

NEW JERSEY ADULT MOSQUITO SURVEILLANCE Report

October 2 to October 8 CDC Week 40

Prepared by Lisa M. Reed and Dina Fonseca

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 40

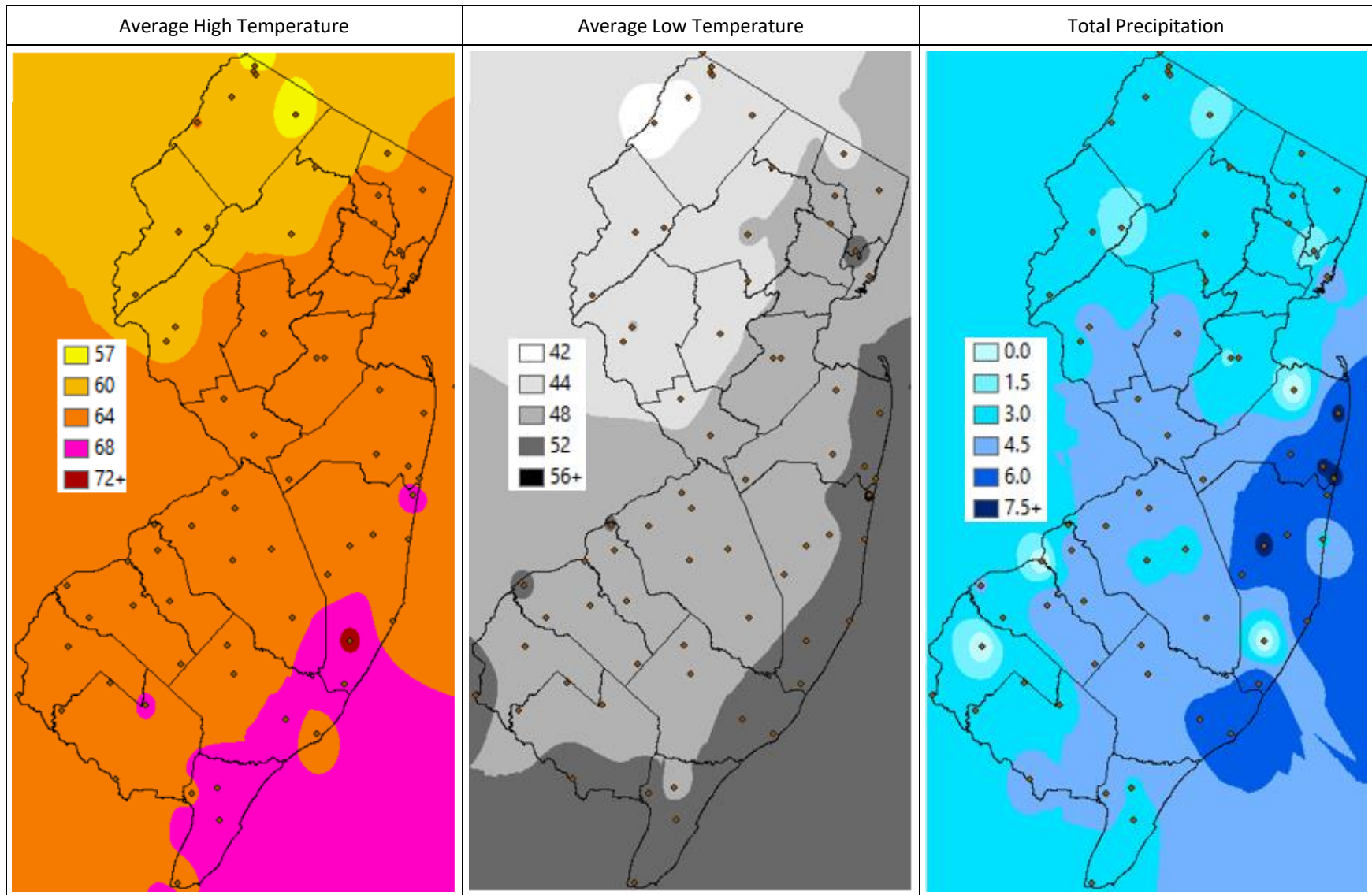
Region	<i>Aedes vexans</i>			<i>Culex Mix</i>			<i>Coquillettidia perturbans</i>			<i>Aedes sollicitans</i>		
	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase	This Week	Average*	Increase
Agricultural	0.05	3.24	0	0.24	8.45	0	0.00	<0.01	0	0.00	0.89	0
Coastal	0.30	1.82	0	0.37	3.37	0	0.00	0.00	0	0.05	0.31	0
Delaware Bayshore	0.00	2.10	0	0.00	5.39	0	0.00	0.00	0	0.00	1.57	0
Delaware River Basin	0.43	6.87	0	0.43	5.13	0	0.00	0.03	0	0.00	0.01	0
New York Metro	0.34	0.57	0	0.74	3.53	0	0.00	<0.01	0	0.00	0.04	0
North Central Rural	0.00	0.02	0	0.00	0.08	0	0.00	0.00	0	0.00	0.00	0
Northwest Rural	0.03	2.17	0	0.03	1.85	0	0.00	0.02	0	0.00	0.00	0
Philadelphia Metro	0.00	2.14	0	0.00	1.37	0	0.00	0.09	0	0.00	0.00	0
Pinelands	0.12	0.83	0	0.03	1.57	0	0.00	0.00	0	0.01	0.75	0
Suburban Corridor	0.00	0.33	0	0.03	0.71	0	0.00	<0.01	0	0.00	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. nd=no data reported.

State Summary: No populations of these pestiferous species were found to be above the historical 5-year running averages. *Coquillettidia perturbans* is through for the season.

Aedes albopictus trends in light trap and BG Sentinel traps are also presented, on pages 9 and 10.

