NEW JERSEY STATEWIDE SURVEILLANCE

Week 29 Report for 13 July to 19 July, 2005

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Purpose: Data from 84 New Jersey light traps contributed by county mosquito control agencies are used to calculate trends in mosquito populations for species of nuisance or health concerns.

Calculations are based on regional distributions, with emphasis on mosquito habitat and land use. Trends will allow a statewide evaluation of changing mosquito populations, in response to control and/or changes in habitat.

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Figure 1a: Map of ten regions selected for the New Jersey Surveillance Program overlaid with county boarders.

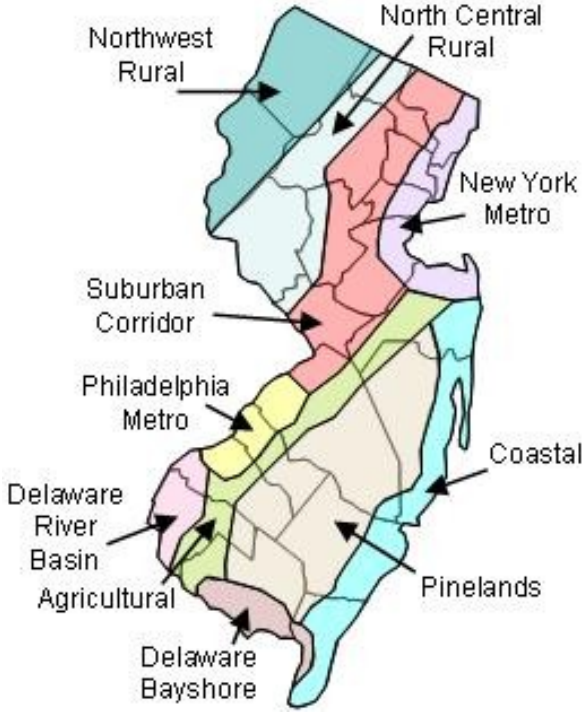


Figure 1b. Trap lat-long locations.

