VECTOR SURVEILLANCE SUMMARY SHEET

EEE and WNV in New Jersey

WEEK 1: June 3 -9, 2007

RUTGERS THE STATE UNIVERSITY OF NEW JERSEY

Culiseta melanura (Coquillett) and Eastern Equine Encephalitis

Coastal Resting Boxes						Inland Resting Boxes					
Sites	Mean From Previous Years	No. Per Box For This Collection	Total Collected to Date*	Total Pools Submitted to Date*	EEE Isolations To Date	Sites	Mean From Previous Years	No. Per Box For This Collection	Total Collected to Date*	Total Pools Submitted to Date*	EEE Isolations To Date
Green Bank (Burlington Co.)	2.3	0.43	52	5	-	Waterford (Camden Co.)	2.5	0.92	61	5	-
Corbin City (Atlantic Co.).	1.5	2.12	96	8	-	Centerton (Salem Co.)	2.6	1.48	126	8	-
Dennisville (Cape May Co.)	7.2	1.94	493	17	-	Turkey Swamp (Monmouth Co.)	0.8	1.40	85	7	-

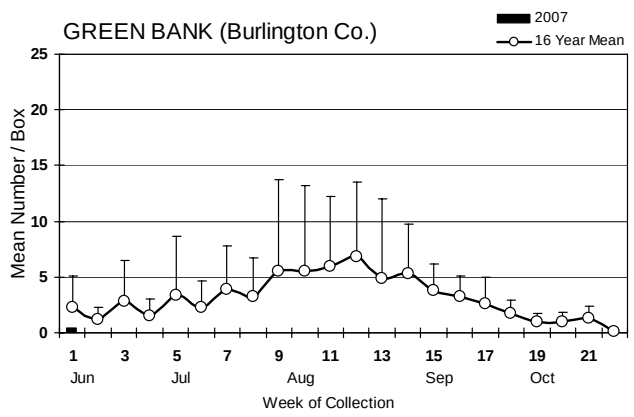
*Including trial run last week in May.

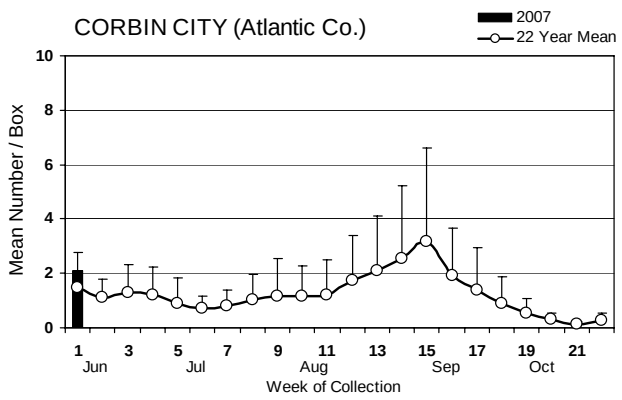
Remarks: *Culiseta melanura* populations at all sites are showing activity as expected for this time of year. Adults of the overwintering 4th instar larvae have emerged. This emergence may have happened earlier on the coastal sites as Green Bank and Dennisville are showing a decrease in average numbers per box from the trial run at the end of May to this first week. In fact, Dennisville's average during the trial run was 8.12 mosquitoes per resting box as compared to one week later at 1.94. At the four remaining sites (all inland plus Corbin City), population numbers were higher this current week than during the trial run. Should trends continue to show a distinctive early population emergence, then this would indicate a significant portion of the overwintering population were in the fourth instar stage with little mortality occurring during the winter. Should the overwintering population be composed of a significant portion of earlier stages, then the distribution of emerging adults would be spread over the first portion of the season, and the bivoltine nature of *Cs. melanura* at this latitude would not be as evident. This distribution is even more distinctive in the graphs of the adult surveillance program, particularly of the Pinelands *melanura* distribution.

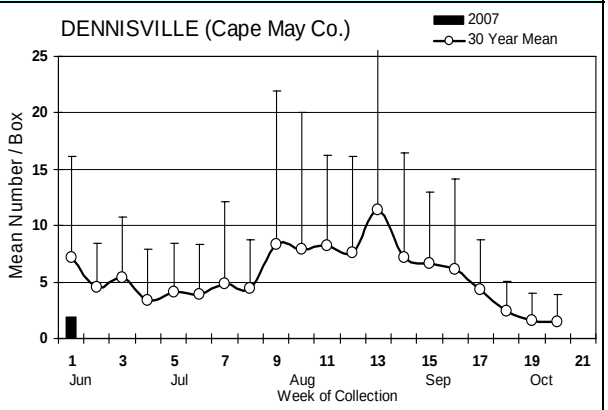
Supported by funding from the NJ State Mosquito Control Commission. Summary Prepared by Lisa M. Reed, Scott Crans and Dina Fonseca at the Center for Vector Biology, Rutgers University

