RUTGERS
New Jersey Agricultural Experiment Station

NEW JERSEY ADULT MOSQUITO SURVEILLANCE

Report for 28 September to 4 October 2008, CDC Week 40

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Center for Vector Biology

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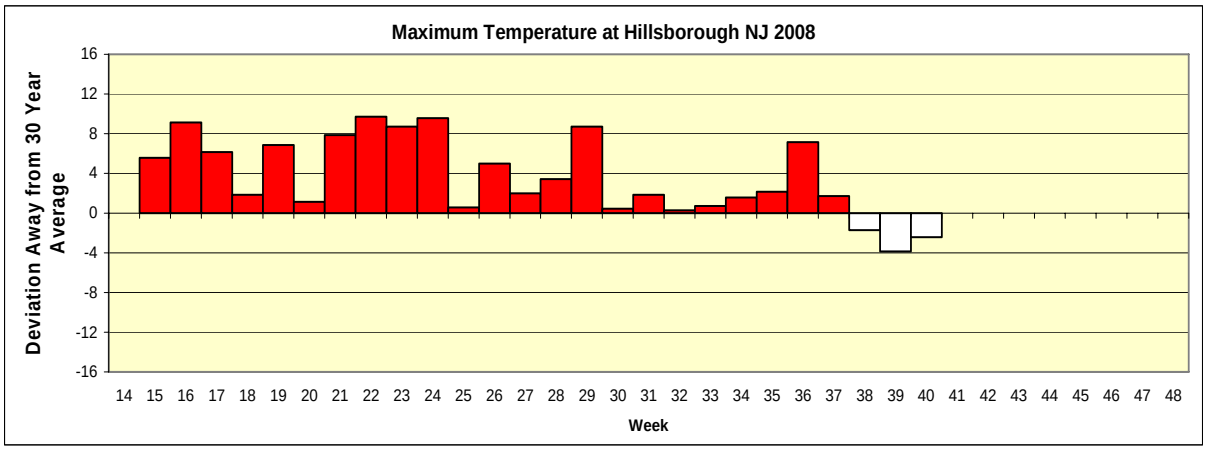
Summary table – Week 40

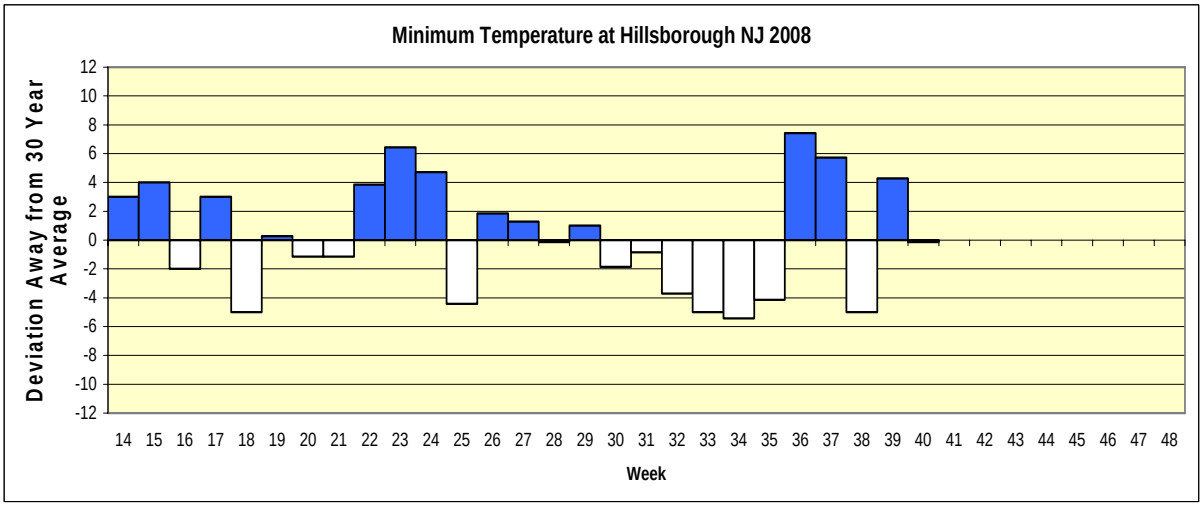
	Aedes vexans			*Culex* Mix			*Coquillettidia perturbans*			*Aedes sollicitans*		
Region	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase
Agricultural	**1.86**	**1.89**	**0**	**0.52**	**2.08**	**0**	**0.00**	**0.01**	**0**	**0.07**	**0.27**	**0**
Coastal	**10.46**	**1.05**	**4**	**1.05**	**1.80**	**0**	**0.00**	**0.00**	**0**	**3.71**	**2.88**	**1**
Delaware Bayshore	**0.12**	**1.00**	**0**	**0.05**	**4.44**	**0**	**0.00**	**0.00**	**0**	**0.17**	**1.96**	**0**
Delaware River Basin	**0.00**	**2.26**	**0**	**0.00**	**2.30**	**0**	**0.00**	**0.01**	**0**	**0.00**	**0.04**	**0**
New York Metro	**2.07**	**1.77**	**1**	**7.55**	**2.70**	**4**	**0.00**	**0.00**	**0**	**0.24**	**0.00**	**0**
North Central Rural	**0.73**	**0.25**	**4**	**0.06**	**0.04**	**2**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Northwest Rural	**5.94**	**4.38**	**1**	**2.54**	**0.71**	**4**	**0.00**	**0.00**	**0**	**0.00**	**0.00**	**0**
Philadelphia Metro	**10.29**	**5.15**	**2**	**1.00**	**1.75**	**0**	**0.00**	**0.02**	**0**	**0.00**	**0.00**	**0**
Pinelands	**1.35**	**1.04**	**1**	**0.32**	**1.21**	**0**	**0.00**	**0.01**	**0**	**0.06**	**0.01**	**4**
Suburban Corridor	**2.27**	**1.33**	**2**	**0.38**	**0.71**	**0**	**0.00**	**0.01**	**0**	**0.03**	**0.00**	**0**

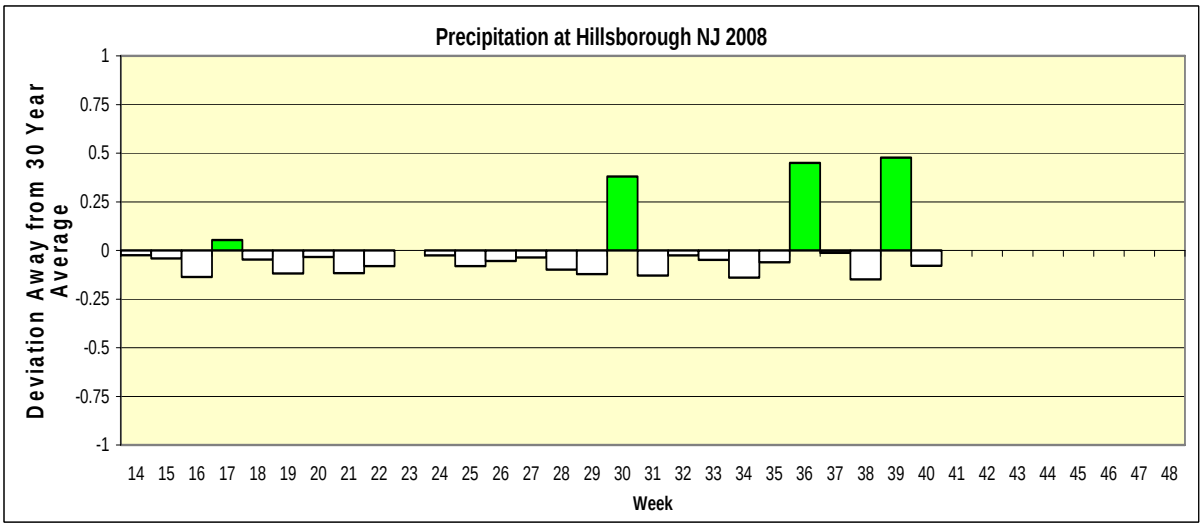
*Averages represent data from, at most, the previous 5 years. Increase is a scale of current values from historical values where no difference or a decrease is represented by 0 (blue), up to 50% greater difference by 1 (green), up to 100% greater difference by 2 (yellow), up to 150% greater difference 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: As the end of the season draws near, the recent increase in rains and temperatures have brought environmental conditions right for *Aedes vexans* emergence throughout a wide swath of the state. As overall numbers have been typically lower than historical averages, this last emergence has turned into the second largest for some regions (Coastal and North Central Rural). *Culex* species continue with high activity in the New York Metro and Northwest Rural regions, while *Ae. sollicitans* is moderately higher in the Coastal region as well as in the Pinelands (although this latter region is in low numbers overall). *Coquillettidia perturbans* have generally dropped to zero in all regions.