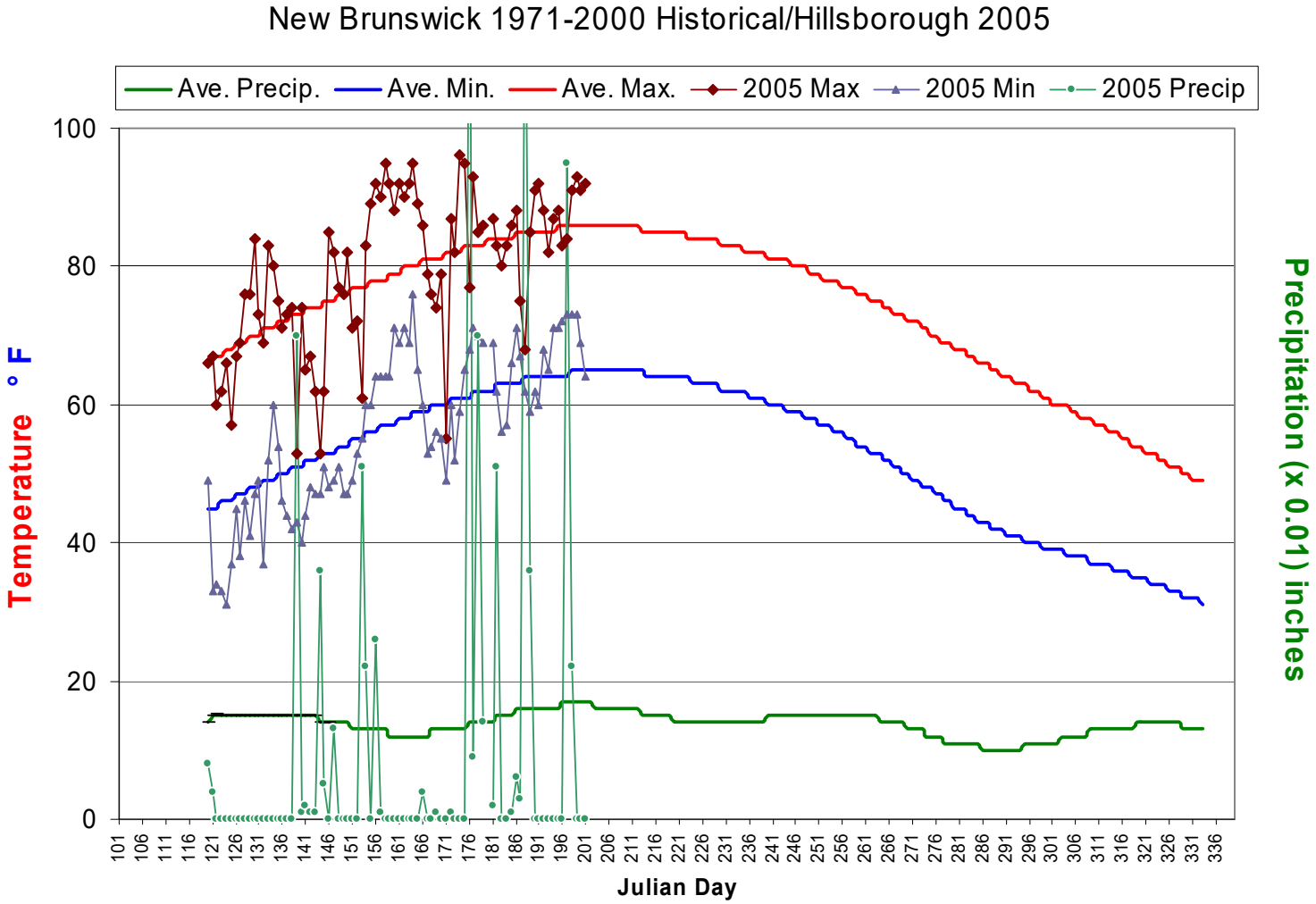
Summary table – Week 29

	Aedes vexans		*Culex complex*		*Coquillettidia perturbans*		*Ochlerotatus sollicitans*	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	**0.83**	**3.27**	**0.76**	**12.21**	**1.29**	**0.61**	**0.00**	**0.35**
Coastal	**3.43**	**4.06**	**2.70**	**10.81**	**1.71**	**0.91**	**51.10**	**26.30**
Delaware Bayshore	**1.05**	**1.58**	**16.52**	**67.40**	**5.71**	**4.38**	**6.31**	**39.45**
Delaware River Basin	**3.36**	**17.45**	**0.79**	**19.49**	**0.64**	**0.06**	**0.07**	**0.15**
New York Metro	**0.40**	**2.47**	**8.13**	**7.54**	**0.09**	**0.26**	**0.06**	**0.55**
North Central Rural	**0.29**	**0.33**	**0.31**	**1.65**	**0.02**	**0.10**	**0.00**	**0.00**
Northwest Rural	**6.71**	**4.52**	**1.19**	**7.38**	**0.00**	**0.16**	**0.00**	**0.00**
Philadelphia Metro	**3.77**	**11.45**	**3.14**	**7.39**	**1.71**	**0.27**	**0.00**	**0.00**
Pinelands	**0.95**	**2.02**	**0.87**	**5.81**	**5.66**	**0.85**	**0.04**	**0.40**
Suburban Corridor	**3.15**	**7.26**	**1.40**	**4.81**	**1.13**	**3.34**	**0.00**	**0.01**

Graphs include *Ae. vexans, Culex* complex (*Cx. pipiens, Cx. restuans, and Cx. salinarius*), *Oc. sollicitans, and Cs. melanura and Top Ten.*