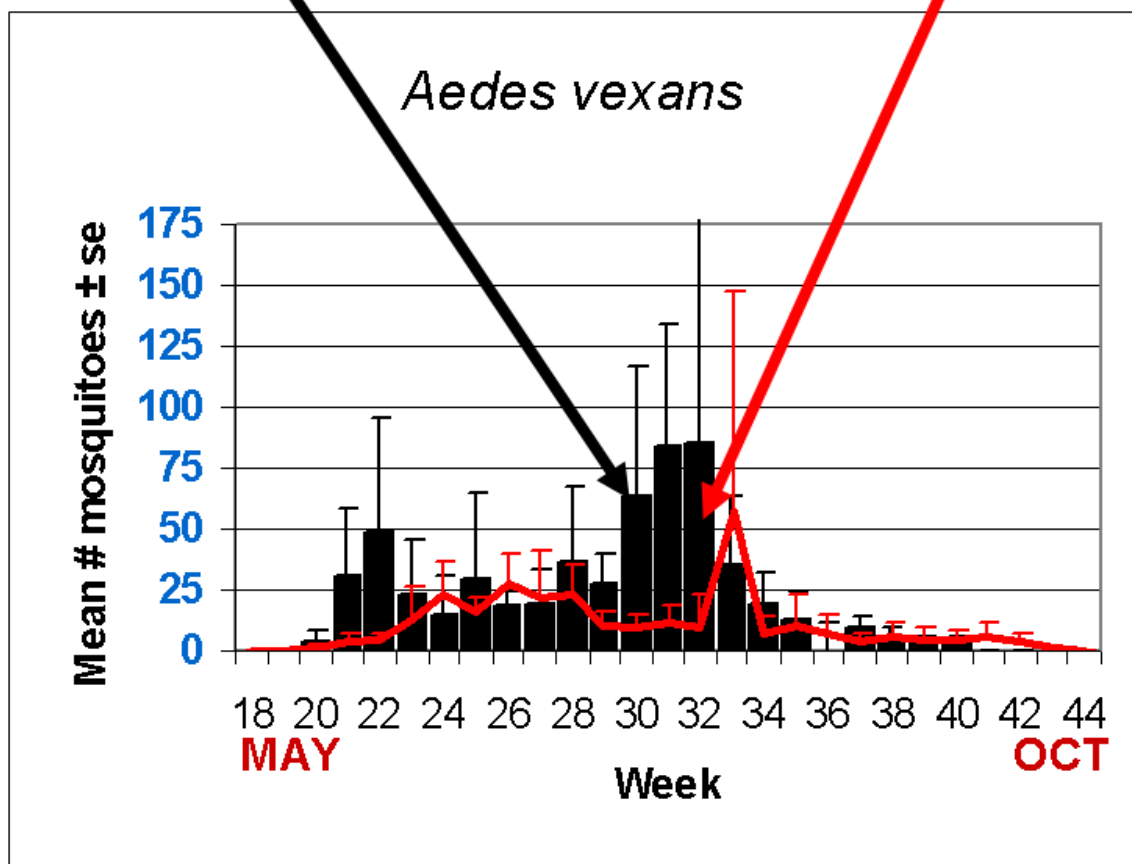
Climate Factors



The three figures show the interpolation of average maximum (°F) and minimum temperature (°F) and total precipitation (inches) for 14 days prior to 9 October 2022 in New Jersey. Data points are from about 45 weather stations maintained through the New Jersey Weather & Climate Network and the State Climatologist. Interpolation between points was performed using ArcMap 10.1.

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 shows 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, Hudson, Salem, Union, and Warren counties. Data for the previous week are from Atlantic, Bergen, Burlington, Cape May, Cumberland, Hudson, Mercer, Middlesex, Monmouth, Passaic, Salem, Somerset, Sussex, Union, and Warren counties.

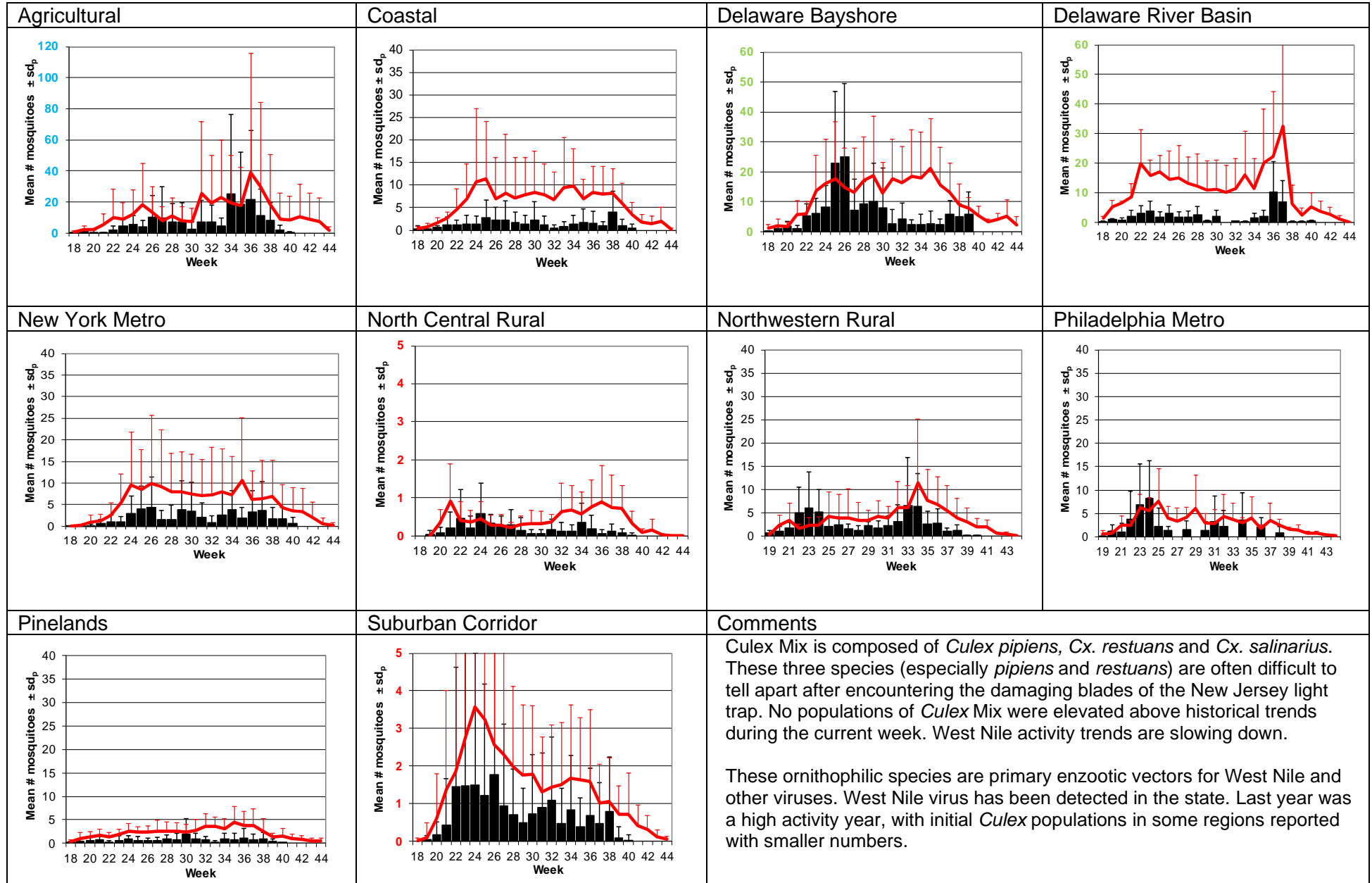
Weekly Means Against 5-year Average



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	
		<p><i>Aedes vexans</i> is the model for fresh floodwater species. With abundant precipitation, this species can emerge in very significant numbers. Drought conditions ease minimally from the previous week with recent precipitation. No populations of <i>Aedes vexans</i> were above historical trends.</p> <p>Drought areas are classified as “abnormally dry” in yellow, “moderately dry” in orange, or “severe drought” in dark orange. https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?NJ</p>	

