NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 5 June to 11 June 2011, CDC Week 23

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

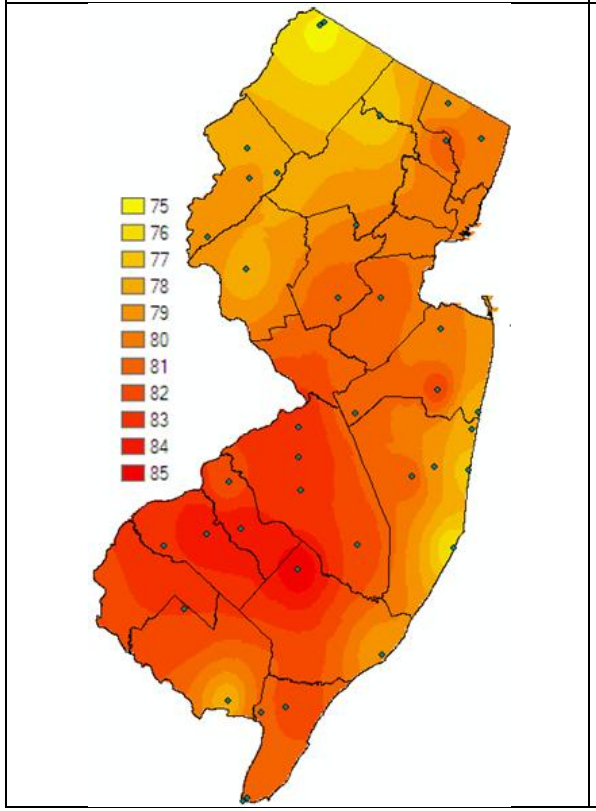
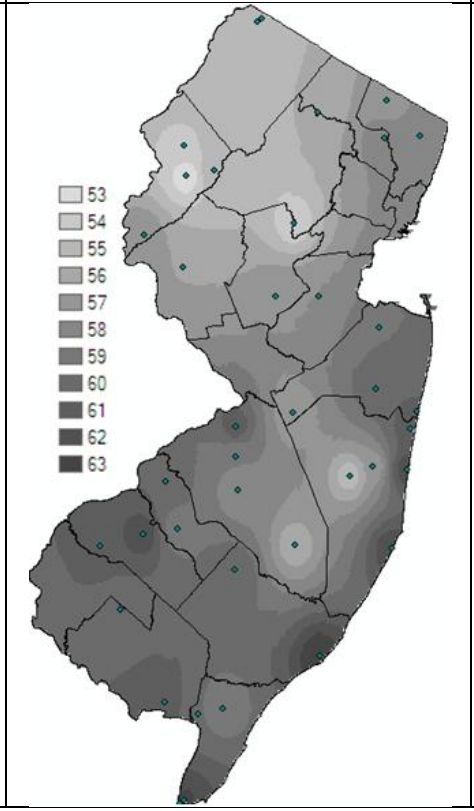
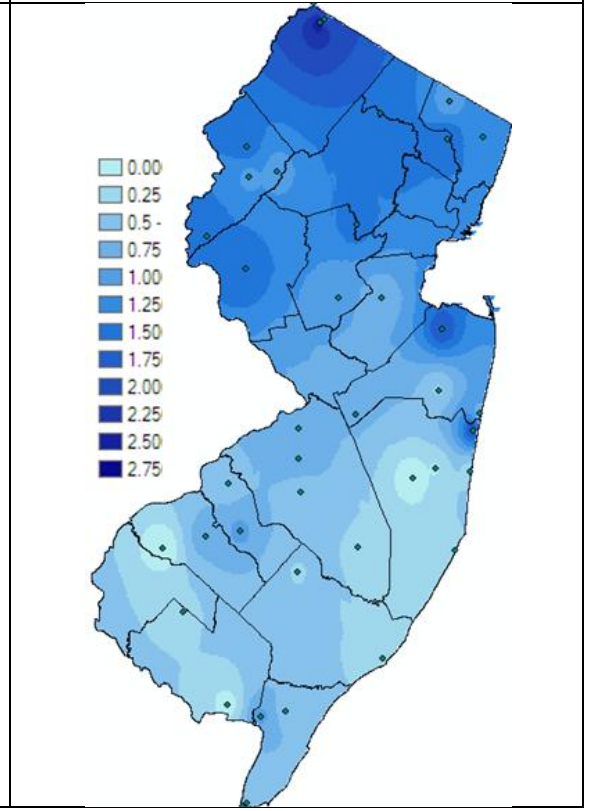
Summary Table – Week 23

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	1.50	1.54	0	0.48	4.05	0	0.43	0.07	4	0.00	0.19	0
Coastal	2.73	3.30	0	1.81	7.21	0	0.11	0.22	0	7.97	3.09	4
Delaware Bayshore	1.66	2.93	0	8.94	13.57	0	6.37	2.96	3	2.83	8.08	0
Delaware River Basin	0.00	3.61	0	0.00	1.39	0	0.00	0.09	0	0.00	0.01	0
New York Metro	1.60	1.97	0	4.19	6.86	0	0.03	0.37	0	0.67	0.68	0
North Central Rural	0.00	0.25	0	0.00	1.28	0	0.00	0.01	0	0.00	0.00	0
Northwest Rural	1.40	8.02	0	0.11	3.50	0	0.00	0.44	0	0.00	0.00	0
Philadelphia Metro	4.29	4.17	1	4.29	6.29	0	0.25	0.66	0	0.00	0.00	0
Pinelands	0.44	0.76	0	0.78	2.98	0	0.21	0.48	0	0.08	0.08	0
Suburban Corridor	0.86	2.32	0	1.02	1.80	0	0.02	0.36	0	0.00	0.01	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: Some increases in pestiferous species were seen this past week. *Aedes vexans* populations in the Philadelphia Metro, *Coquillettidia perturbans* in the Agricultural (Monmouth) region as well as the Delaware Bayshore (Cape May) and *Aedes sollicitans* along the Coast were above historical means.

Climate Factors

Average High Temperature	Average Low Temperature	Total Precipitation
		

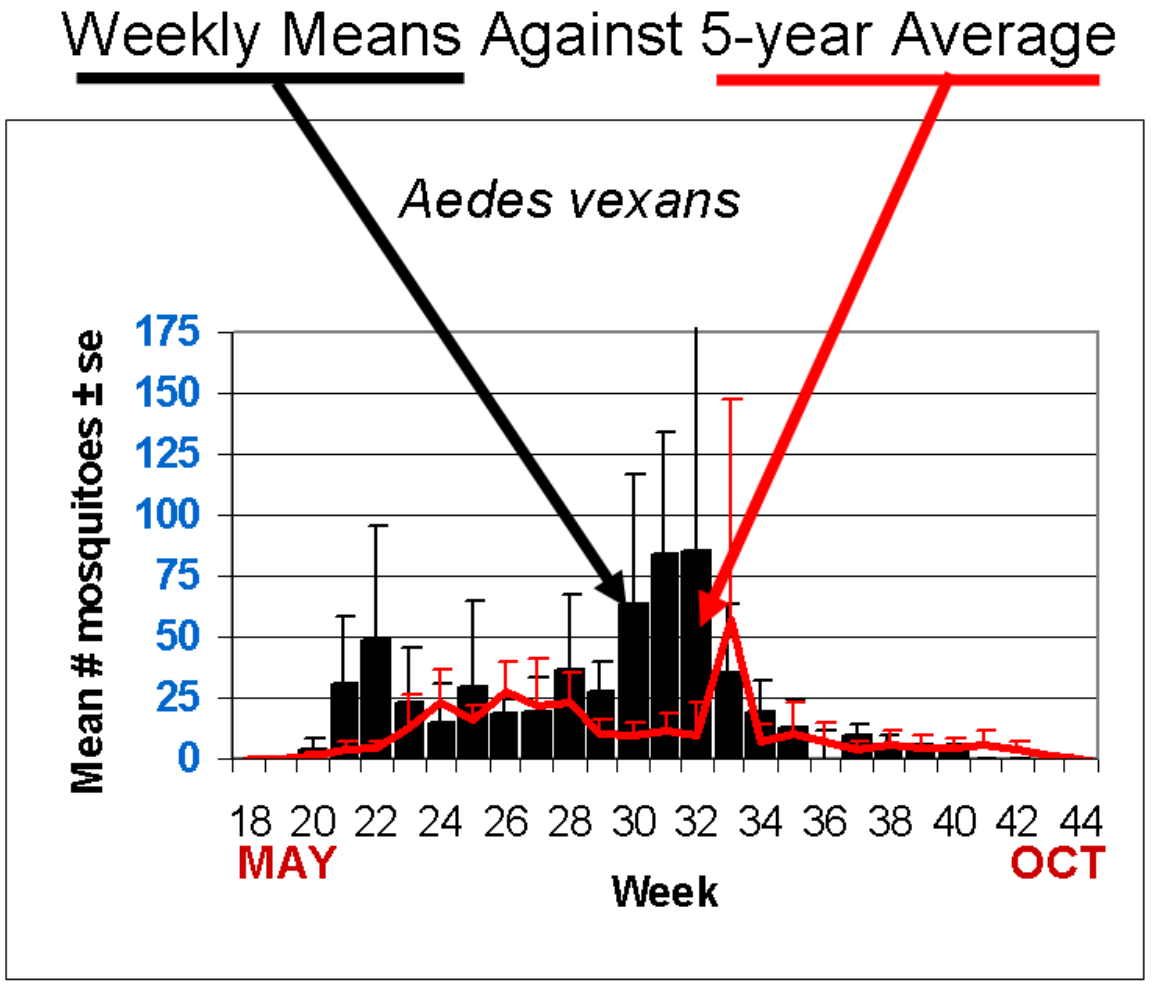
The three figures show the interpolation of average maximum and minimum temperature and total precipitation from 1 June to 16 June, 2011 in New Jersey. Data points are from about 38 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points was performed using ArcMap 10.

