RUTGERS
New Jersey Agricultural Experiment Station

NEW JERSEY ADULT MOSQUITO SURVEILLANCE
Report for 22 June to 28 June 2008, CDC Week 26

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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.

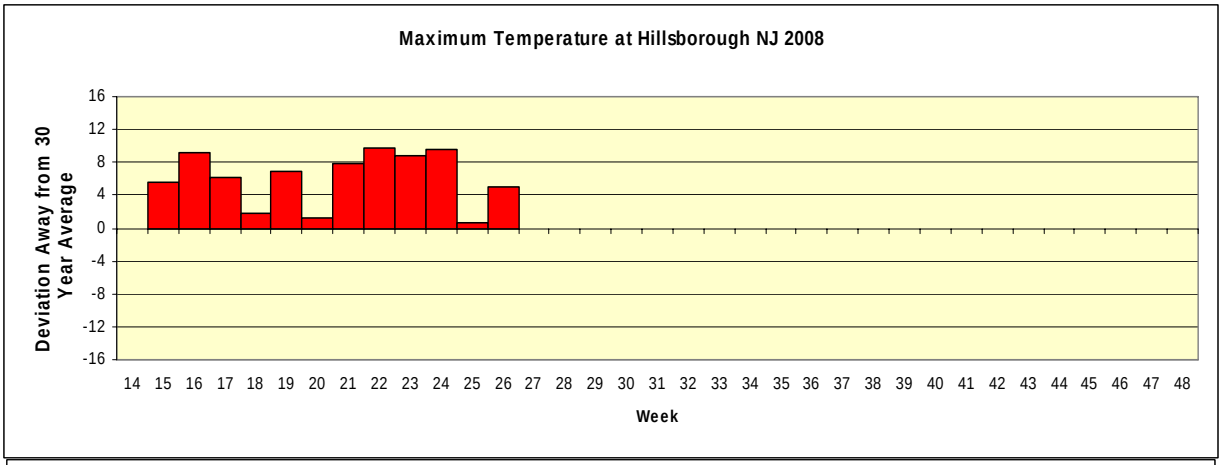
Summary table – Week 26

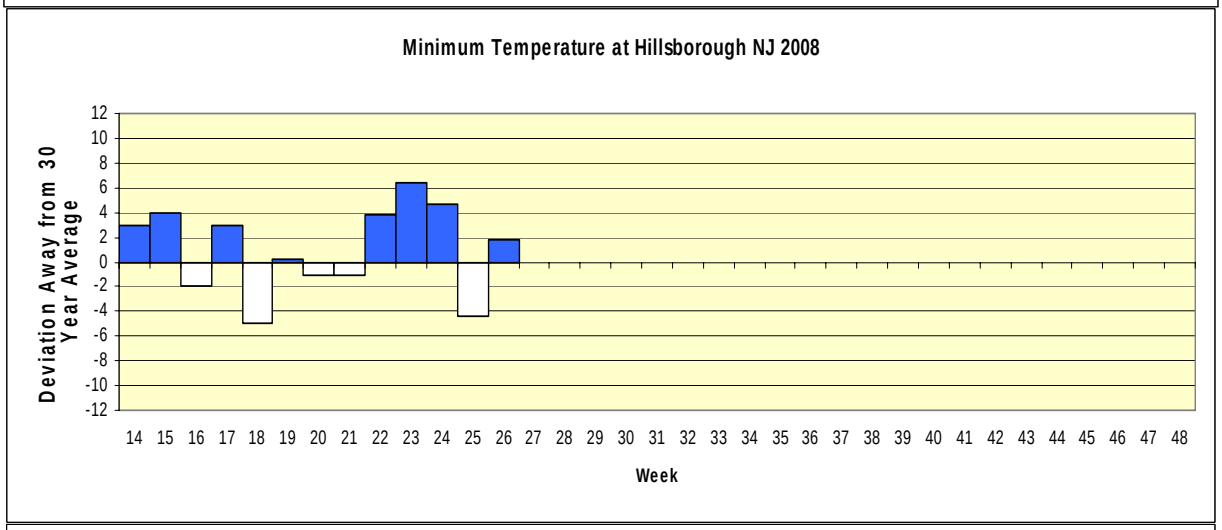
	Aedes vexans			*Culex* Mix			*Coquillettidia perturbans*			*Aedes sollicitans*		
Region	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase
Agricultural	**0.89**	**4.01**	**0**	**1.57**	**6.82**	**0**	**0.34**	**0.73**	**0**	**0.00**	**0.73**	**0**
Coastal	**2.27**	**8.01**	**0**	**2.17**	**8.62**	**0**	**0.08**	**2.52**	**0**	**1.14**	**14.97**	**0**
Delaware Bayshore	**0.00**	**5.02**	**0**	**0.00**	**25.21**	**0**	**0.00**	**8.87**	**0**	**0.00**	**24.88**	**0**
Delaware River Basin	**0.00**	**19.39**	**0**	**0.00**	**15.77**	**0**	**0.00**	**0.49**	**0**	**0.00**	**0.29**	**0**
New York Metro	**0.90**	**3.43**	**0**	**2.73**	**9.42**	**0**	**0.16**	**0.23**	**0**	**0.07**	**0.63**	**0**
North Central Rural	**0.02**	**0.74**	**0**	**0.22**	**2.99**	**0**	**0.02**	**0.00**		**0.00**	**0.00**	**0**
Northwest Rural	**1.49**	**9.66**	**0**	**0.57**	**5.80**	**0**	**0.03**	**0.03**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**1.57**	**14.60**	**0**	**5.79**	**11.28**	**0**	**0.23**	**0.10**	**3**	**0.00**	**0.00**	**0**
Pinelands	**0.81**	**2.82**	**0**	**0.75**	**5.18**	**0**	**0.08**	**0.95**	**0**	**0.04**	**0.26**	**0**
Suburban Corridor	**0.49**	**8.68**	**0**	**2.24**	**4.42**	**0**	**0.25**	**0.01**	**4**	**0.00**	**0.06**	**0**

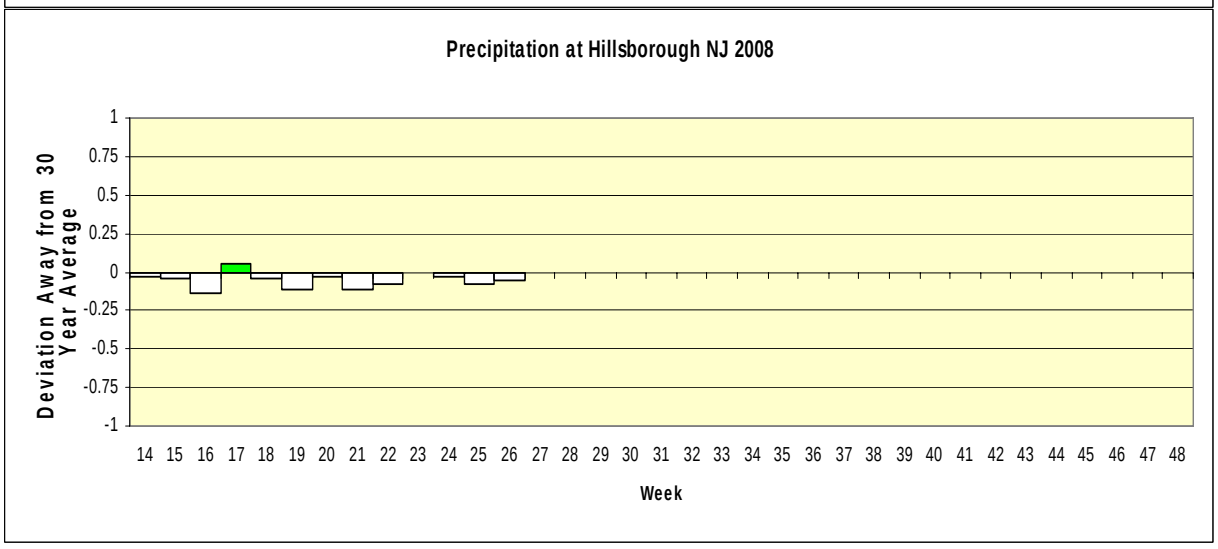
Averages represent data from, at most, the previous 5 years. Increase is a scale of current values from historical values where no difference or a decrease is represented by 0 (blue), up to 50% greater difference by 1 (green), up to 100% greater difference by 2 (yellow), up to 150% greater difference by 3 (orange) and greater than 150% increase by 4 (red). White cells denote increases from an historic zero and thus no value can be appropriately given.