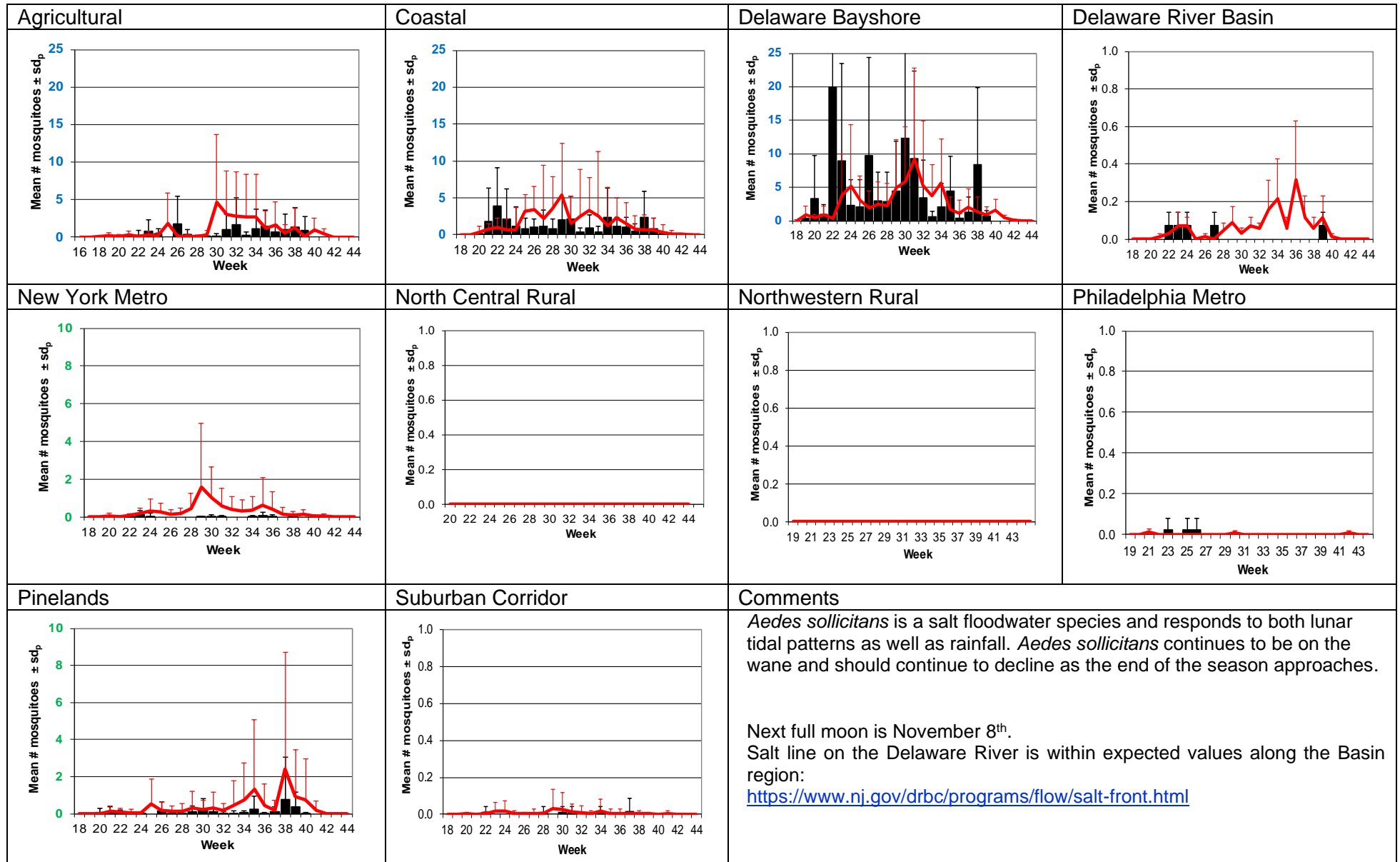
Culex Mix – Permanent Water Species Multivoltine *Culex/Anopheles* (*Cx. pipiens* Type)



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

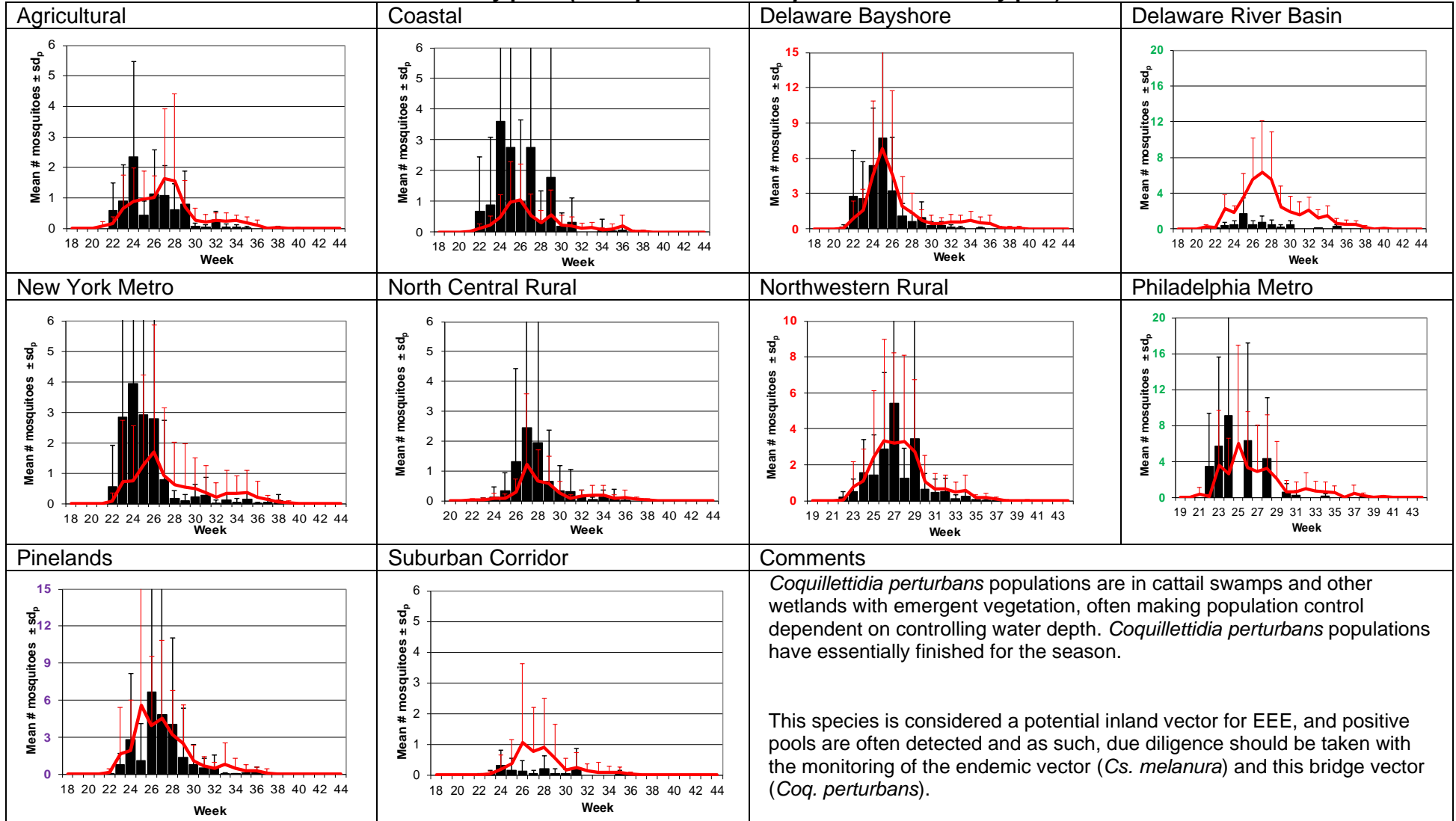
<p>Agricultural</p>	<p>Coastal</p>	<p>Delaware Bayshore</p>	<p>Delaware River Basin</p>
<p>New York Metro</p>	<p>North Central Rural</p>	<p>Northwestern Rural</p>	<p>Philadelphia Metro</p>
<p>Pinelands</p>	<p>Suburban Corridor</p>	<p>Comments</p> <p><i>Culiseta melanura</i> is the enzootic ornithophilic vector of eastern equine encephalitis. This cold-hardy species can emerge early in the season as well as staying active late into fall. Current populations continue to be well below the historical trends. EEE activity has been detected in the state, but in the northern region (Morris County) and in a pool of <i>Culex Mix</i>. Virus has not yet been detected in <i>Cs. melanura</i>. No populations of this species were found to above the historical trends during the current week.</p> <p>All horse owners should make sure their horses are up to date on their EEE/WNV vaccination schedules: http://www.aep.org/custdocs/adultvaccinationchart.pdf</p>	