Halfway through June, average high temperatures continued through the suburban corridor and the Metropolitan areas. Average low temperatures were highest along the coastal region (moderating effects of large bodies of water – i.e., the Atlantic Ocean) and interior toward the Delaware River. The northern portion of New Jersey continued to experience higher rainfall. In general, it was warmest in the urban/suburban areas during the day, warmer along the coast at night and wetter in the north.

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, Bergen, Camden, Cape May, Hudson, Monmouth, Somerset, Union and Warren counties. Last week included Atlantic, Bergen, Burlington, Camden, Cape May, Hudson, Monmouth, Ocean, Somerset, 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)

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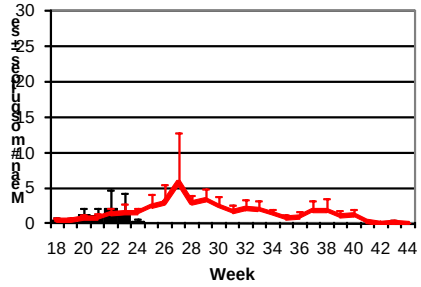
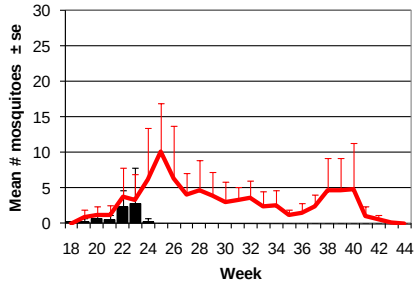
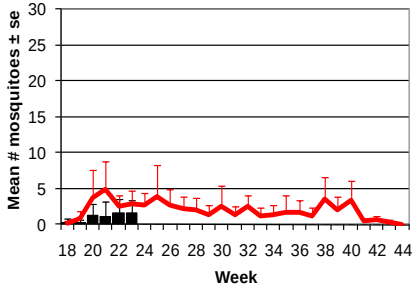
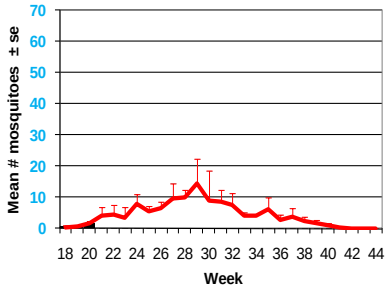
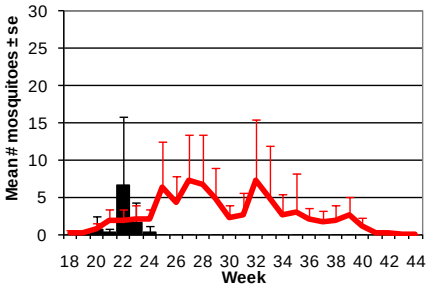
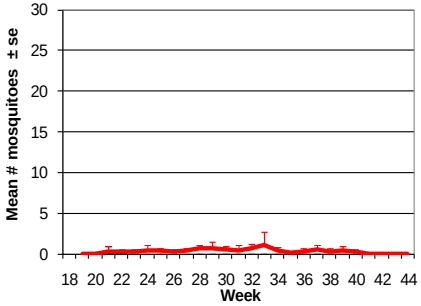
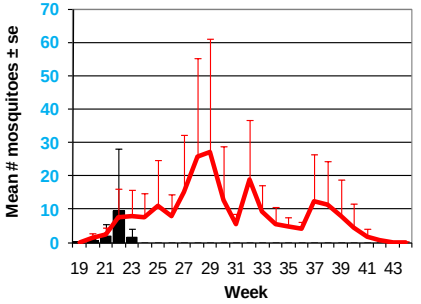
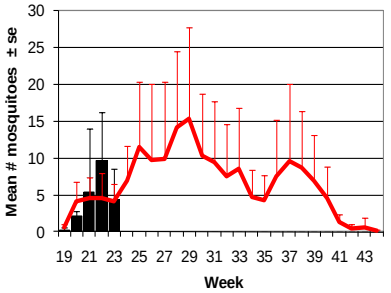
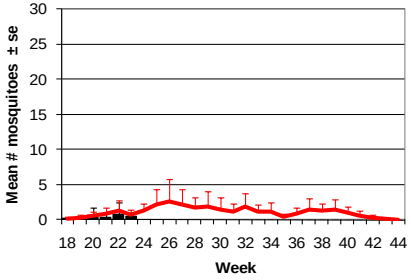
