NEW JERSEY STATEWIDE SURVEILLANCE

Week 36 Report for 31 August to 6 September, 2005

Submitted by Lisa M. Reed
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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.

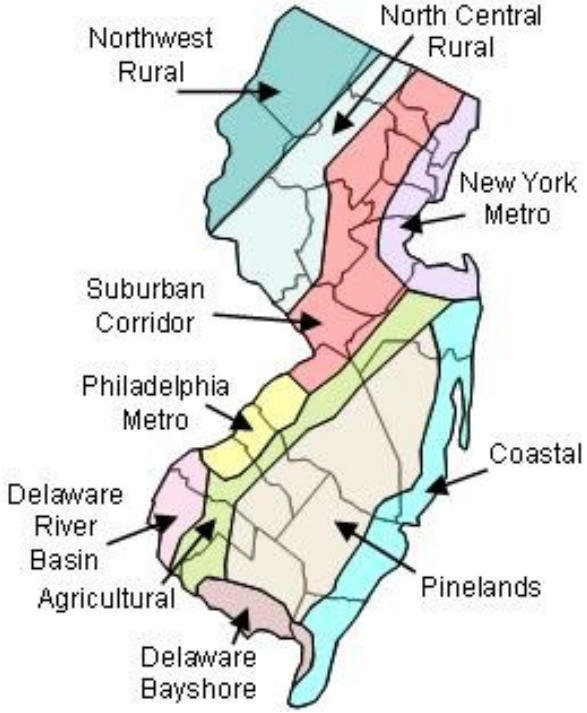


Figure 1b. Trap lat-long locations.