Climate Deviations

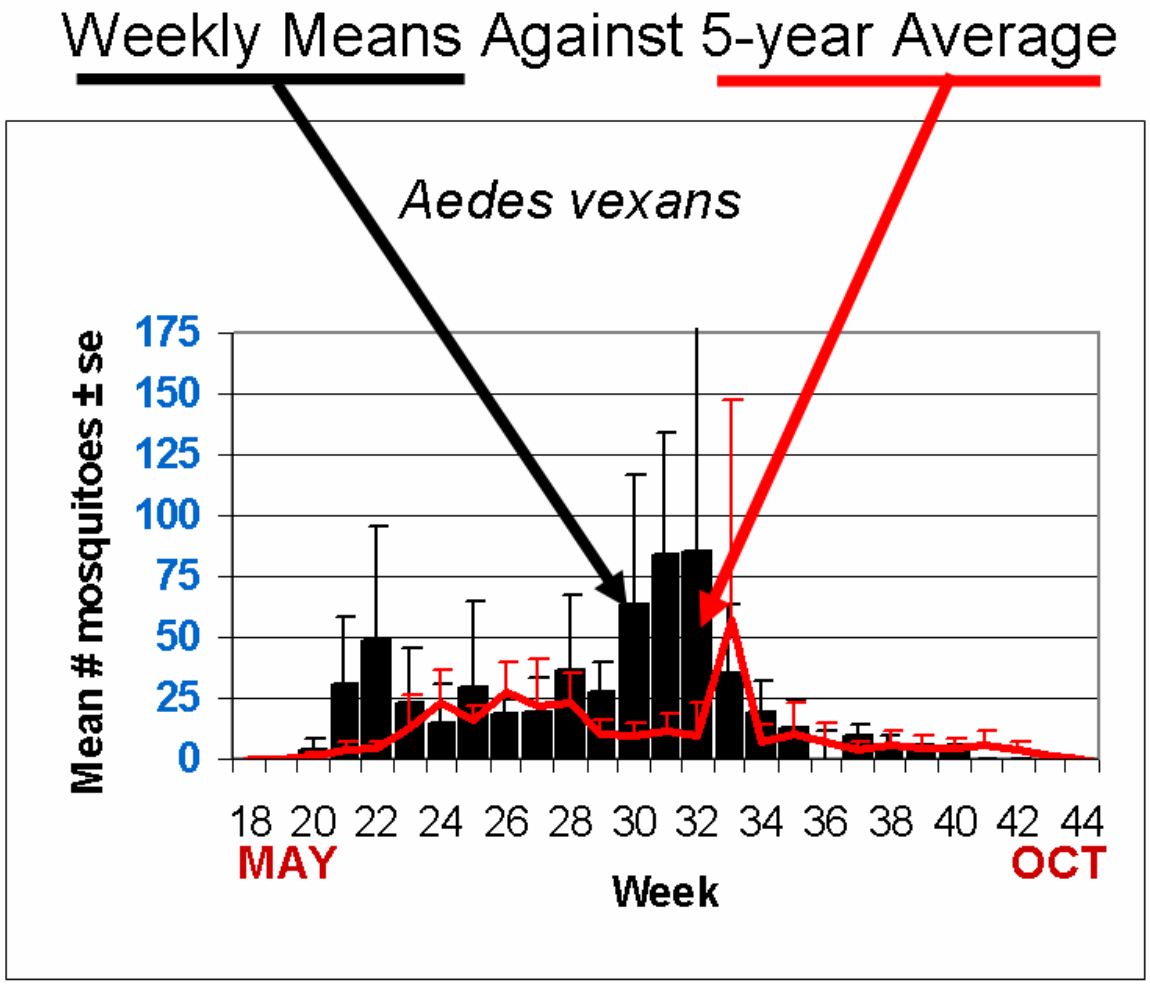






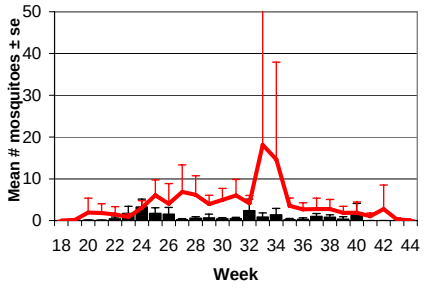
The figures show the average maximum temperature, minimum temperature and precipitation deviations from 30 year averages. Current data are from the Hillsborough NJ weather station (a station close to central NJ which recorded all three parameters and was available online at the NJ state climatologist) 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 this week are from Atlantic, Bergen, Burlington, Camden, Cumberland, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Sussex and Warren counties. Note: County data is sent in at a variety of times during the week, and some counties suspend light trap operation in October.

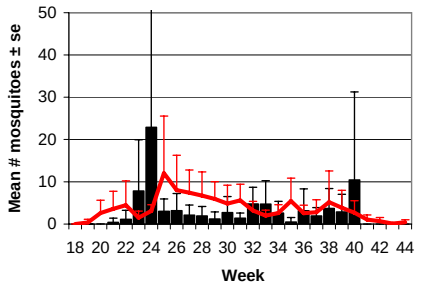


Aedes vexans - Fresh Floodwater Species
Multivoltine Aedine (*Ae. vexans* Type)