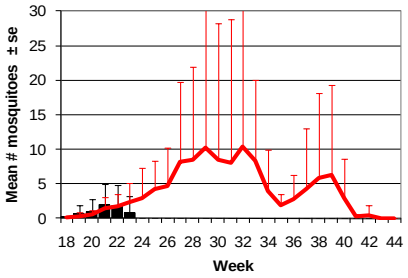
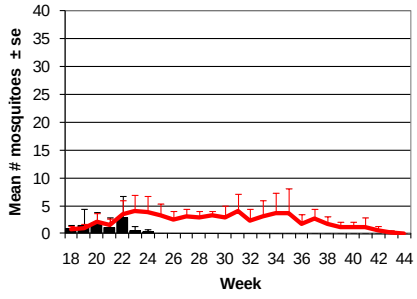
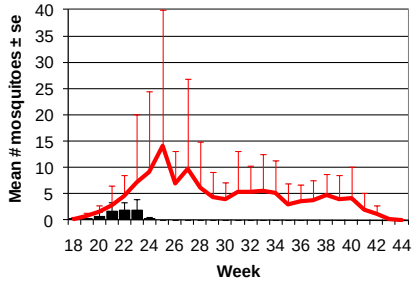
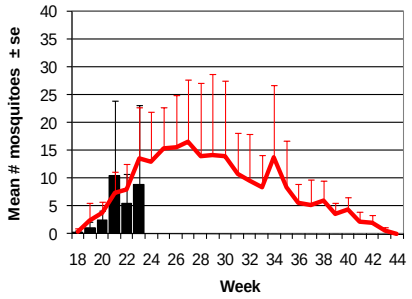
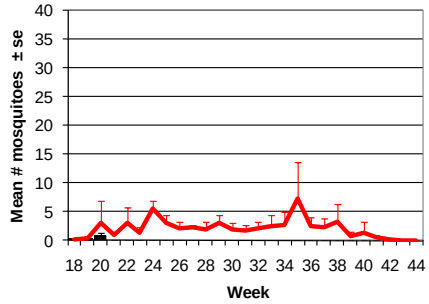
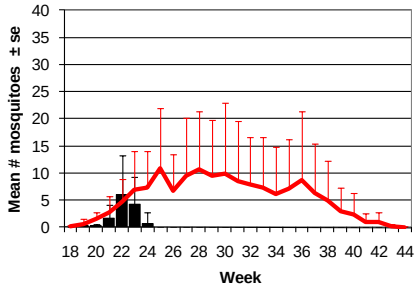
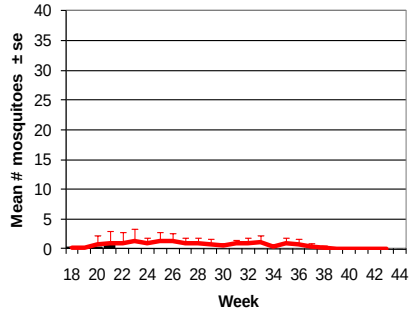
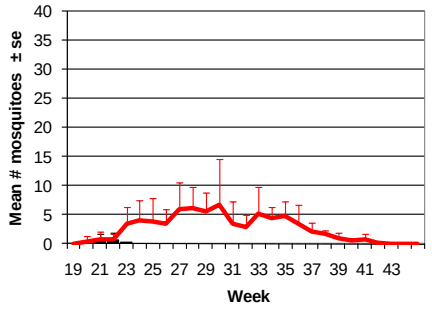
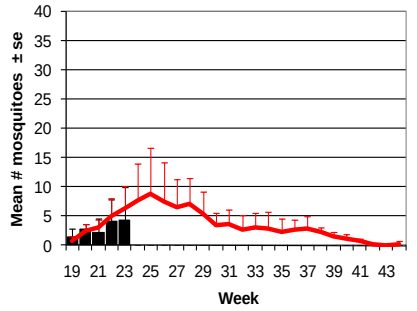
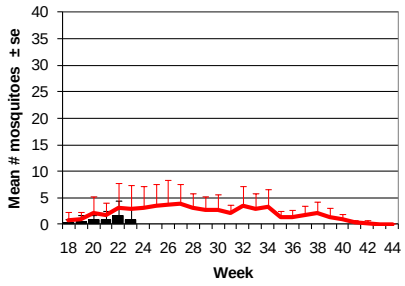
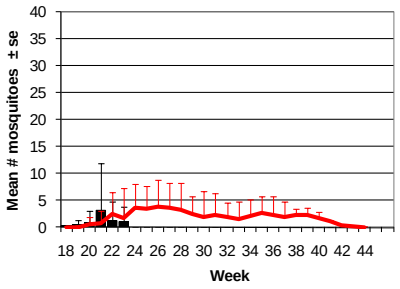
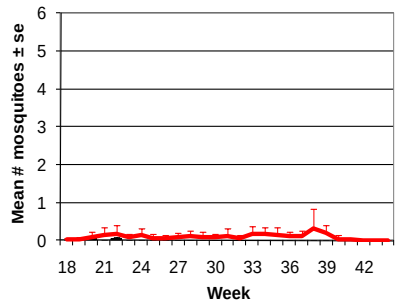
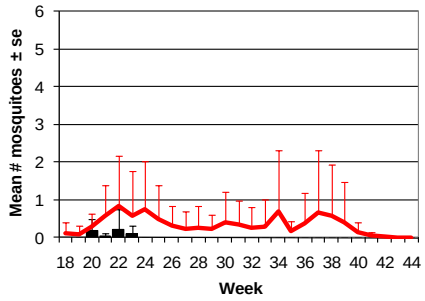
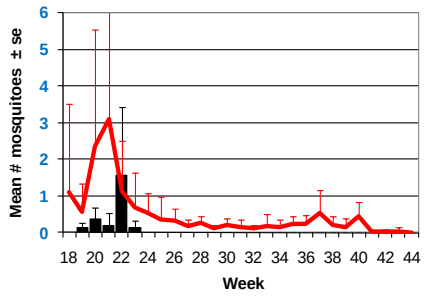
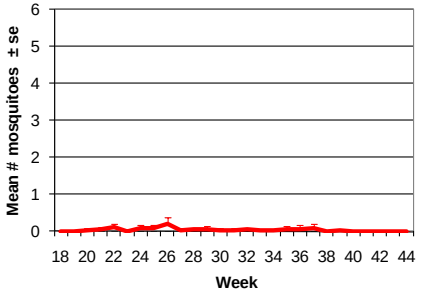
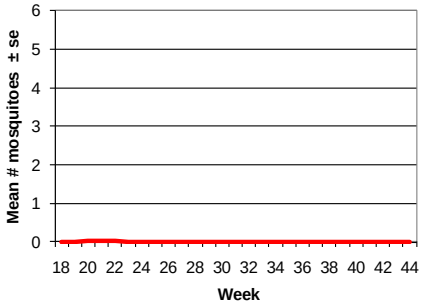
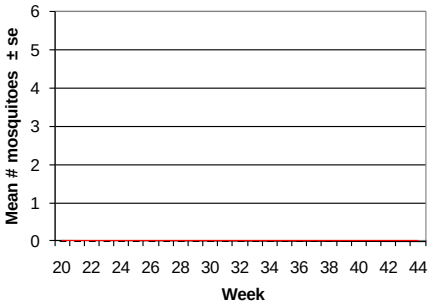
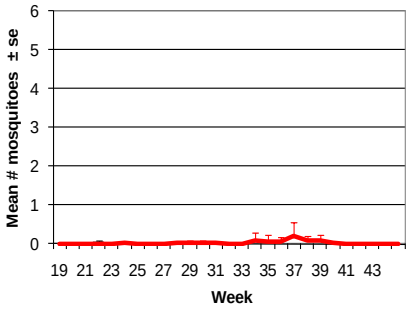
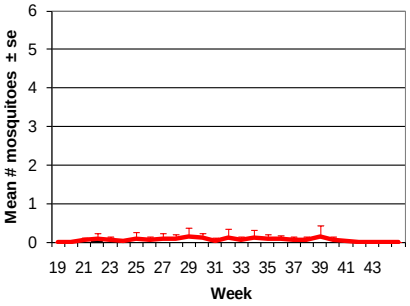
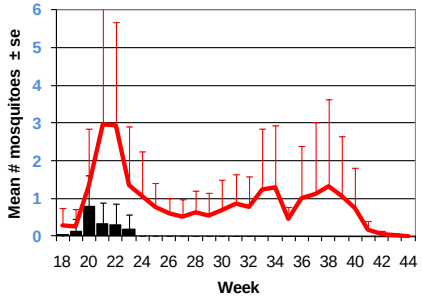
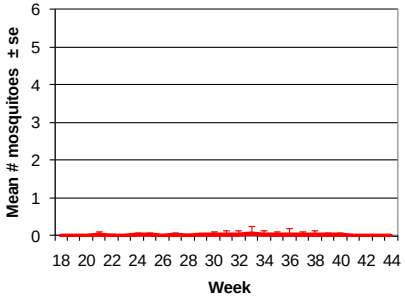
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* populations in the Philadelphia Metro region barely topped historical values this past week, with all other regional populations at or below historical values. The northern half of the state continues to have more precipitation than the southern half, but this has not produced an excess of this fresh floodwater species.	