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

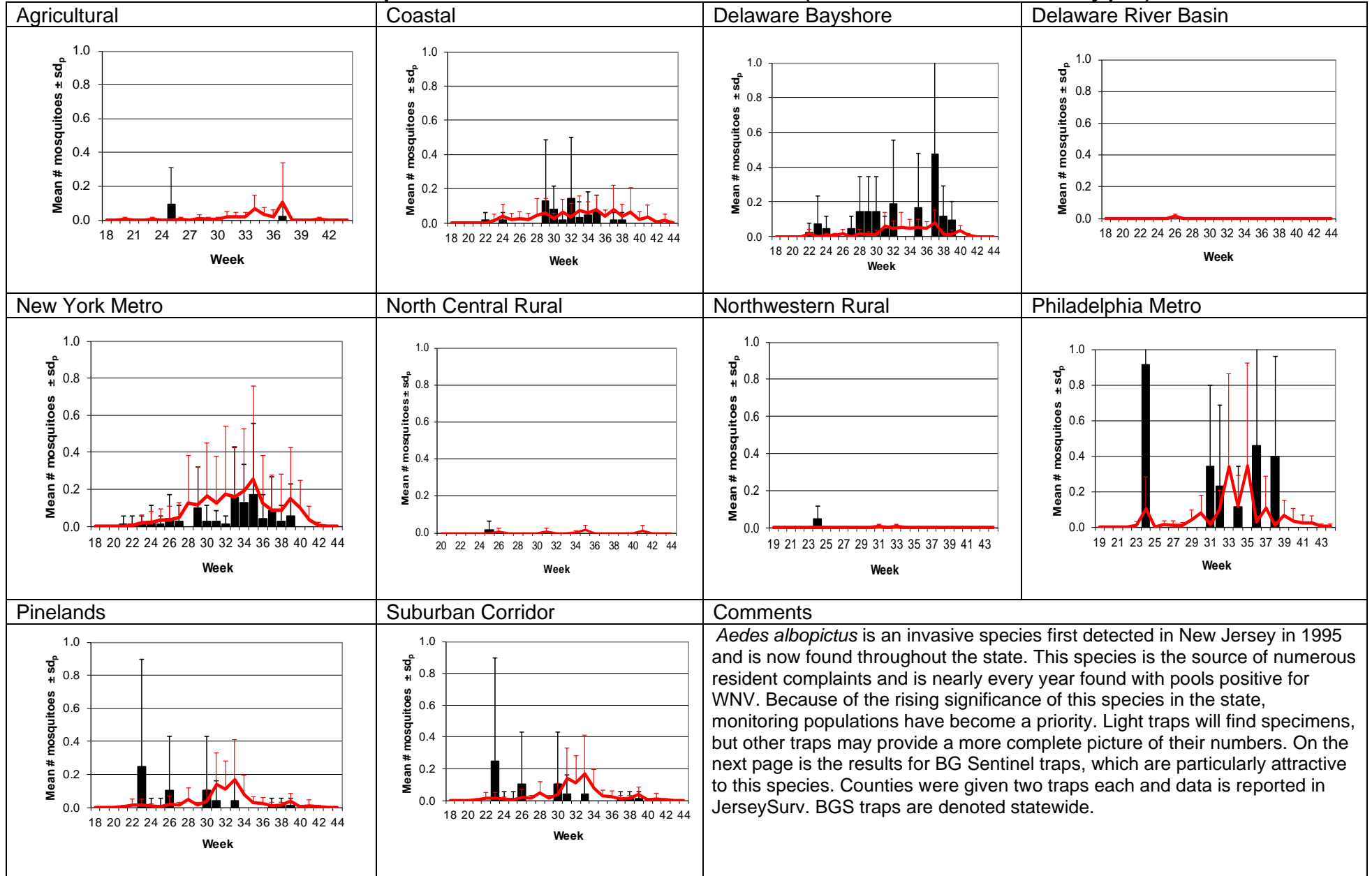


Coquillettidia perturbans

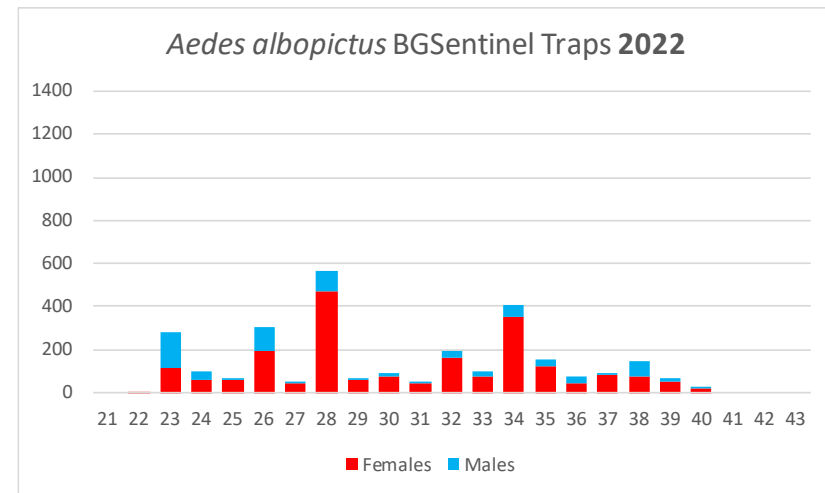
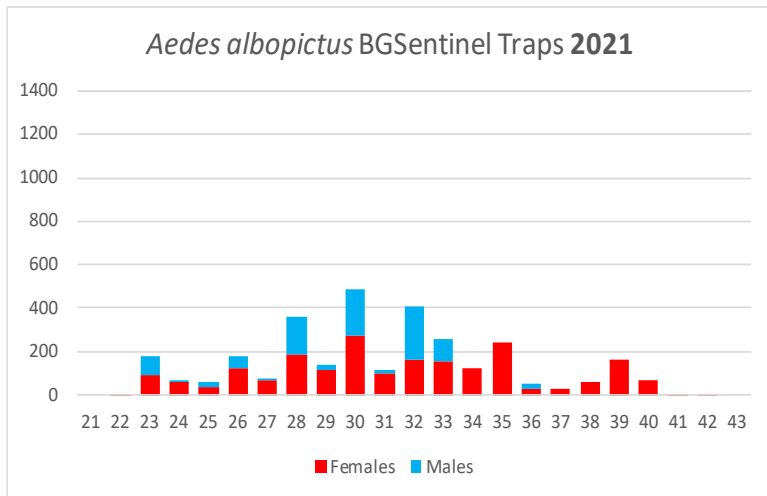
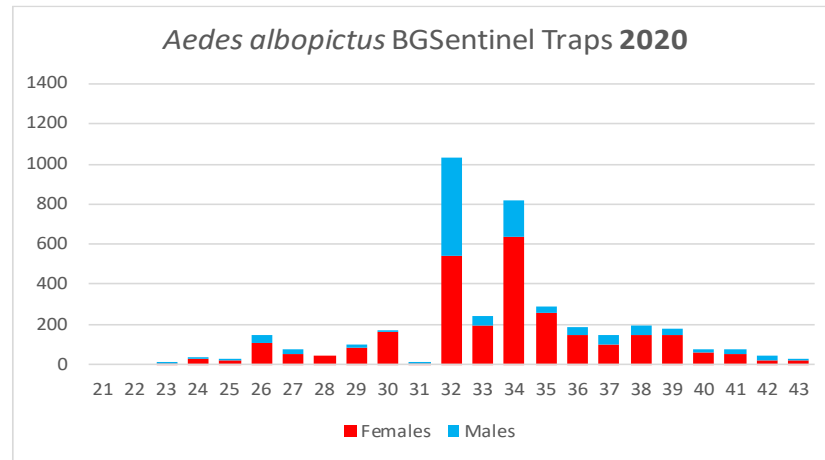
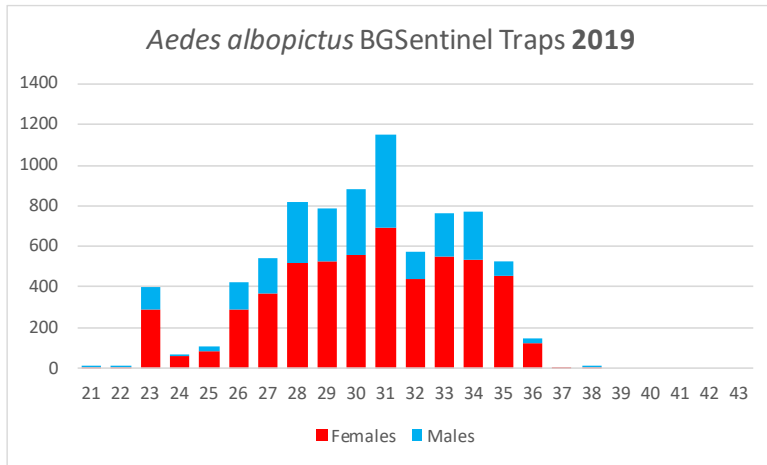
Monotypic (*Coquillettidia perturbans* Type)



