RUTGERS
New Jersey Agricultural Experiment Station

NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 19 September to 25 September 2010, CDC Week 38

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Center for Vector Biology

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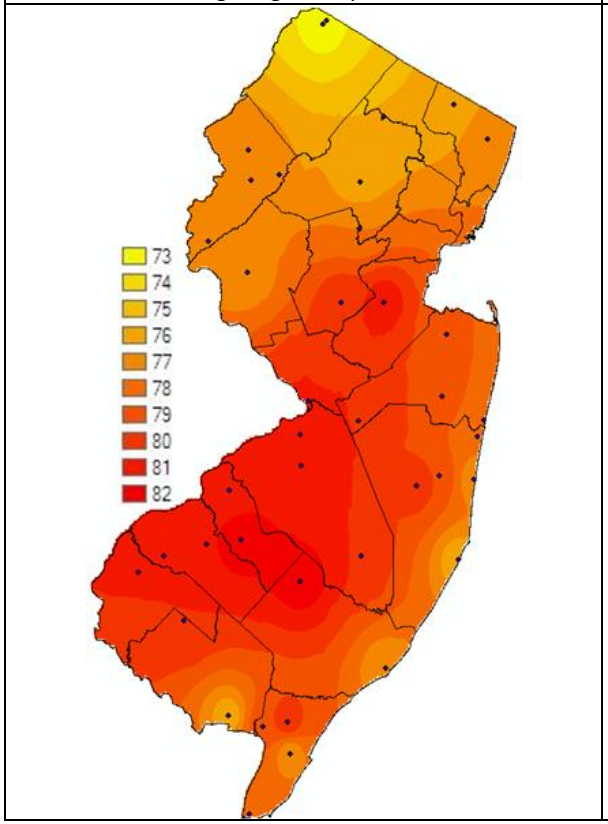
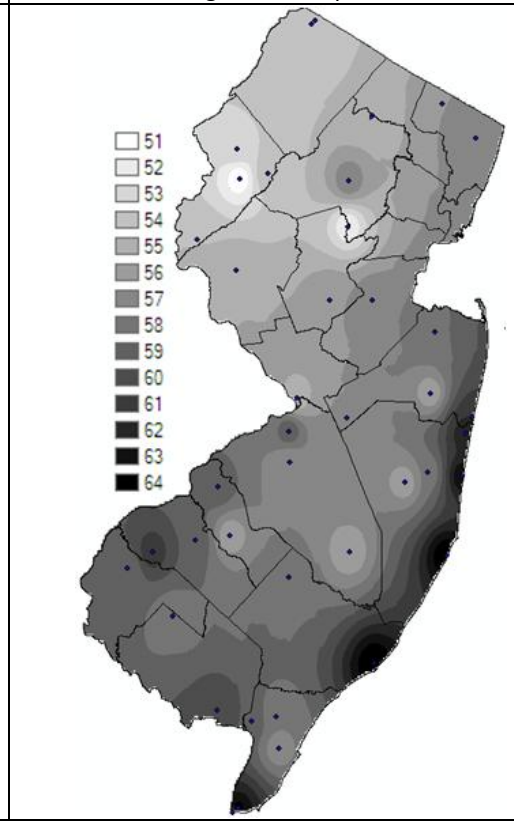
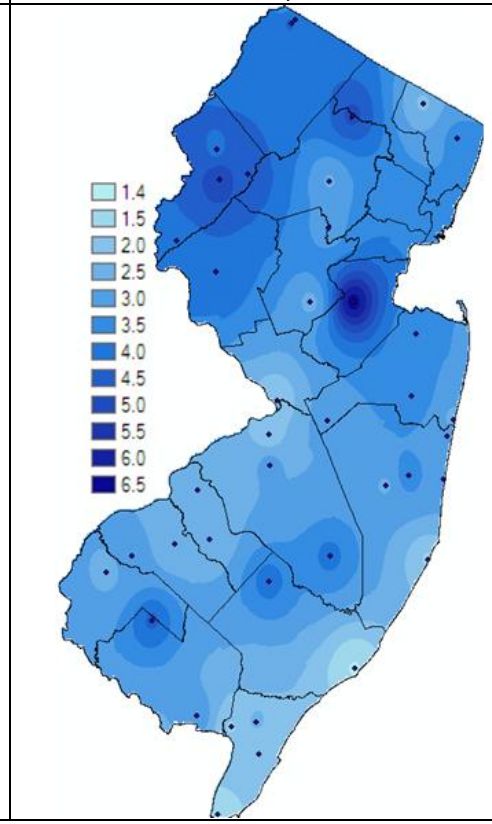
Summary table – Week 38

	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	**0.81**	**1.87**	**0**	**0.43**	**2.15**	**0**	**0.00**	**<0.01**	**0**	**0.00**	**0.73**	**0**
Coastal	**2.60**	**3.95**	**0**	**1.27**	**4.20**	**0**	**0.00**	**<0.01**	**0**	**0.46**	**4.76**	**0**
Delaware Bayshore	**1.69**	**2.80**	**0**	**2.03**	**6.60**	**0**	**0.00**	**0.00**	**0**	**0.20**	**5.69**	**0**
Delaware River Basin	**0.00**	**4.62**	**0**	**0.14**	**3.24**	**0**	**0.00**	**0.12**	**0**	**0.00**	**0.04**	**0**
New York Metro	**1.54**	**1.36**	**1**	**2.16**	**4.80**	**0**	**0.00**	**<0.01**	**0**	**0.09**	**0.09**	**0**
North Central Rural	**0.04**	**0.31**	**0**	**0.02**	**0.24**	**0**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Northwest Rural	**2.83**	**10.69**	**0**	**0.20**	**1.66**	**0**	**0.00**	**0.01**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**1.33**	**8.86**	**0**	**0.48**	**2.45**	**0**	**0.00**	**0.06**	**0**	**0.00**	**0.00**	**0**
Pinelands	**0.39**	**1.01**	**0**	**0.31**	**1.94**	**0**	**0.00**	**0.02**	**0**	**0.03**	**0.06**	**0**
Suburban Corridor	**1.74**	**5.57**	**0**	**0.50**	**2.26**	**0**	**0.00**	**0.03**	**0**	**0.00**	**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: Activity for the four pestiferous species is slowing down, with the exception of *Aedes vexans* activity in the New York Metropolitan region. *Coquillettidia perturbans* population values have declined to zero.

Climate Factors

Average High Temperatures	Average Low Temperatures	Total Precipitation
		

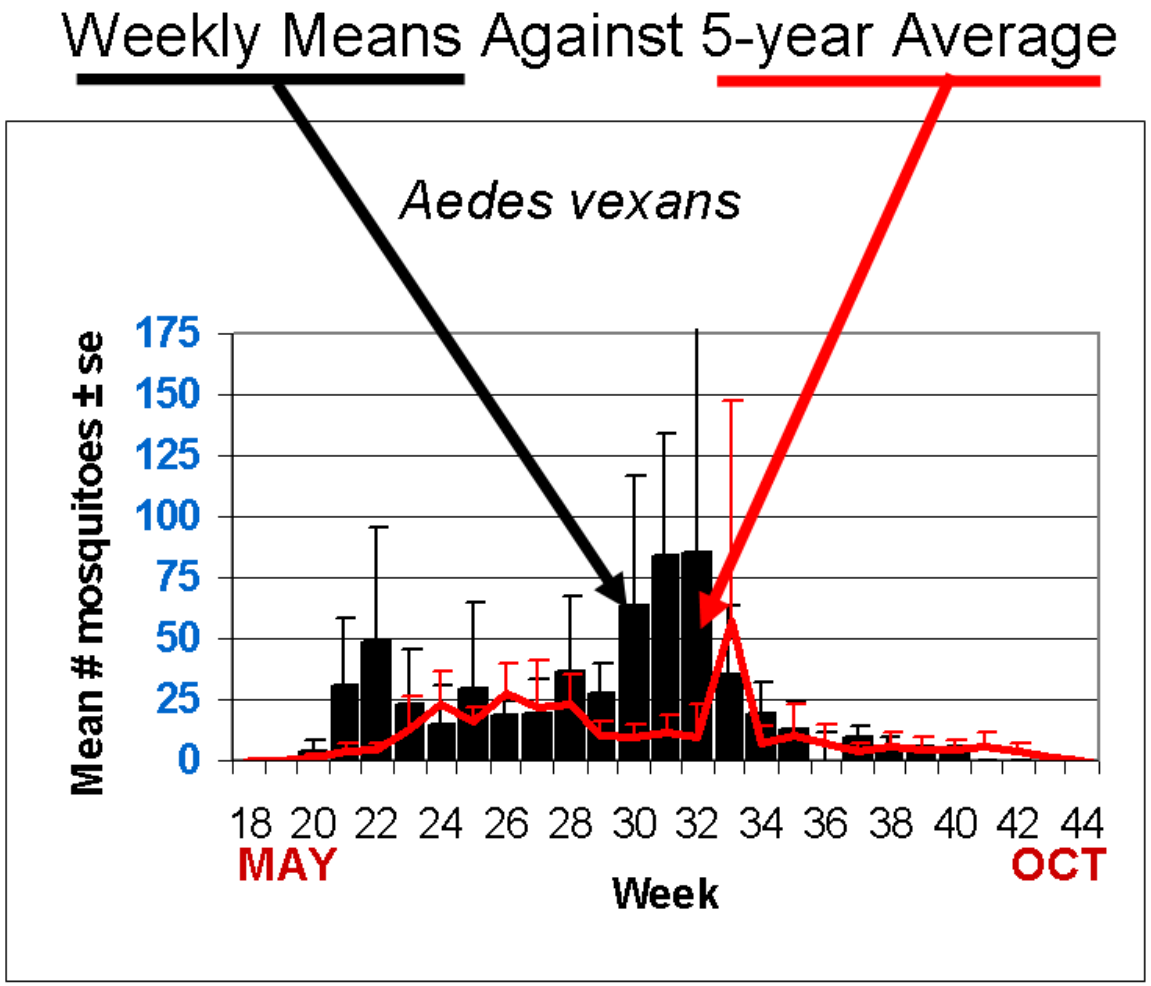
The three figures show the interpolation of average maximum and minimum temperature and total precipitation for September, 2010 in New Jersey. Data points are from 43 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points was performed using ArcMap 9.2.