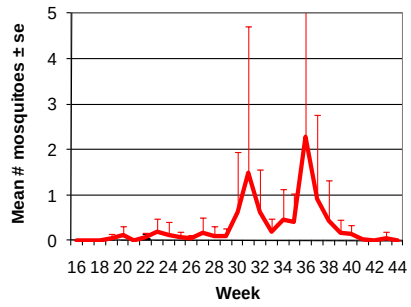
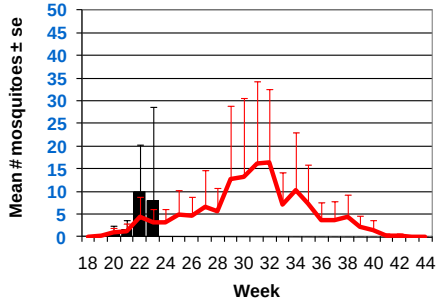
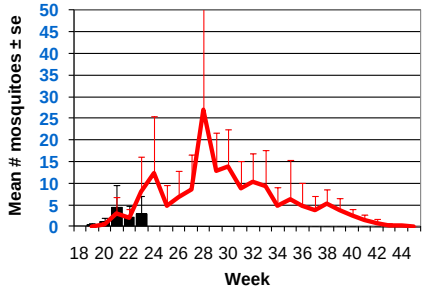
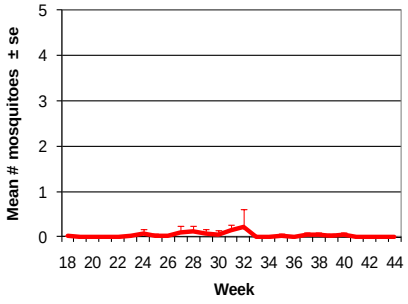
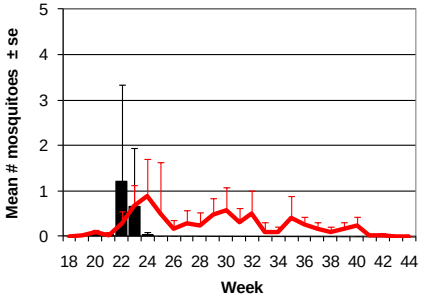
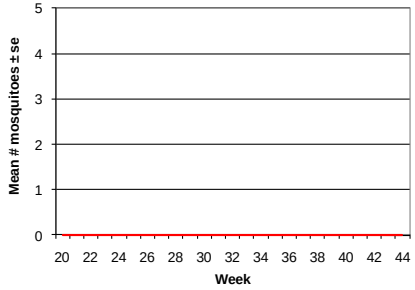
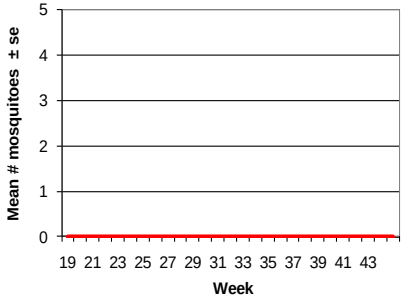
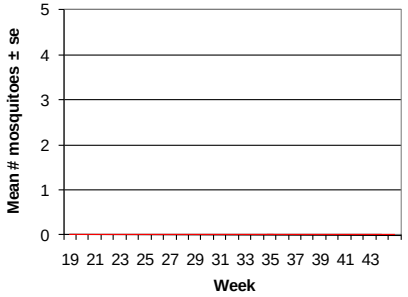
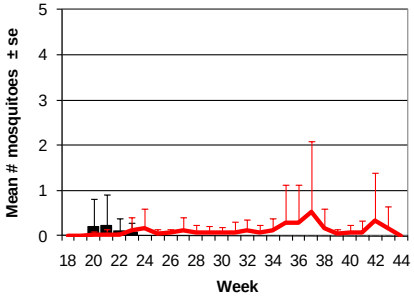
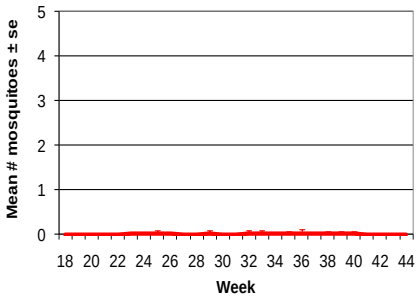
Culex Mix – Permanent Water Species
Multivoltine *Culex/Anopheles* (*Cx. pipiens* Type)

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. Currently, populations of this enzootic vector for West Nile virus are at or below recent historical levels. Populations should continue to build to a mid-summer maximum in most regions.	

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

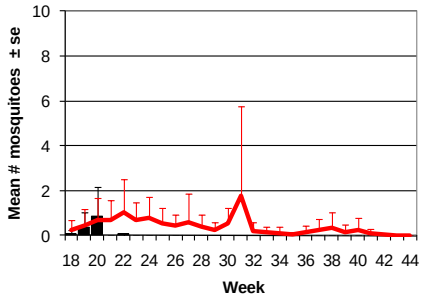
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culiseta melanura* is the enzootic ornithophilic vector of eastern equine encephalitis. The population abundances for this species appear to be below the historical values. This is fortunate given the recent activity of EEE the past two years. This species tends to be less likely to show up in light traps than in resting boxes, but patterns are often similar between the two trap types.	

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

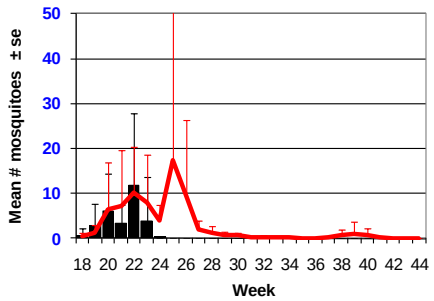
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* populations continue to remain above historical values in the Coastal region. This is in contrast to last year, when drought conditions most likely contributed to lower populations. Lunar tidal flooding effects can be enhanced by local rain events. Recent full moon activity suggests that an increase in population can be expected about two weeks from now. Next Full Moon: 15 July.	