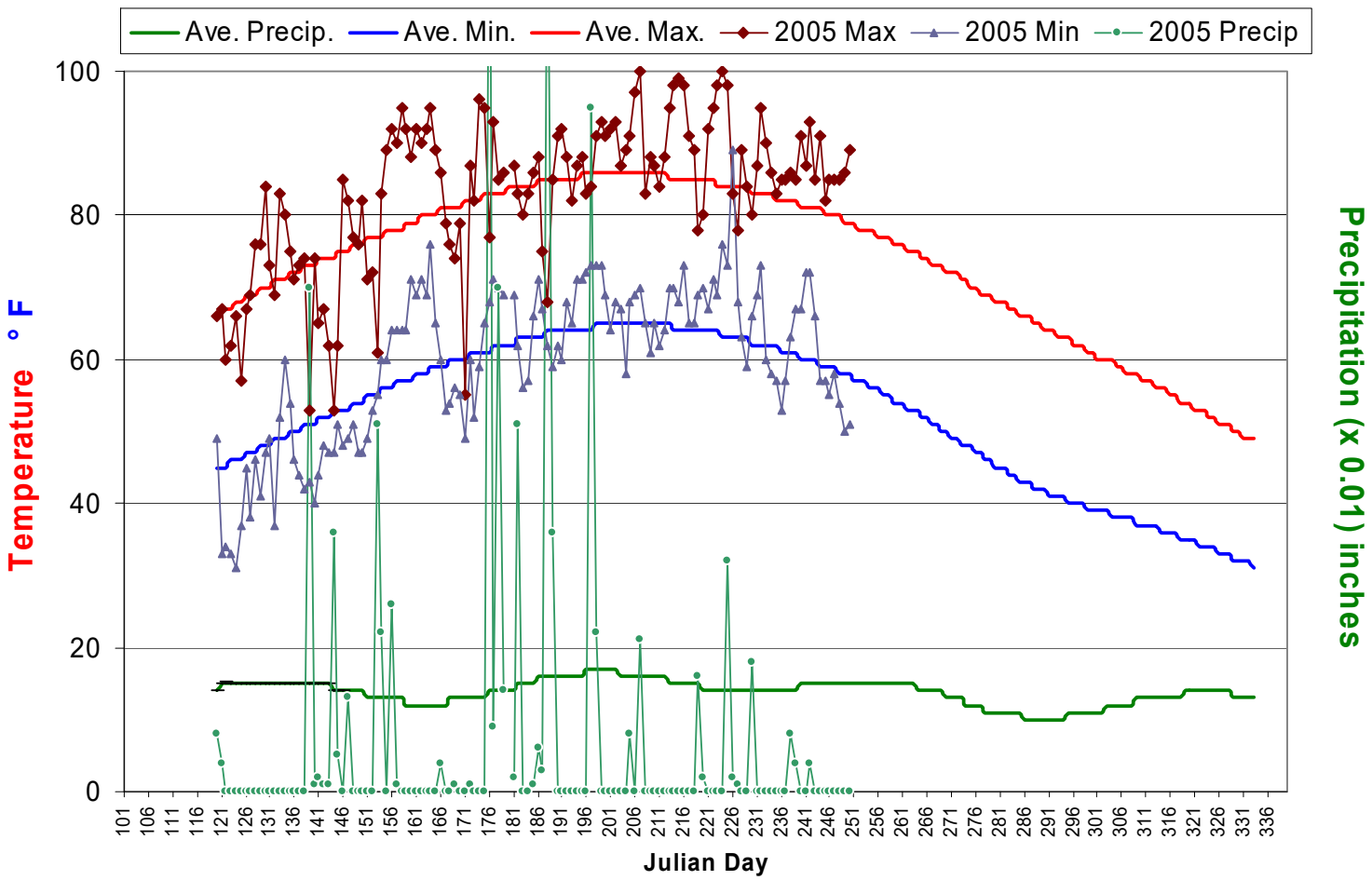
Summary table – Week 36

	Aedes vexans		*Culex complex*		*Coquillettidia perturbans*		*Ochlerotatus sollicitans*	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	**1.38**	**4.02**	**2.57**	**18.86**	**0.02**	**0.01**	**0.31**	**0.89**
Coastal	**0.97**	**4.41**	**2.03**	**3.83**	**3.94**	**0.05**	**19.25**	**14.88**
Delaware Bayshore	**0.17**	**1.93**	**31.05**	**9.73**	**0.95**	**0.35**	**7.64**	**10.36**
Delaware River Basin	**4.43**	**10.02**	**19.93**	**10.30**	**0.07**	**0.21**	**0.00**	**1.50**
New York Metro	**0.56**	**2.74**	**1.00**	**5.69**	**0.01**	**0.02**	**0.06**	**0.55**
North Central Rural	**0.12**	**1.50**	**0.14**	**0.93**	**0.00**	**0.00**	**0.00**	**0.00**
Northwest Rural	**0.76**	**12.83**	**0.38**	**5.95**	**0.00**	**0.07**	**0.00**	**0.00**
Philadelphia Metro	**4.14**	**8.98**	**1.05**	**4.49**	**0.05**	**0.21**	**0.00**	**0.00**
Pinelands	**0.77**	**3.04**	**0.94**	**4.22**	**0.21**	**0.15**	**0.09**	**0.09**
Suburban Corridor	**0.89**	**5.98**	**0.57**	**3.26**	**0.25**	**0.47**	**0.00**	**0.06**