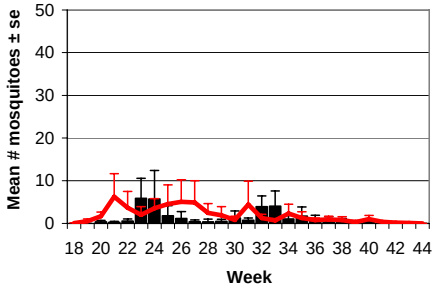
Agricultural



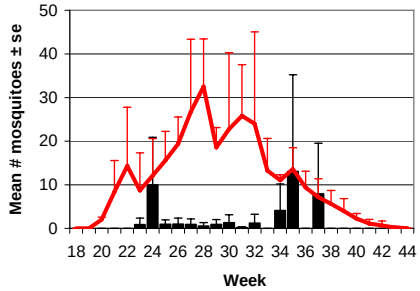
Coastal



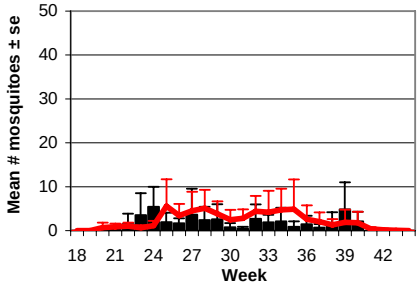
Delaware Bayshore



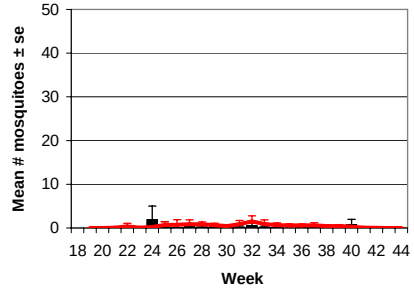
Delaware River Basin



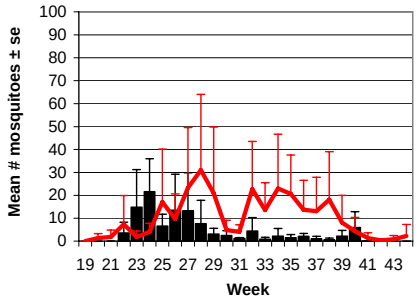
New York Metro



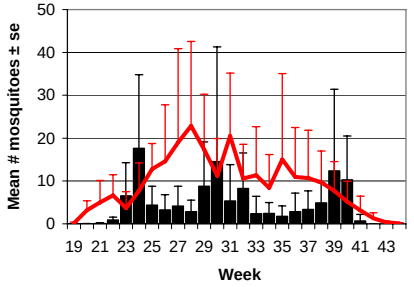
North Central Rural



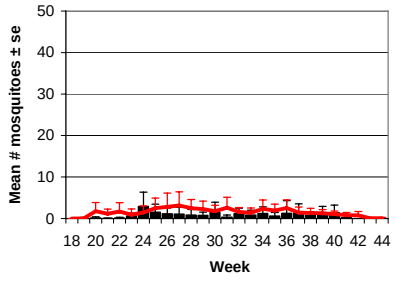
Northwestern Rural



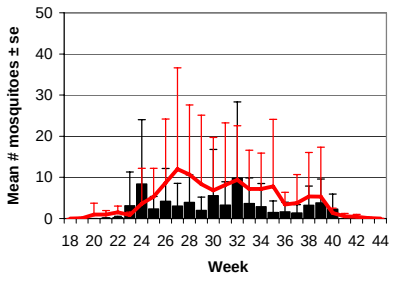
Philadelphia Metro



Pinelands



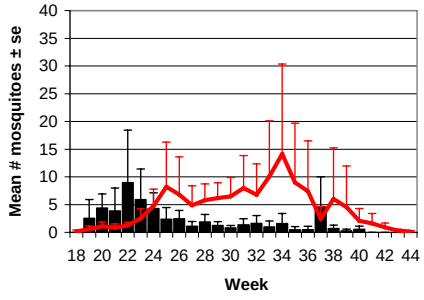
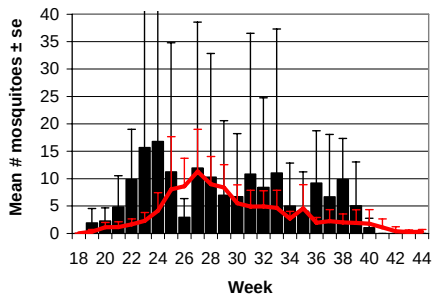
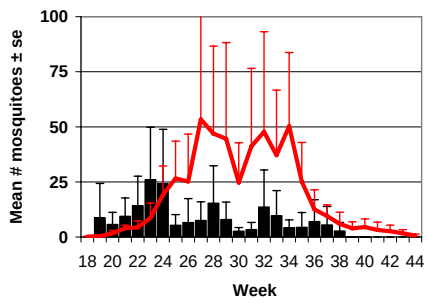
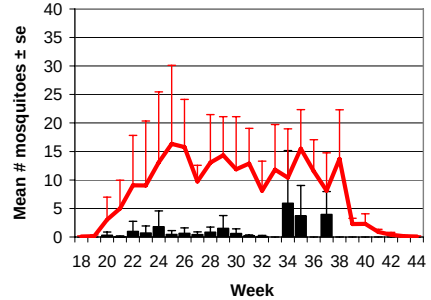
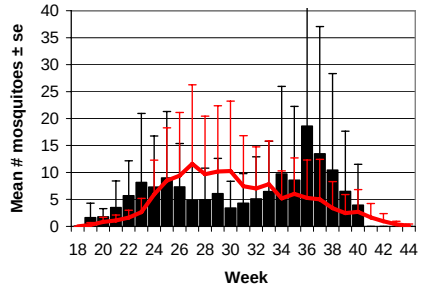
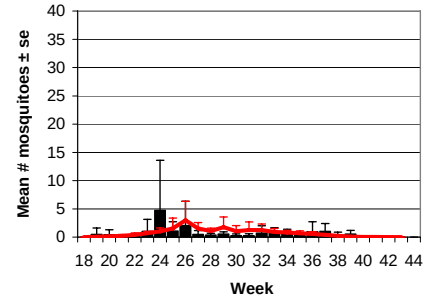
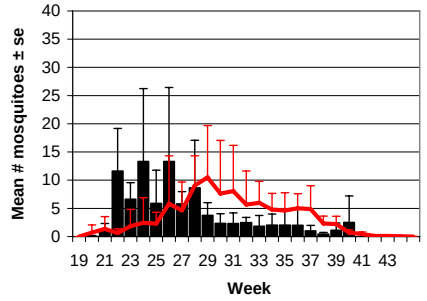
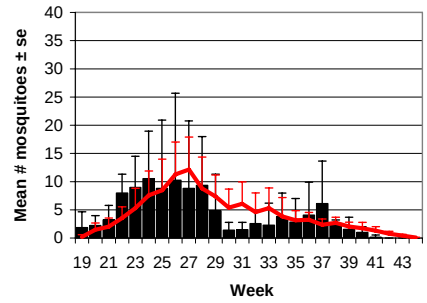
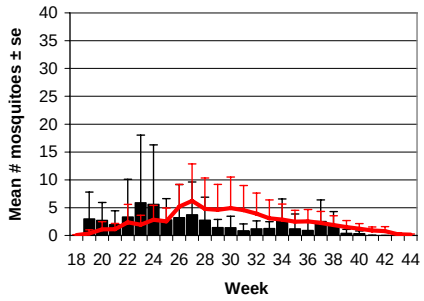
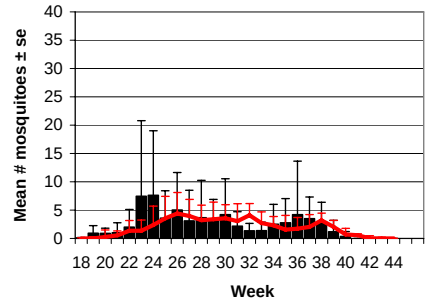
Suburban Corridor



