NEW JERSEY STATEWIDE SURVEILLANCE

Week 22 Report for 23 May to 31 May, 2005

Submitted by Lisa M. Reed
Mosquito Research and Control Unit
Rutgers University, New Brunswick, NJ 08901

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.

This is New Jersey Agricultural Experiment Station publication No. PT-08-40500-24-05 supported by Hatch funds and funding from the NJ State Mosquito Control Commission. Prepared by Lisa M. Reed.

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

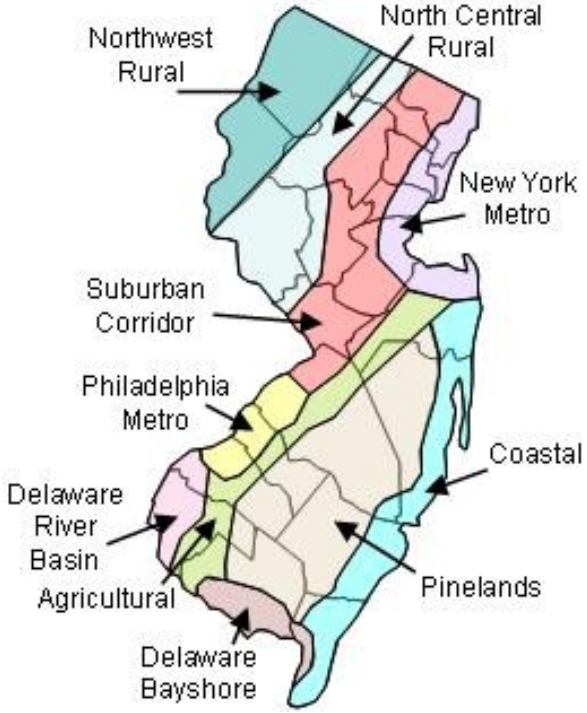


Figure 1b. Trap lat-long locations.