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

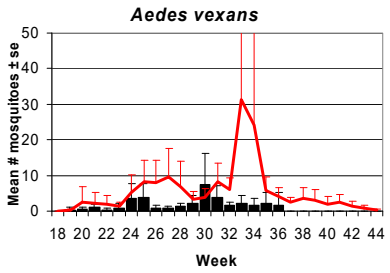
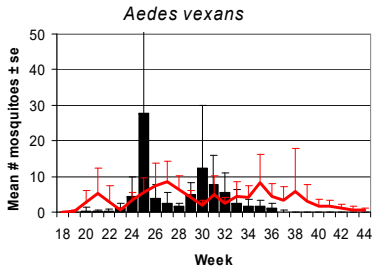
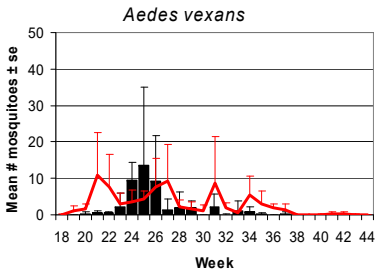
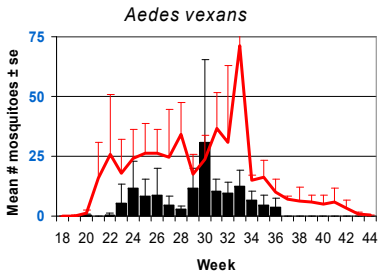
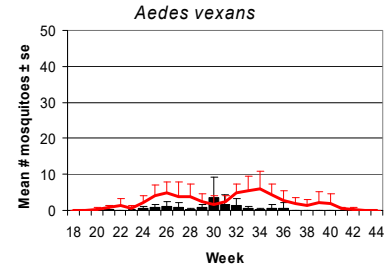
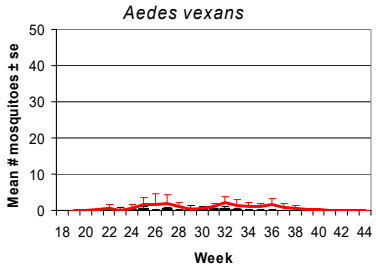
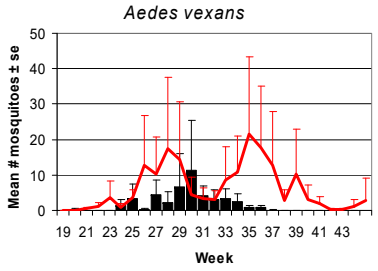
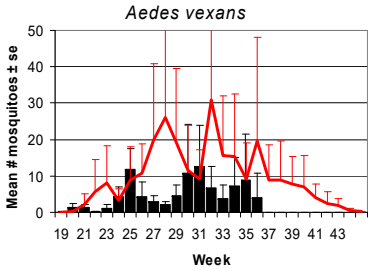
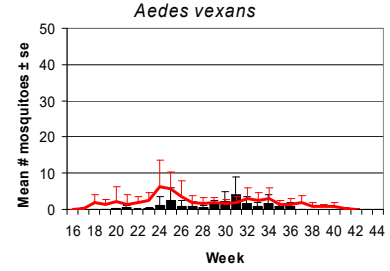
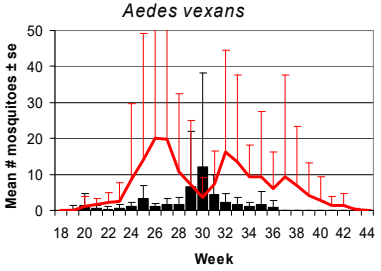
15 of 21 counties in current week; 20 of 21 counties reporting.

Climate Data

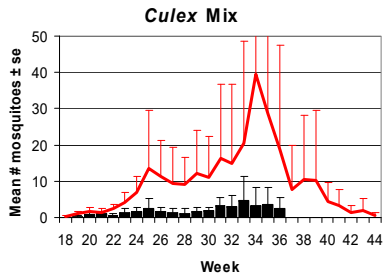
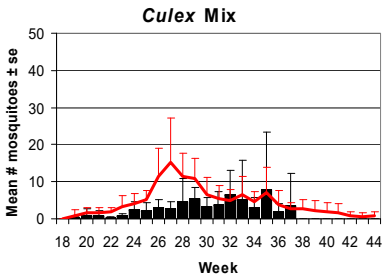
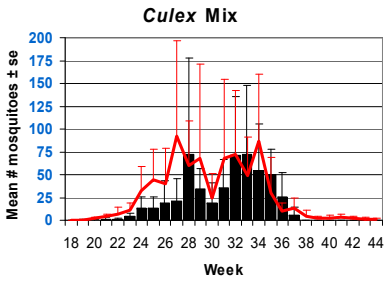
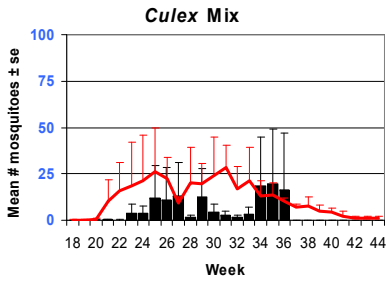
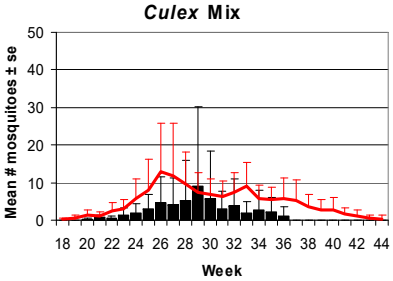
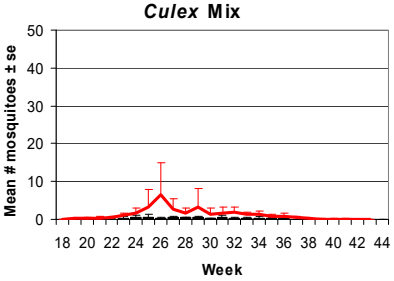
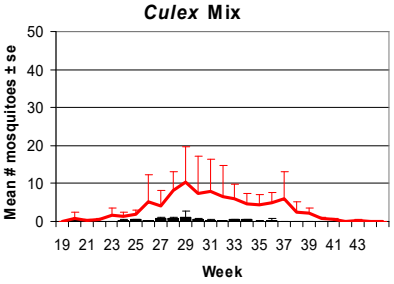
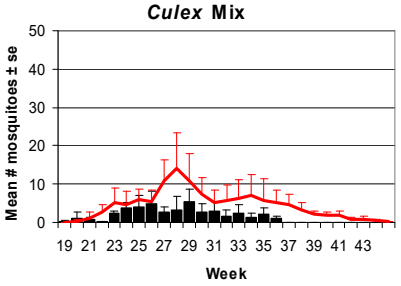
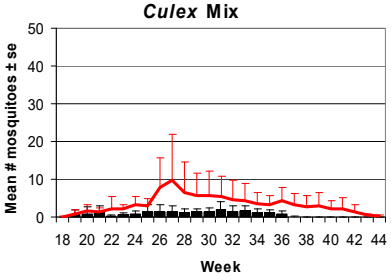
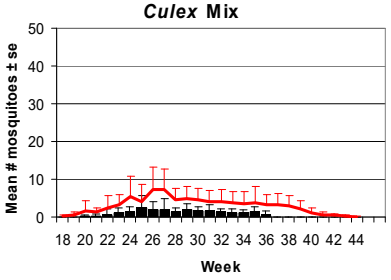