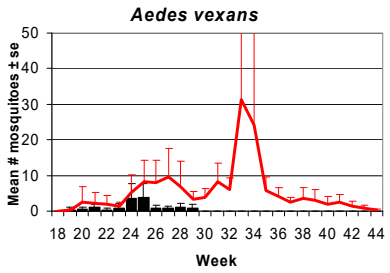
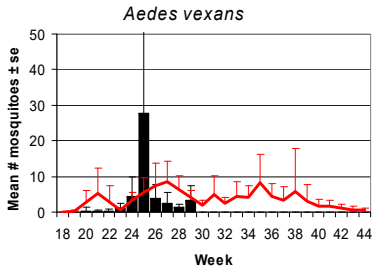
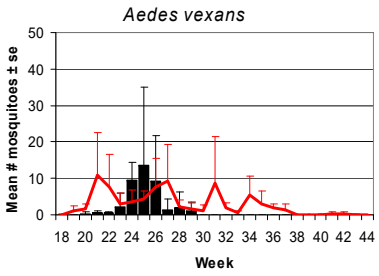
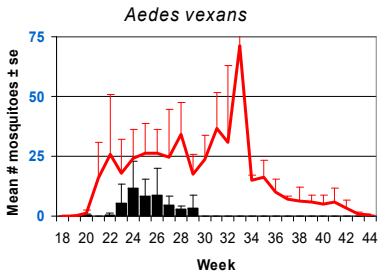
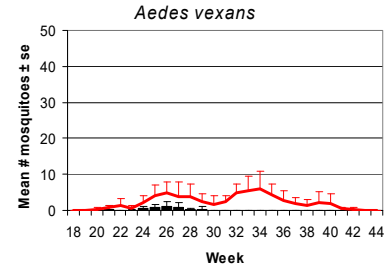
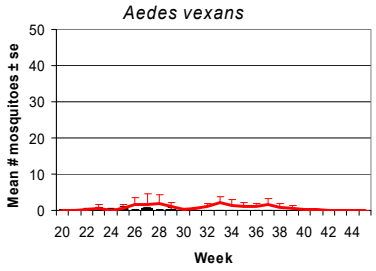
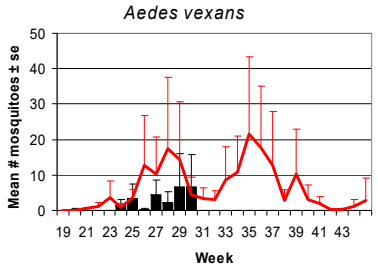
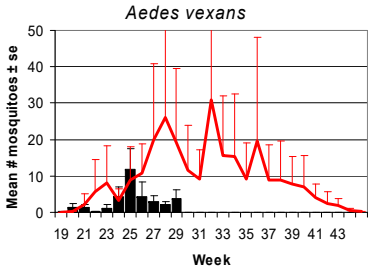
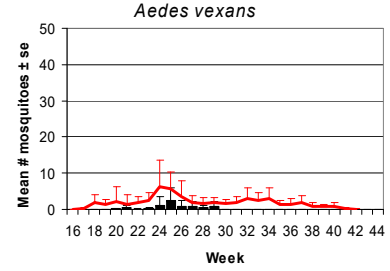
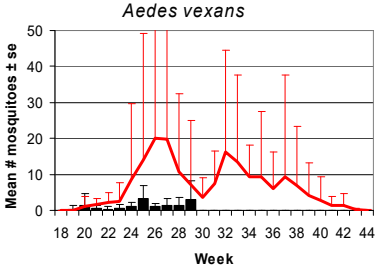
15 of 21 counties in current week; 20 of 21 counties reporting.