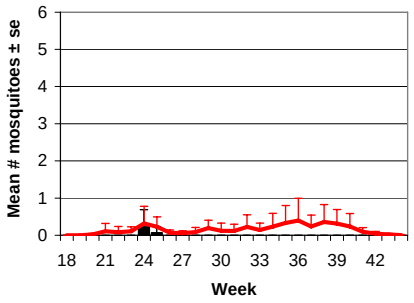
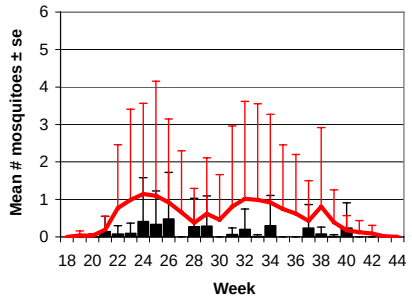
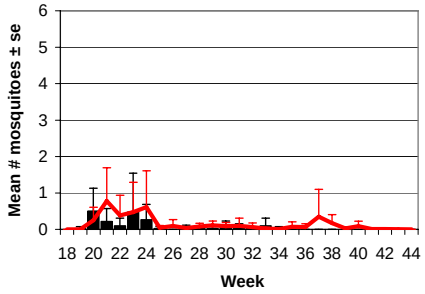
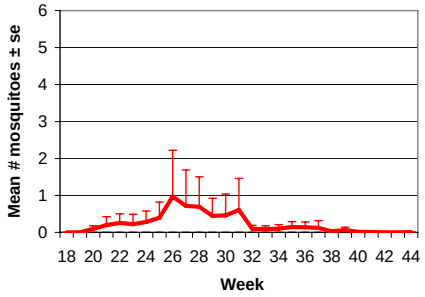
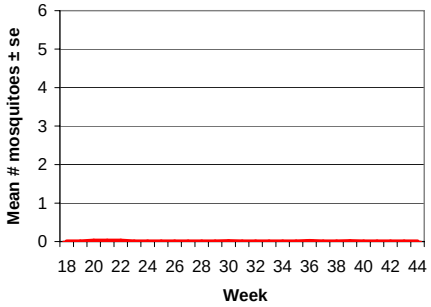
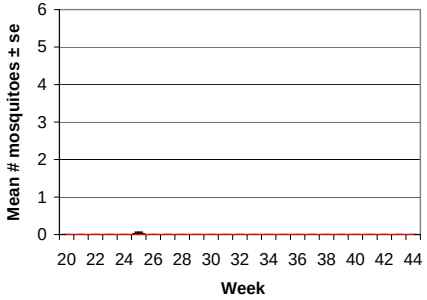
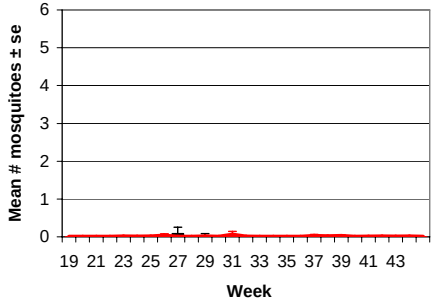
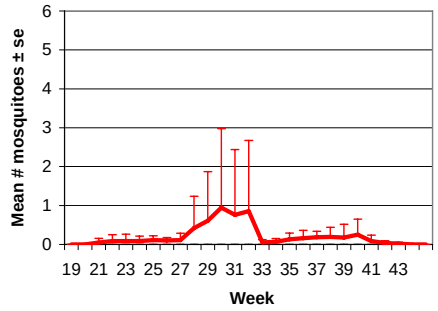
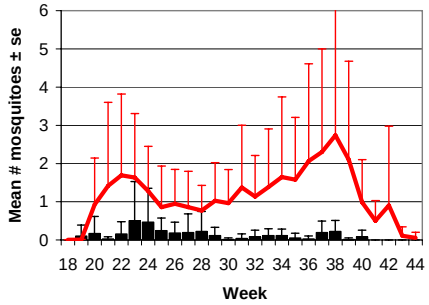
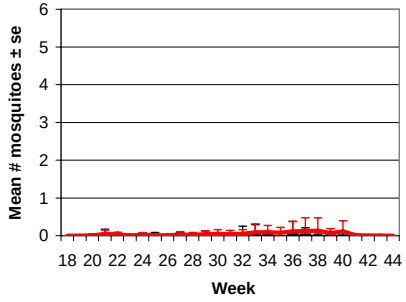
Comments

Aedes vexans populations should have continued to decrease, but instead, have produced local emergences to recent rainfall and warmer nighttime temperatures in many regions of New Jersey. Some of these emergences have been substantial, second or third in averages to early season peaks, such as in the Coastal and the Philadelphia Metropolitan region.

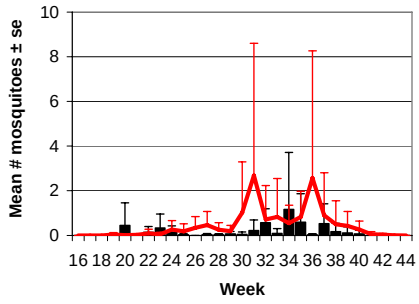
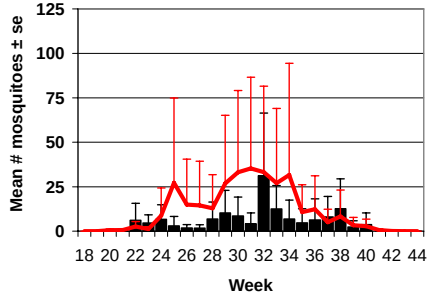
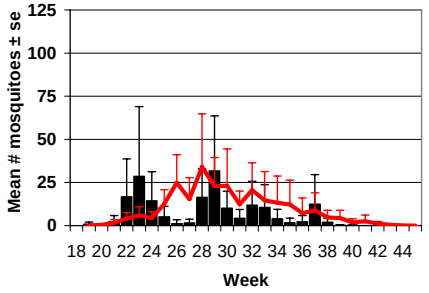
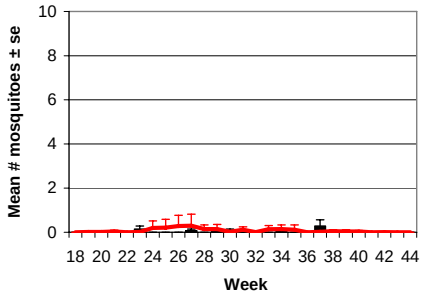
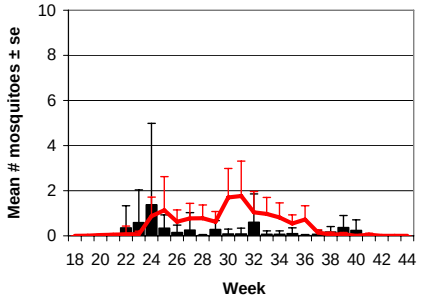
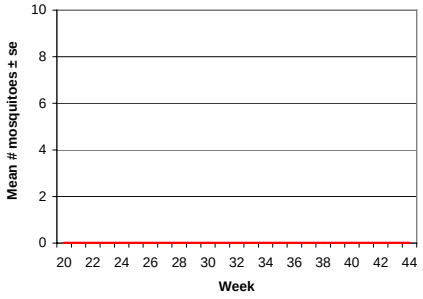
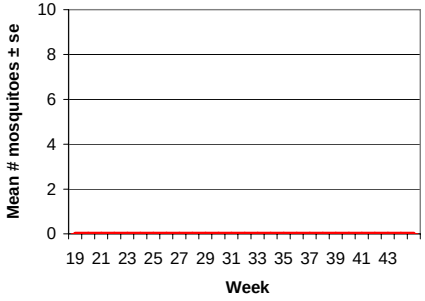
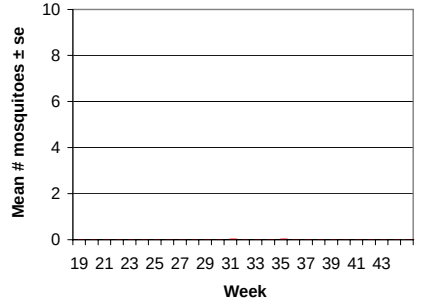
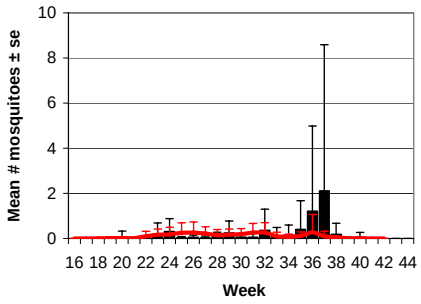
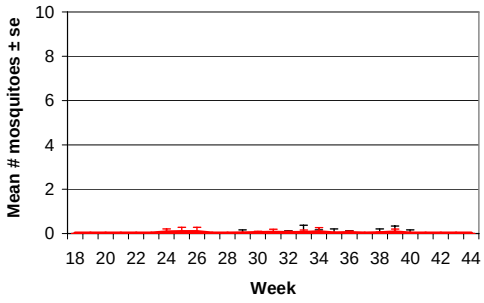
Culex Mix – Permanent Water Species
Multivoltine *Culex*/*Anopheles* (*Cx. pipiens* Type)

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culex* populations continue to search for hibernaculae to overwinter in. Light trap collects should decrease as inseminated females no longer show interest in obtaining bloodmeals. Populations in the New York Metropolitan areas remain above recent historical trends, including those populations which have high circulating West Nile virus.	