This figure shows historical average maximum and minimum temperatures and average precipitation recorded in the New Brunswick, NJ weather station over a recent 30 year period. Also graphed are the current year's minimum and maximum temperatures as recorded at the Hillsborough NJ weather station (a station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

Aedes vexans - Fresh Floodwater Species

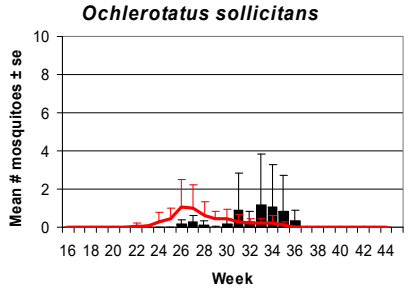
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		The season is definitely winding down with regard to the *Aedes vexans* populations levels. While there is still time for another emergence, history indicates that these later emergences are minor. Tropical depression Ophelia might bring some precipitation, but it will likely be too little and too late to provide the floodwater habitat for this species.	

Culex Complex - Multivoltine *Culex* Species

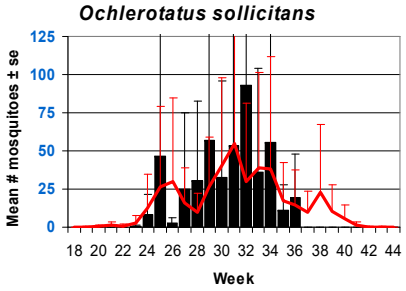
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		Population levels of the various *Culex* species appear to be dropping in most regions as the season progresses. The exception would be a significant emergence that appears to be ongoing in the Delaware River Basin, a likely habitat for *Cx. salinarius*. This species appears to exploit the brackish water habitats that form as a consequence of the freshwater impoundments created to hold dredged materials from the Delaware River.	