Summary table – Week 22

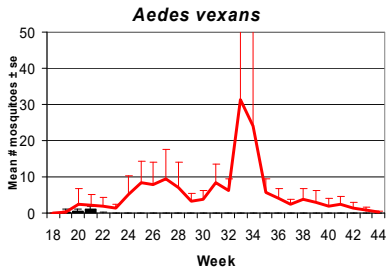
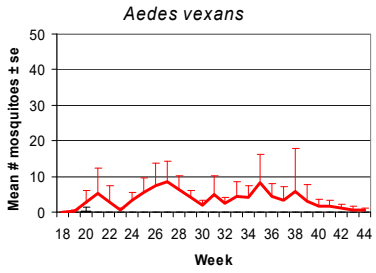
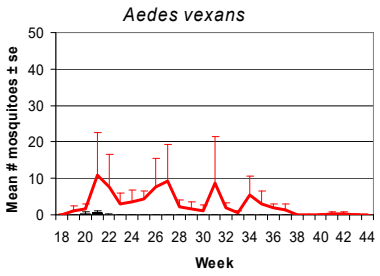
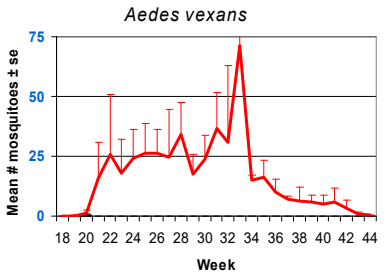
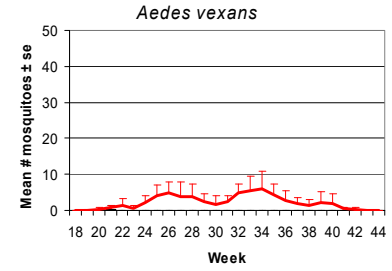
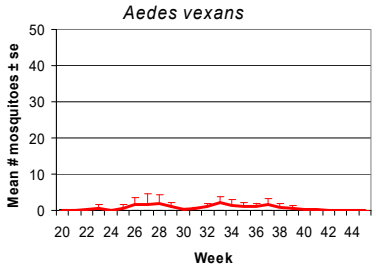
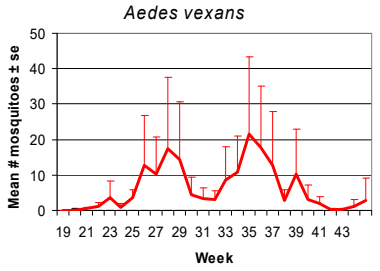
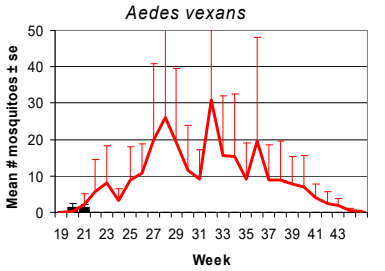
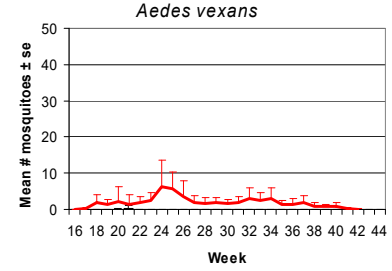
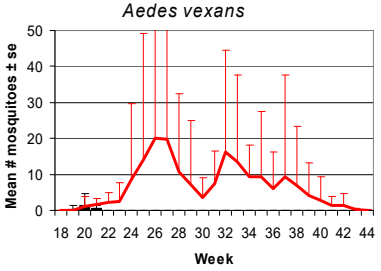
	Aedes vexans		*Culex complex*		*Coquillettidia perturbans*		*Ochlerotatus sollicitans*	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	**0.05**	**0.57**	**0.24**	**2.44**	**0.00**	**0.08**	**0.00**	**0.25**
Coastal	**0.00**	**2.78**	**0.00**	**1.84**	**0.00**	**0.03**	**0.00**	**1.03**
Delaware Bayshore	**0.12**	**7.64**	**0.69**	**6.67**	**0.00**	**0.65**	**0.93**	**6.44**
Delaware River Basin	**0.00**	**25.93**	**0.00**	**16.08**	**0.00**	**0.01**	**0.00**	**0.00**
New York Metro	**0.00**	**1.42**	**0.29**	**2.51**	**0.00**	**0.00**	**0.00**	**0.04**
North Central Rural	**0.00**	**0.42**	**0.00**	**0.32**	**0.00**	**0.00**	**0.00**	**0.00**
Northwest Rural	**0.00**	**3.57**	**0.00**	**1.55**	**0.00**	**0.05**	**0.00**	**0.00**
Philadelphia Metro	**0.00**	**8.16**	**0.02**	**5.16**	**0.00**	**0.70**	**0.00**	**0.00**
Pinelands	**0.00**	**2.09**	**0.09**	**2.26**	**0.00**	**0.11**	**0.00**	**0.06**
Suburban Corridor	**0.01**	**2.24**	**0.03**	**2.51**	**0.00**	**0.11**	**0.00**	**0.00**

Please Note: Historical data is being entered and not yet complete. These values and graphics will change as more data is entered.