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

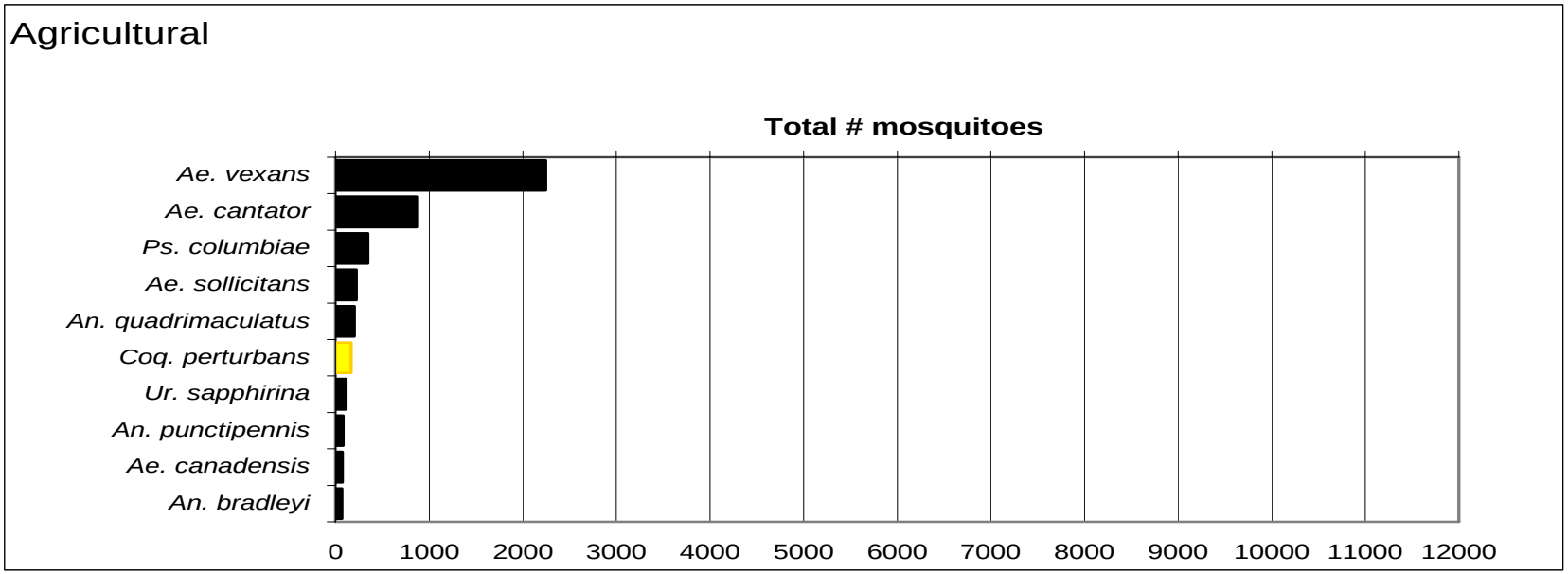
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culiseta melanura* populations remain very low in comparison to historical data. Despite extremely low populations, eastern equine encephalitis virus circulated through southern New Jersey.	

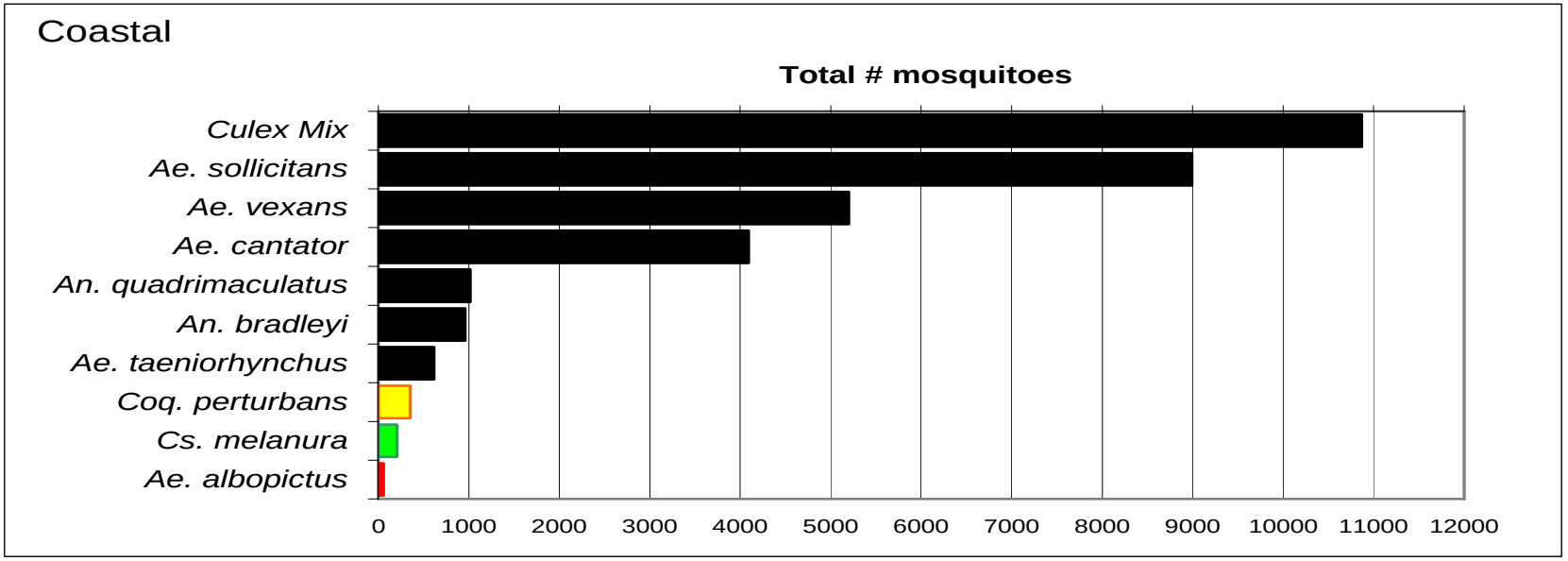
Aedes sollicitans - Salt Floodwater Species
Multivoltine Aedine (*Ae. sollicitans* Type)