Temperatures slightly warmed as Tropical Storm Nicole barreled through the region. Daytime temperatures were highest in the central-southwestern portions of the state while nighttime temperatures were warmest along the coast. Precipitation doubled to triple the amounts previously for the month, with highest rainfall occurring in the northern half of the state.

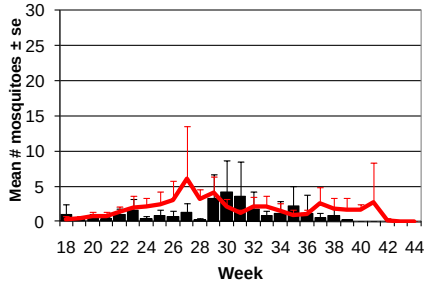
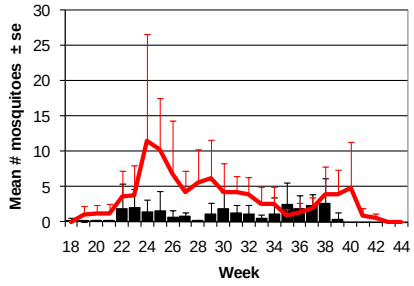
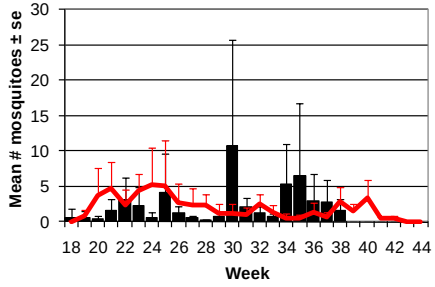
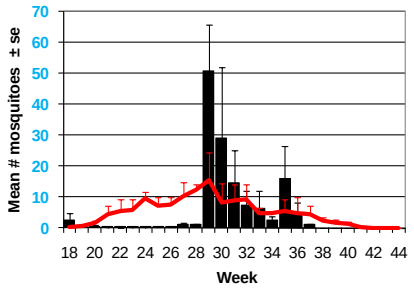
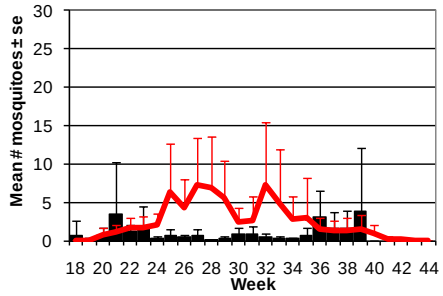
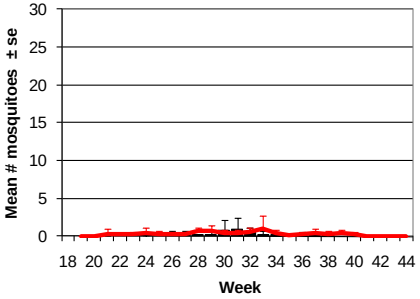
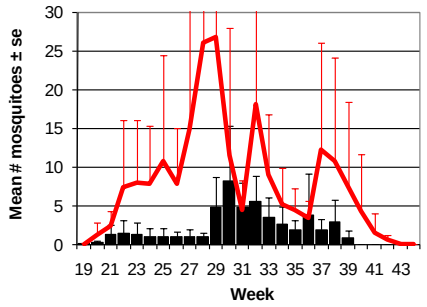
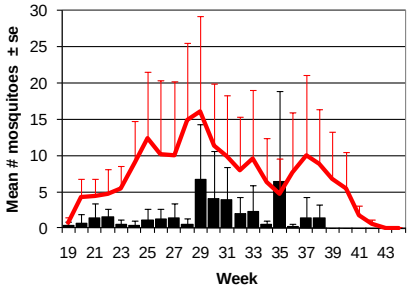
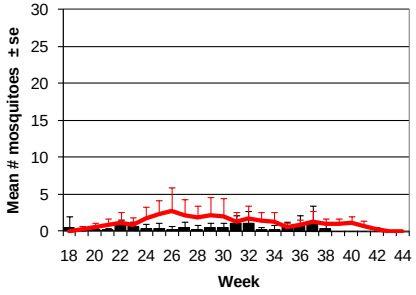
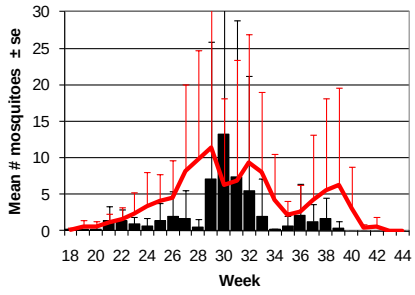
NJ Weather & Climate NETWORK

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 this week are from Atlantic, Bergen, Camden, Cape May, Essex, Middlesex, Monmouth, Morris, Ocean, Salem, Somerset, Sussex, Union and Warren counties. Note: Previous week's data are from Atlantic, Bergen, Burlington, Camden, Cape May, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Salem, Somerset, Sussex, Union and Warren counties.

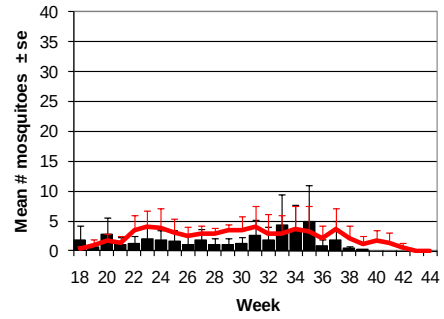


Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

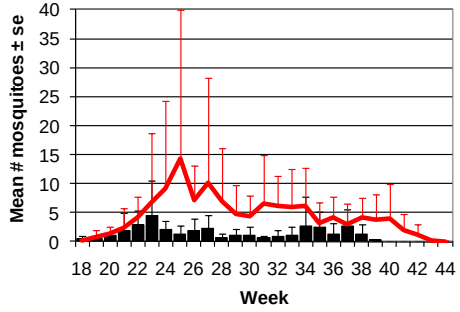
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* populations are higher than historical values in the New York Metropolitan region, but continue to decline in all other regions. Tropical Strom Nicole came through the area, and should warmer weather continue, may produce locally active populations of floodwater species. Minimum temperatures in October can dip down to the low 40°F, which will stop *Aedes vexans* on the wing.	