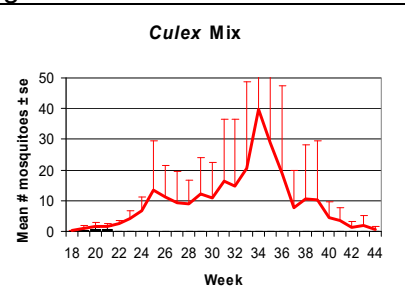
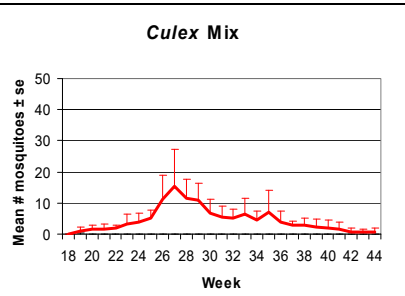
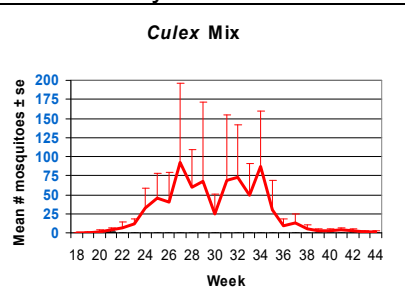
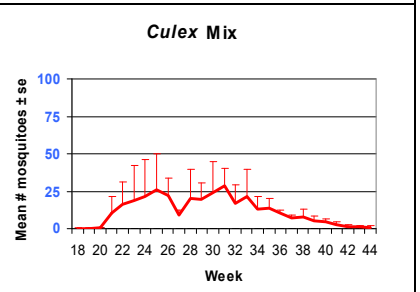
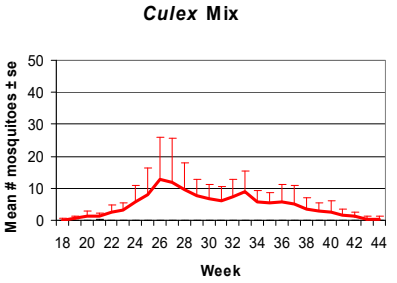
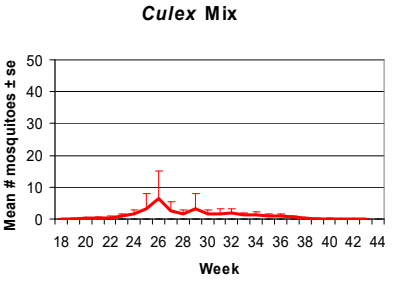
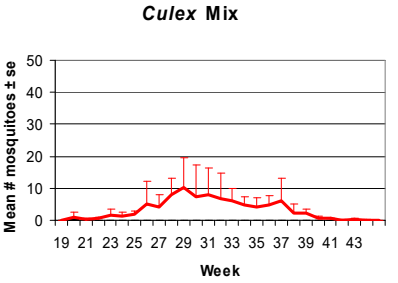
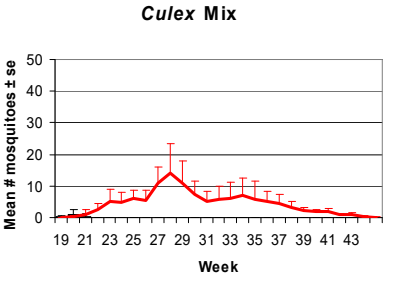
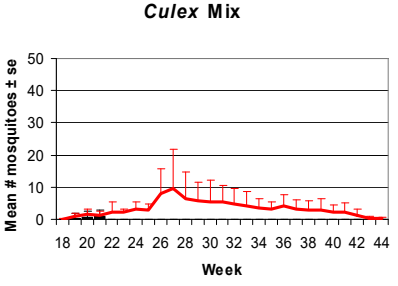
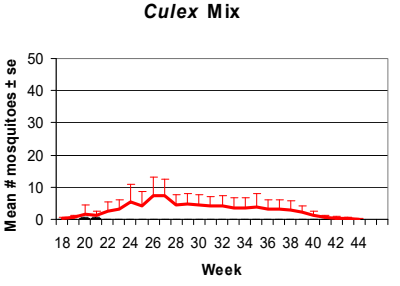
Graphs include *Ae. vexans, Culex* complex (*Cx. pipiens, Cx. restuans, and Cx. salinarius*), *Oc. sollicitans, Cs. melanura, Oc. japonicus, and Oc. cantator.*

7 of 21 counties in current week; 12 of 21 counties reporting. Please note that these values, while low, reflect the cooler weather we have been experiencing lately. In May, 21 days were cooler than normal. In addition, rains that occurred at the end of April stopped. This drier and cooler month has apparently suppressed adult activity. We expect an increase in participation as warmer weather develops.