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

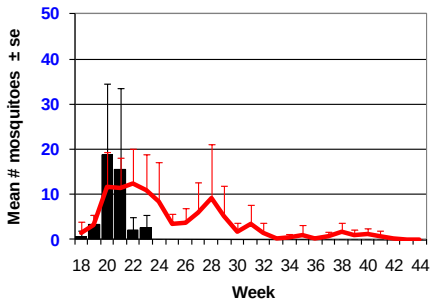
Agricultural



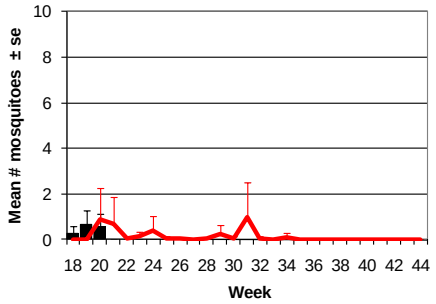
Coastal



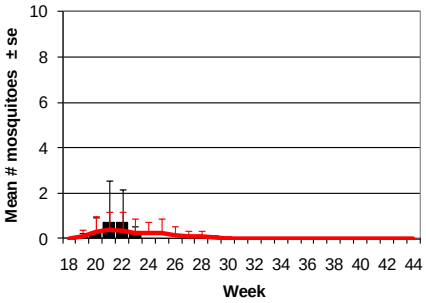
Delaware Bayshore



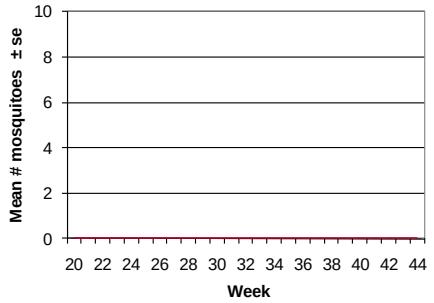
Delaware River Basin



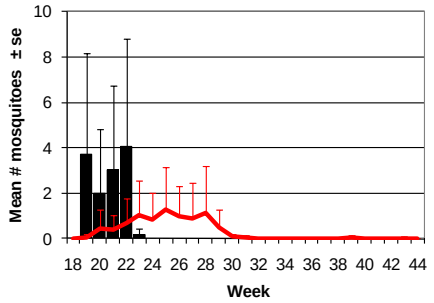
New York Metro



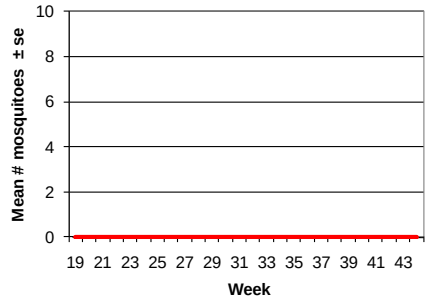
North Central Rural



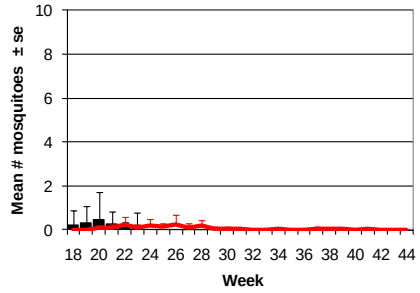
Northwestern Rural



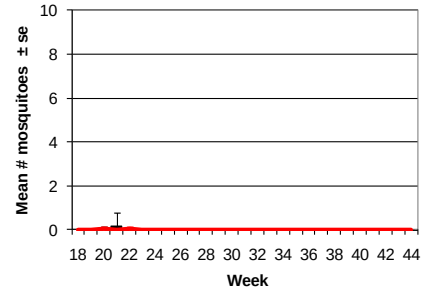
Philadelphia Metro



Pinelands



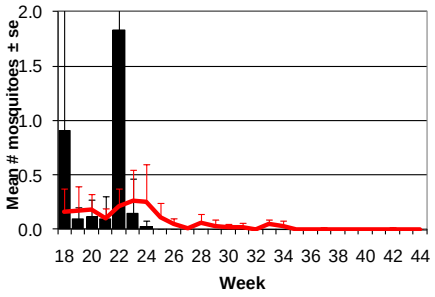
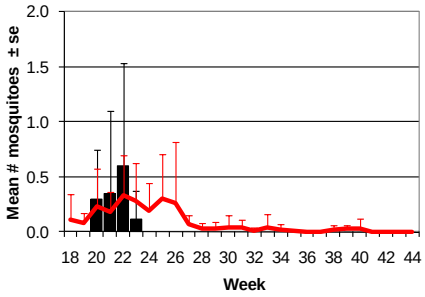
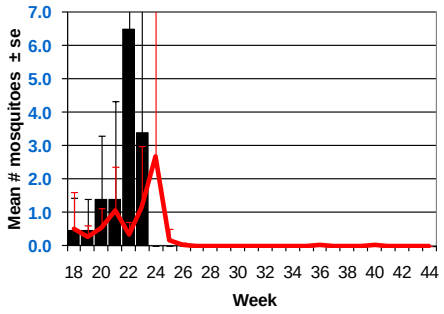
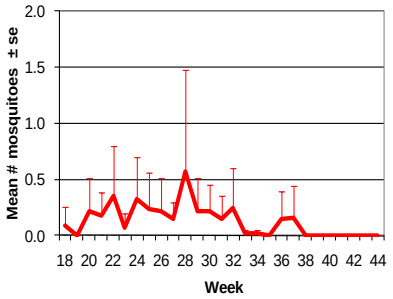
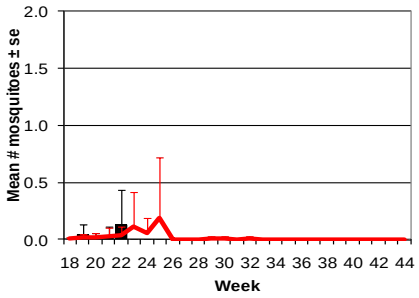
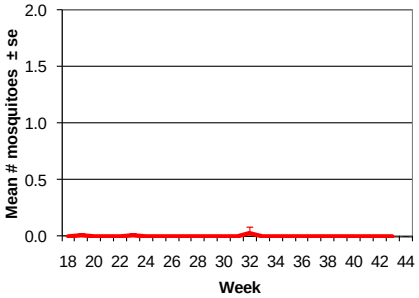
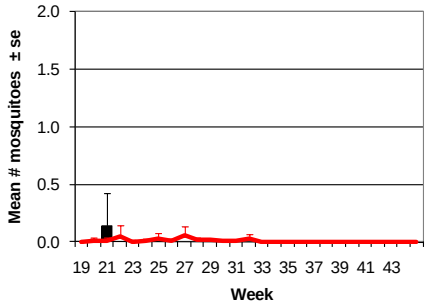
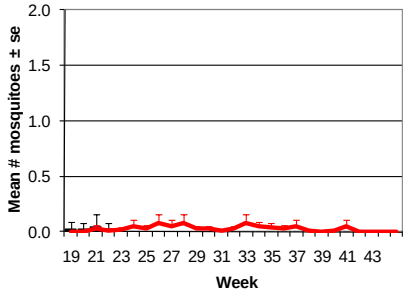
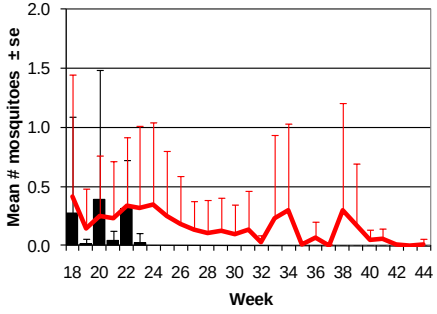
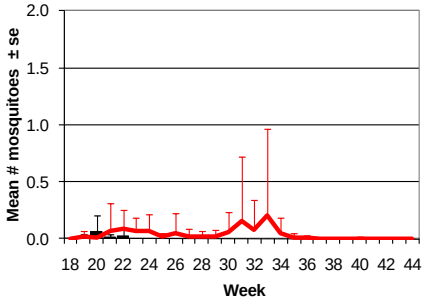
Suburban Corridor



Comments

Aedes cantator populations may have declined in several regions, although populations can still be active, particularly in Coastal and the Delaware Bayshore regions. This species will also be controlled when control is directed toward *Ae. sollicitans*.

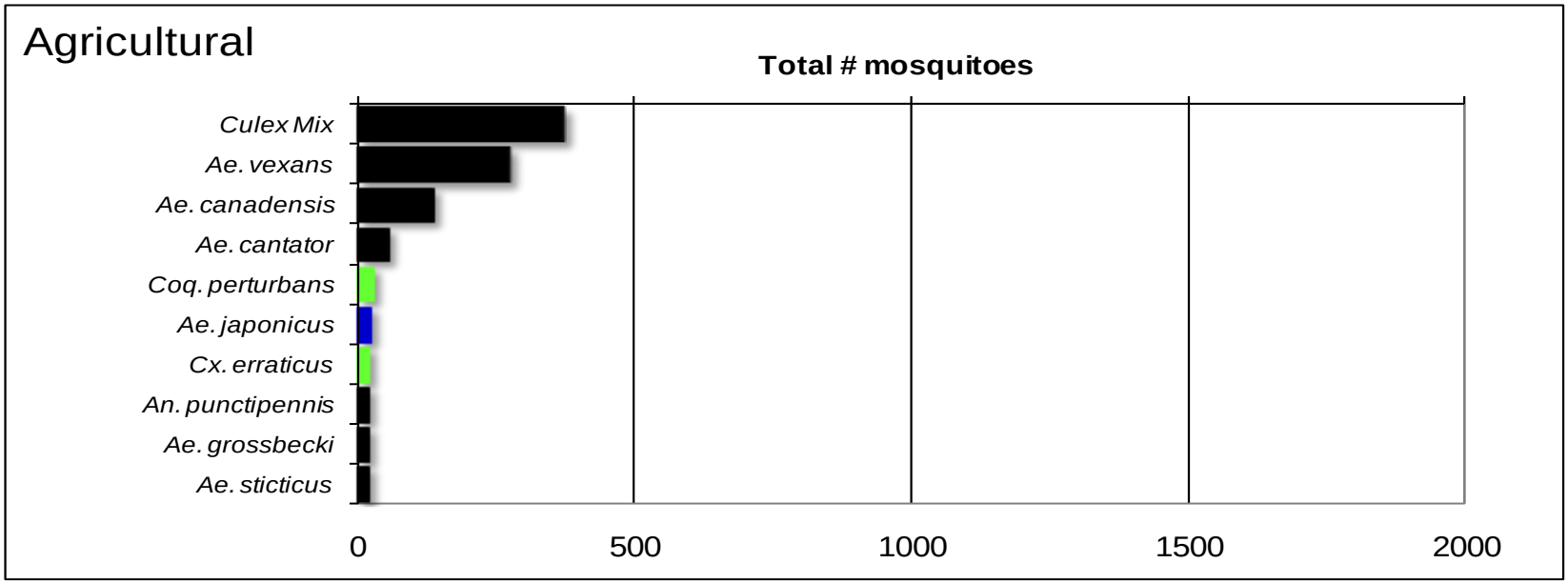
Aedes canadensis canadensis – Spring Species
Univoltine Aedine (*Ae. canadensis* Type)