State Summary: *Coquillettidia perturbans* continues to increase above historical levels in the both the Philadelphia Metro and northern areas of the Suburban Corridor regions. Also, individuals of this species have shown up in light traps in the North Central Rural region. This species has not been seen in light traps in this region according to recent past historical data.

Climate Deviations

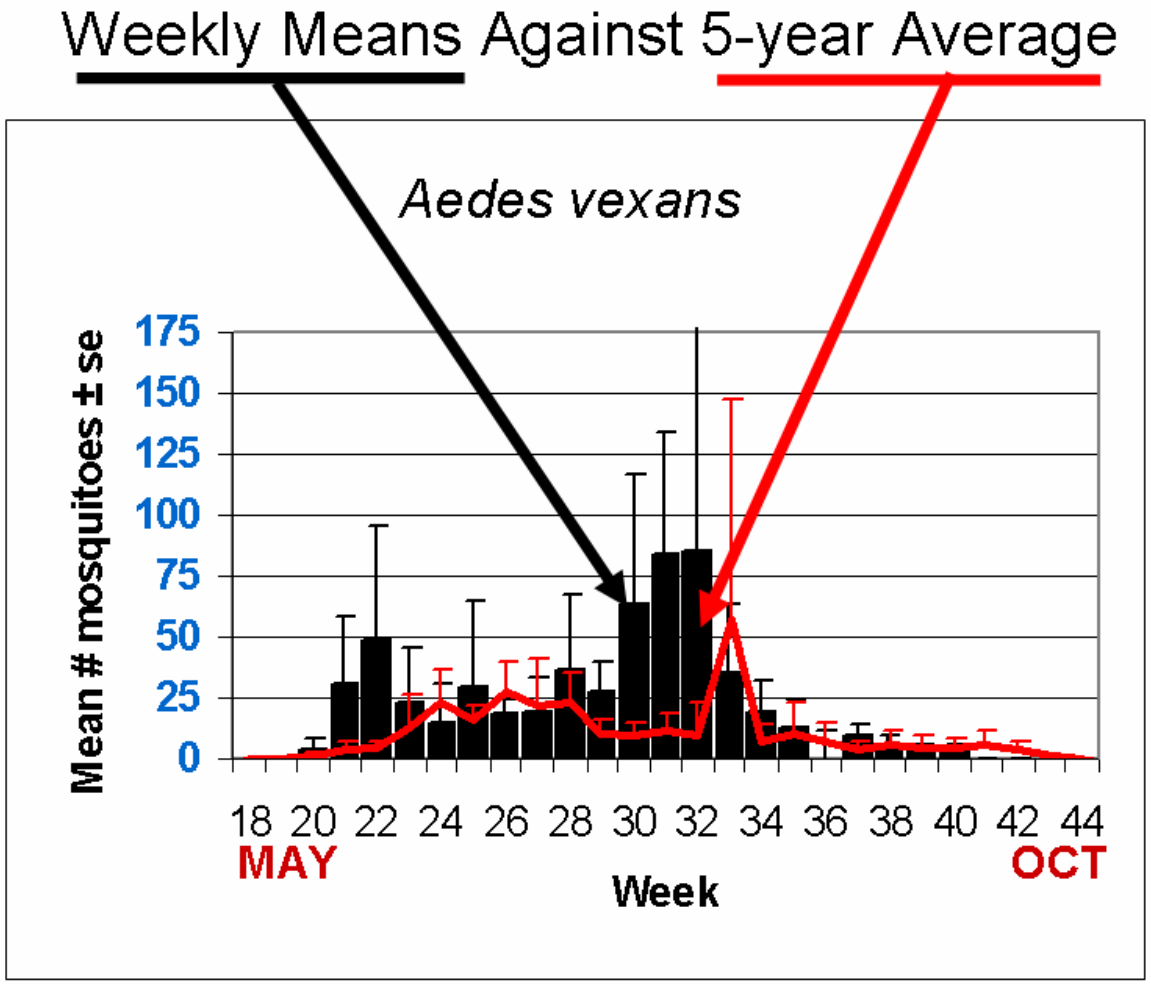






The figures show the average maximum temperature, minimum temperature and precipitation deviations from 30 year averages. Current data is from the Hillsborough NJ weather station (a station close to central NJ which recorded all three parameters and was available online at the NJ state climatologist) 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 Week 23 are from Atlantic, Bergen, Camden, Essex, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Somerset 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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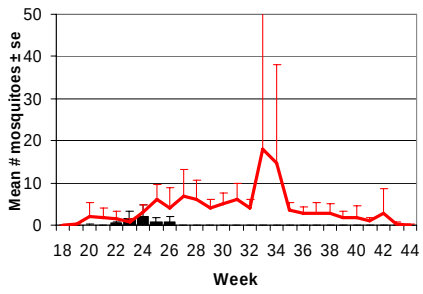
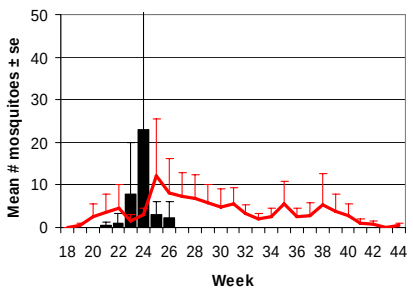
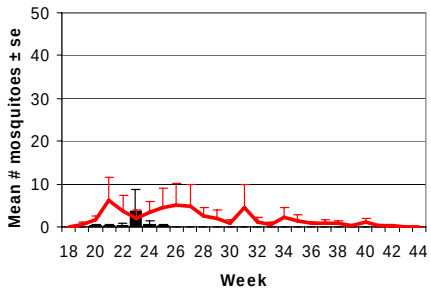
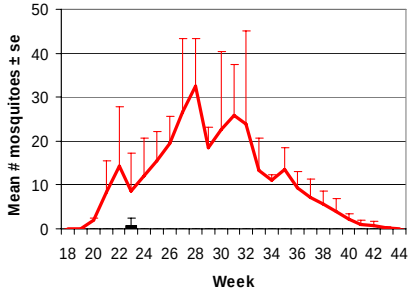
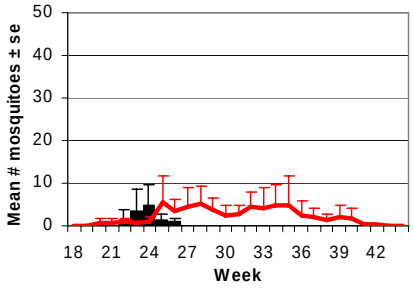
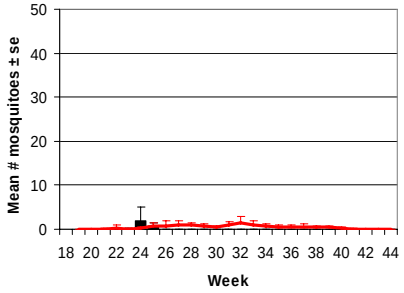
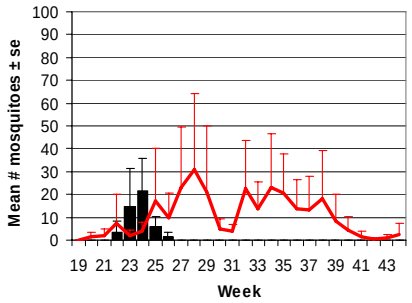
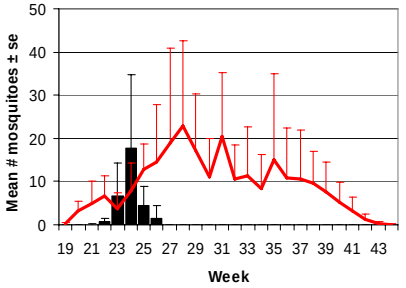
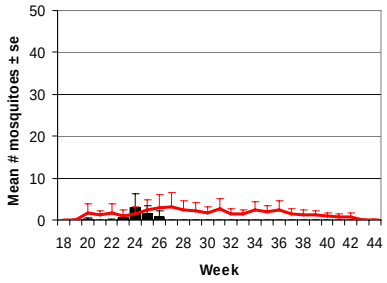
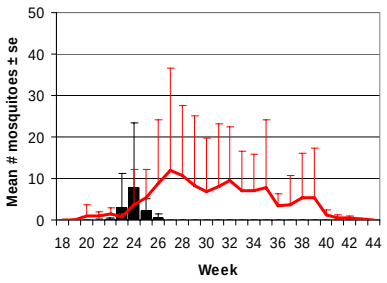
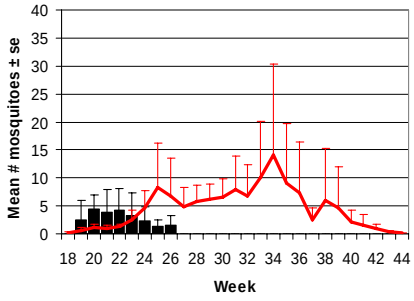
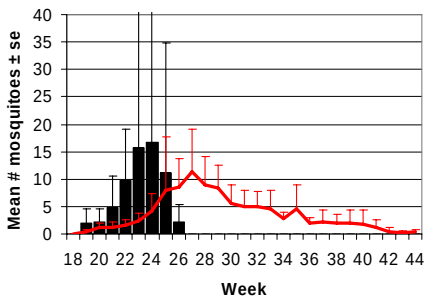
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* populations continue to decline in numerous locations as rainfall had been widely scattered and less frequent. Temperatures remain high, and some locally heavy rainfall may provide habitat for larvae to quickly develop. The absence of *Ae. vexans* in the Delaware River region appears to be due to the maintenance work that the dredge spoils are currently undergoing, as reported by Dennis Mahoney at the last Associated Executives meeting.	