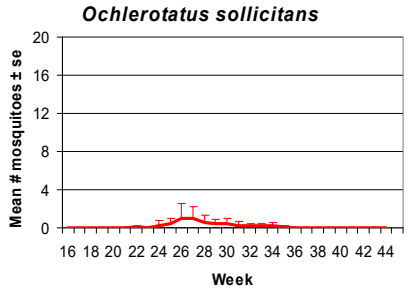
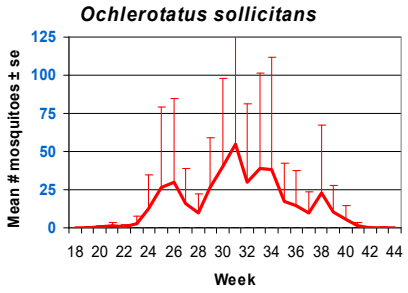
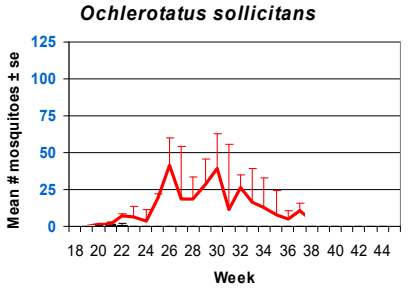
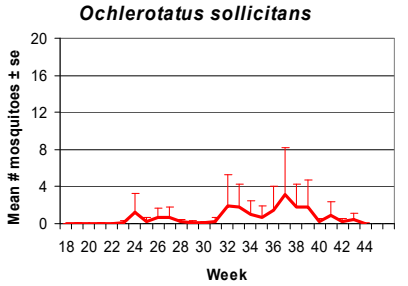
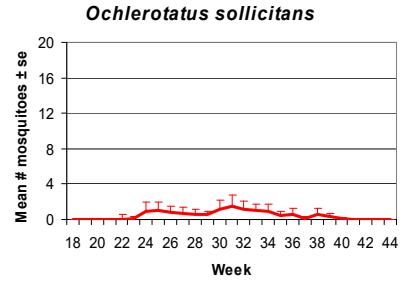
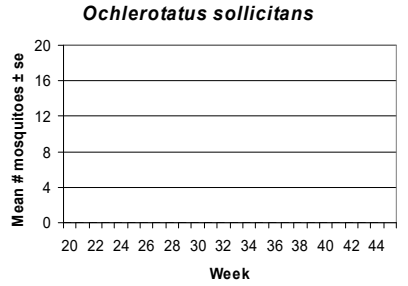
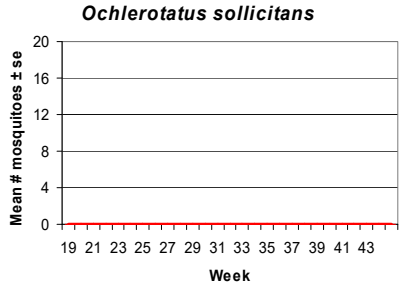
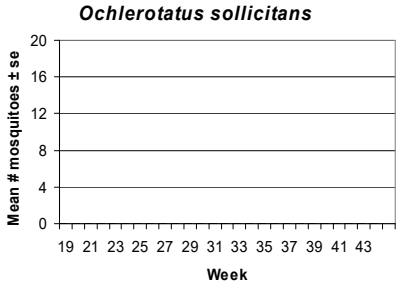
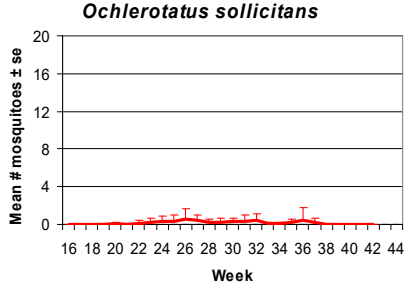
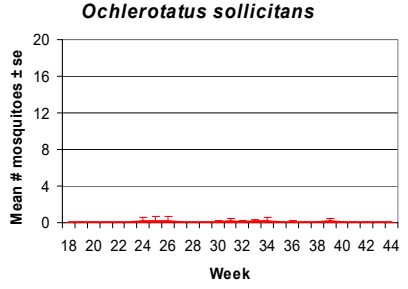
Aedes vexans - Fresh Floodwater Species