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

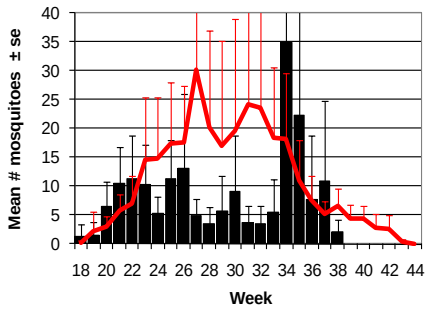
Agricultural



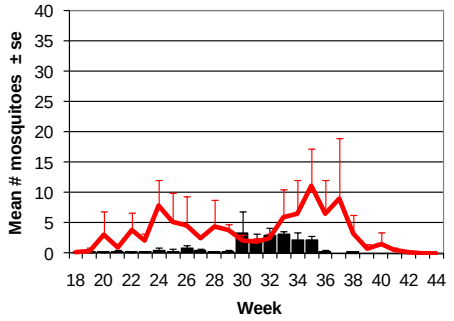
Coastal



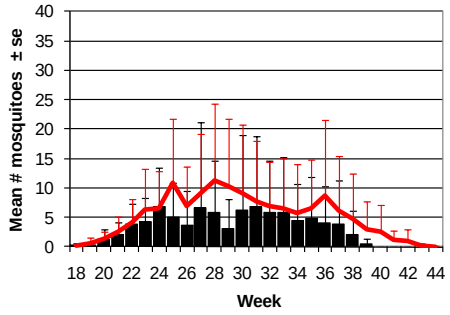
Delaware Bayshore



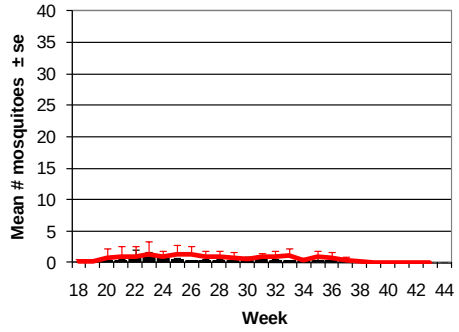
Delaware River Basin



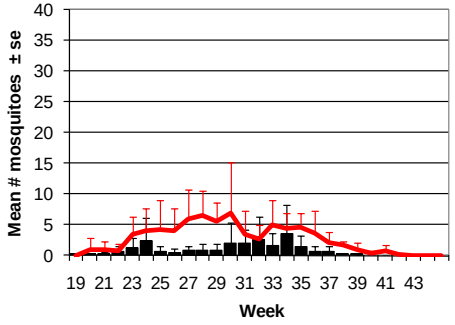
New York Metro



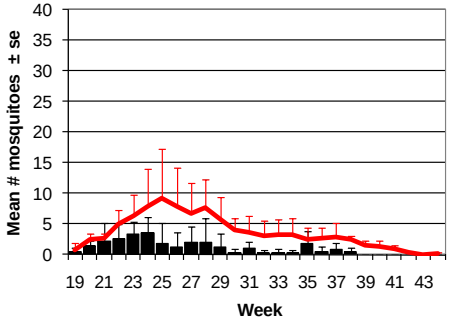
North Central Rural



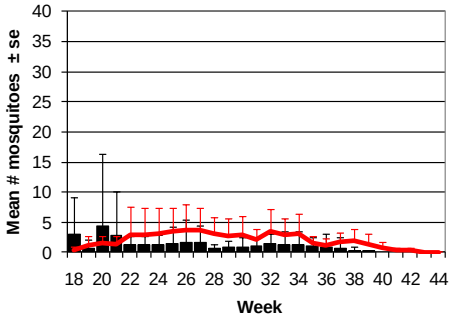
Northwestern Rural



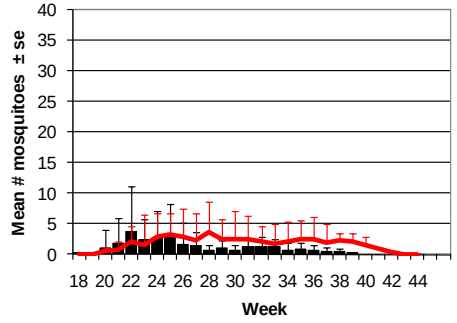
Philadelphia Metro



Pinelands



Suburban Corridor



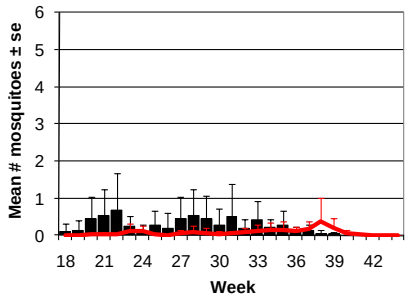
Comments

Culex Mix is represented by three species of *Culex* mosquitoes: *Cx. pipiens, Cx. restuans* and *Cx. salinarius*. These mosquitoes are usually grouped together as there is considerable difficulty in separating them to species easily after travelling through the grind of the light trap, often in the company of protesting moths and beetles.

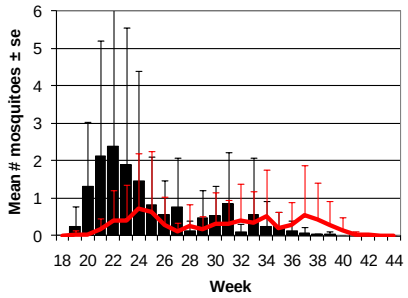
Culex Mix population numbers continue to decline as inseminated females enter hibernaculae.