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

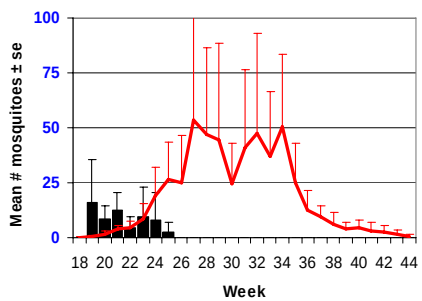
Agricultural



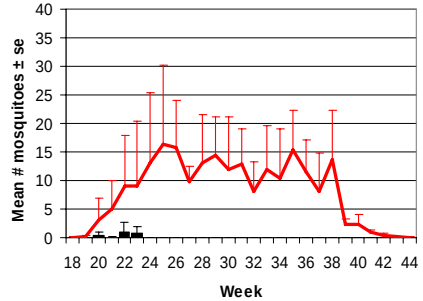
Coastal



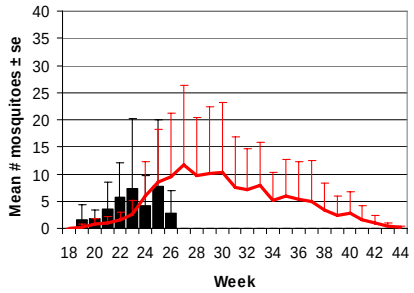
Delaware Bayshore



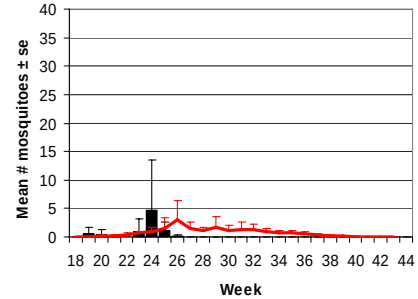
Delaware River Basin



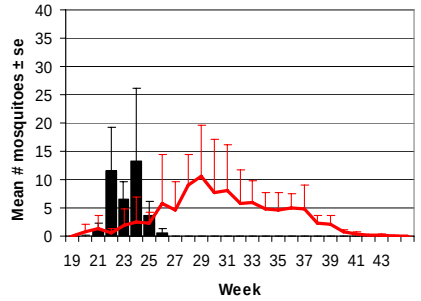
New York Metro



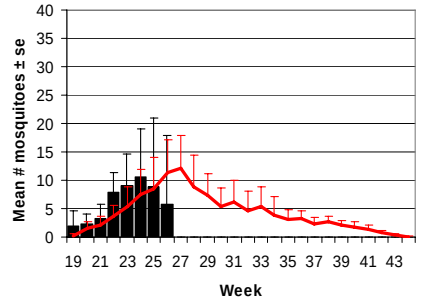
North Central Rural



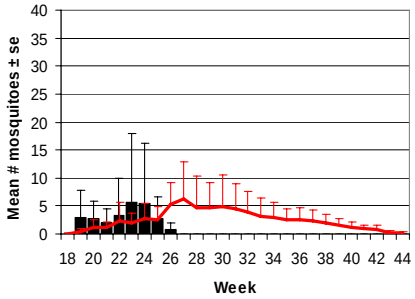
Northwestern Rural



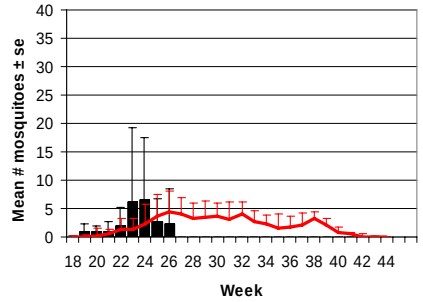
Philadelphia Metro



Pinelands



Suburban Corridor

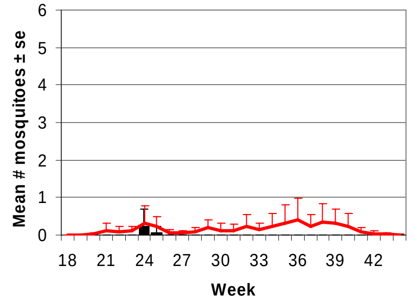


Comments

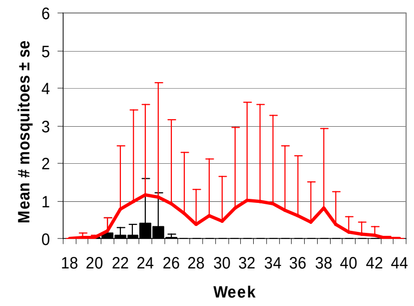
Culex (*Cx. pipiens, restuans,* and *salinarius*) populations continue to approximate historical trends throughout most of the regions, with the exception of the Delaware Bayshore. *Cx. restuans,* an early-season species contributes significantly towards the population composition in a number of the regions, including Agricultural and Coastal. While *Cx. salinarius* is currently also part of the populations, this pest will increase in numbers as the season progresses. As it is an opportunistic biter as well as a competent vector for WNV, it is well to be aware of this species when virus is in the area.