Aedes albopictus – Multivoltine Aedine (*Aedes triseriatus* Type)



BGSentinel trapping of *Aedes albopictus*. Although data is limited, trends suggest that populations decreased during the past two years. **Note: this is ABUNDANCE data only, no vector numbers (will come in later graphics).*
 2019 include data from Bergen, Mercer, Monmouth, and Salem counties.
 2020 include data from Bergen, Cape May, Mercer, Middlesex, Monmouth, and Salem counties.
 2021 include data from Atlantic, Bergen, Mercer, Monmouth, Salem, and Warren counties,
 2022 include data from Atlantic, Bergen, Mercer, Monmouth, Salem, and Warren counties.

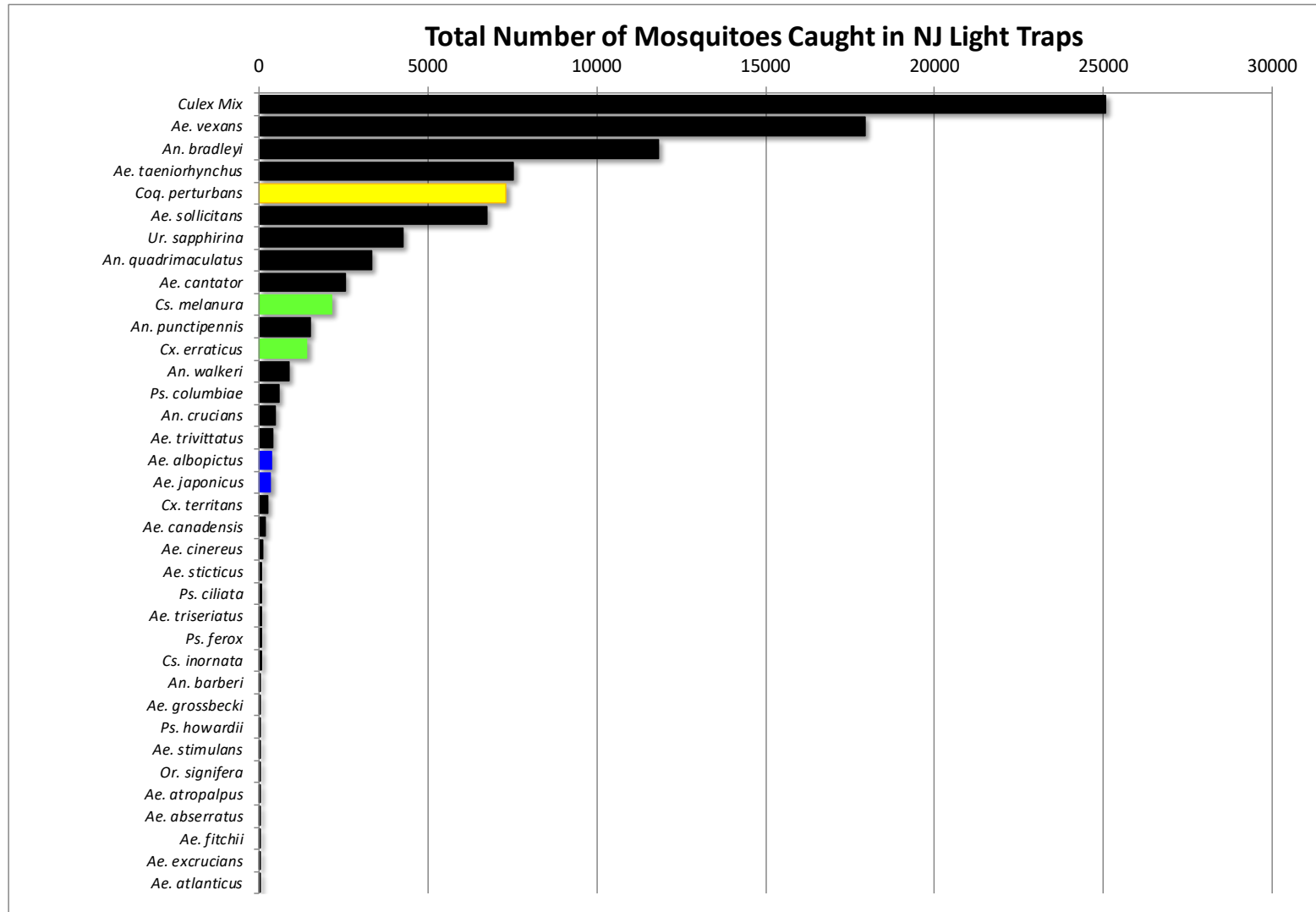


WNV

EEE

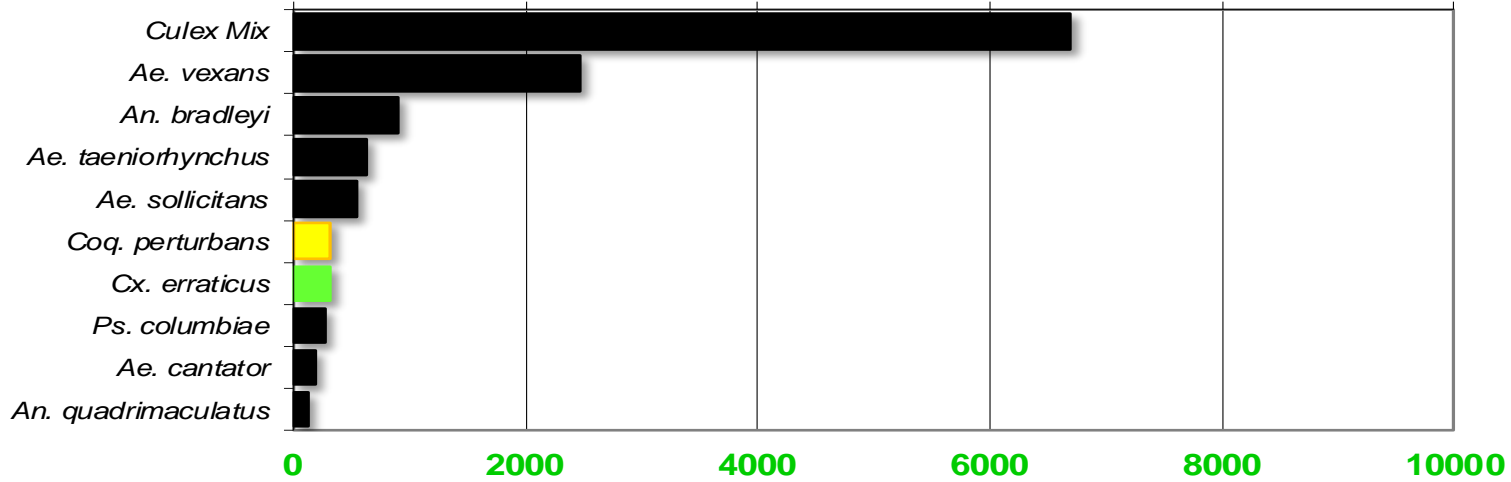
Top Ten Mosquito Species/Region - ■ *Ae. albopictus*, ■ *Ae. japonicus* (invasives); ■ *Cs. melanura* or *Cx. erraticus* ■ *Coq. perturbans*

Note: In early season when fewer species are caught, graphs may show less than ten species/region or 25 statewide.