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Aedes vexans* appears to be in typical numbers (low) at this time of the season. But an examination of the Delaware Bayshore suggests that the cooler and drier weather has had an impact. Despite higher rainfall amounts for the first half of this year as compared to last year, the current month of May has experienced *lower* rainfall amounts than during May of last year. Thus, the critical rainfall for a moderate to large early-season *Ae. vexans* brood has not occurred this year. Current *Ae. vexans* populations are limited primarily to the Agricultural, Delaware Bayshore, Philadelphia Metro and Suburban Corridor regions.	

Culex Complex - Multivoltine *Culex* Species

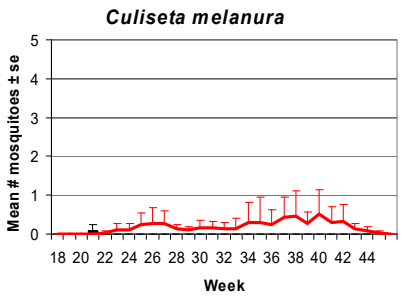
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Culex* populations continue to build slowly through the season. Exploitation of a variety of habitats (polluted to non-polluted or temporary to permanent, depending on the species) does not seem to diminish the general population pattern of slow build-up and then disappearance. During this early part of the season, *Culex* patterns appear to reflect historical patterns. In addition, the averages in the table show the continued presence of *Culex* while *Ae. vexans* clearly has dropped in several regions.	

Ochlerotatus sollicitans - Salt Marsh Floodwater Species

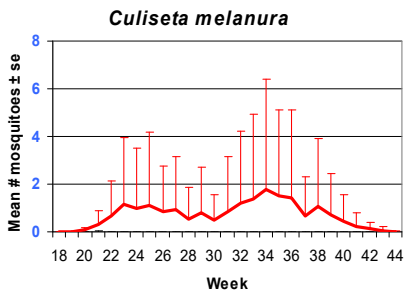
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Ochlerotatus sollicitans* are present in low number in the Delaware Bayshore region. The last lunar high tide (a flooding event that can trigger an egg hatch) occurred with the full moon of the 23 of May. *Oc. sollicitans* can be on the wing and biting from 5 to 12 days after hatching. Given the patterns of historical data and that the next high lunar tide will be with the new moon on the 6th of June, it would appear likely that the first major emergence would occur during Week 25 or 26.	