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

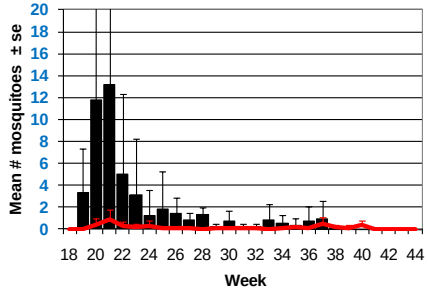
Agricultural



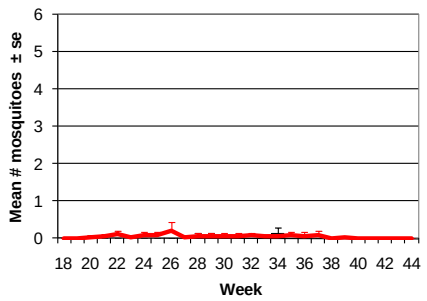
Coastal



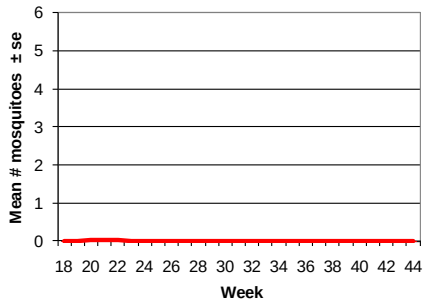
Delaware Bayshore



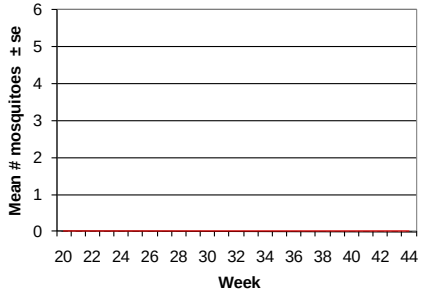
Delaware River Basin



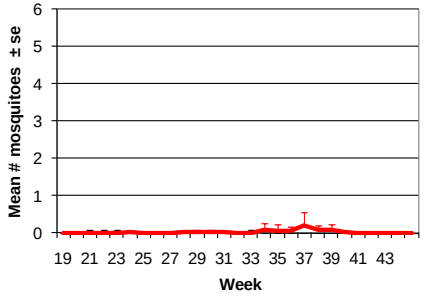
New York Metro



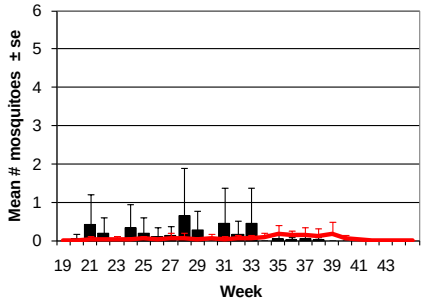
North Central Rural



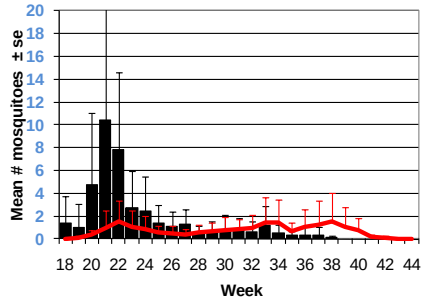
Northwestern Rural



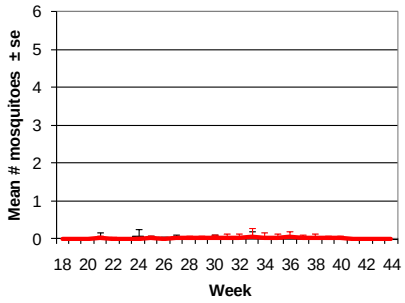
Philadelphia Metro



Pinelands



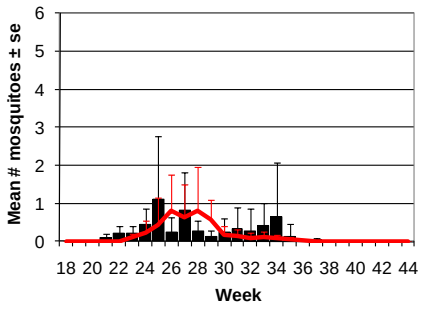
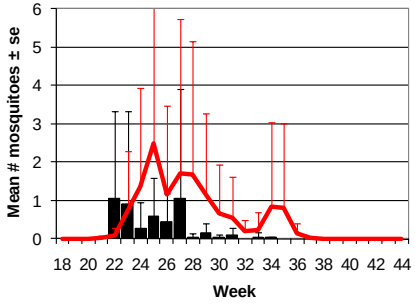
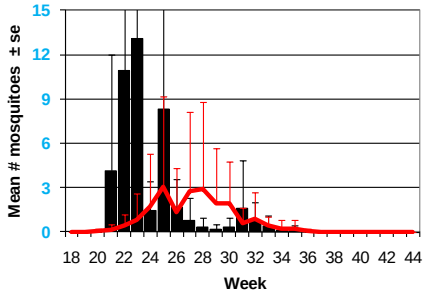
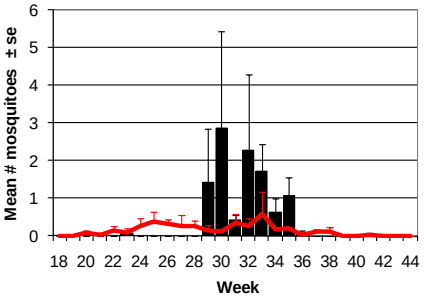
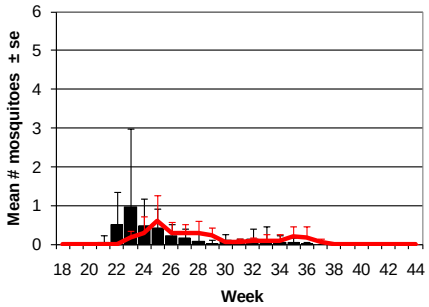
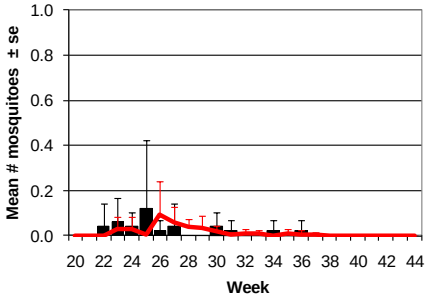
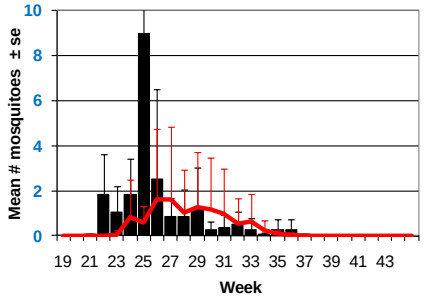
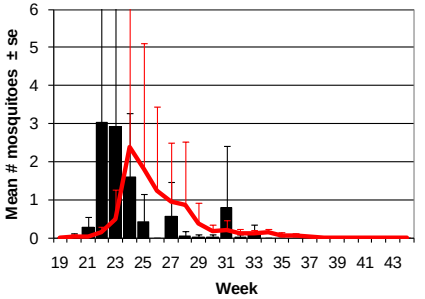
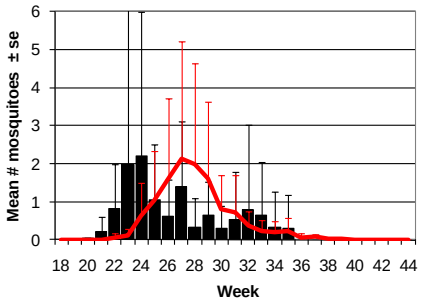
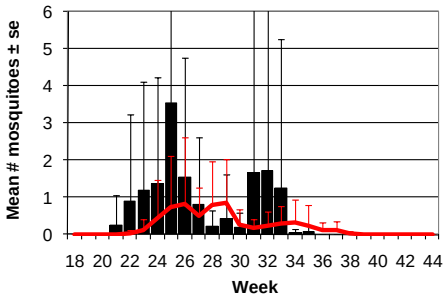
Suburban Corridor



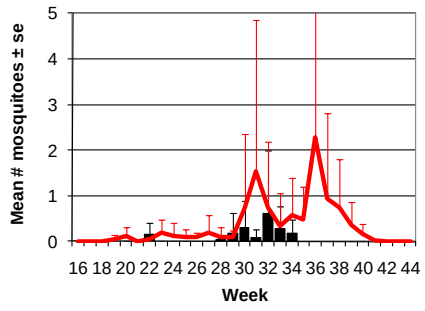
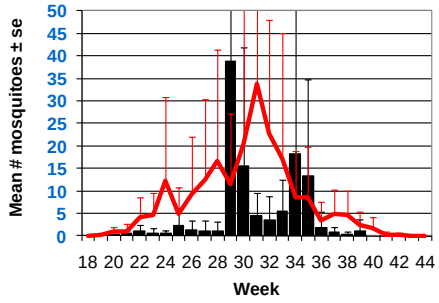
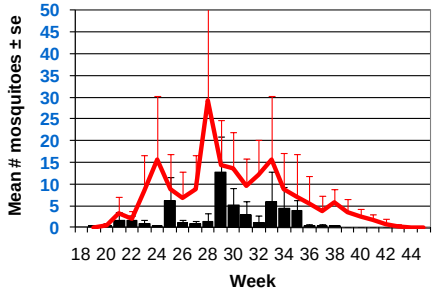
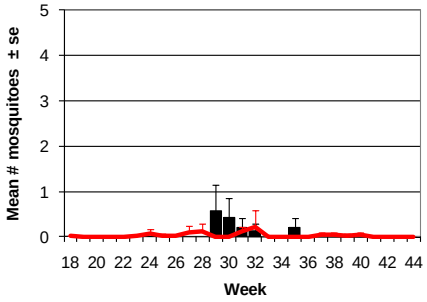
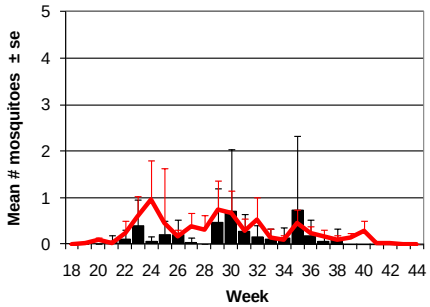
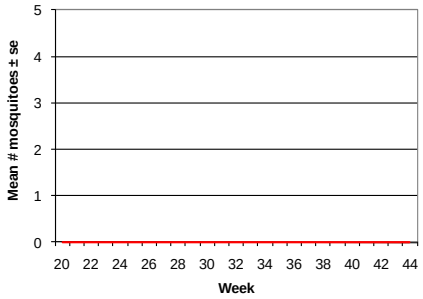
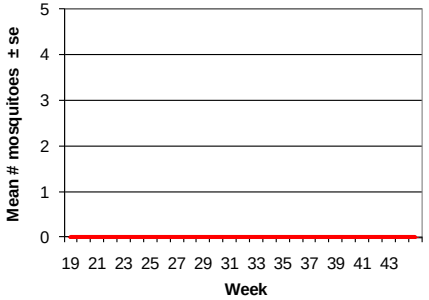
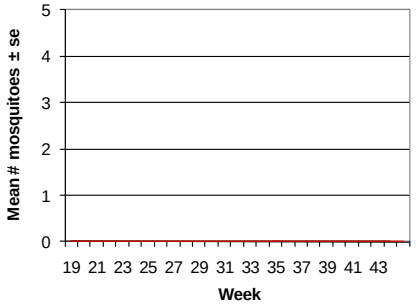
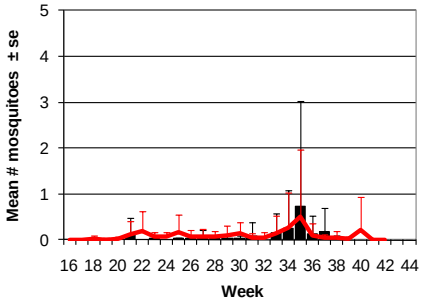
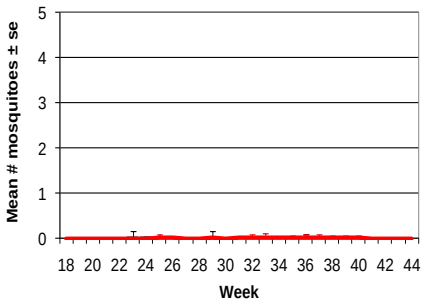
Comments

Culiseta melanura, the enzootic ornithophilic vector of eastern equine encephalitis, continues to show population numbers that are at or below historical values. In 2009, population size of the second generation was fairly substantial, showing increases over historical data. This was the population that established the overwintering larvae for emergence in the spring of this year. With significant spring rainfall, survival of those overwintering larvae appeared to be high, and New Jersey experienced a large spring population. If the current second generation is a forecast of the 2011 spring generation, then it may be along the lines of historical data (if ground water is within normal values).