Culiseta melanura Population Graphs

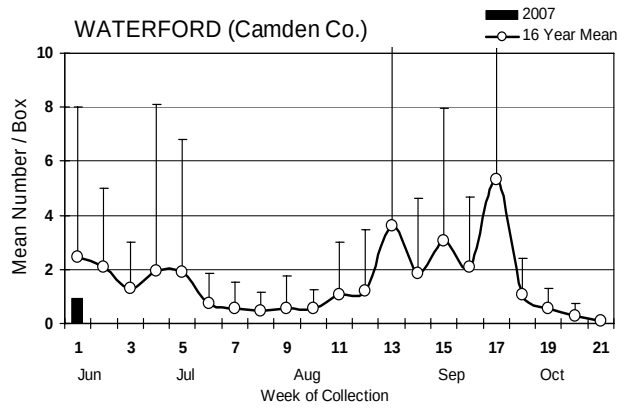
Coastal

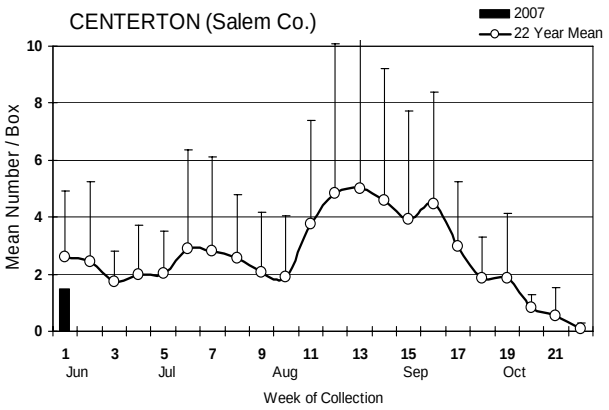


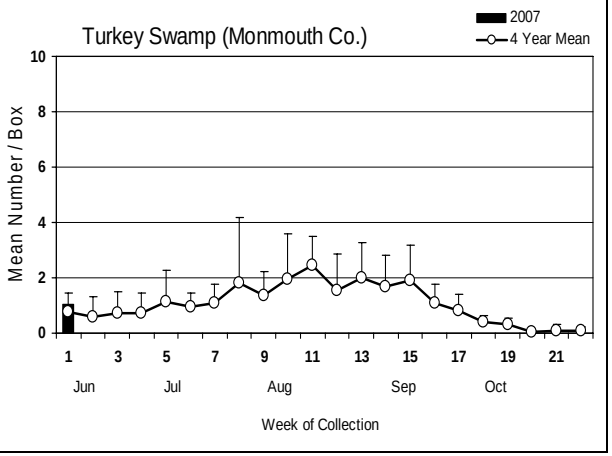




Inland







Here in New Jersey, a typical seasonal distribution of *Cs. melanura* can have three components. The first cohort that emerges is composed of overwintering 4th instar larvae. The 3rd and sometimes 2nd overwintering instars may follow as a specific emergence (as seen in Centerton's historical trends) or may meld into the overall seasonal pattern (Turkey Swamp). The last emergence is the cohort comprised from eggs laid by mosquitoes that emerged in the beginning of the year (a bivoltine strategy). Wayne Crans has noted that EEE amplification is usually most intense here in New Jersey when a large 2nd emergence occurs in late July or early August.

Last year, *Cs. melanura* populations were below historical trends, yet EEE activity was recorded once in Late August, and subsequently a horse was diagnosed with EEE one week later.

Mosquito Species Submitted for West Nile Virus Testing through 8 June 2007

Species	Pools	Mosquitoes	Positives
Culiseta melanura	46	913	**0**
Aedes canadensis canadensis	1	3	**0**
Grand Total	**47**	**916**	**0**

Remarks: Collection efforts will accelerate over the next several weeks with county programs focusing on areas that usually produce high *Culex* populations.

Protocol: New Jersey Department of Health and Senior Services testing of mosquito samples are done using RT-PCR Taqman techniques.

Submission for West Nile Testing by County through 8 June 2007

County	Species	Pools	Mosquitoes	Positives
Atlantic		8	96	0
	Culiseta melanura	8	96	
Burlington		5	52	0
	Culiseta melanura	5	52	
Camden		5	61	0
	Culiseta melanura	5	61	
Cape May		14	493	0
	Culiseta melanura	14	493	
Monmouth		7	85	0
	Culiseta melanura	7	85	
Salem		8	129	0
	Culiseta melanura	7	126	
	Aedes canadensis canadensis	1	3	
Grand Total		47	916	0