Culiseta melanura – Miscellaneous Group

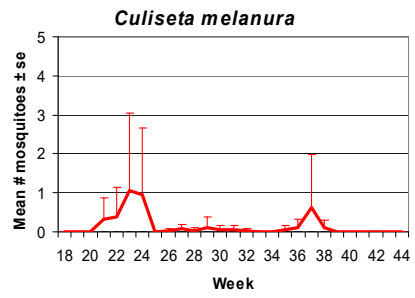
Agricultural



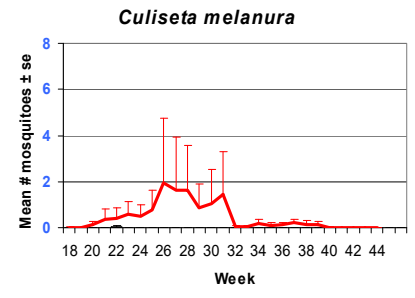
Coastal



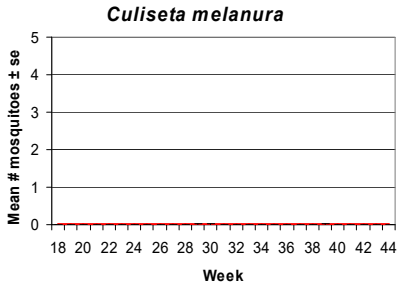
Delaware Bayshore



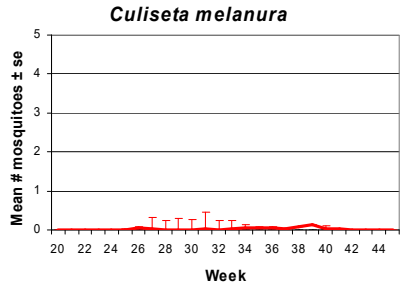
Delaware River Basin



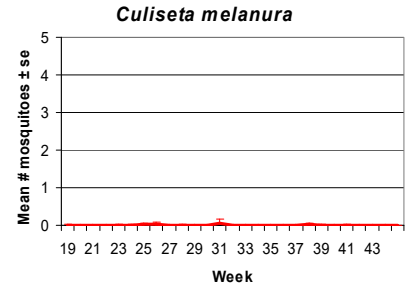
New York Metro



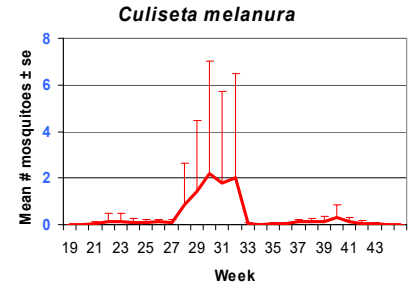
North Central Rural



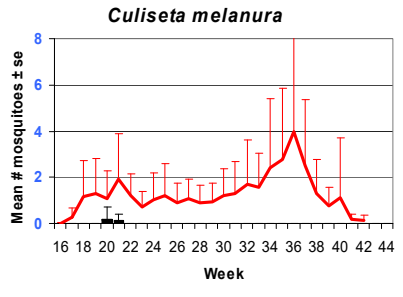
Northwestern Rural



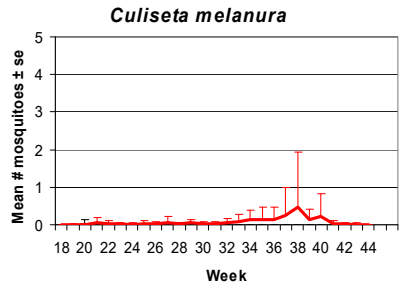