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

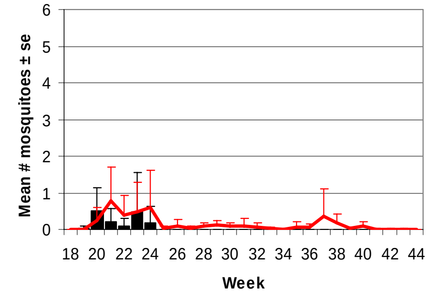
Agricultural



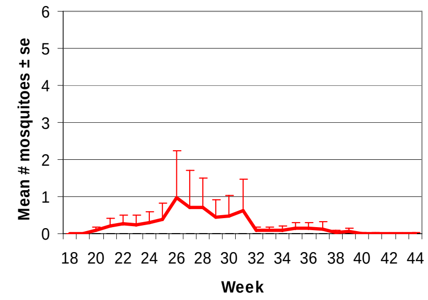
Coastal



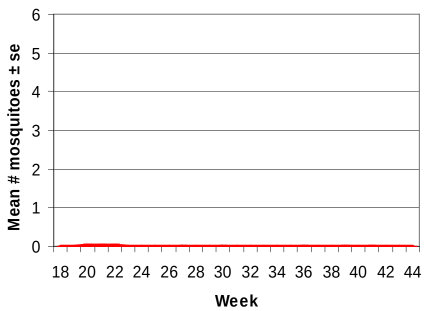
Delaware Bayshore



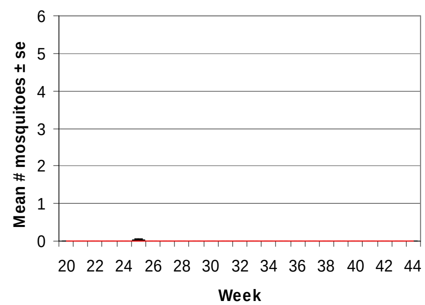
Delaware River Basin



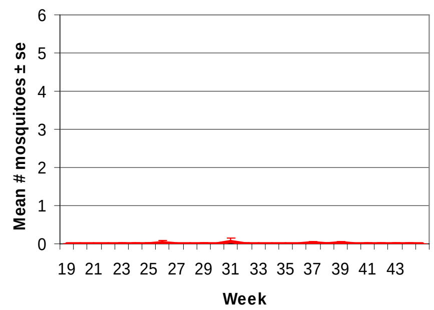
New York Metro



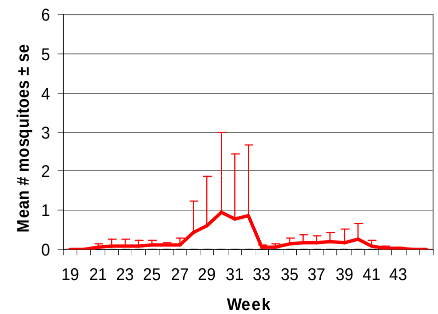
North Central Rural



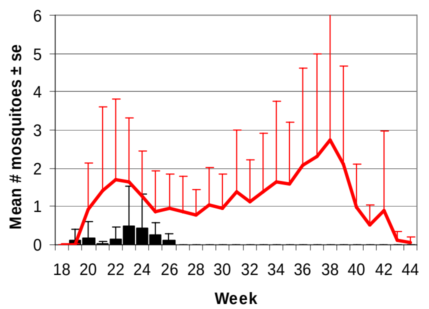
Northwestern Rural



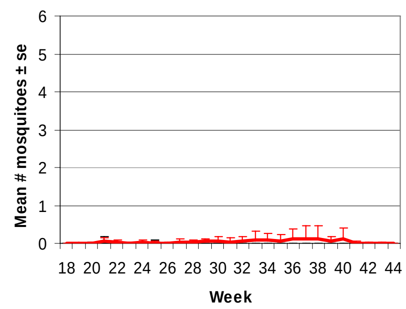
Philadelphia Metro



Pinelands



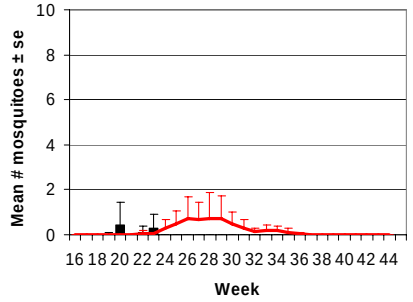
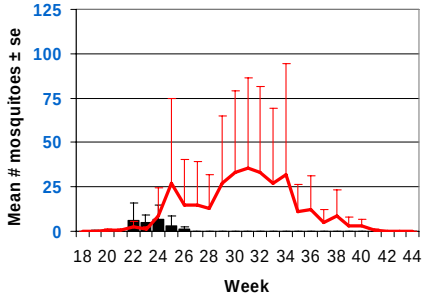
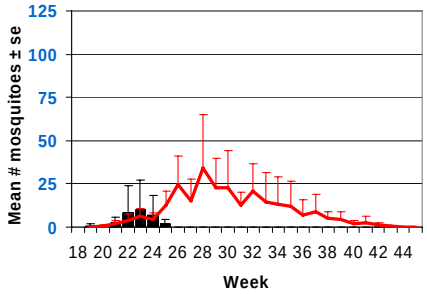
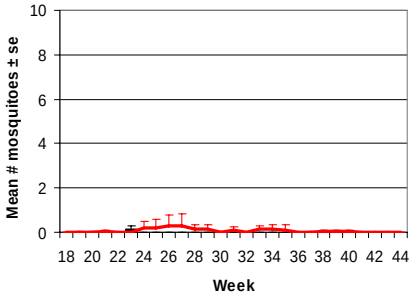
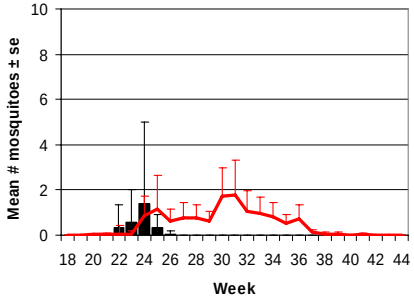
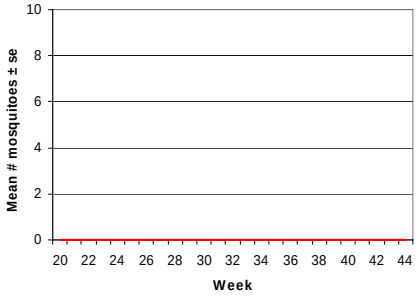
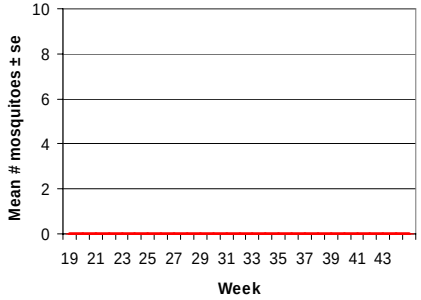
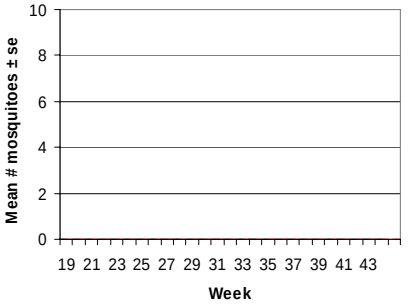
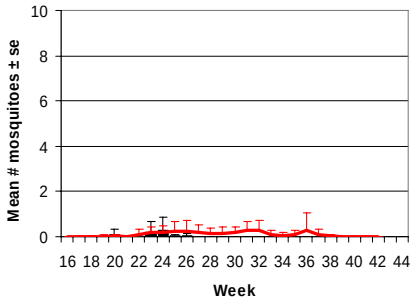
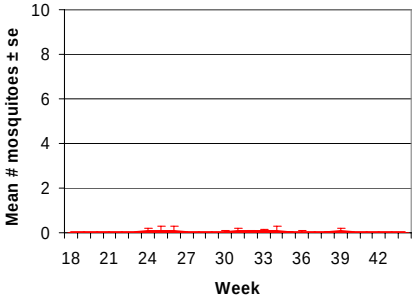
Suburban Corridor