Climate Data

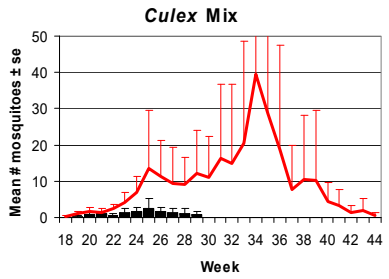
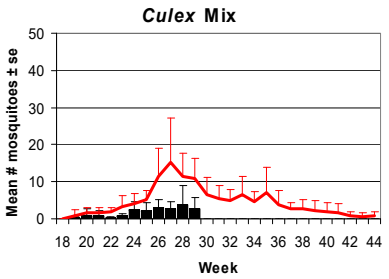
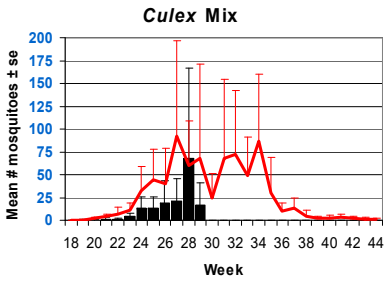
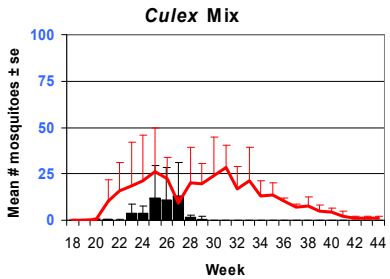
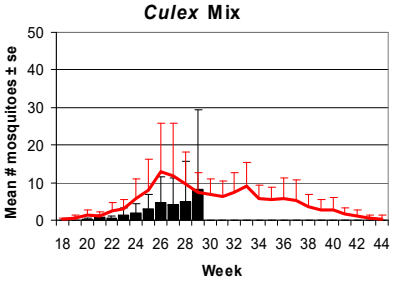
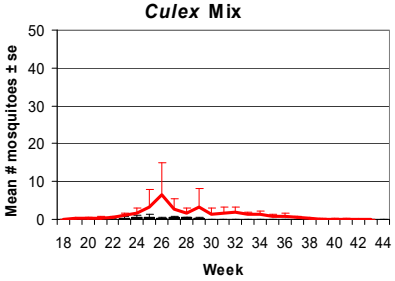
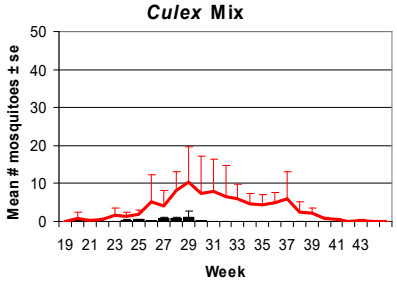
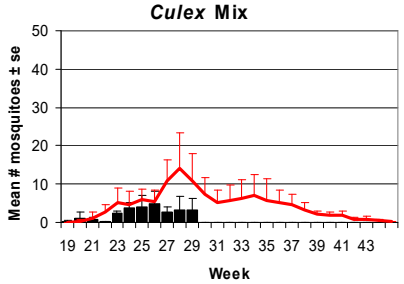
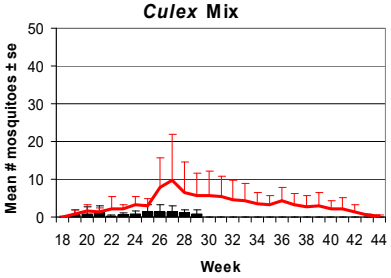
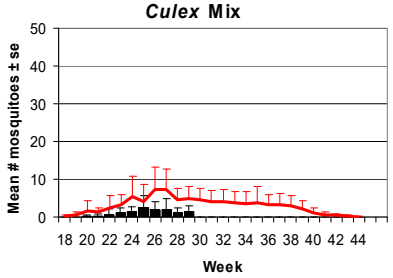