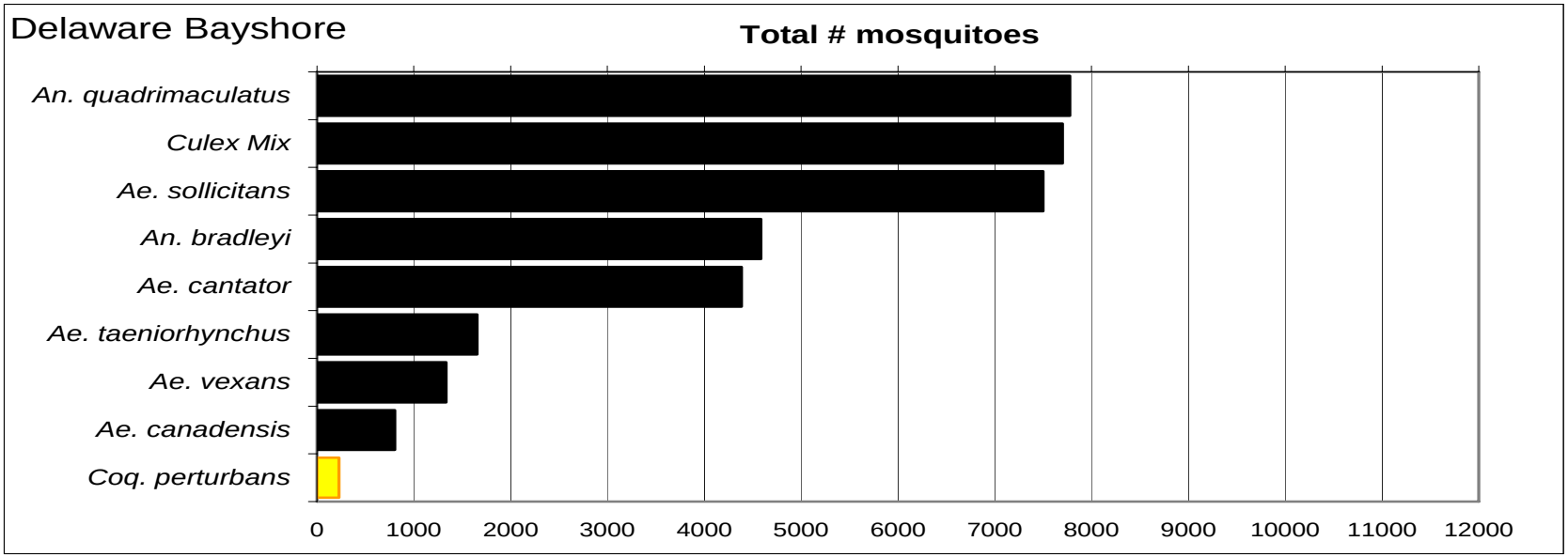
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes sollicitans* populations should be decreasing rapidly now. Eggs laid to overwinter are likely entering diapause. This mosquito is not very cold-tolerant.	

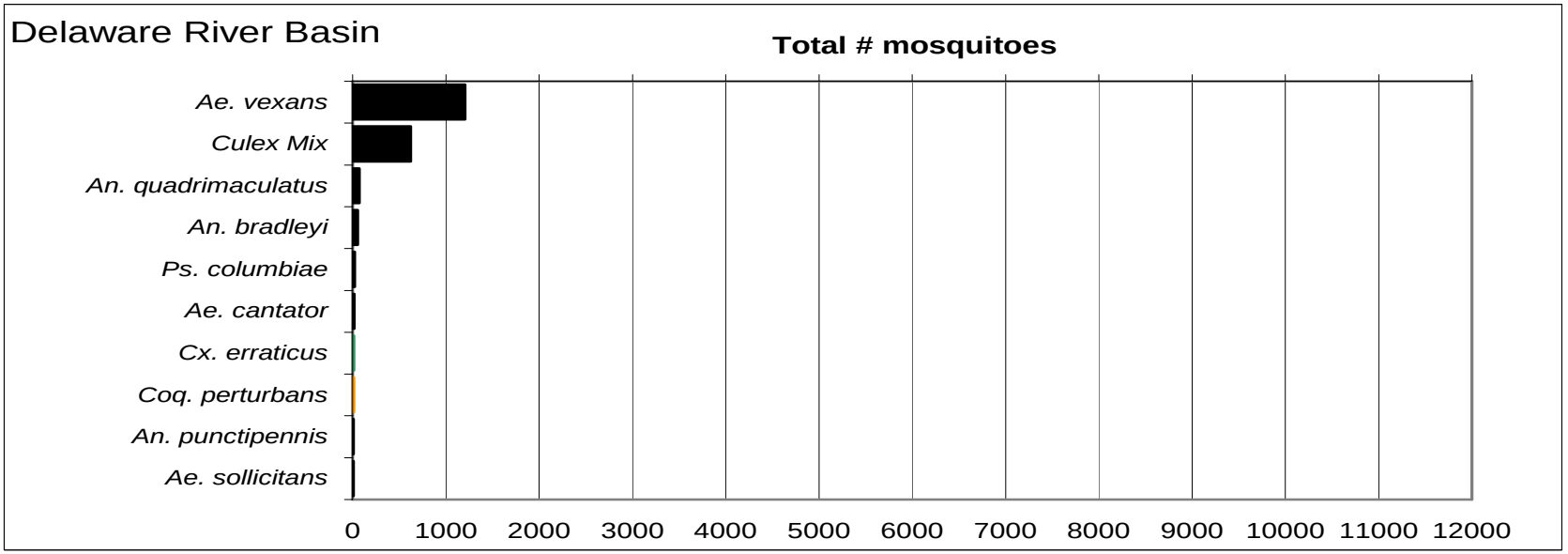
WNV **EEE**

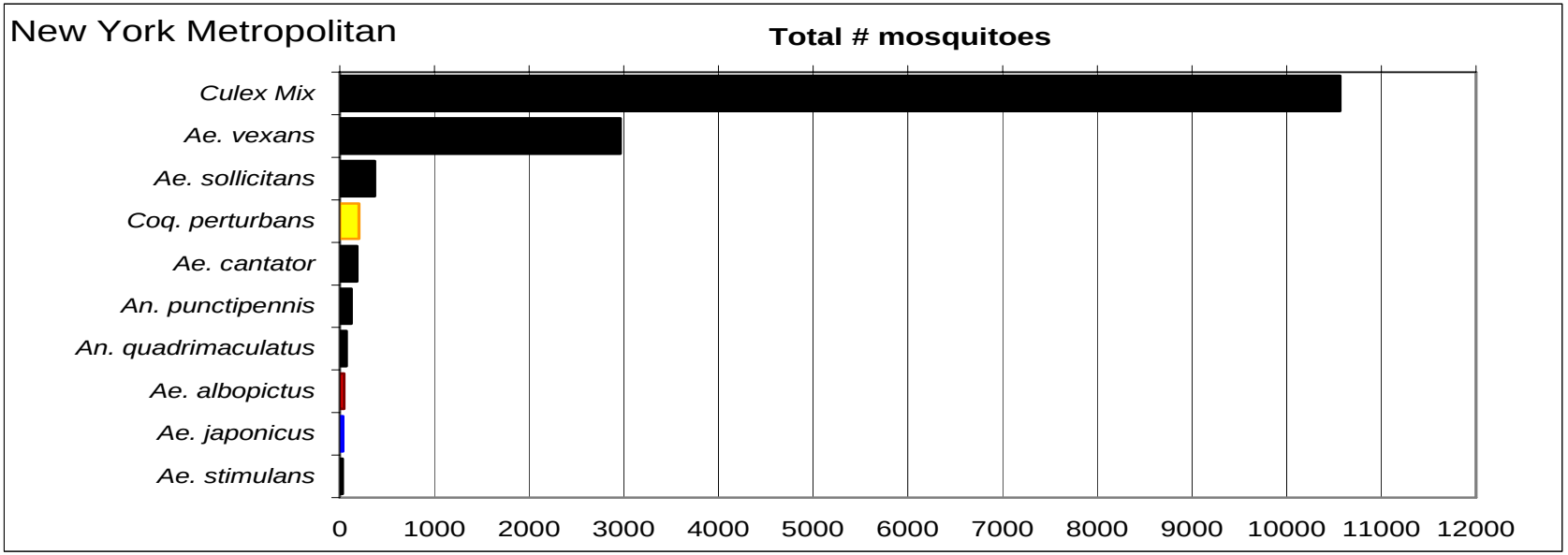
Top Ten Mosquito Species/Region - *Ae. albopictus, Ae. japonicus (invasives); Cs. melanura or Cx. erraticus Coq. perturbans*