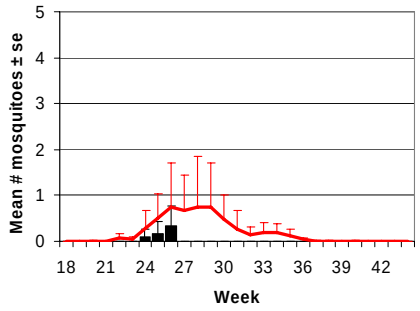
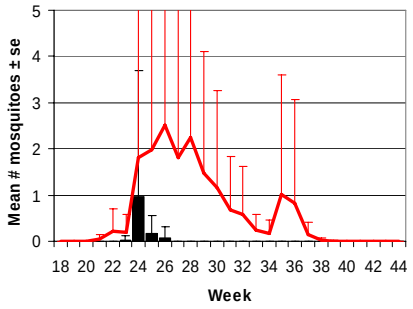
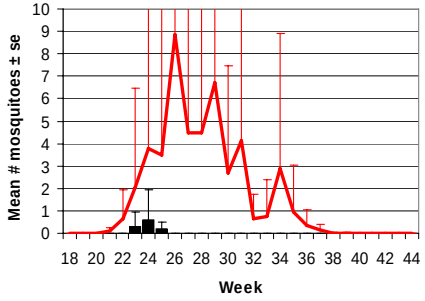
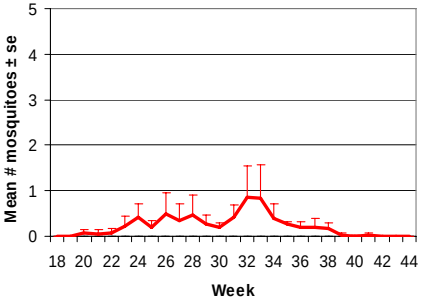
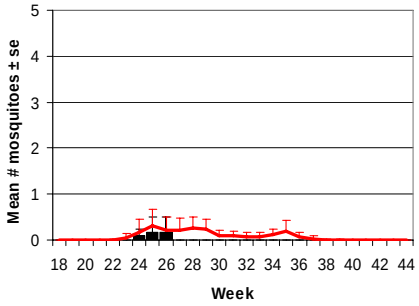
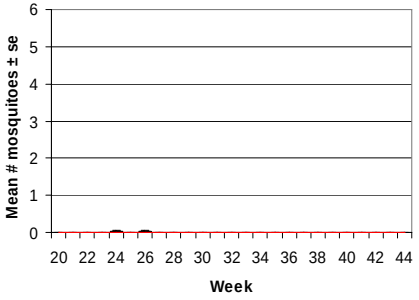
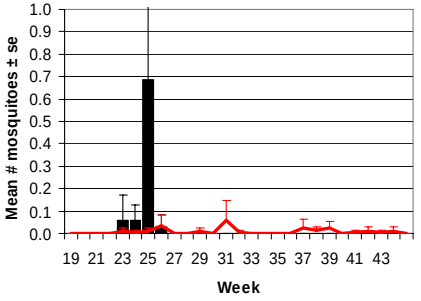
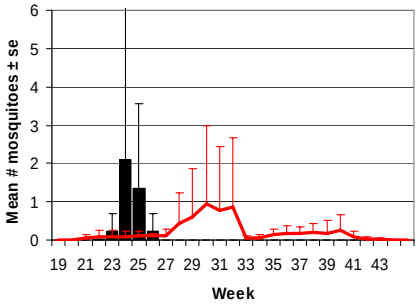
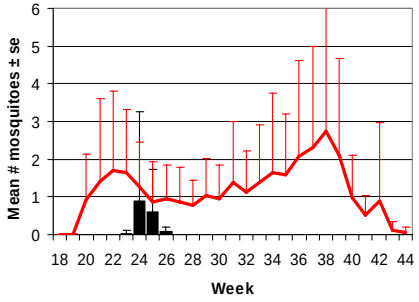
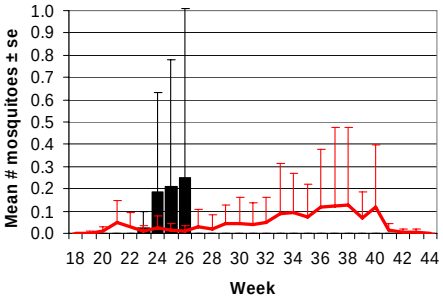
Comments

Culiseta melanura continue to show low numbers in the Coastal and Pineland regions. This also corresponds to the population abundances found in the resting boxes. As the first generation decreases in numbers, population levels might decline precipitously. However, early overwintering instars will begin to emerge followed by offspring of the first generation, and the later portions of this season may be significantly different.

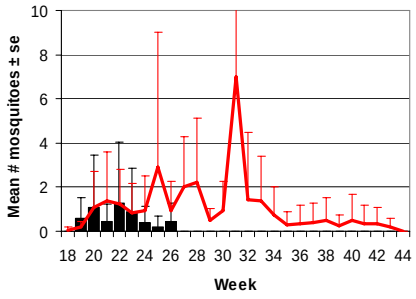
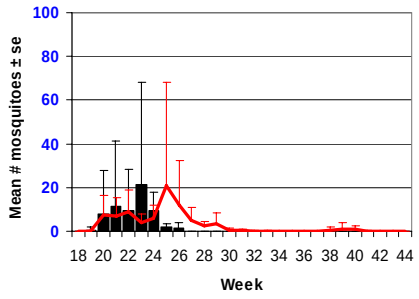
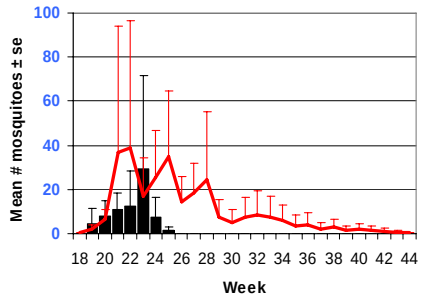
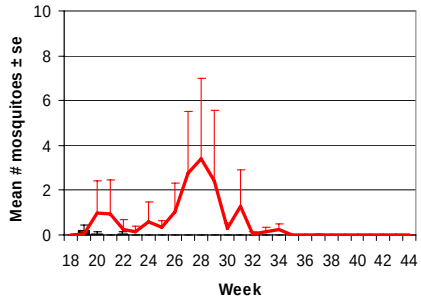
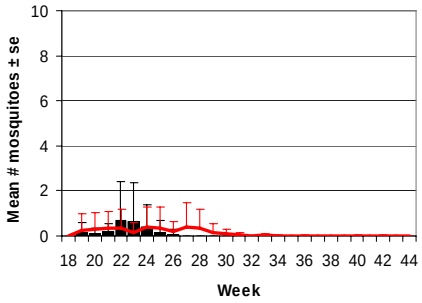
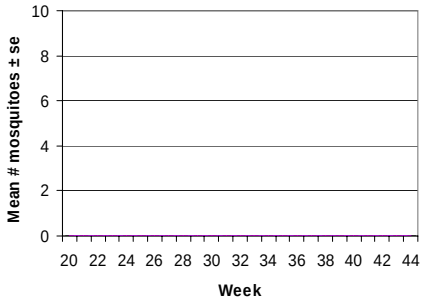
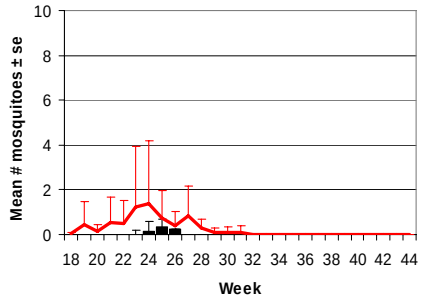
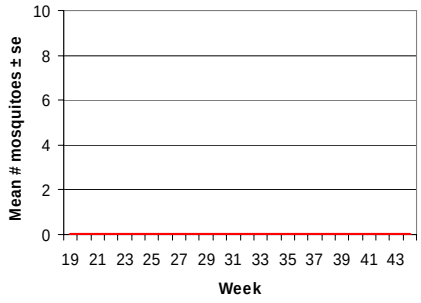
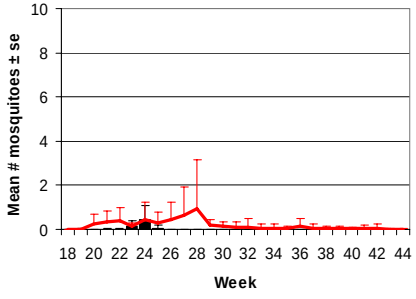
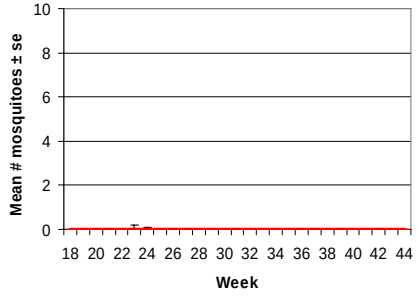
Aedes sollicitans - Salt Floodwater Species
Multivoltine Aedine (*Ae. sollicitans* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* should begin to emerge for the second brood as June 18th was the last full moon. The first brood emergence, particularly in the Delaware Bayshore region, appears to follow the typical pattern as indicated by the historical trends.	