This figure shows historical average maximum and minimum temperatures and average precipitation recorded in the New Brunswick, NJ weather station over a recent 30 year period. Also graphed are the current year's minimum and maximum temperatures as recorded at the Hillsborough NJ weather station (a station close to central NJ which recorded all three parameters and was available online at the NJ state climatologist).

Aedes vexans - Fresh Floodwater Species

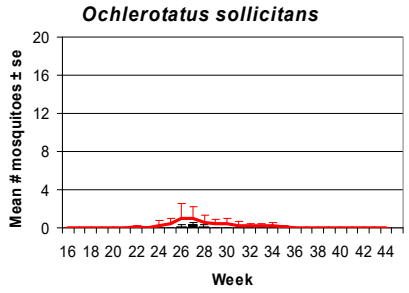
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		Minor increases in *Aedes vexans* populations occurred in most regions, most likely a response to recent rains and increase temperatures. However, the overall population levels for *Ae. vexans* is generally lower than the recent historical trends would indicate. This is particularly true for the Delaware River Basin and the Suburban Corridor. It should be noted, however, that populations in the latter vary widely, as indicated by the large error bars. This locally abundant species can transmit a number of arboviruses as well as dog heartworm.	

Culex Complex - Multivoltine *Culex* Species

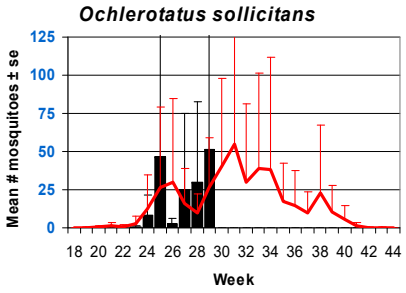
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culex* numbers have rebounded somewhat from early suppressive conditions in a few regions (New York Metro and Delaware Bayshore and River Basin) but continue to remain considerably suppressed in several other regions (Agricultural, Northwestern Rural, Pinelands). Since *Culex* species (*Cx. pipiens and Cx. restuans*) appear to play critical roles in the amplification of West Nile virus, and since viral activity has been on the decline in recent years, one might think that vigilance for West Nile virus could be relaxed. But West Nile is an extended season virus, and it is too early to assume little to no activity. In fact, the Suburban Corridor and New York Metro regions recently produced the first positive mosquito pools.	