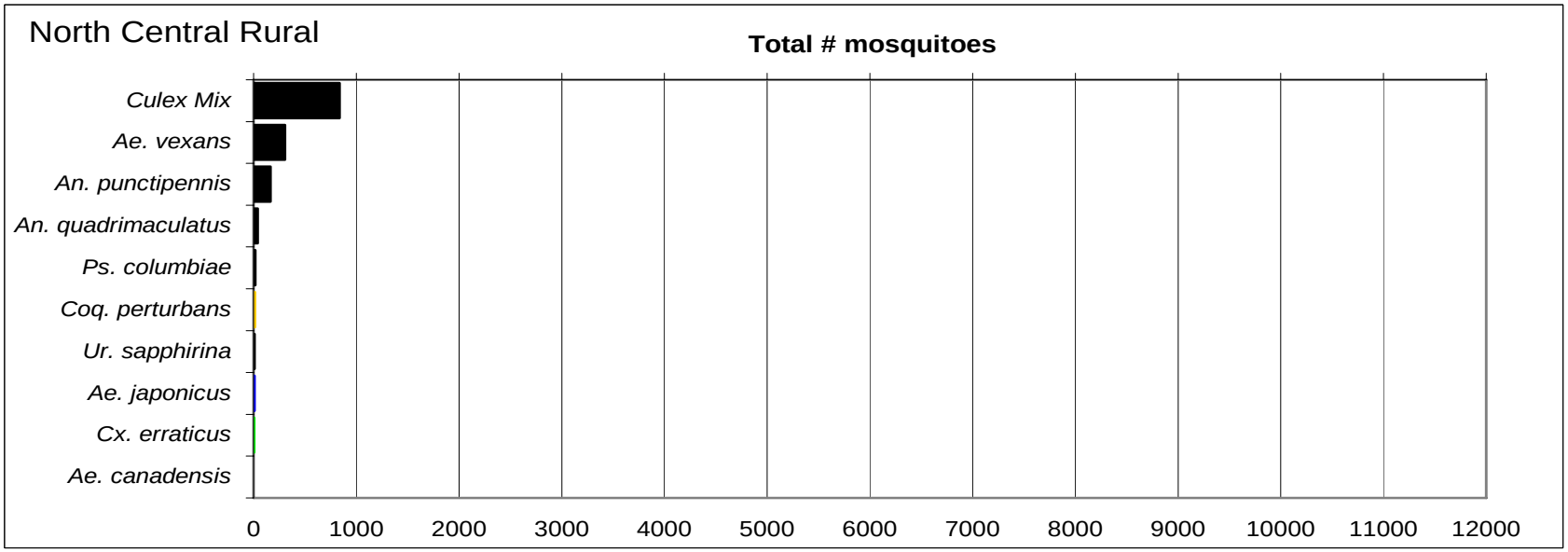


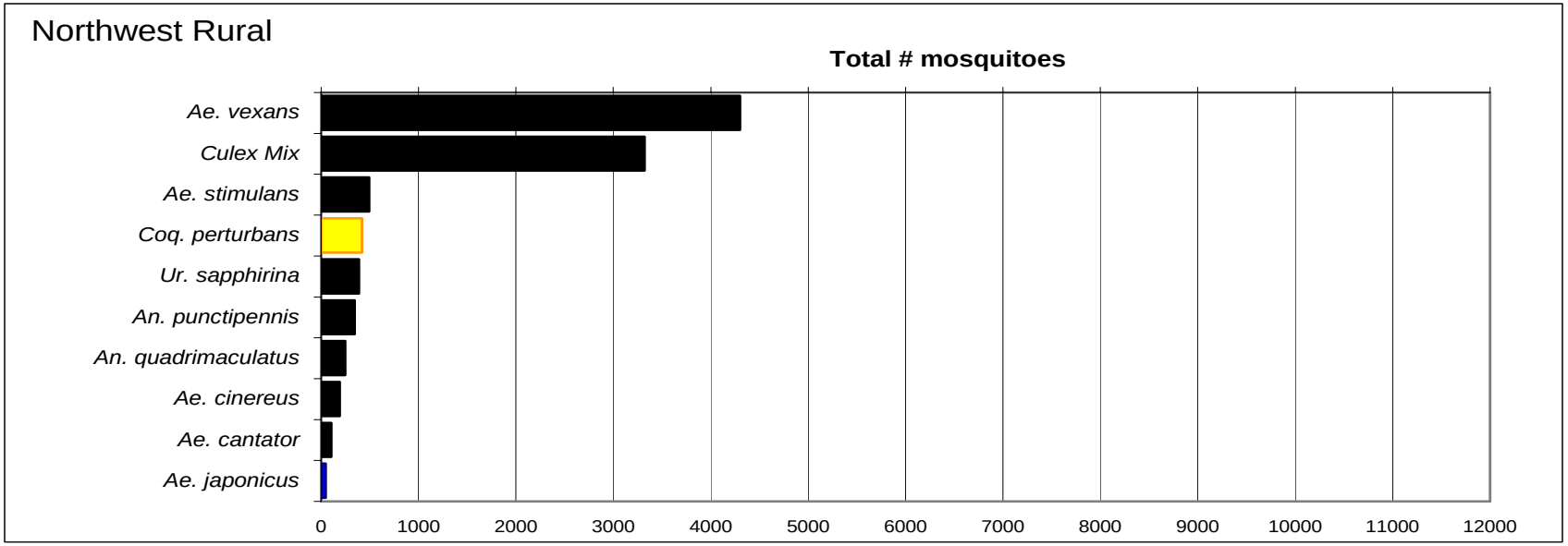



Delaware Bayshore
Total # mosquitoes
An. quadrimaculatus
Culex Mix
Ae. sollicitans
An. bradleyi
Ae. cantator
Ae. taeniorhynchus
Ae. vexans
Ae. canadensis
Coq. perturbans
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000


Delaware River Basin
Total # mosquitoes
Ae. vexans
Culex Mix
An. quadrimaculatus
An. bradleyi
Ps. columbiae
Ae. cantator
Cx. erraticus
Coq. perturbans
An. punctipennis
Ae. sollicitans
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000


New York Metropolitan
Total # mosquitoes
Culex Mix
Ae. vexans
Ae. sollicitans
Coq. perturbans
Ae. cantator
An. punctipennis
An. quadrimaculatus
Ae. albopictus
Ae. japonicus
Ae. stimulans
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000


North Central Rural
Total # mosquitoes
Culex Mix
Ae. vexans
An. punctipennis
An. quadrimaculatus
Ps. columbiae
Coq. perturbans
Ur. sapphirina
Ae. japonicus
Cx. erraticus
Ae. canadensis
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000