Coquillettidia perturbans – Miscellaneous Group
Monotypic (*Coq. perturbans* Type)

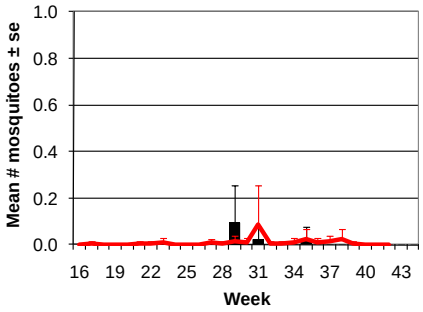
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Coquillettidia perturbans* populations have gone down to zero. If this trend continues next week, this will be the last presentation for this species.	

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

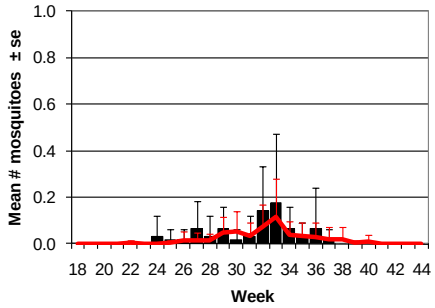
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* populations continue to track below historical values. The passing tropical Storm Nicole can contribute toward the emergence of floodwater species such as *Aedes sollicitans* if warm weather also contributes to the development of larvae.	

Aedes albopictus – Container Species
Multivoltine Aedine (*Ae. triseriatus* Type)