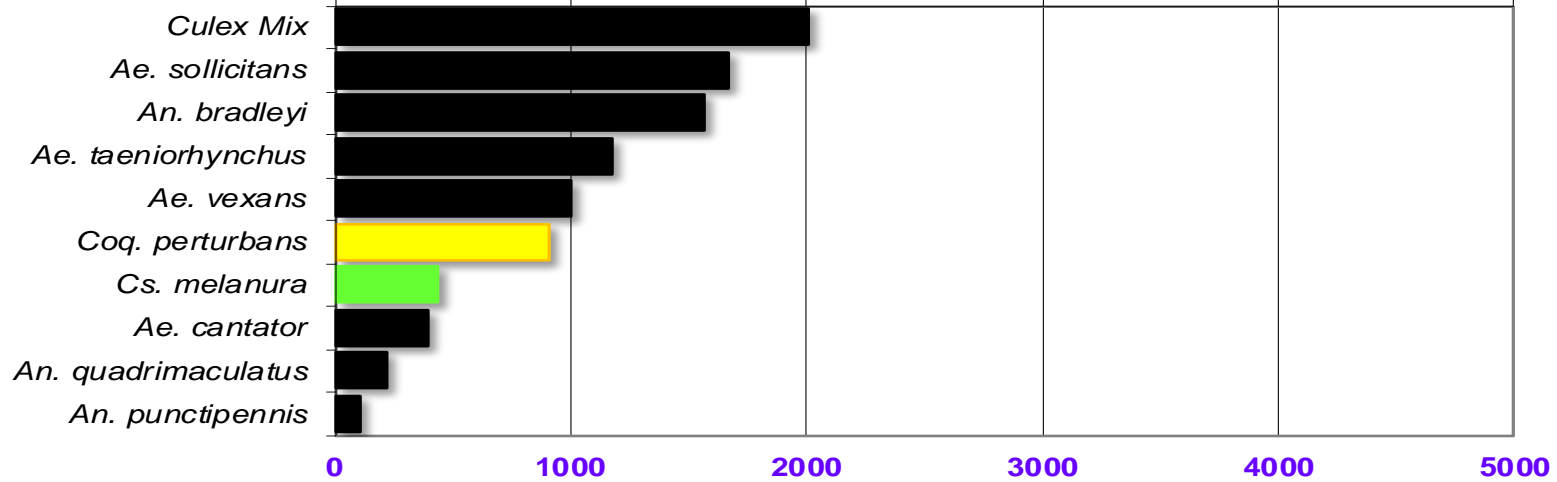
Agricultural

Total # mosquitoes



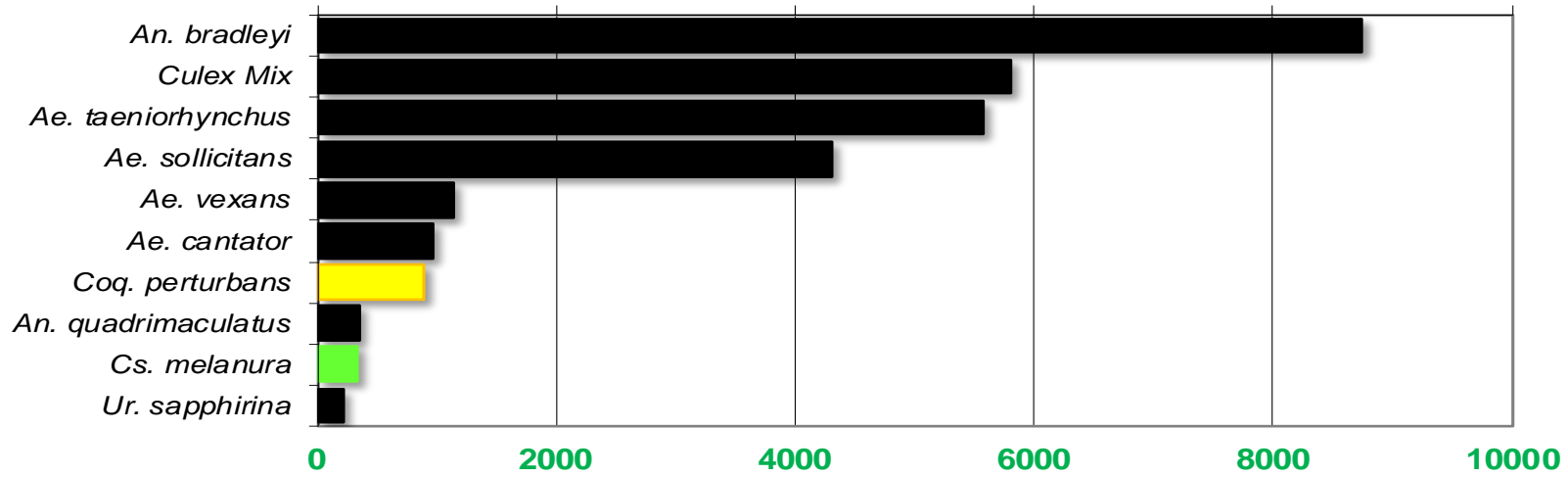
Coastal

Total # mosquitoes



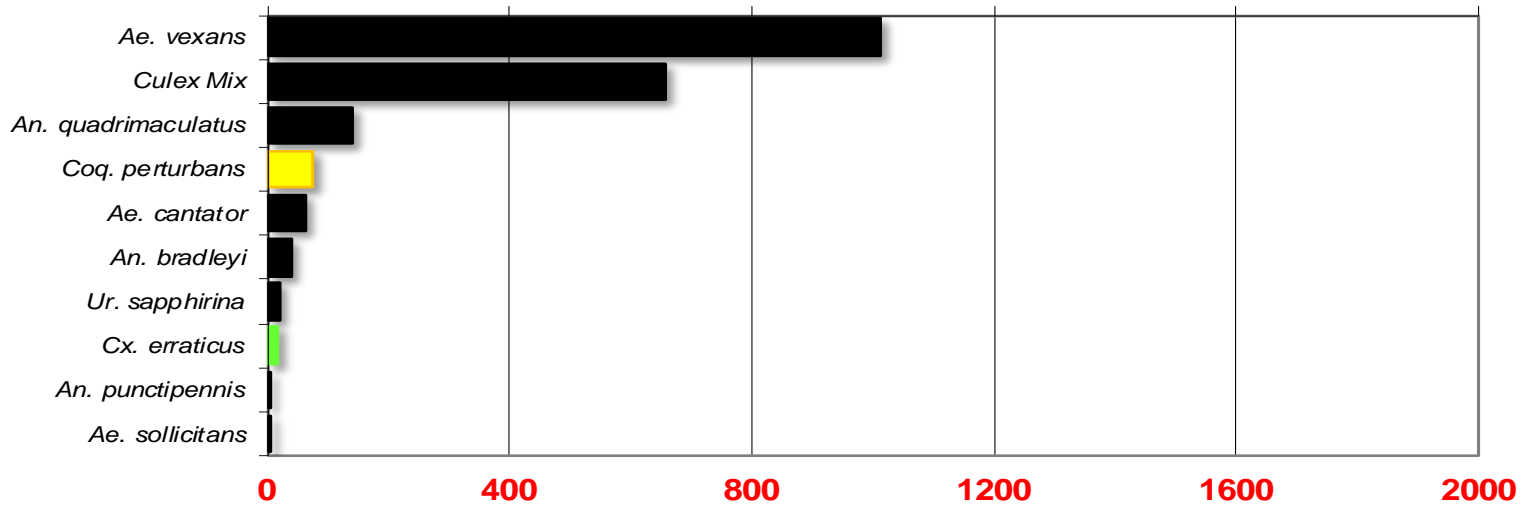
Delaware Bayshore

Total # mosquitoes