Ochlerotatus sollicitans - Salt Marsh Floodwater Species

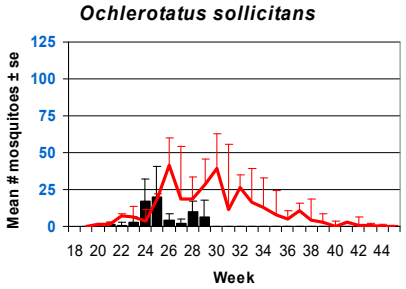
Agricultural



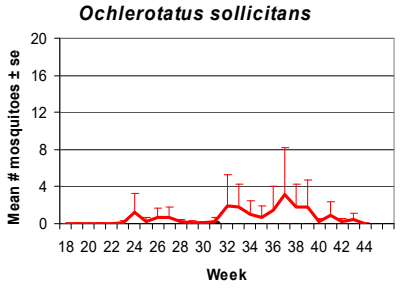
Coastal



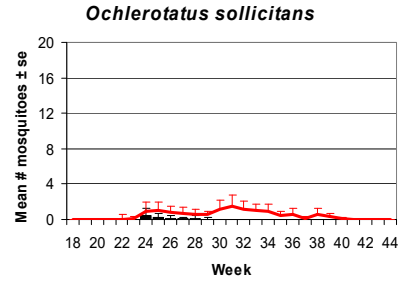
Delaware Bayshore



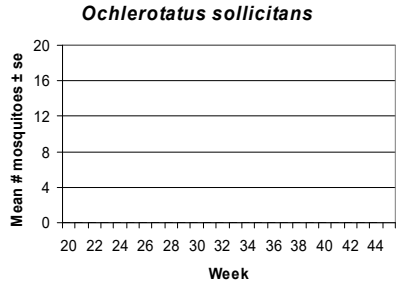
Delaware River Basin



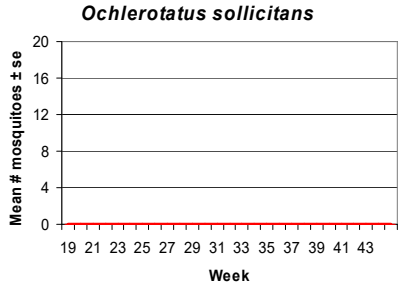
New York Metro



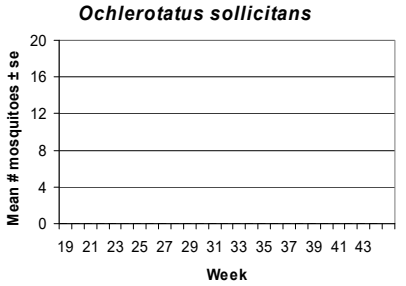
North Central Rural



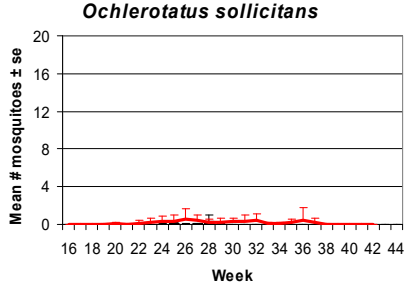
Northwestern Rural



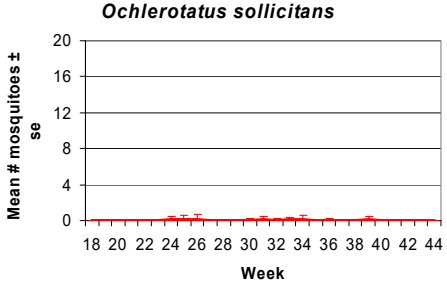
Philadelphia Metro



Pinelands



Suburban Corridor

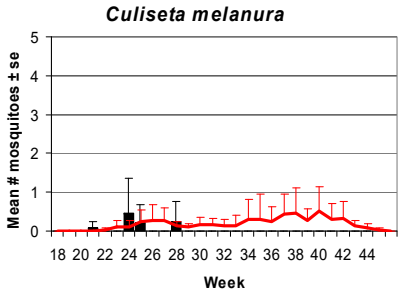


Comments

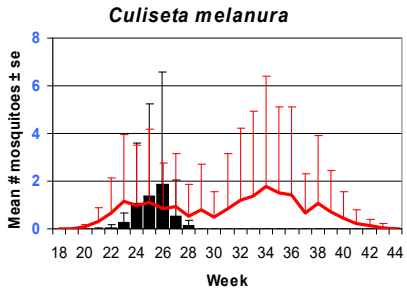
Ochlerotatus sollicitans populations are in the midst of their second strong emergence. Populations have definitely flown inland to regions such as the Agricultural and Pinelands as they host seek or search for mates. This migration will likely fall off as later broods tend to stay near the saltmarsh. Currently, biting tends to occur during crepuscular/evening hours, but may shift toward daylight hours with late-season broods. This species, as with *Ae. vexans* can transmit the nematode that causes dog heartworm.