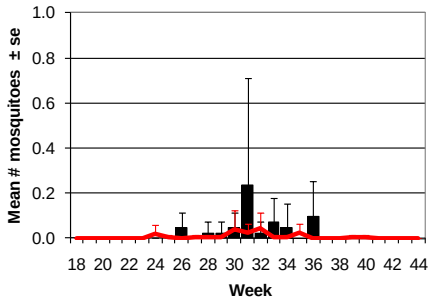
Agricultural



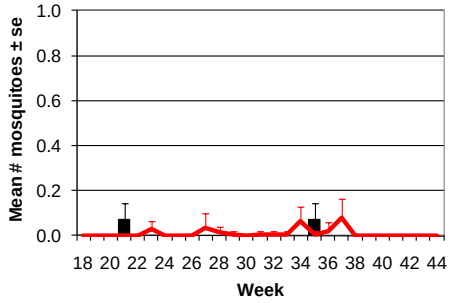
Coastal



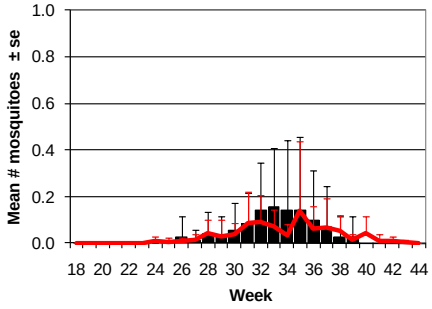
Delaware Bayshore



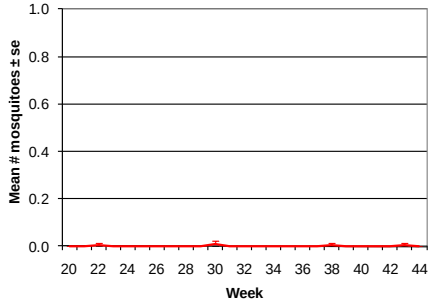
Delaware River Basin



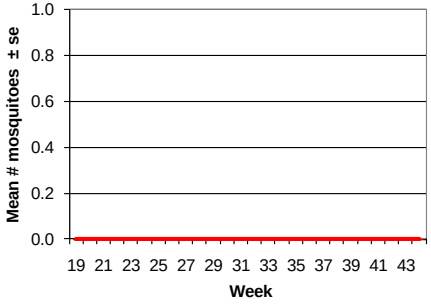
New York Metro



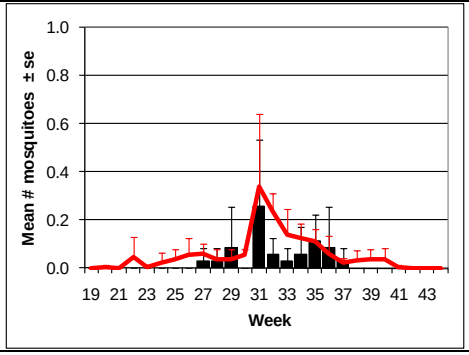
North Central Rural



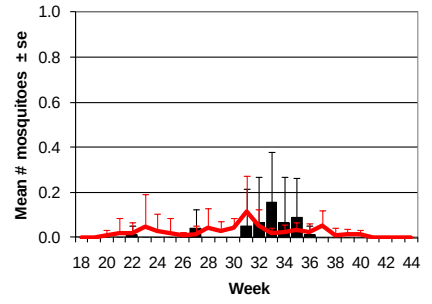
Northwestern Rural



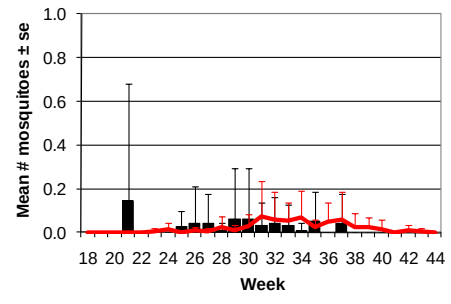
Philadelphia Metro



Pinelands



Suburban Corridor



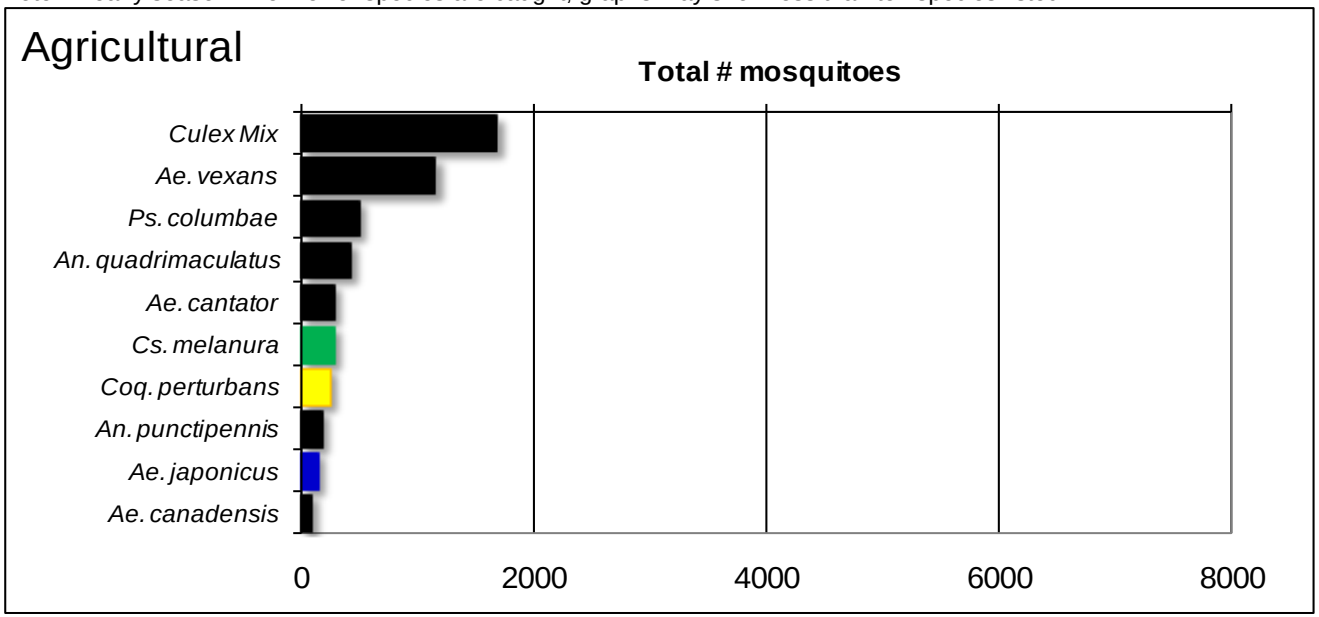
Comments

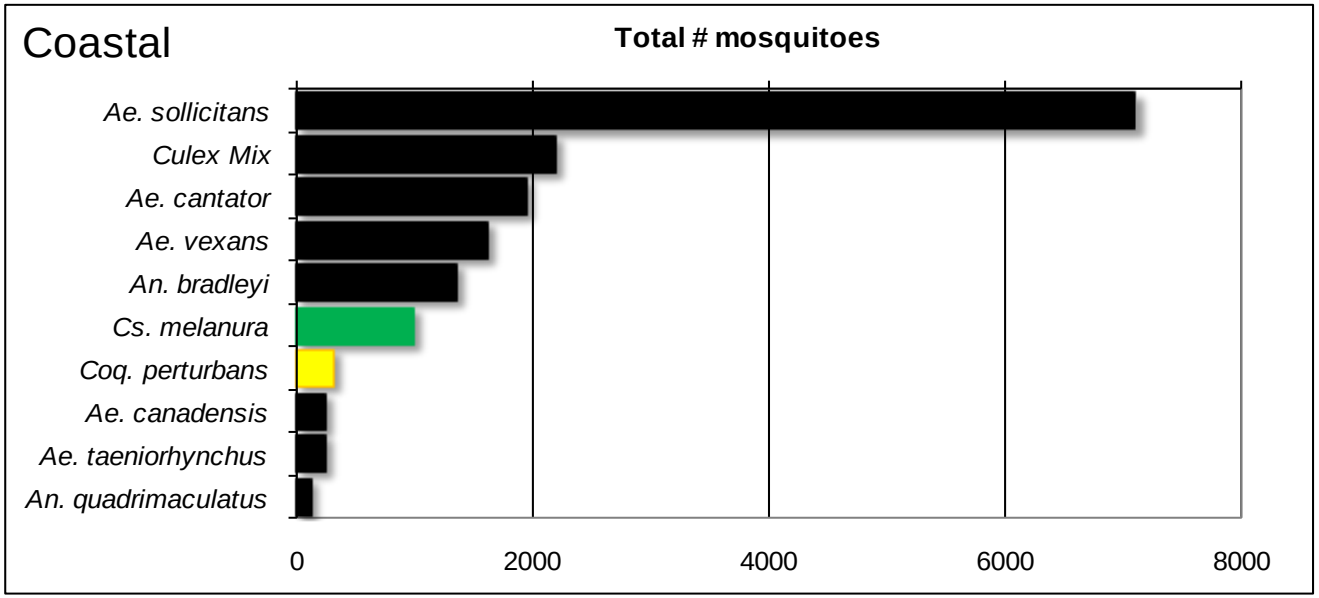
Aedes albopictus, the Asian Tiger Mosquito, continue to be present in the two regions where heat can be trapped: the New York and Philadelphia Metropolitan regions.

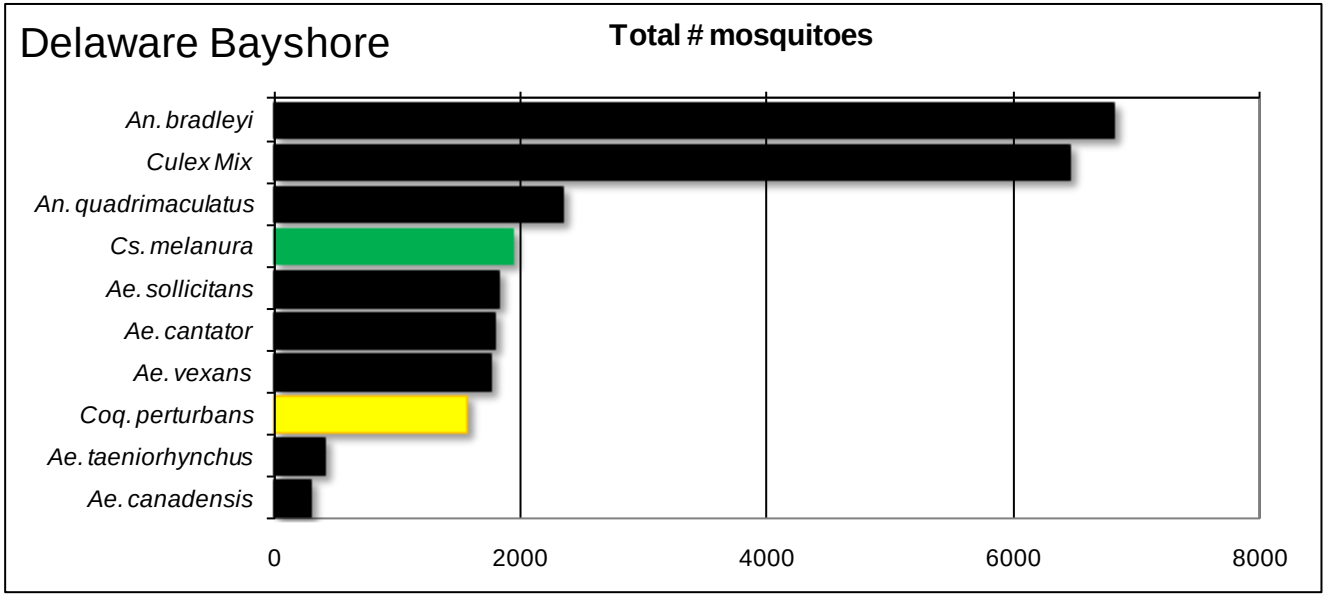
WNV *EEE*

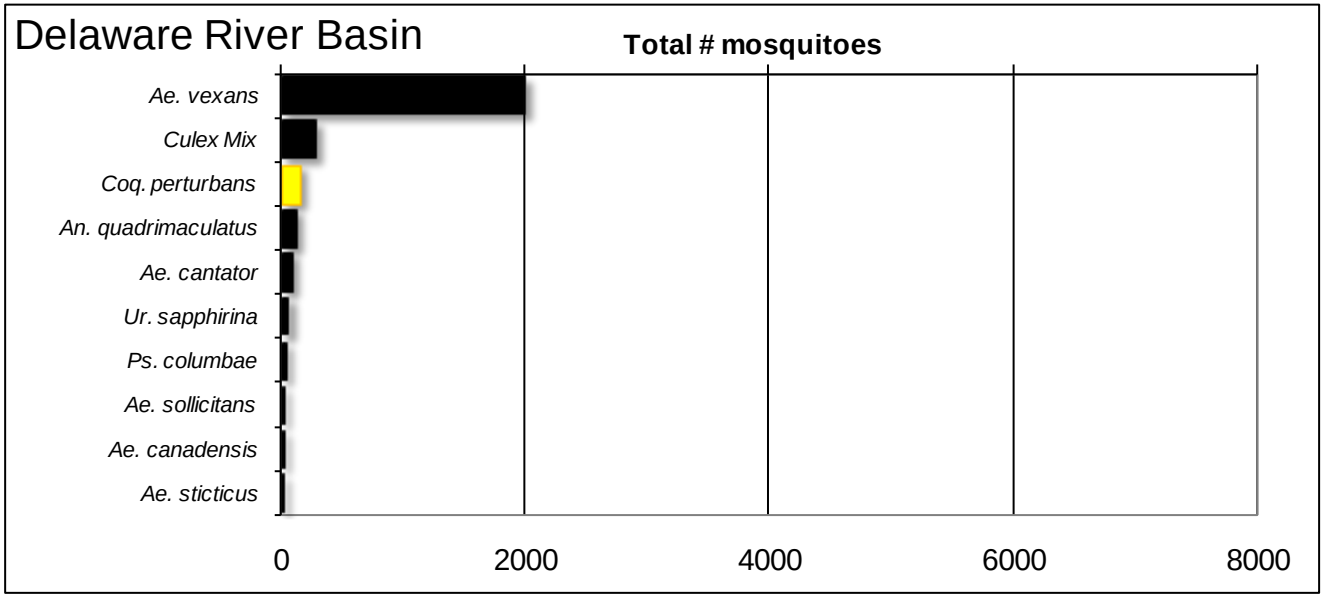
Top Ten Cumulative Mosquito Species/Region - *Ae. albopictus,* *Ae. japonicus (invasives);* *Cs. melanura or Cx. erraticus* *Coq. perturbans*