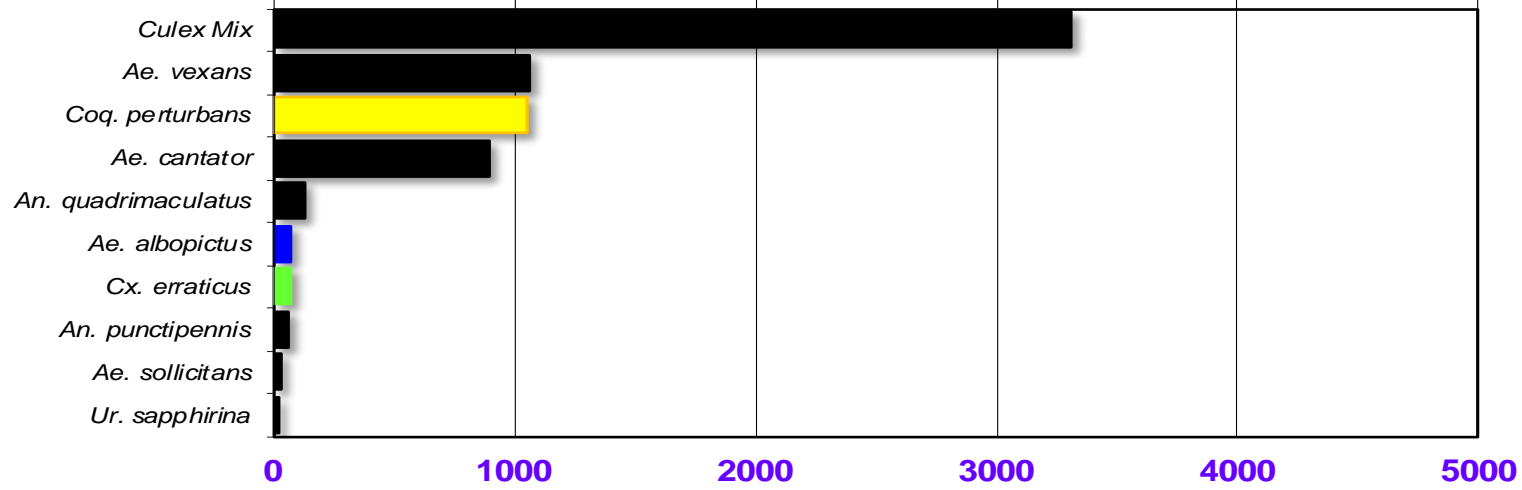
Delaware River Basin

Total # mosquitoes



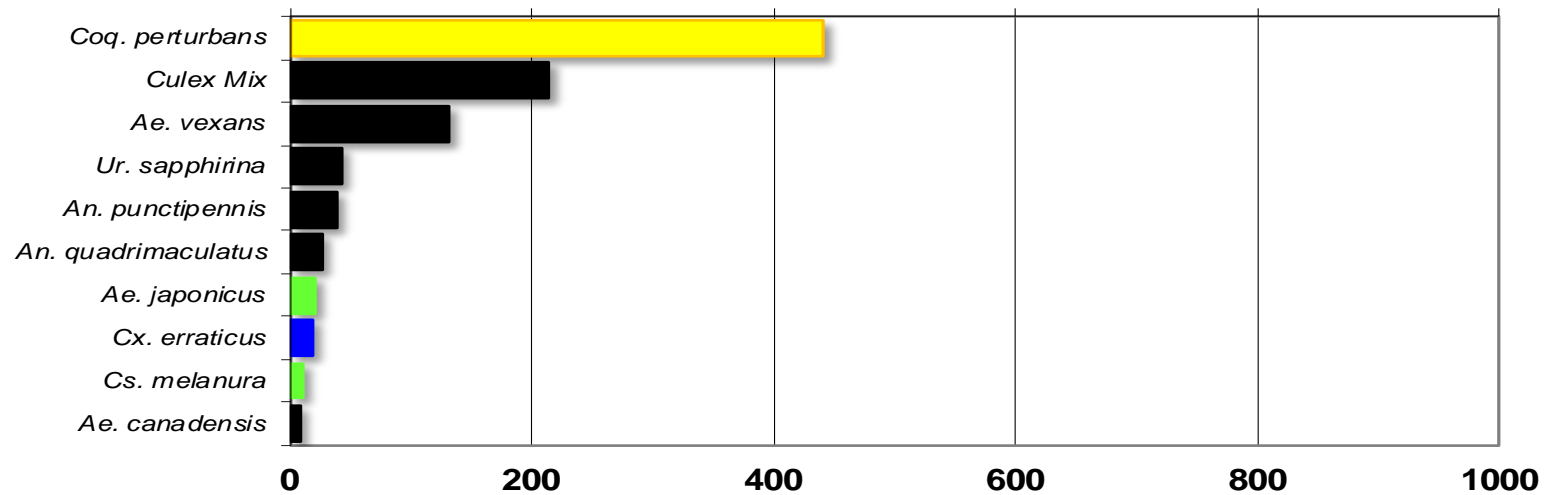
New York Metropolitan

Total # mosquitoes



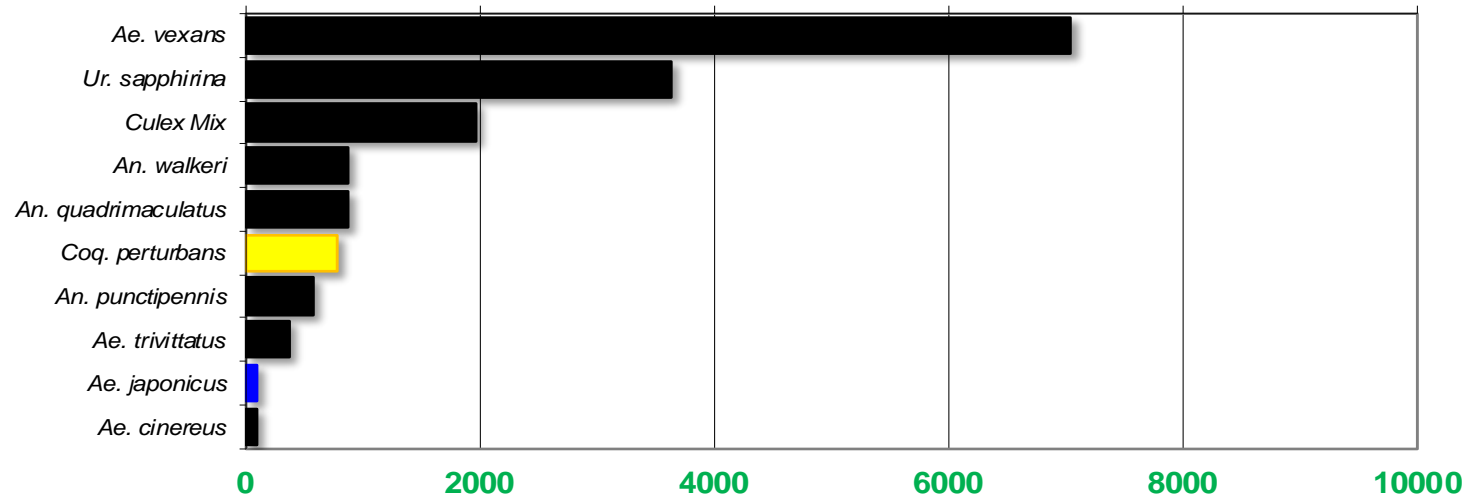
North Central Rural

Total # mosquitoes