Ochlerotatus sollicitans - Salt Marsh Floodwater Species

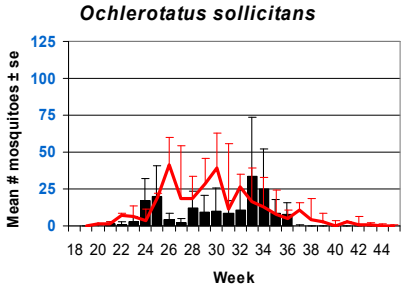
Agricultural



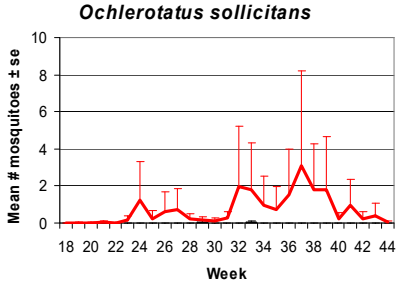
Coastal



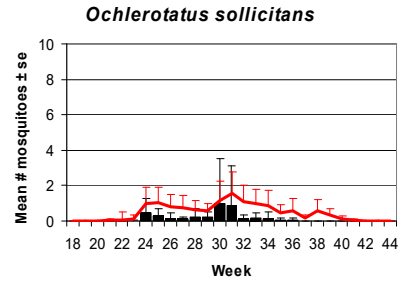
Delaware Bayshore



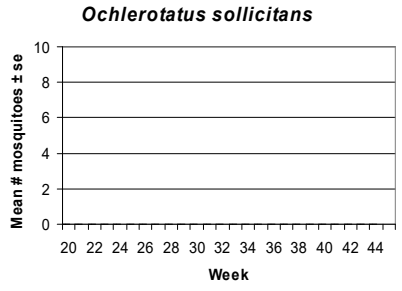
Delaware River Basin



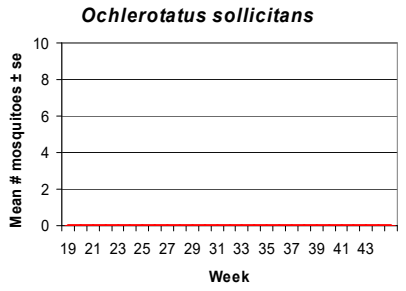
New York Metro



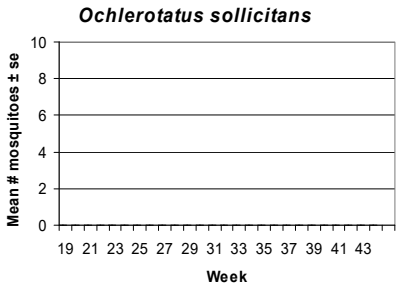
North Central Rural



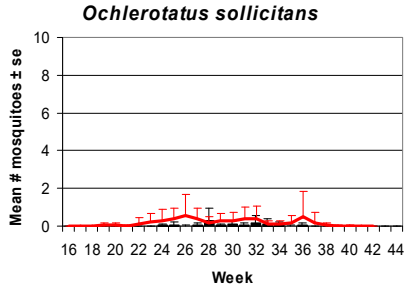
Northwestern Rural



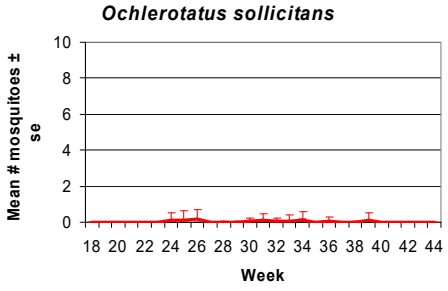
Philadelphia Metro



Pinelands



Suburban Corridor

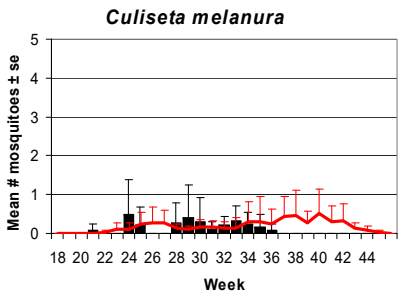


Comments

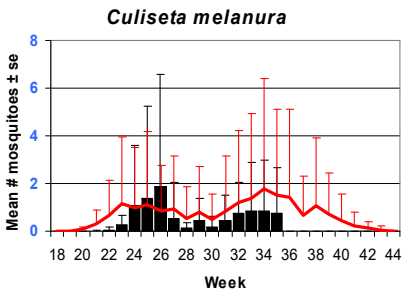
Ochlerotatus sollicitans populations continue to decline as the season advances. Note that complaints may be on the rise as their feeding activity changes from a night to daytime biting. As the feeding time shifts, the light trap data becomes less reflective of the true (daytime) biting population. Historical data in the Delaware River Basin suggests a small and variable presence (variability suggested by large error bars), and this year showed nearly no mosquitoes, except for Week 33.