Culiseta melanura – Miscellaneous Group

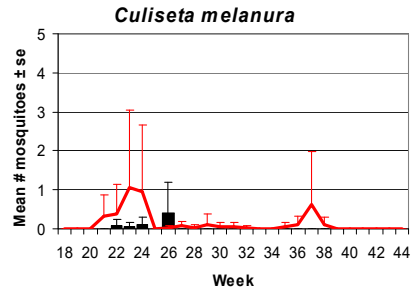
Agricultural



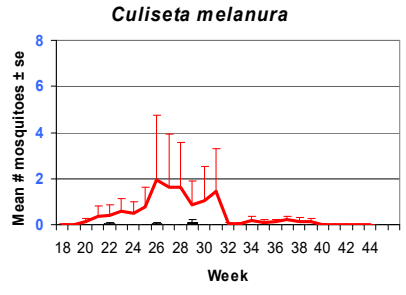
Coastal



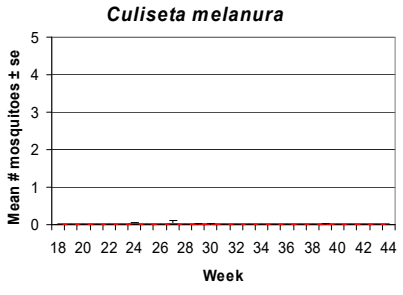
Delaware Bayshore



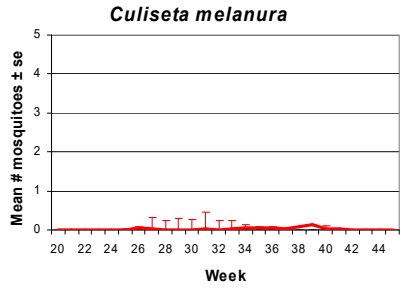
Delaware River Basin



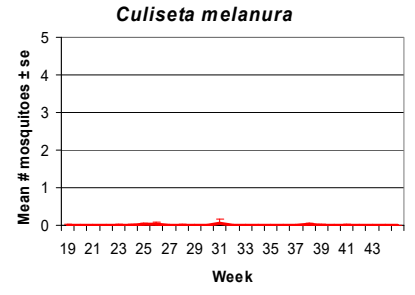
New York Metro



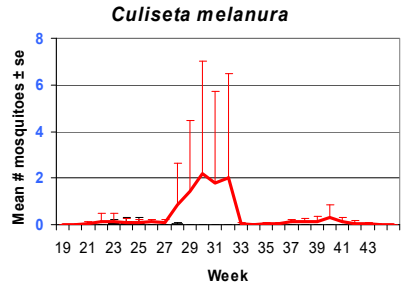
North Central Rural



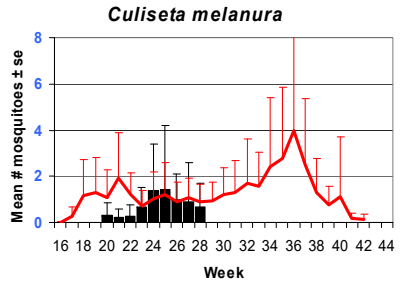
Northwestern Rural



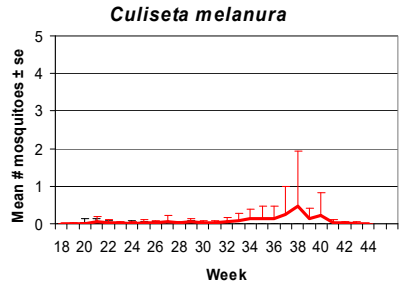
Philadelphia Metro



Pinelands



Suburban Corridor

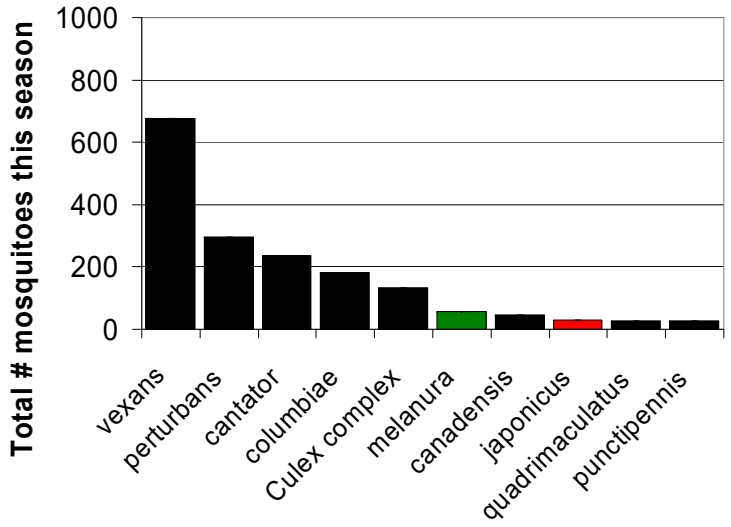


Comments

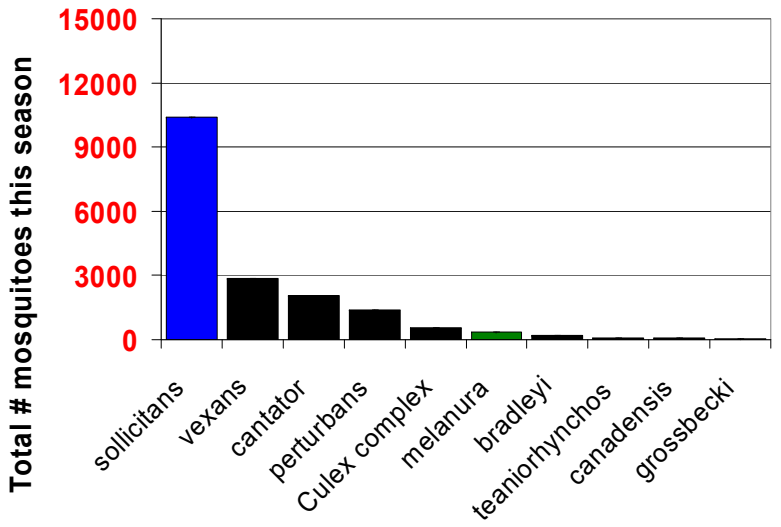
Culiseta melanura populations appear to be sporadic, at best, in areas where they have shown up before. Only the Coastal and Pinelands regions continue to show reasonably consistent populations, much along what would be expected for a species with a somewhat delayed emergence. Although EEE tends to have earlier activity than the WN cycle, the fact that population levels are not reduced at either the Coastal or Pinelands regions suggest for continued vigilance.

Top Ten Species in each Region – *NOTE THE DIFFERENT SCALES USED FOR DIFFERENT REGIONS.* As was wisely pointed out to me, it should also be noted that this list is only based on what was caught in those light traps that are included in this report. Not all species are attracted to light traps equally. Interpretations should keep these points in mind.