Philadelphia Metro



Pinelands



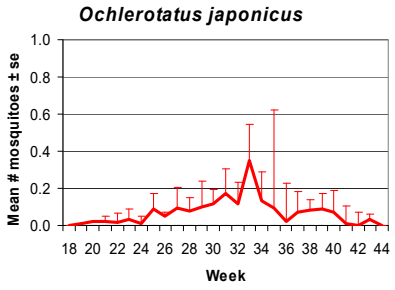
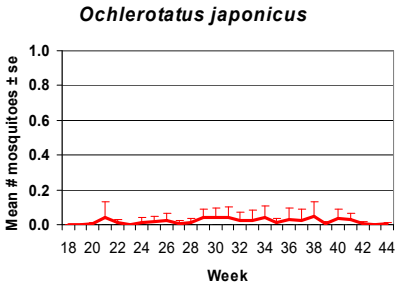
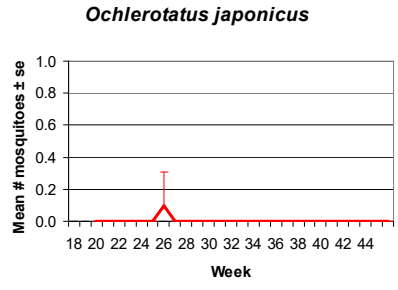
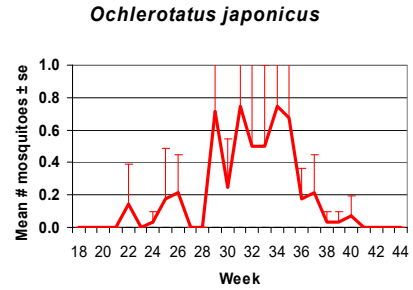
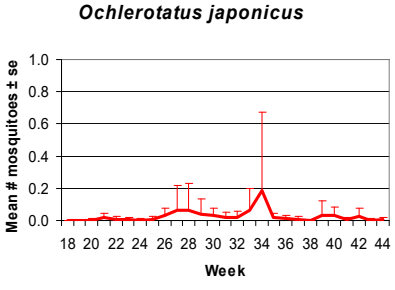
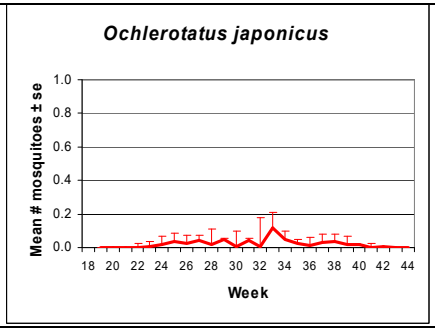
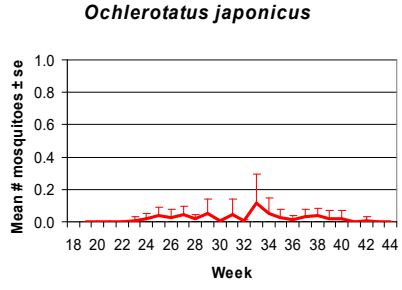
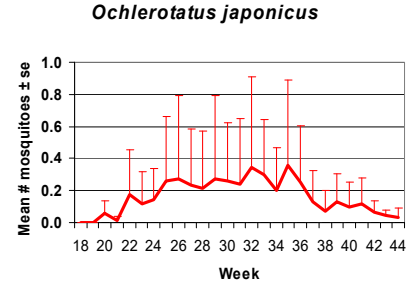
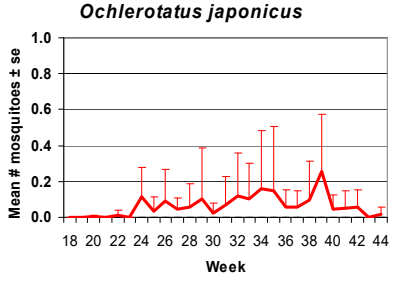
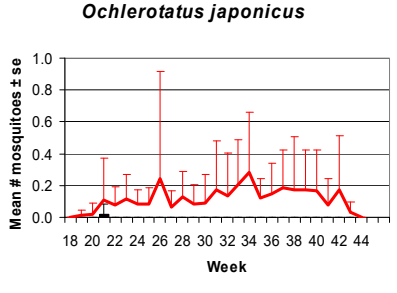
Suburban Corridor