Culiseta melanura – Miscellaneous Group

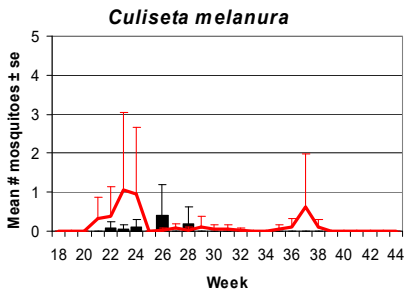
Agricultural



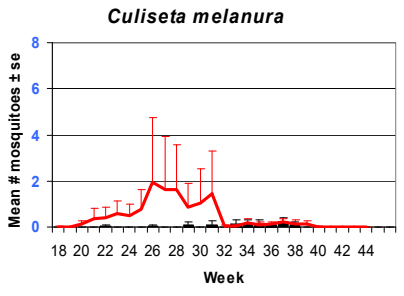
Coastal



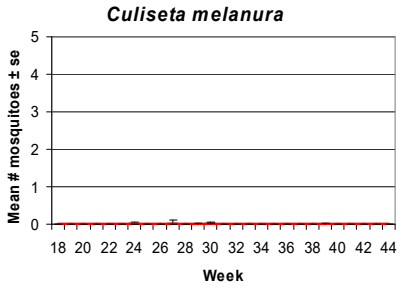
Delaware Bayshore



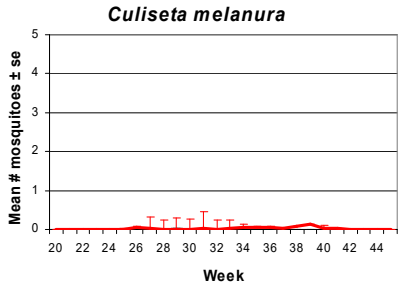
Delaware River Basin



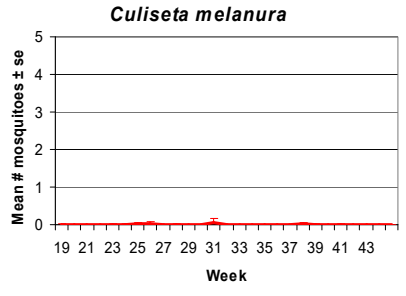
New York Metro



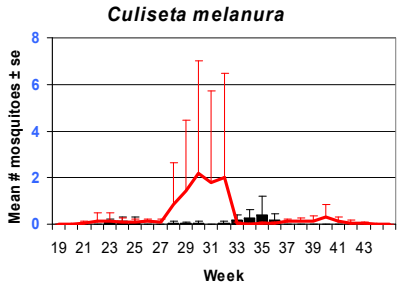
North Central Rural



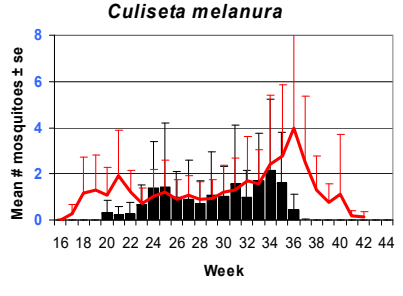
Northwestern Rural



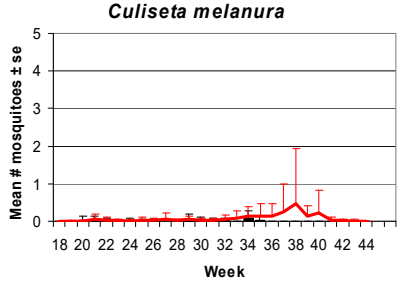
Philadelphia Metro



Pinelands



Suburban Corridor

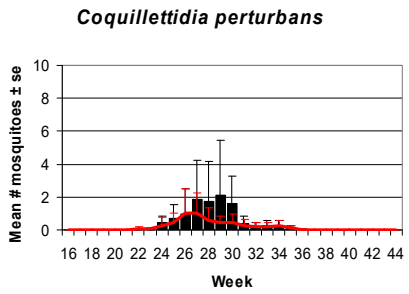


Comments

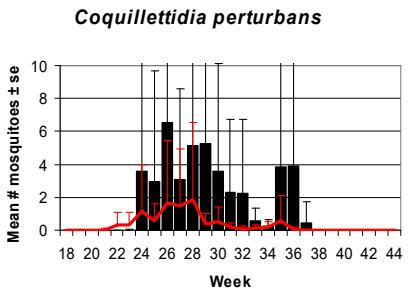
While population trends of *Culiseta melanura* are best measured by resting box activity, this current year's trends appear to match both historical and biological patterns for this species. This year has also seen a rash of EEE activity, with positive pools and vertebrate involvement. In his Vector Surveillance report of this week, Wayne Crans suggests that *Coquillettidia perturbans* may be responsible for later-season cases. Please see the corresponding graphs on the next page.

