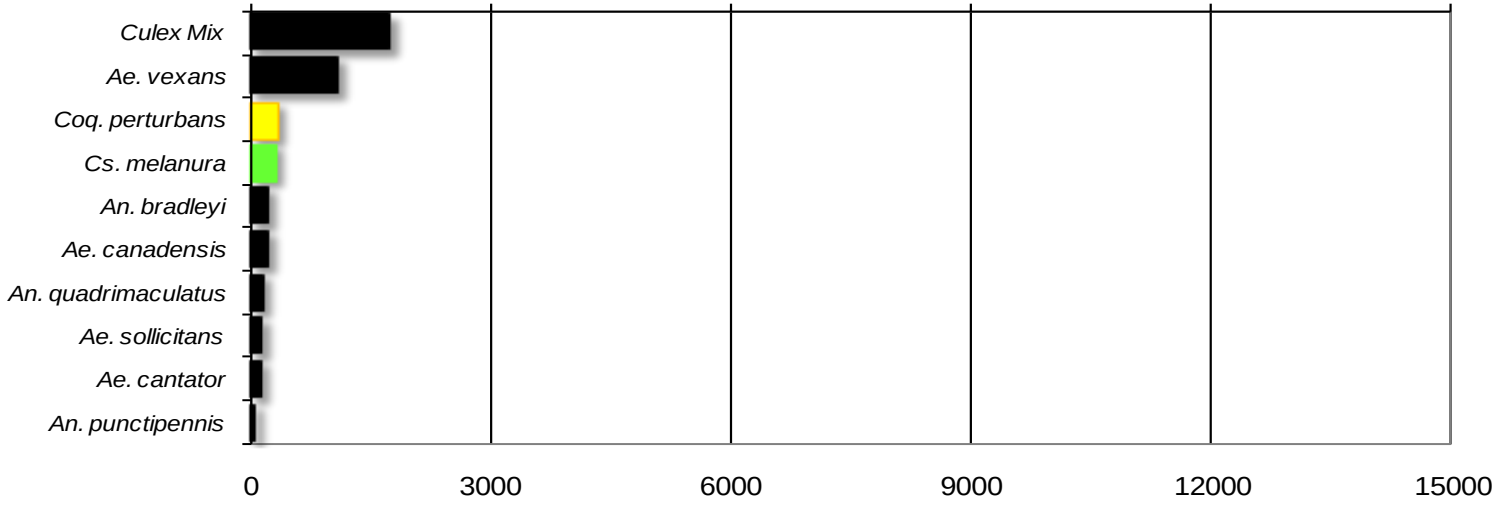
Northwest Rural



Philadelphia Metropolitan



Pinelands



Suburban Corridor