Northwest Rural
Total # mosquitoes
Ae. vexans
Culex Mix
Ae. stimulans
Coq. perturbans
Ur. sapphirina
An. punctipennis
An. quadrimaculatus
Ae. cinereus
Ae. cantator
Ae. japonicus
0
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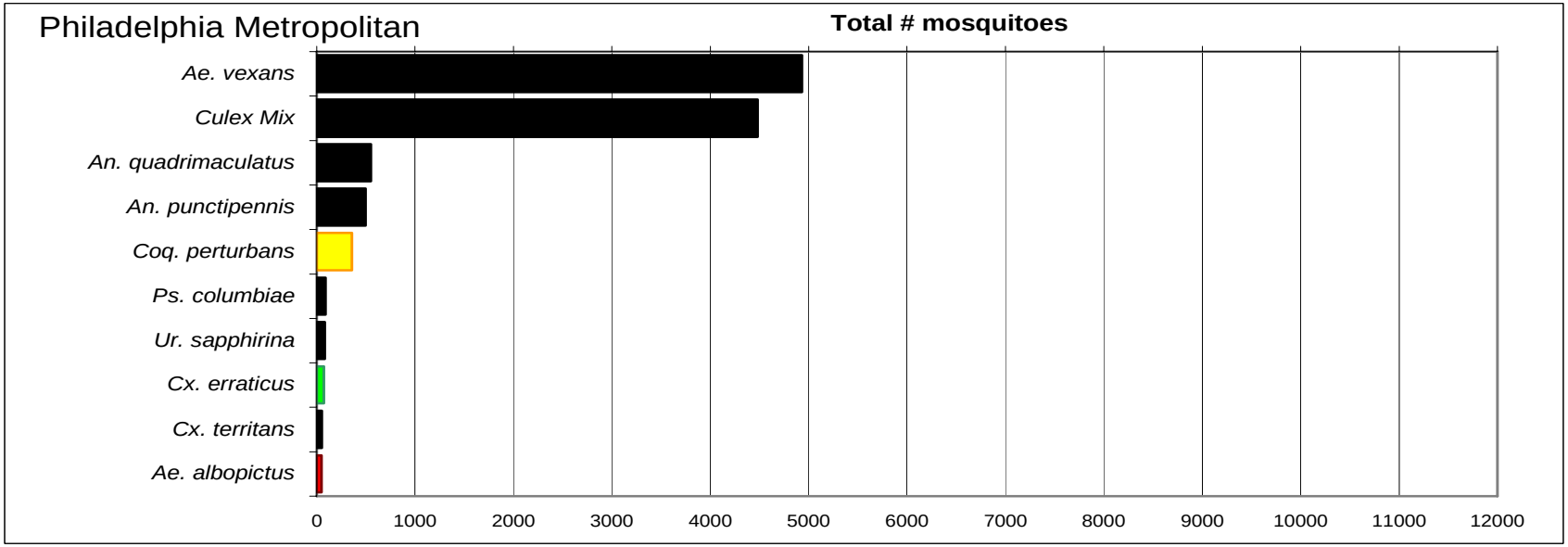
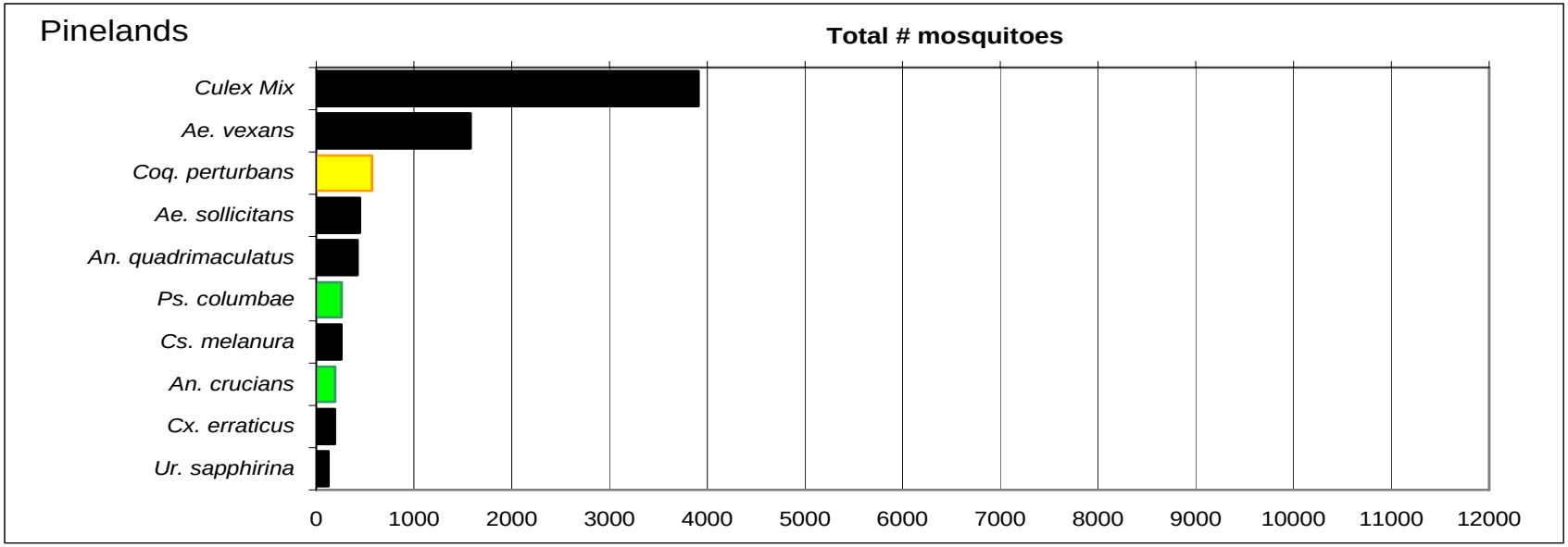
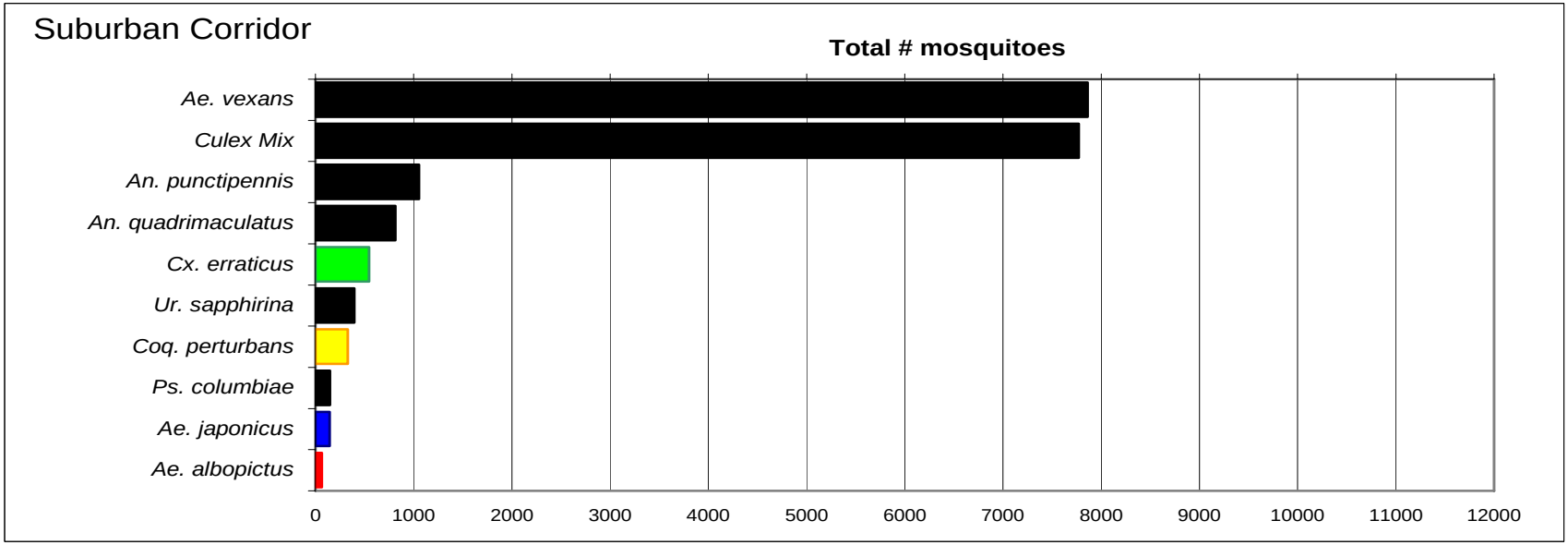
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000


Philadelphia Metropolitan
Total # mosquitoes
Ae. vexans
Culex Mix
An. quadrimaculatus
An. punctipennis
Coq. perturbans
Ps. columbiae
Ur. sapphirina
Cx. erraticus
Cx. territans
Ae. albopictus
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000


Pinelands
Total # mosquitoes
Culex Mix
Ae. vexans
Coq. perturbans
Ae. sollicitans
An. quadrimaculatus
Ps. columbae
Cs. melanura
An. crucians
Cx. erraticus
Ur. sapphirina
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000


Suburban Corridor
Total # mosquitoes
Ae. vexans
Culex Mix
An. punctipennis
An. quadrimaculatus
Cx. erraticus
Ur. sapphirina
Coq. perturbans
Ps. columbiae
Ae. japonicus
Ae. albopictus
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000