Coquillettidia perturbans – Monotypic Group

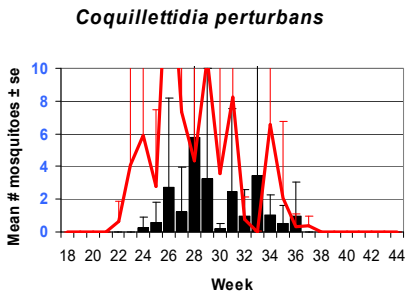
Agricultural



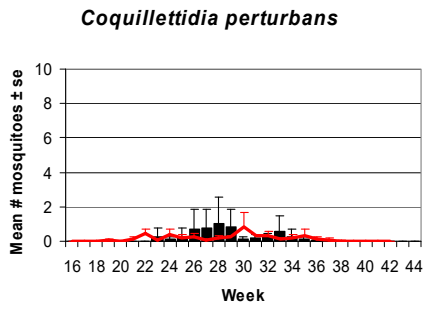
Coastal



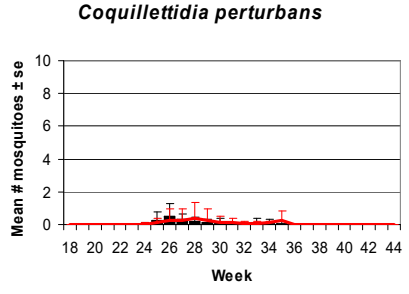
Delaware Bayshore



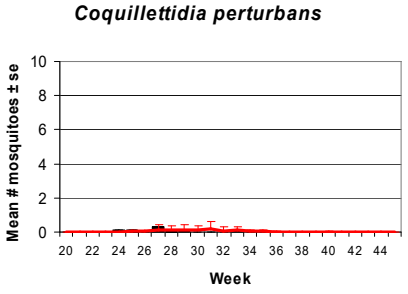
Delaware River Basin



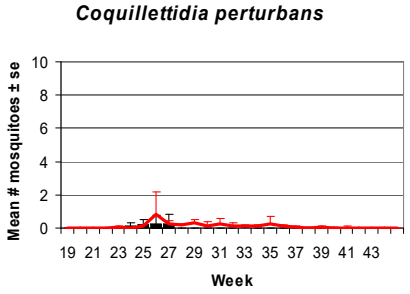
New York Metro



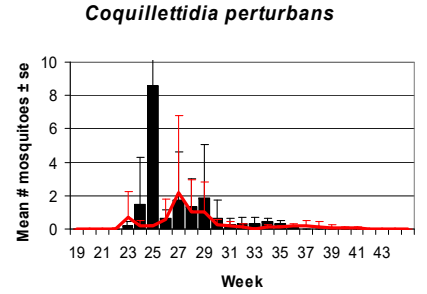
North Central Rural



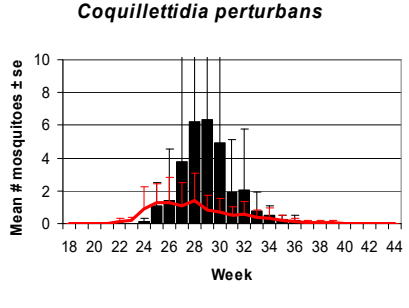
Northwestern Rural



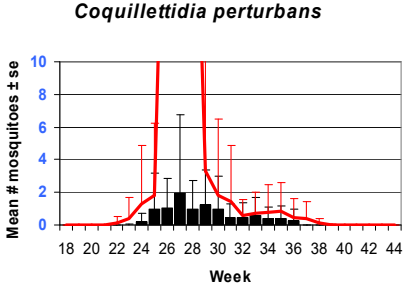
Philadelphia Metro



Pinelands



Suburban Corridor



Comments

Light trap data indicate that significant brood emergences of *Coquillettidia perturbans* occurred this year in regions as the Coastal and Pinelands regions. Additionally, there was a large emergence early in the season in the Philadelphia Metro region. The Agricultural also appears to have a variable (and sometimes larger) population as well. *Cq. perturbans* adults in the month of August and September are regarded as a primary vector of EEE to horses in the southern half of New Jersey. High populations should be reduced at this time to minimize possible equine involvement.