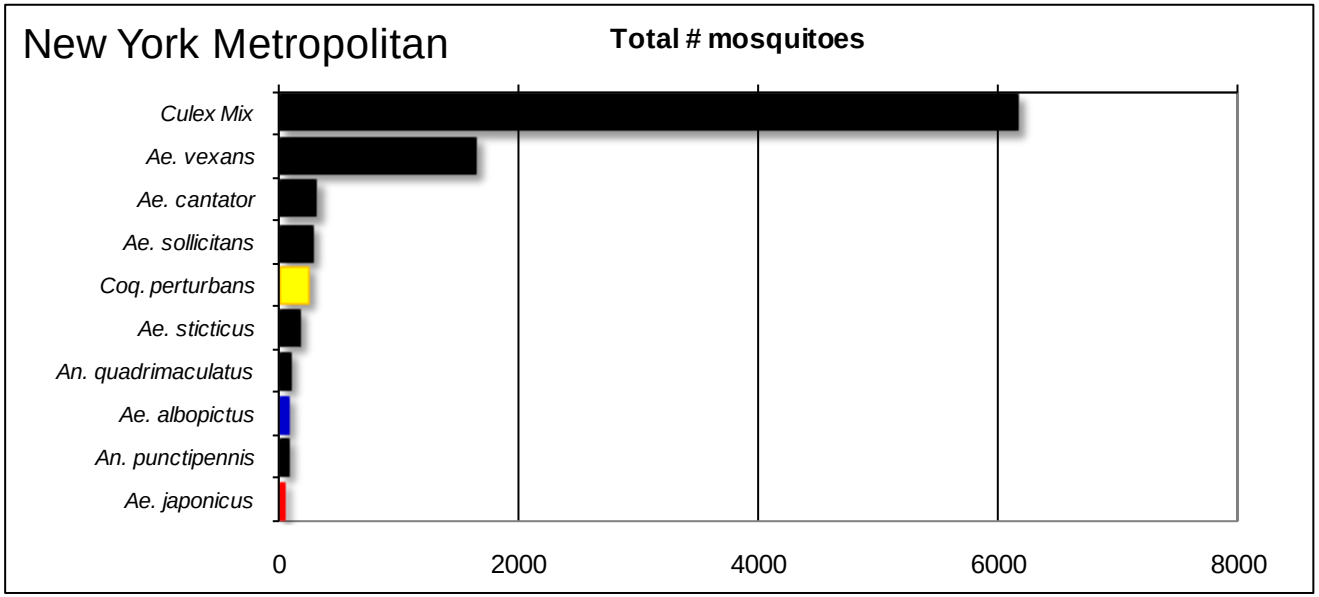
Note: In early season when fewer species are caught, graphs may show less than ten species listed.