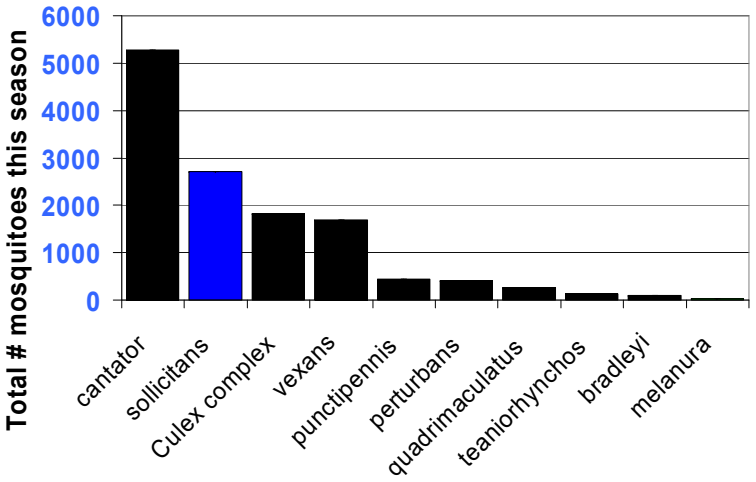
Agricultural



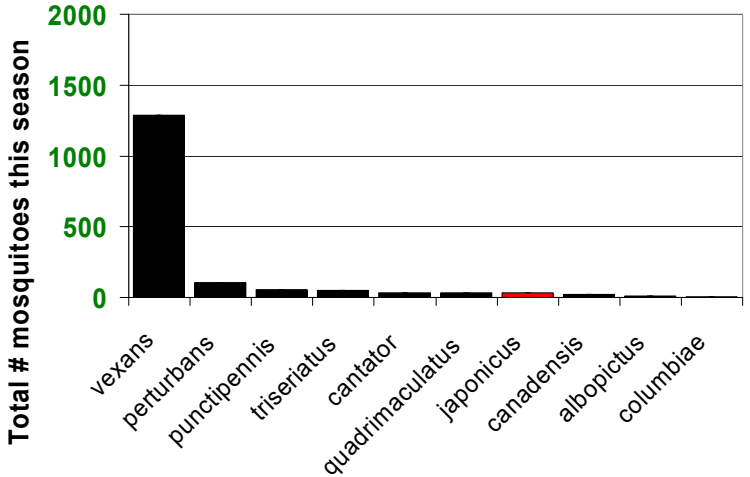
Coastal



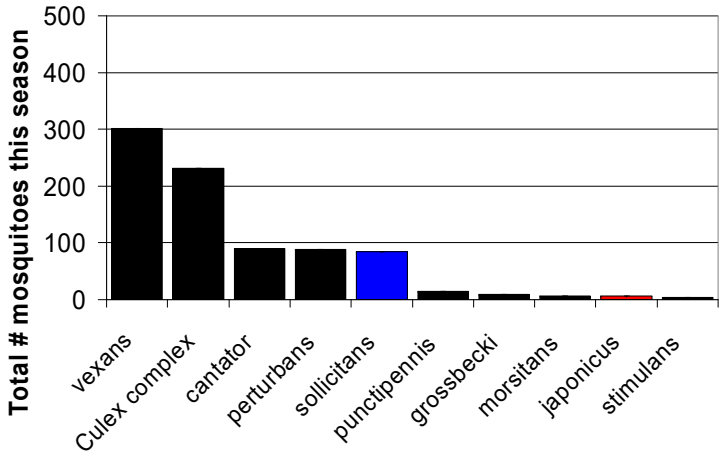
Delaware Bayshore



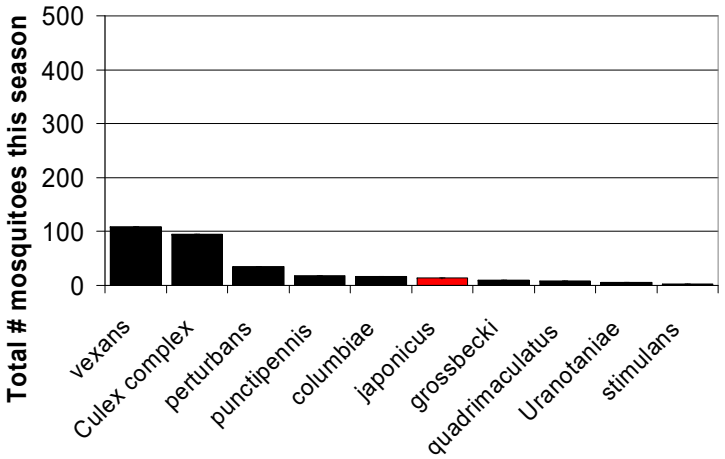
Delaware River Basin



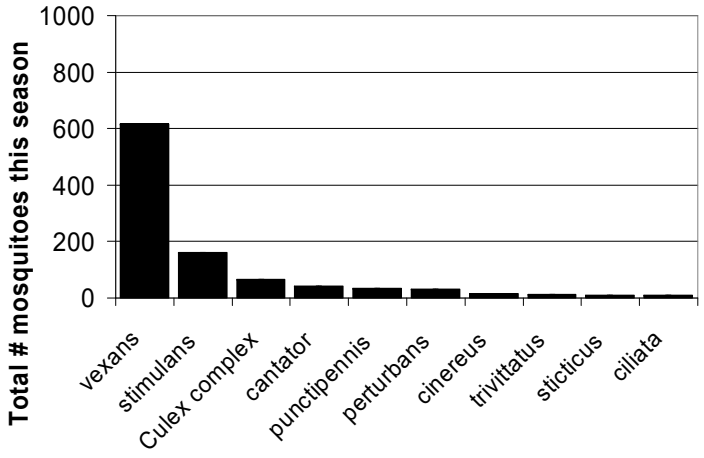
New York Metro



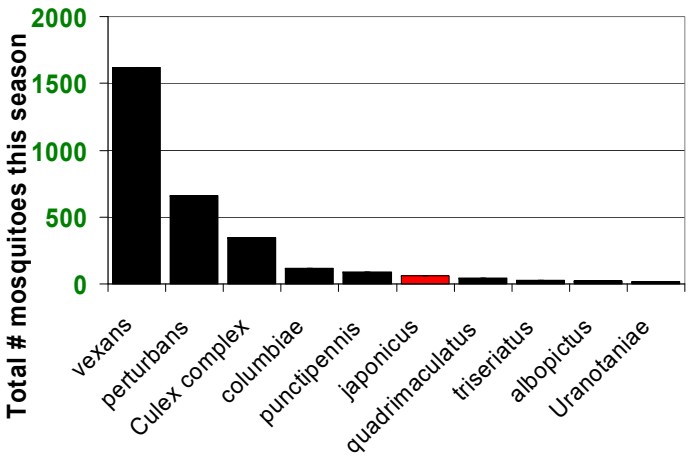
North Central Rural



North West Rural



Philadelphia Metro



Pinelands	Suburban Corridor