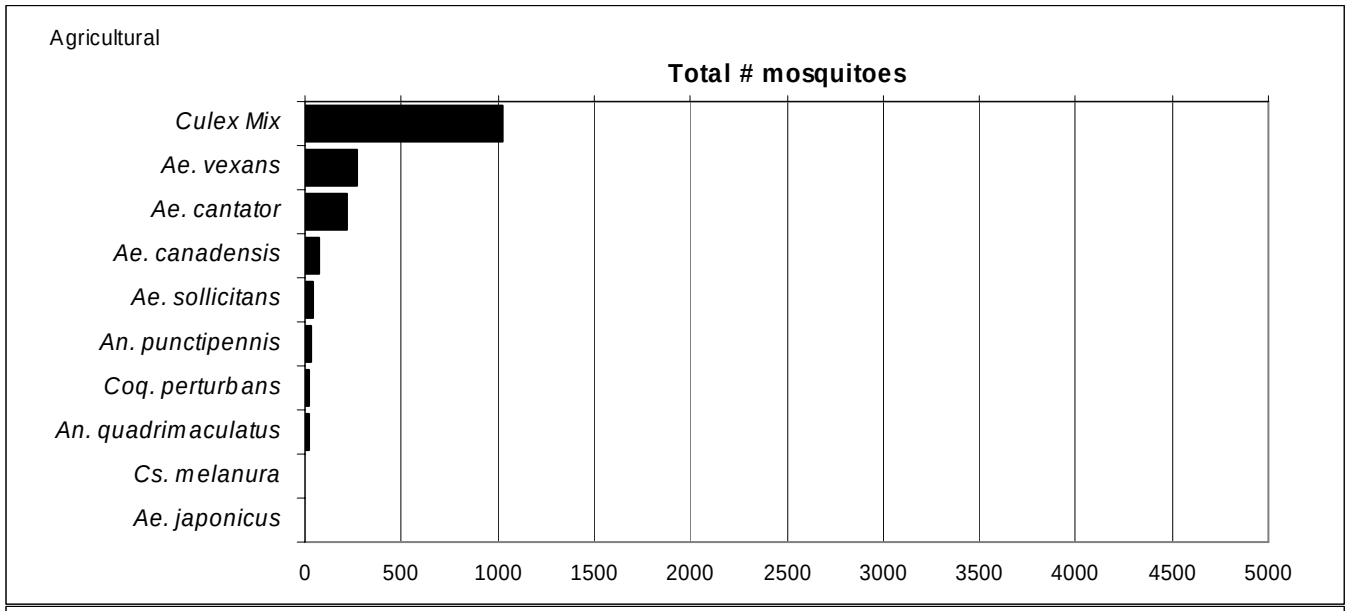
Coquillettidia perturbans- Monotypic Species
(*Cq. perturbans* Type)

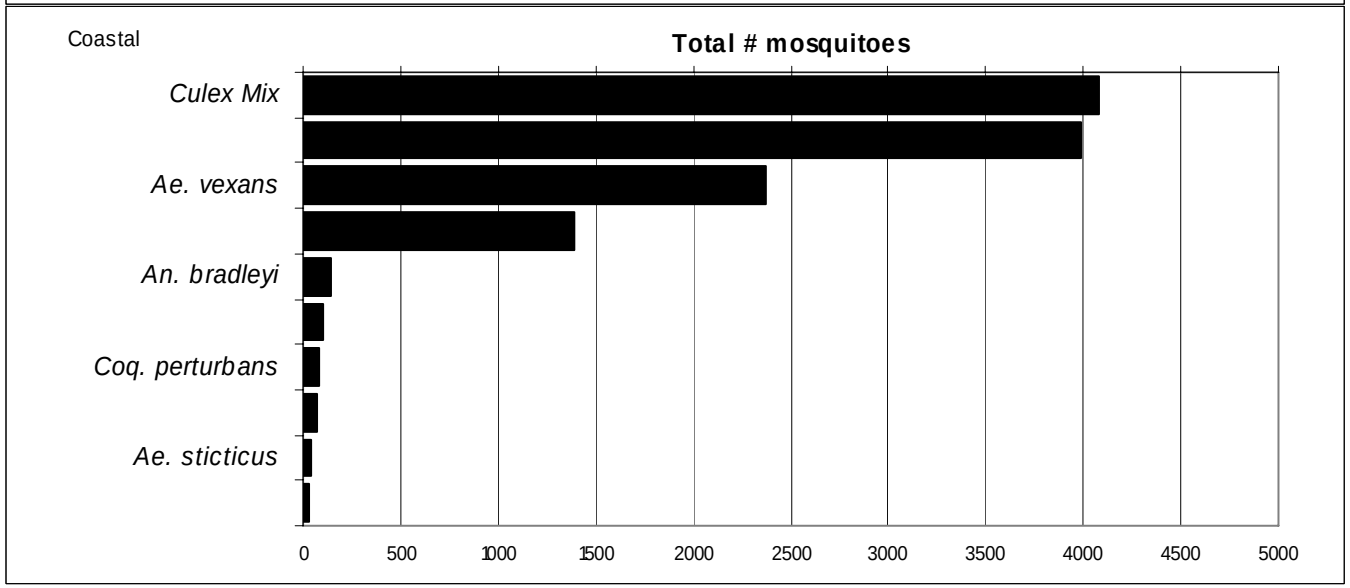
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Coquillettidia perturbans* numbers continue to grow in the Suburban Corridor. The traps that contain numerous *Cq. perturbans* tend to be located in the northern portion of the Suburban Corridor. High activity had previously been seen in the Northwestern Rural region as well as the Philadelphia Metro region.	

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

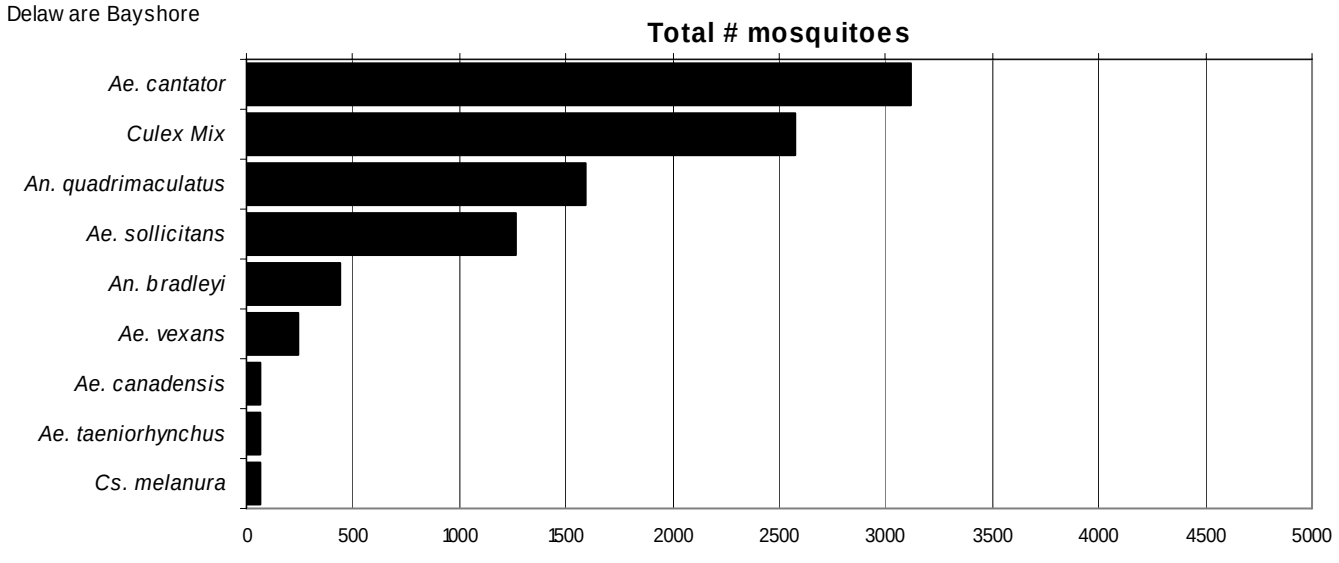
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes cantator* populations appear to be on the decline.	