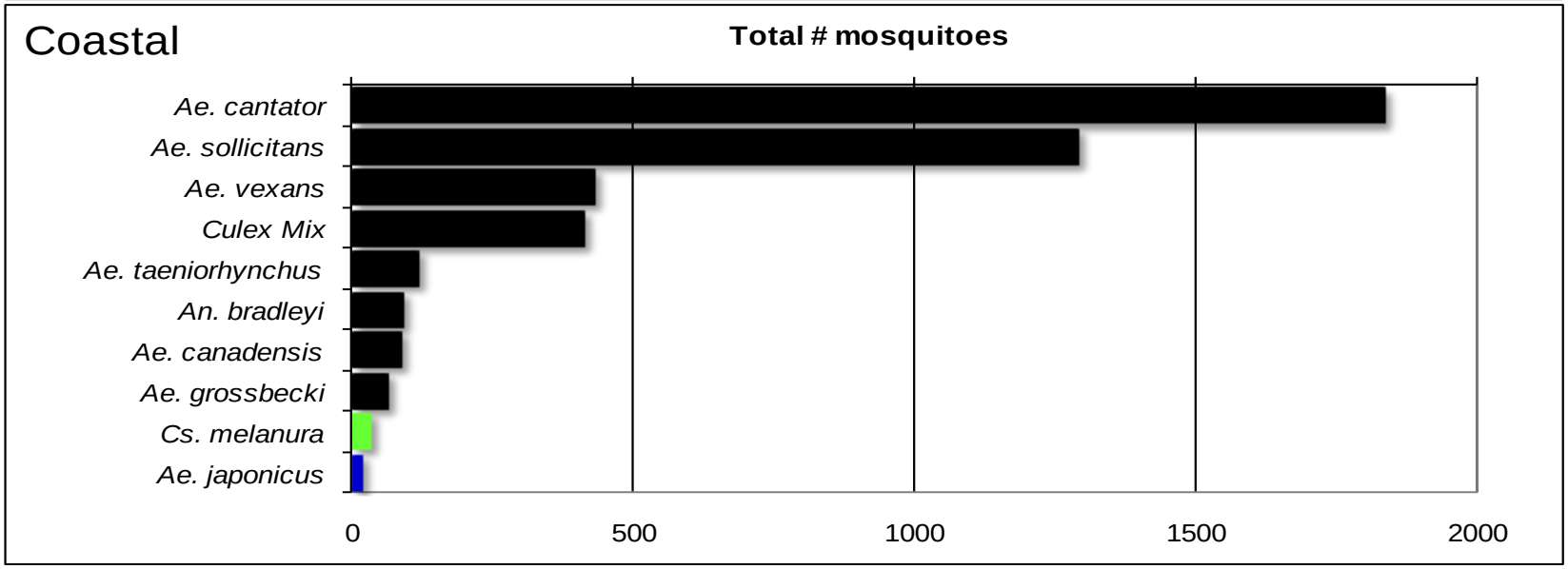
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes canadensis canadensis* abundances continue to be noteworthy in the Delaware Bayshore region while apparently declining in other regions. This species can be an aggressive biter, particularly in shaded areas. Population numbers are expected to fall throughout much of the state, but this species can re-appear during the latter portions of summer.	

WNV *EEE*

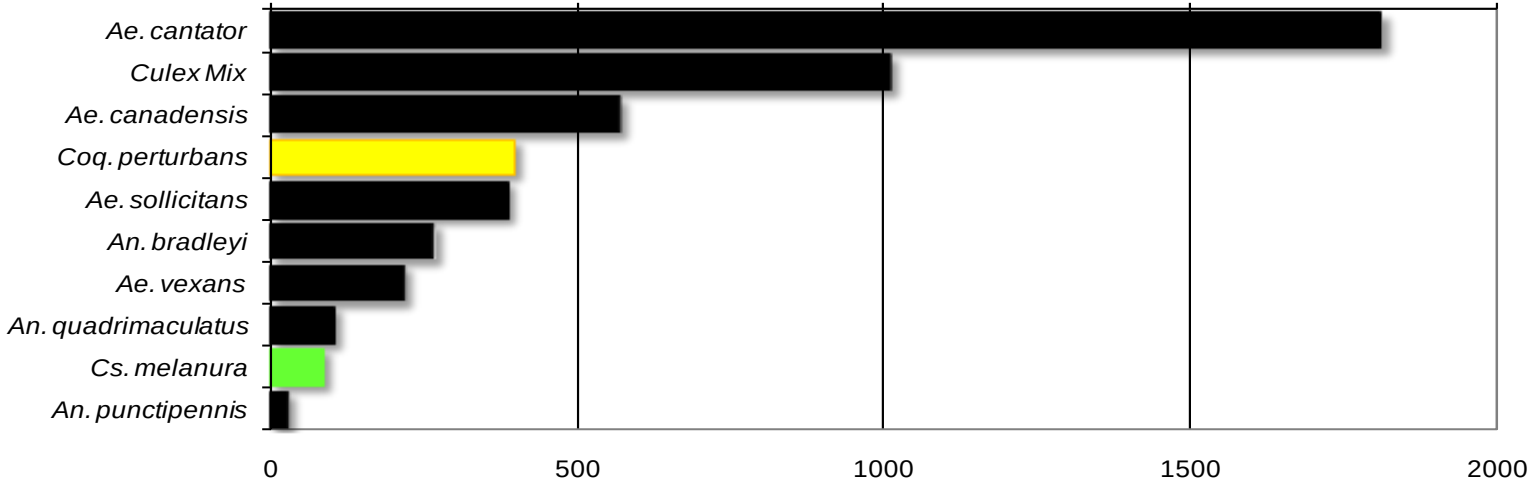
Top Ten Mosquito Species/Region - *Ae. albopictus,* *Ae. japonicus (invasives);* *Cs. melanura or Cx. erraticus* *Coq. perturbans*