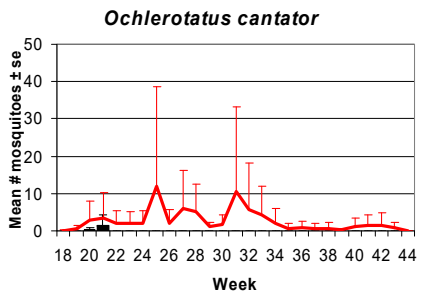
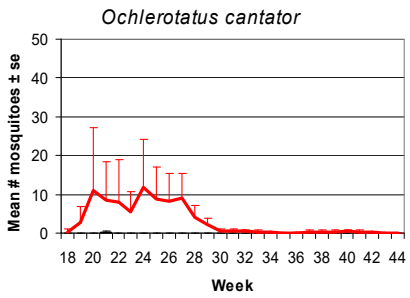
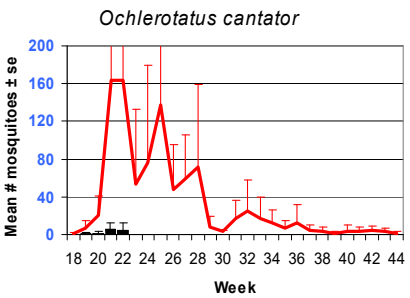
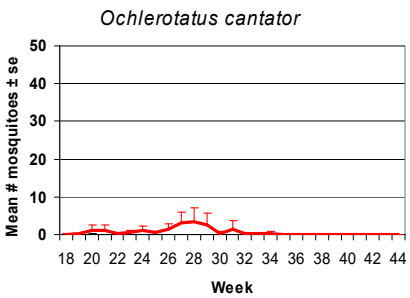
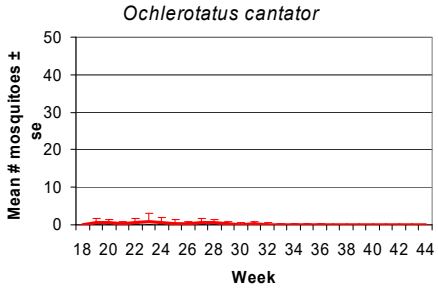
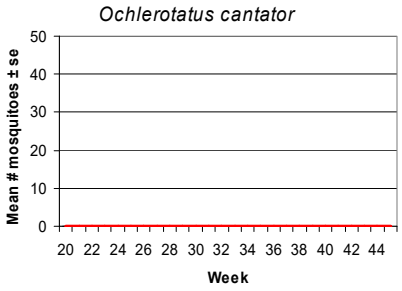
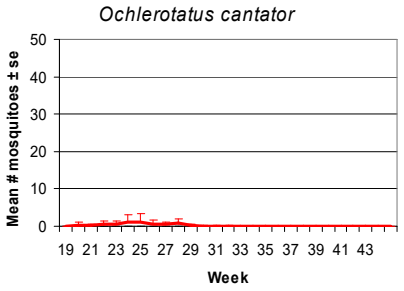
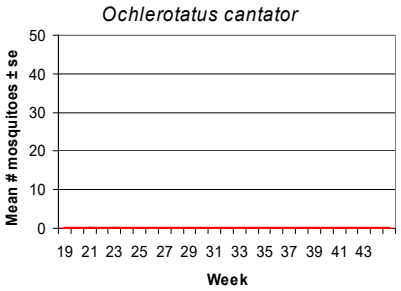
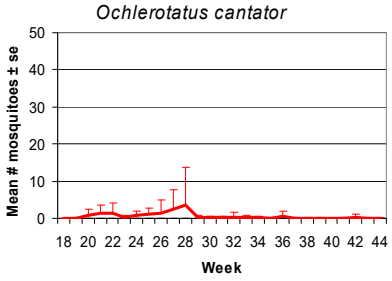
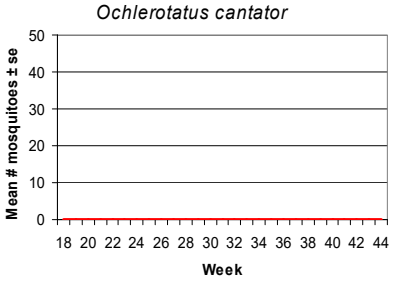
Comments

Culiseta melanura larval populations were very apparent on a scouting trip earlier this month. However, the current dataset suggests that a suppression of the population seems apparent. But we suspect, given the larvae observed at the beginning of the month, that the lack of adults found thus far reflect their reluctance to fly during the cooler-than-normal evenings that we have been experiencing.

Ochlerotatus japonicus – Multivoltine Aedine

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Oc. japonicus* numbers continue to remain low, being reported from only one county to date. This is in marked contrast to the previous year and would seem to belie both the cold-tolerant nature of this species and the rapid range expansion of the previous year.	

Ochlerotatus cantator – Saltmarsh Floodwater Species

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		*Oc. cantator* appears to be an indicator of the suppressive effects of drier and cooler weather during the past month. Populations are considerably depressed in comparisons with historical data, particularly in the Delaware Bayshore and Coastal regions. More favorable weather may stimulate population increases, placing *Oc. cantator* in the likely losing position of competition with *Oc. sollicitans*.	