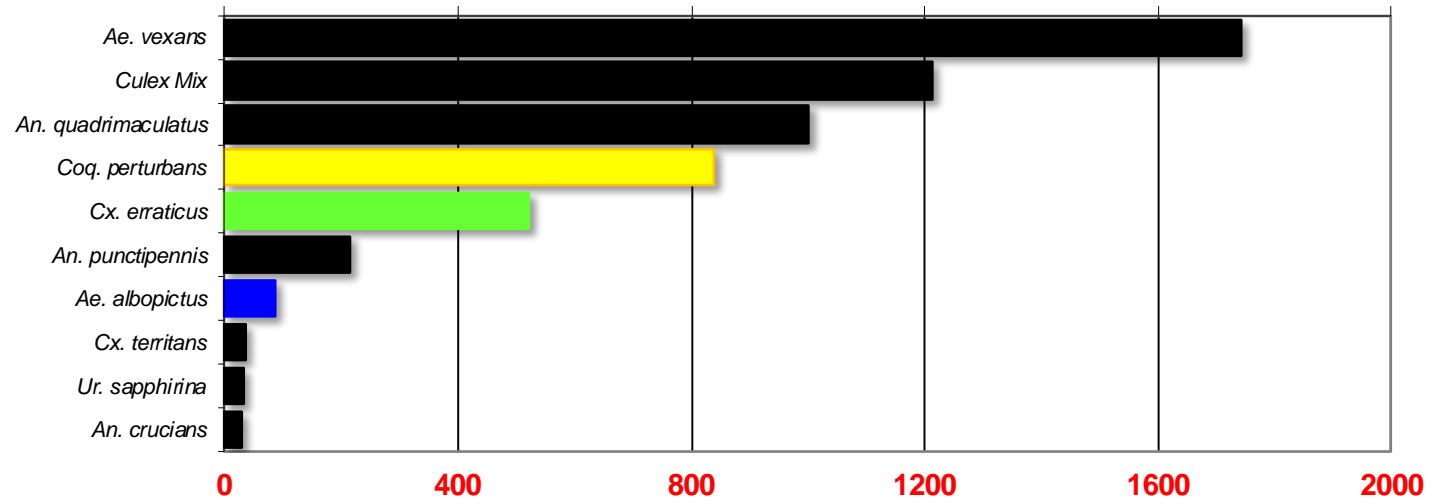
Northwest Rural

Total # mosquitoes



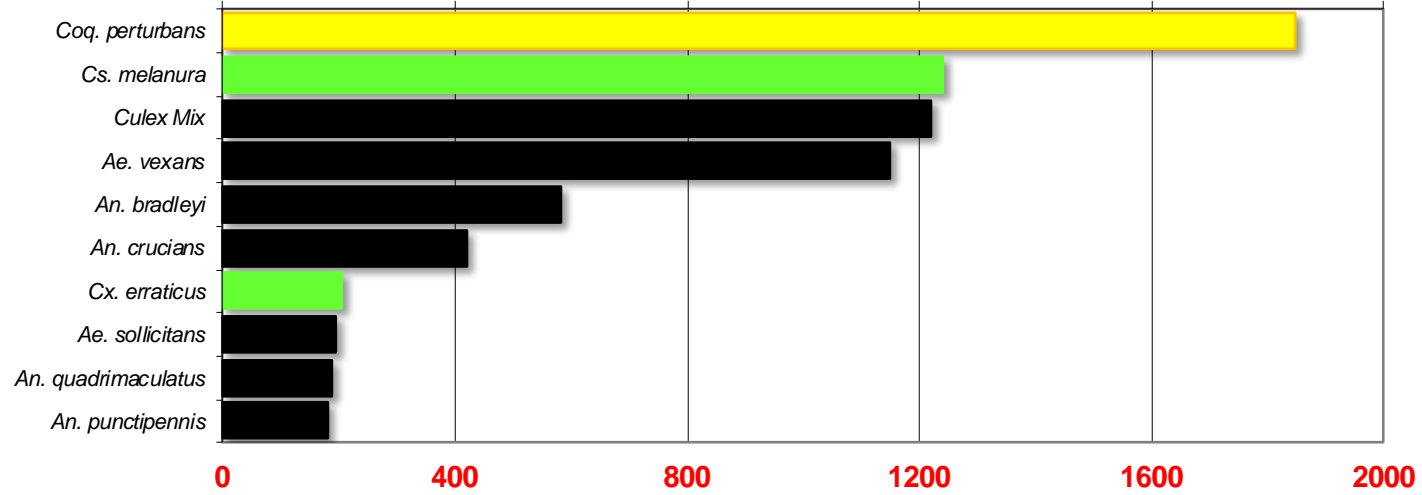
Philadelphia Metropolitan

Total # mosquitoes



Pinelands

Total # mosquitoes



Suburban Corridor

Total # mosquitoes