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

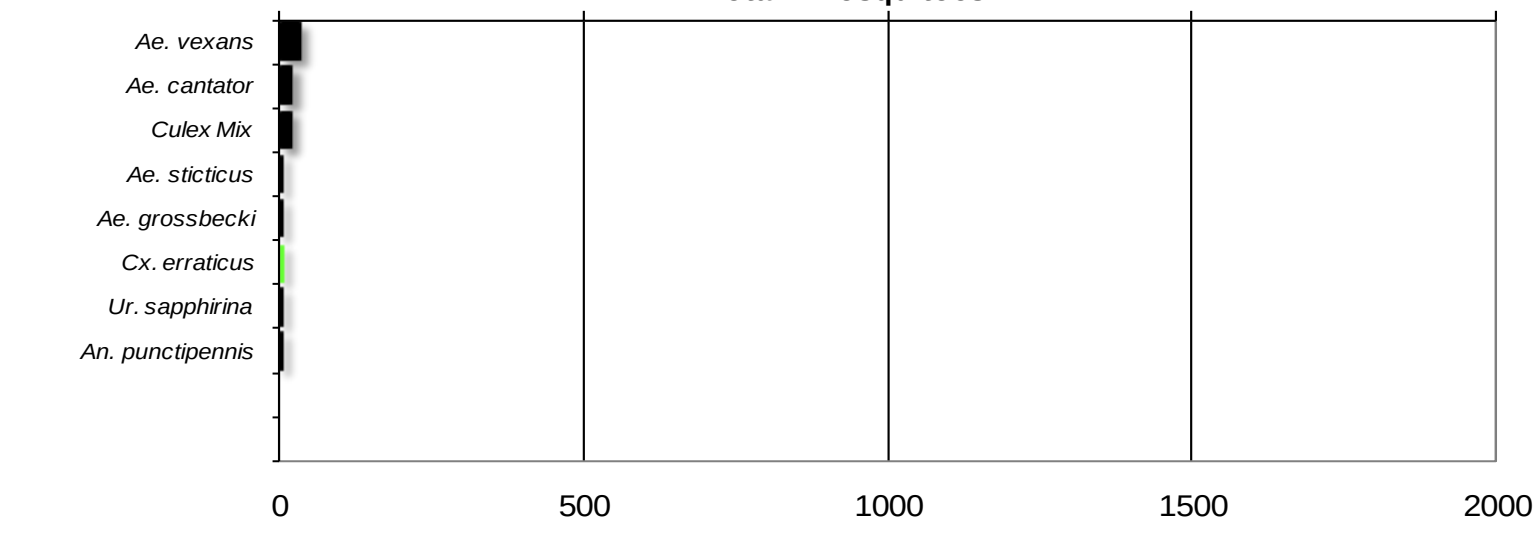




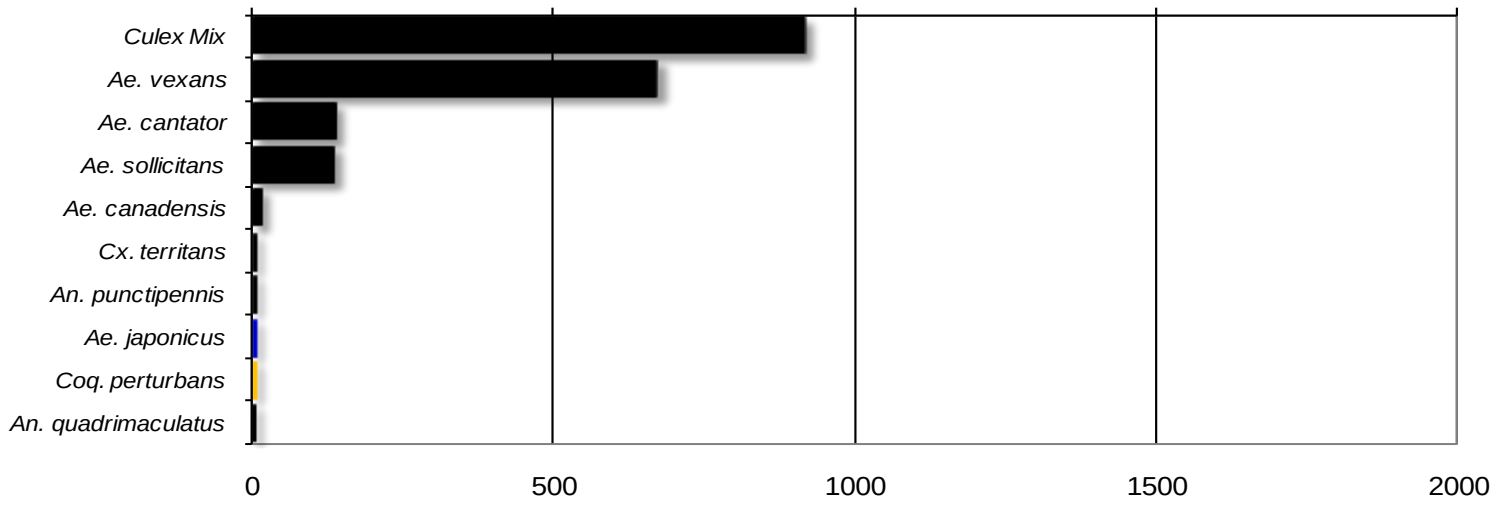
Delaware Bayshore



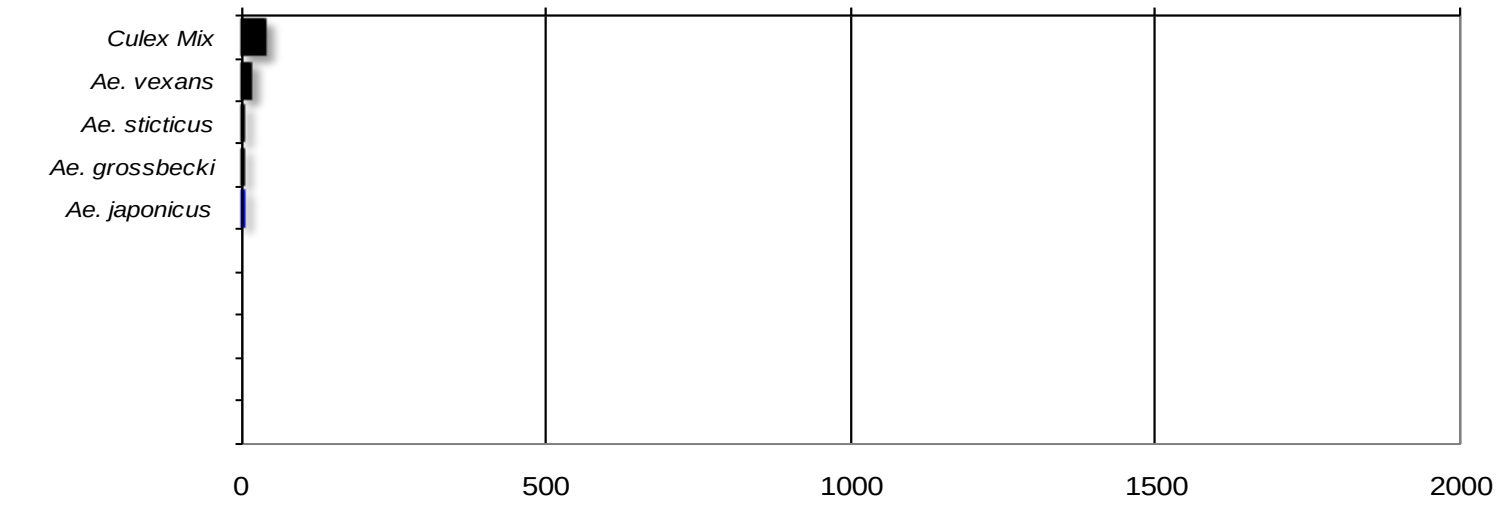
Delaware River Basin

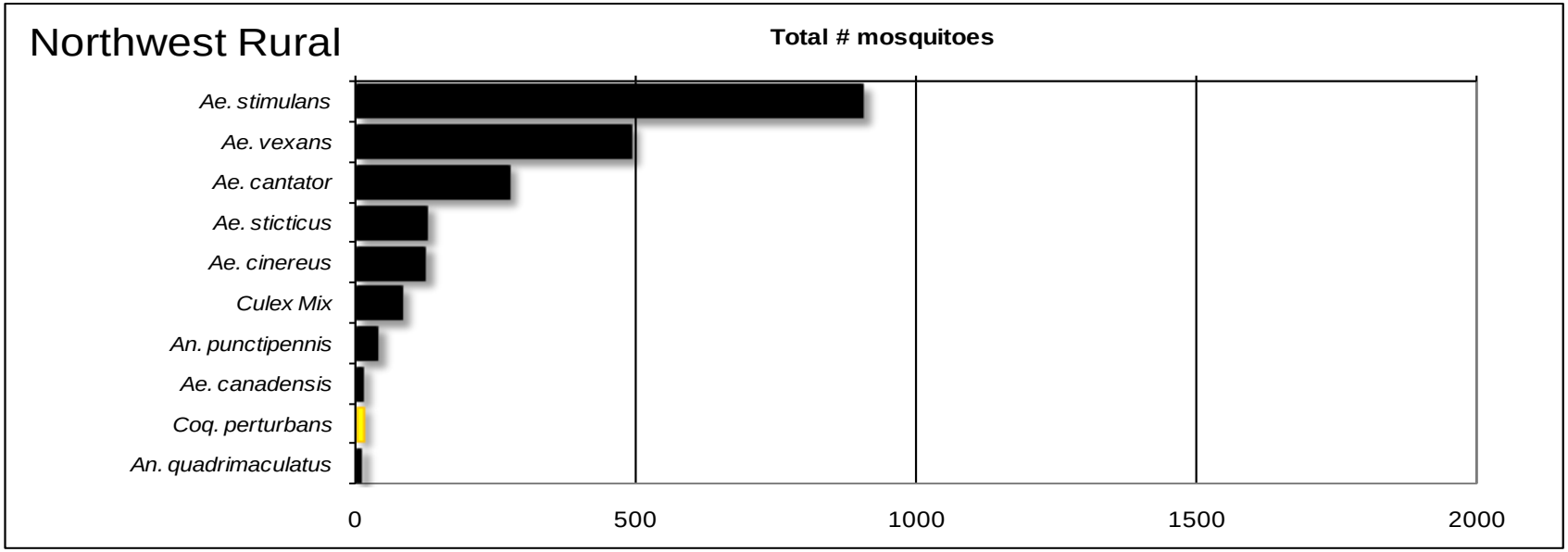


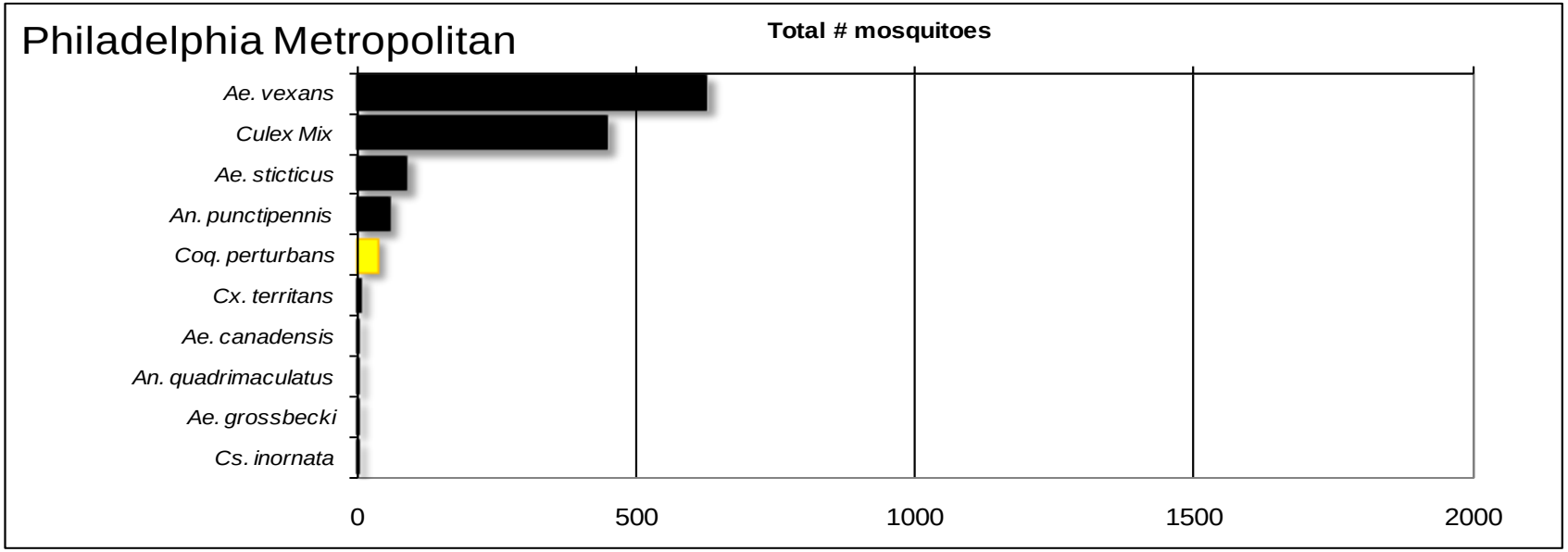
New York Metropolitan

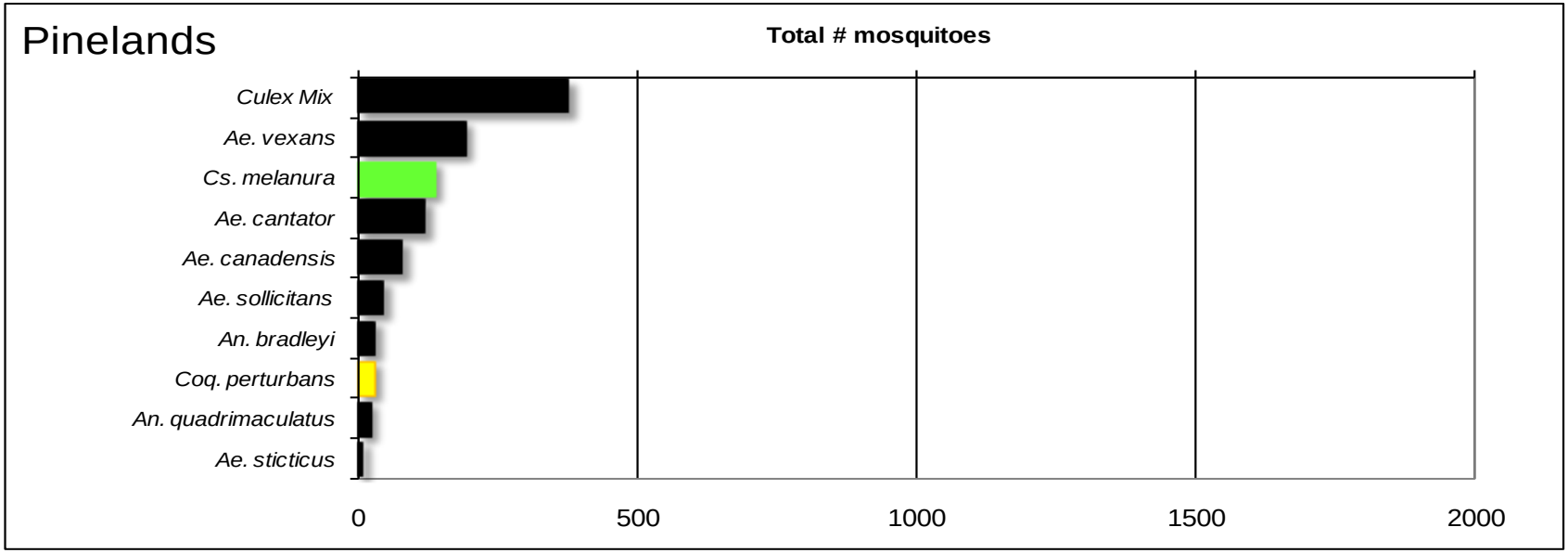


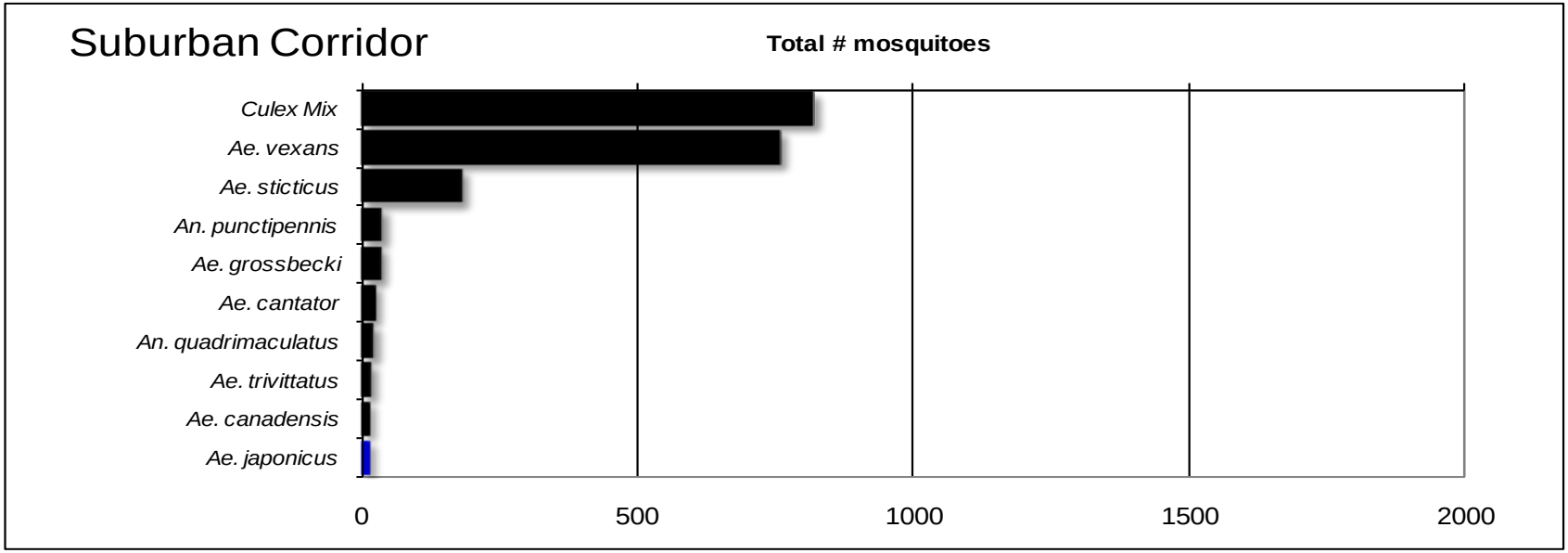
North Central Rural




Northwest Rural
Total # mosquitoes
Ae. stimulans
Ae. vexans
Ae. cantator
Ae. sticticus
Ae. cinereus
Culex Mix
An. punctipennis
Ae. canadensis
Coq. perturbans
An. quadrimaculatus
0
500
1000
1500
2000


Philadelphia Metropolitan
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. sticticus
An. punctipennis
Coq. perturbans
Cx. territans
Ae. canadensis
An. quadrimaculatus
Ae. grossbecki
Cs. inornata
0
500
1000
1500
2000


Pinelands
Total # mosquitoes
Culex Mix
Ae. vexans
Cs. melanura
Ae. cantator
Ae. canadensis
Ae. sollicitans
An. bradleyi
Coq. perturbans
An. quadrimaculatus
Ae. sticticus
0
500
1000
1500
2000


Suburban Corridor
Total # mosquitoes
Culex Mix
Ae. vexans
Ae. sticticus
An. punctipennis
Ae. grossbecki
Ae. cantator
An. quadrimaculatus
Ae. trivittatus
Ae. canadensis
Ae. japonicus
0
500
1000
1500
2000