Top Ten Mosquito Species/Region

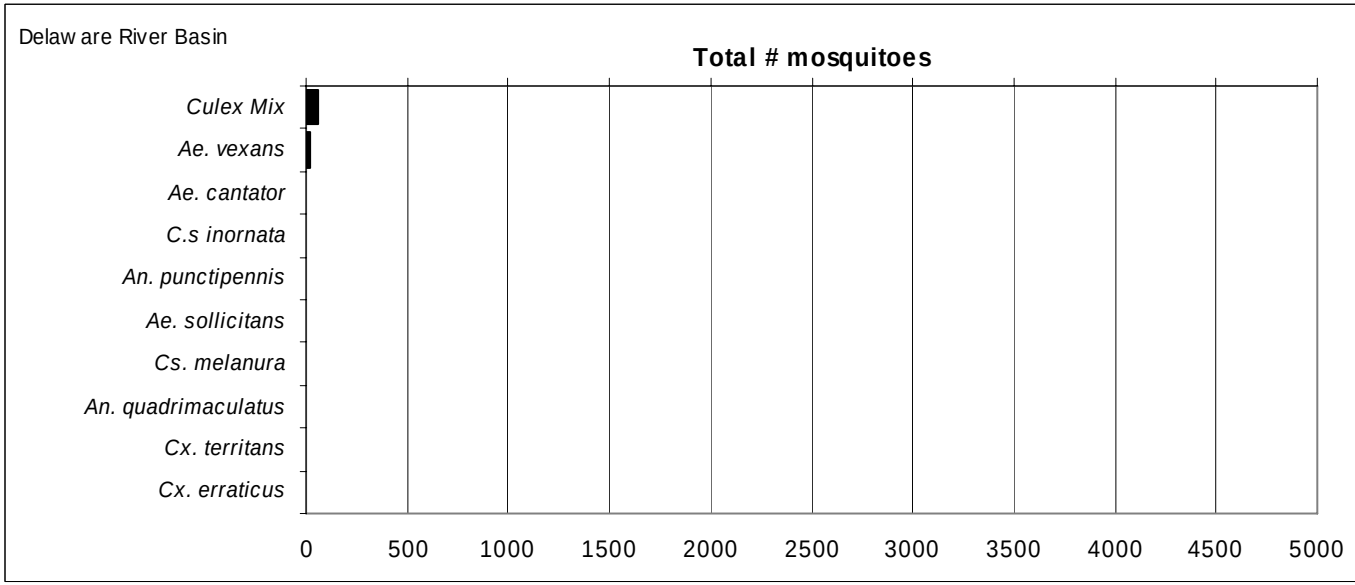


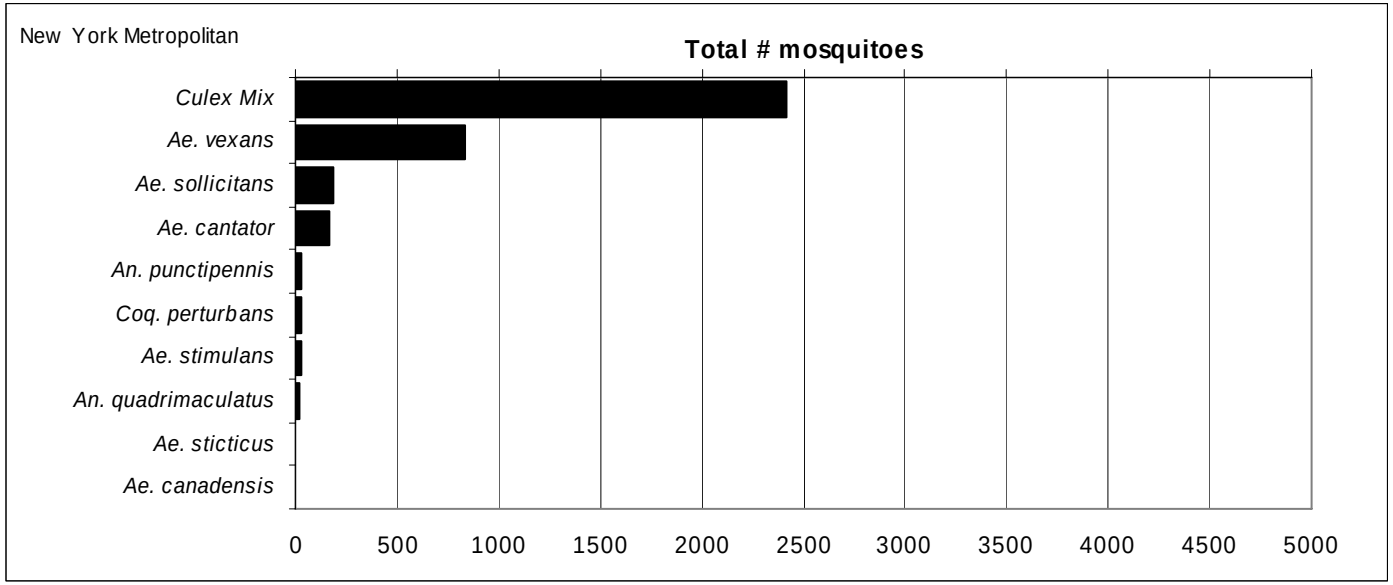


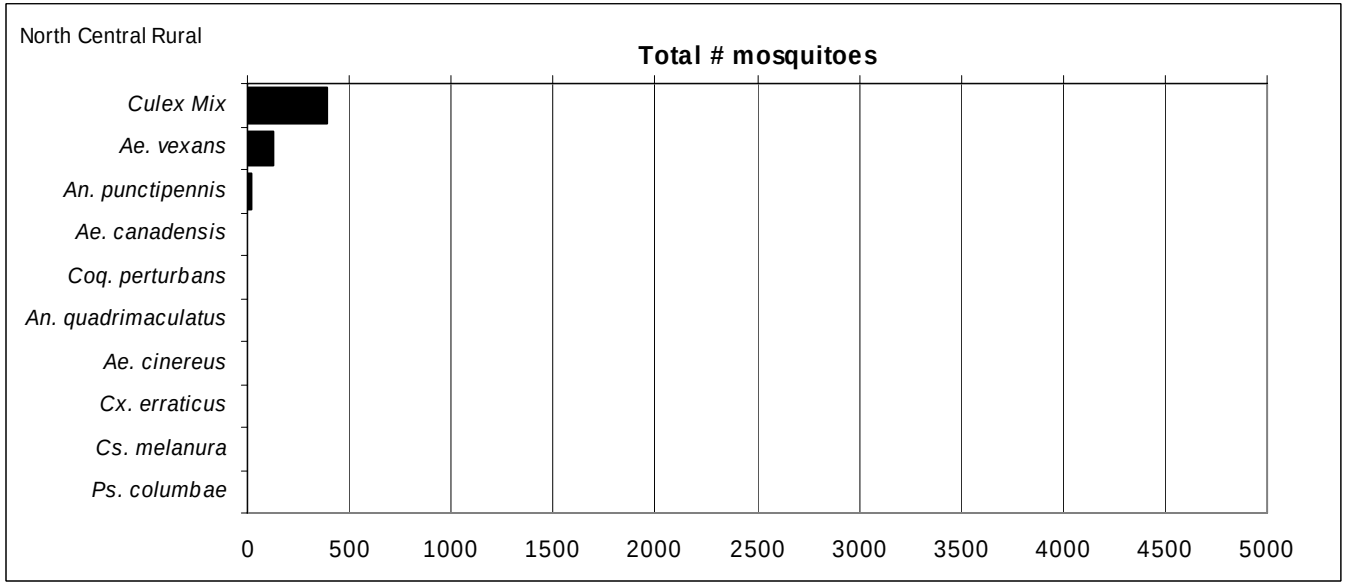
Delaware Bayshore

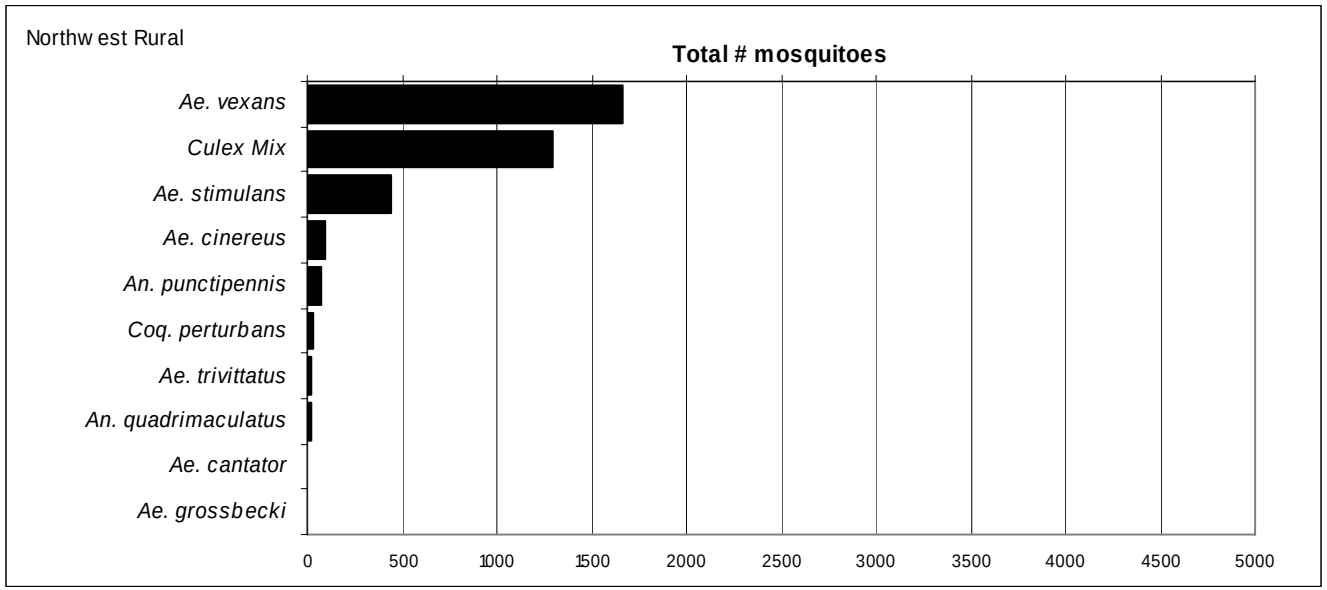


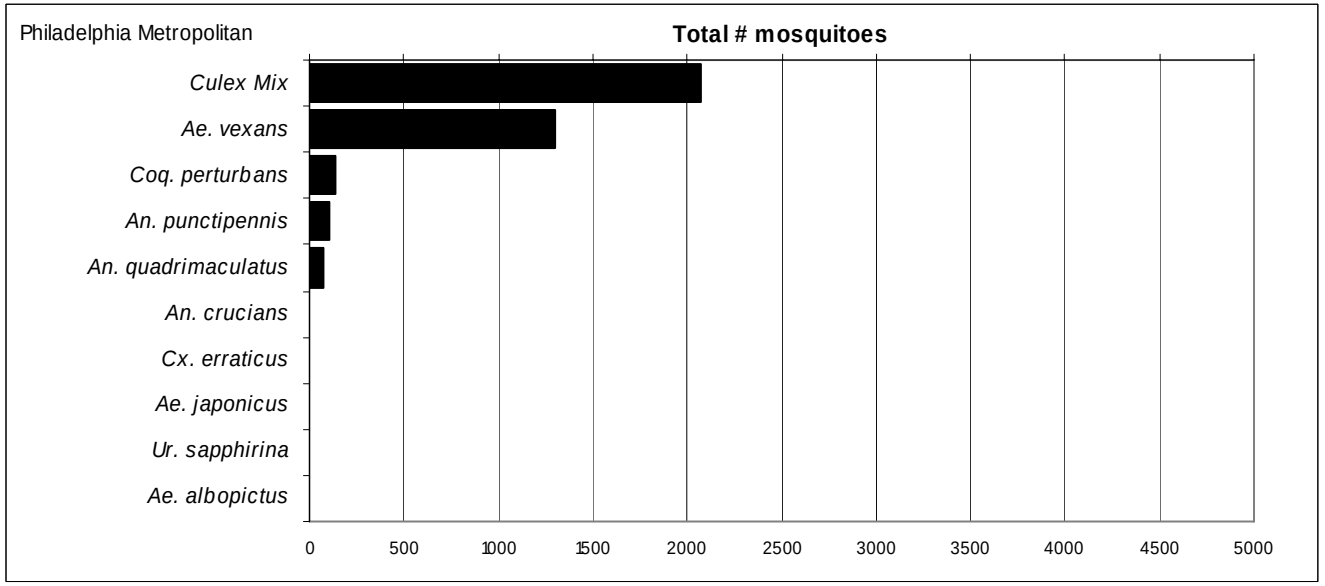
Delaware River Basin



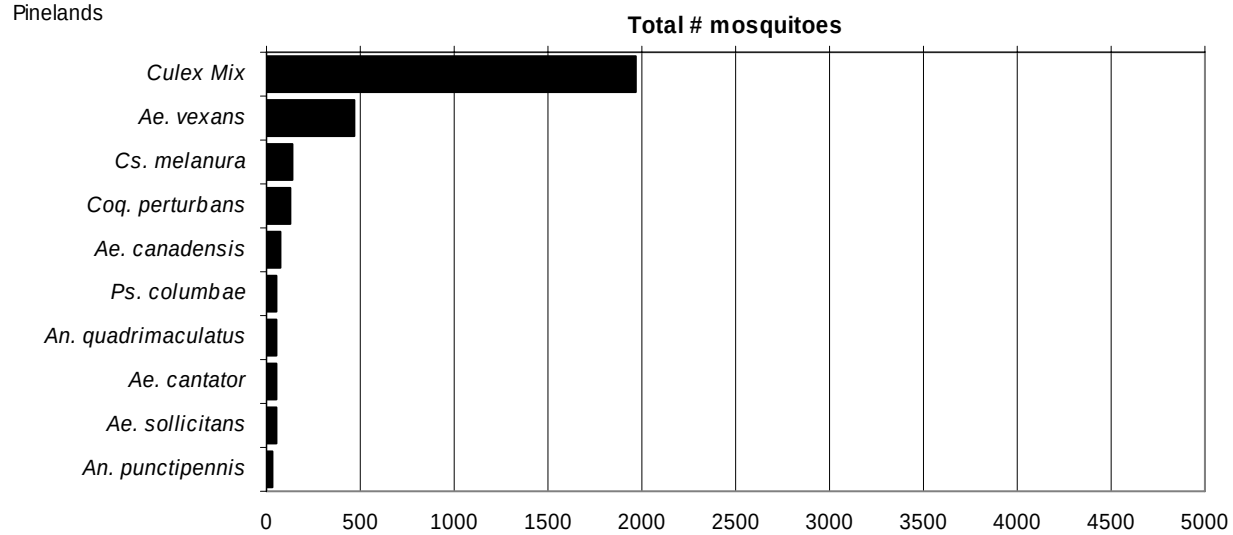

New York Metropolitan
Total # mosquitoes
Culex Mix
Ae. vexans
Ae. sollicitans
Ae. cantator
An. punctipennis
Coq. perturbans
Ae. stimulans
An. quadrimaculatus
Ae. sticticus
Ae. canadensis
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000


North Central Rural
Total # mosquitoes
Culex Mix
Ae. vexans
An. punctipennis
Ae. canadensis
Coq. perturbans
An. quadrimaculatus
Ae. cinereus
Cx. erraticus
Cs. melanura
Ps. columbae
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000


Northw est Rural
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. stimulans
Ae. cinereus
An. punctipennis
Coq. perturbans
Ae. trivittatus
An. quadrimaculatus
Ae. cantator
Ae. grossbecki
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000


Philadelphia Metropolitan
Total # mosquitoes
Culex Mix
Ae. vexans
Coq. perturbans
An. punctipennis
An. quadrimaculatus
An. crucians
Cx. erraticus
Ae. japonicus
Ur. sapphirina
Ae. albopictus
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000

Pinelands



Suburban Corridor