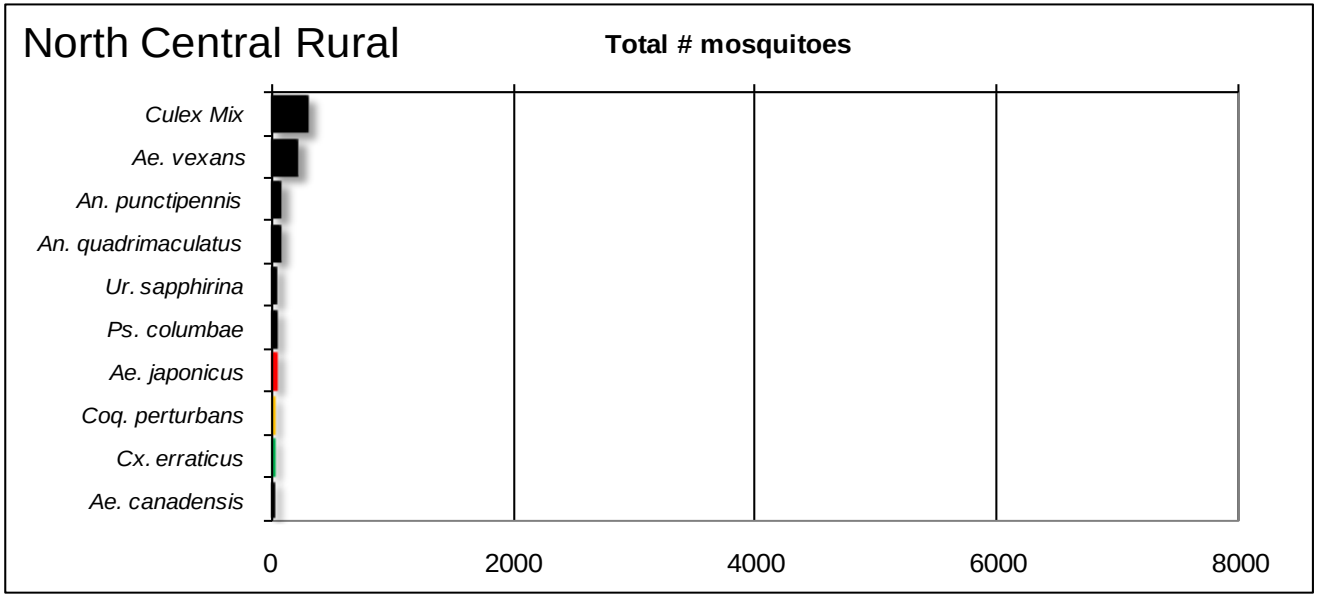


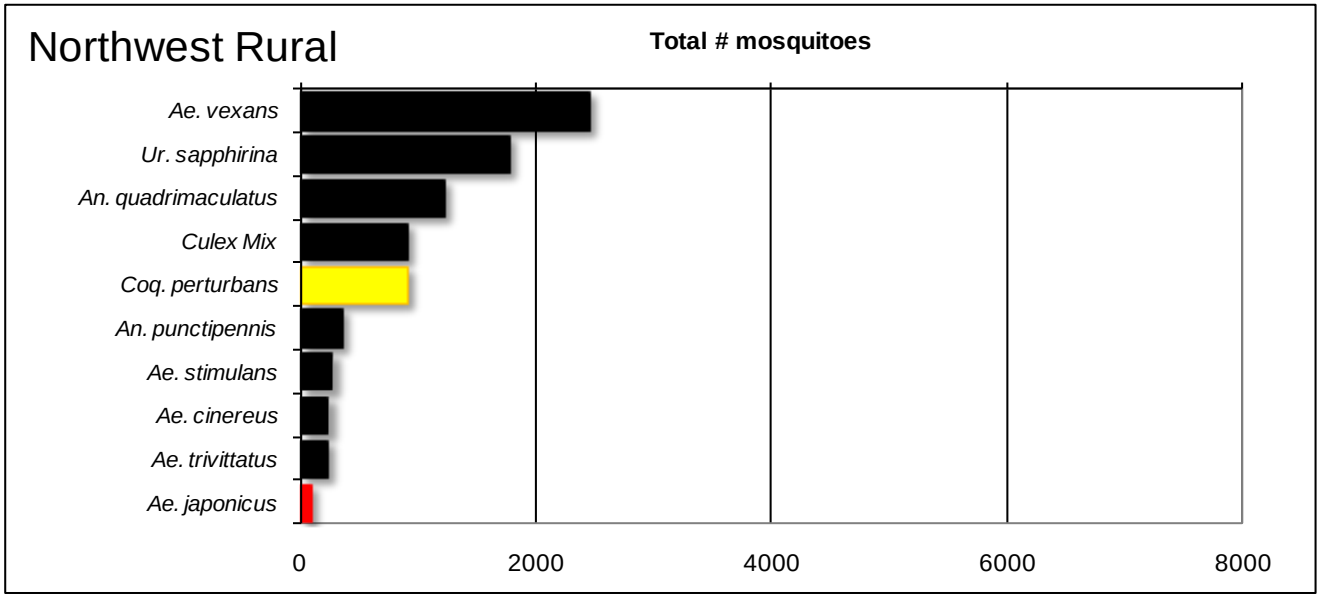


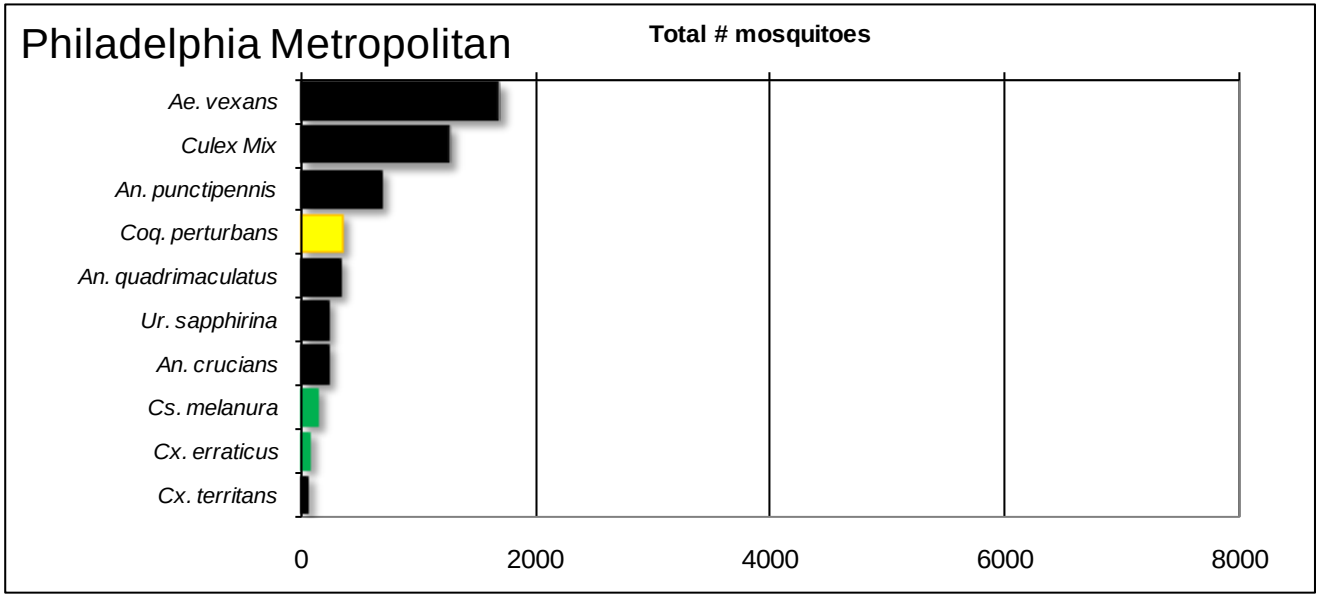

Delaware Bayshore
Total # mosquitoes
An. bradleyi
Culex Mix
An. quadrimaculatus
Cs. melanura
Ae. sollicitans
Ae. cantator
Ae. vexans
Coq. perturbans
Ae. taeniorhynchus
Ae. canadensis
0
2000
4000
6000
8000

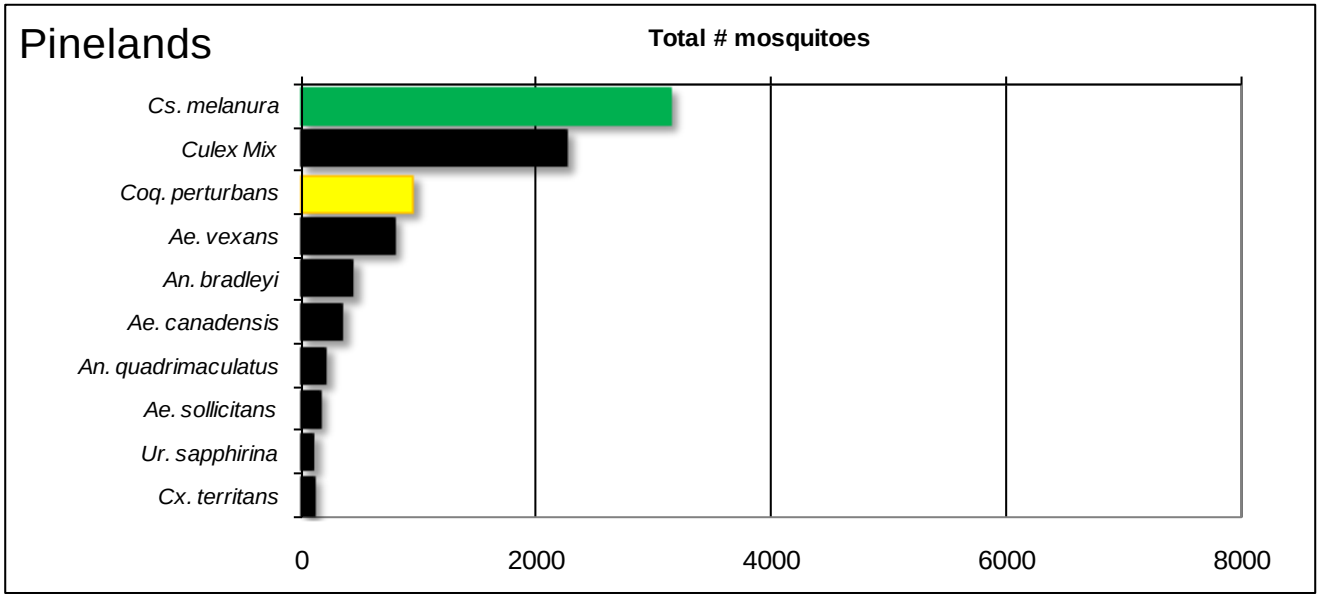

Delaware River Basin
Total # mosquitoes
Ae. vexans
Culex Mix
Coq. perturbans
An. quadrimaculatus
Ae. cantator
Ur. sapphirina
Ps. columbae
Ae. sollicitans
Ae. canadensis
Ae. sticticus
0
2000
4000
6000
8000

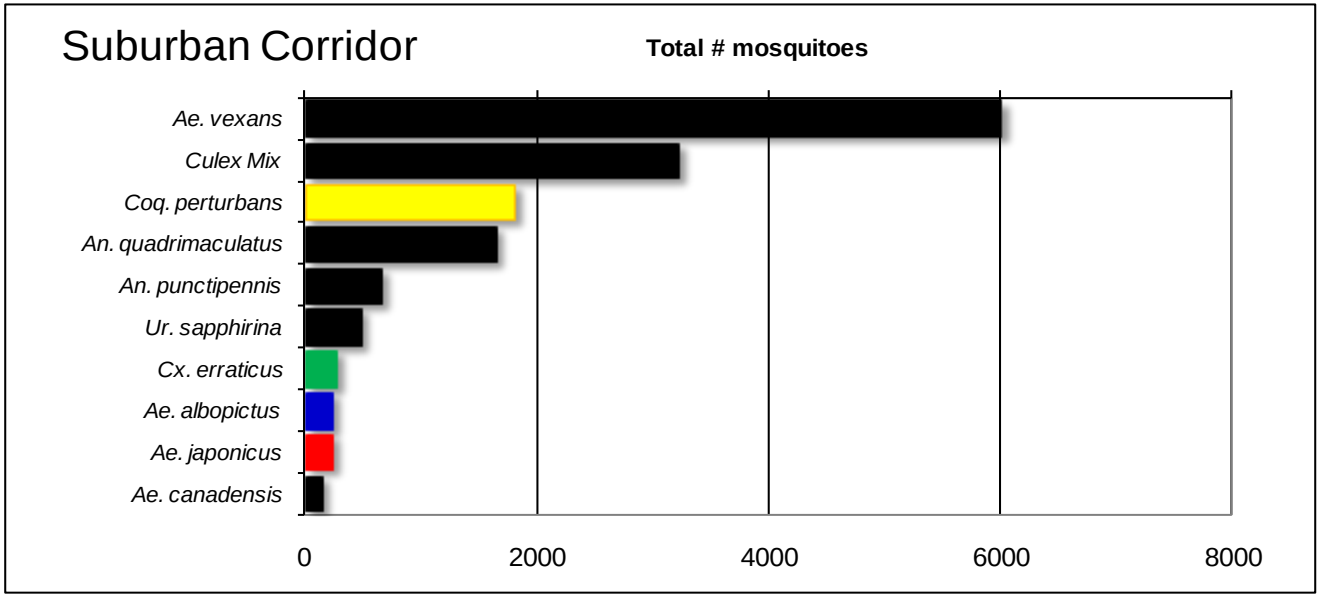

New York Metropolitan
Total # mosquitoes
Culex Mix
Ae. vexans
Ae. cantator
Ae. sollicitans
Coq. perturbans
Ae. sticticus
An. quadrimaculatus
Ae. albopictus
An. punctipennis
Ae. japonicus
0
2000
4000
6000
8000


North Central Rural
Total # mosquitoes
Culex Mix
Ae. vexans
An. punctipennis
An. quadrimaculatus
Ur. sapphirina
Ps. columbae
Ae. japonicus
Coq. perturbans
Cx. erraticus
Ae. canadensis
0
2000
4000
6000
8000


Northwest Rural
Total # mosquitoes
Ae. vexans
Ur. sapphirina
An. quadrimaculatus
Culex Mix
Coq. perturbans
An. punctipennis
Ae. stimulans
Ae. cinereus
Ae. trivittatus
Ae. japonicus
0
2000
4000
6000
8000


Philadelphia Metropolitan
Total # mosquitoes
Ae. vexans
Culex Mix
An. punctipennis
Coq. perturbans
An. quadrimaculatus
Ur. sapphirina
An. crucians
Cs. melanura
Cx. erraticus
Cx. territans
0
2000
4000
6000
8000


Pinelands
Total # mosquitoes
Cs. melanura
Culex Mix
Coq. perturbans
Ae. vexans
An. bradleyi
Ae. canadensis
An. quadrimaculatus
Ae. sollicitans
Ur. sapphirina
Cx. territans
0
2000
4000
6000
8000


Suburban Corridor
Total # mosquitoes
Ae. vexans
Culex Mix
Coq. perturbans
An. quadrimaculatus
An. punctipennis
Ur. sapphirina
Cx. erraticus
Ae. albopictus
Ae. japonicus
Ae. canadensis
0
2000
4000
6000
8000