VECTOR SURVEILLANCE SUMMARY SHEET

WEEKS: 1 & 2

Culiseta melanura Monitor

June 3 -16, 2006

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.)	**2.4 / 1.2 ***	**0.7 / 0.6**	**64**	**8**	**-**	**Waterford (Camden Co.)**	**2.6 / 2.2**	**0.1 / 0**	**6**	**3**	**-**
Corbin City (Atlantic Co.).	**1.5 / 1.1**	**1.1 / 0.5**	**61**	**12**	**-**	**Centerton (Salem Co.)**	**2.6 / 2.6**	**0.4 / <0.1**	**23**	**4**	**-**
Dennisville (Cape May Co.)	**7.0 / 4.6**	**13.2 / 3.1**	**815**	**18**		**Turkey Swamp (Monmouth Co.)**	**1.1 / 0.2**	**0.2 / 0.2**	**18**	**7**	**-**

*** Week 1 / Week 2 Collections**

Remarks: *Culiseta melanura* populations are currently well below normal at NJ's inland study sites compared to long-term means. The populations at coastal study sites appear to be somewhat higher based on the limited number of collections that have been made to date. The Week 1 collections at Dennisville suggest that sampling was conducted shortly after a local cohort emerged in that area. The reduction in numbers the following week probably represents normal dispersal. *Culiseta melanura* has a fairly distinctive bi-voltine life cycle at our latitude. As a result, early season *Cs. melanura* numbers are a function of the larval population that overwintered in the immediate area. High spring populations are indicative of an overwintering population composed primarily of 4th instar larvae. Low spring populations either suggest mortality during the winter months or an overwintering cohort composed largely of 2nd or 3rd instar larvae. Most of the long-term means compiled for NJ study sites show an early season peak (emergence of 4th instar larvae) followed by slowly rising populations (emergence of later instar larve) from late June into early July. The population peaks that are evident for all sites in August and September represent the cohort produced by eggs laid by the spring generation of adults. Emergence patterns over the next several weeks will give us an idea of the composition of this year's *Cs. melanura* populations as well as the potential for EEE amplification.

Results are not yet available for NJ's WNV surveillance effort. Collection efforts will accelerate over the next several weeks with county programs focusing on areas that usually produce high *Culex* populations.

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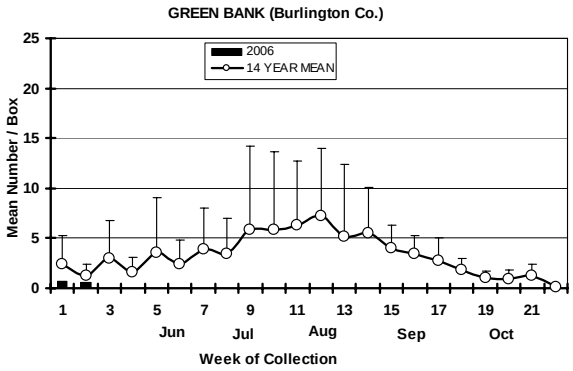
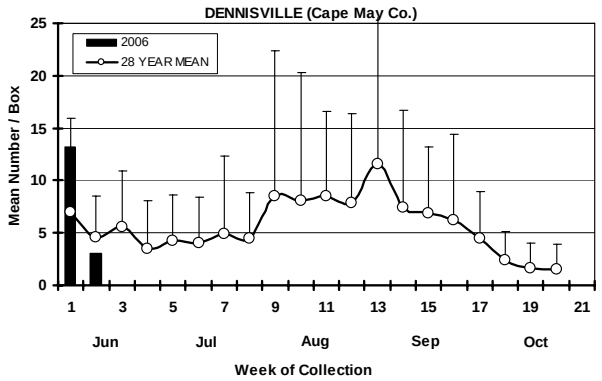
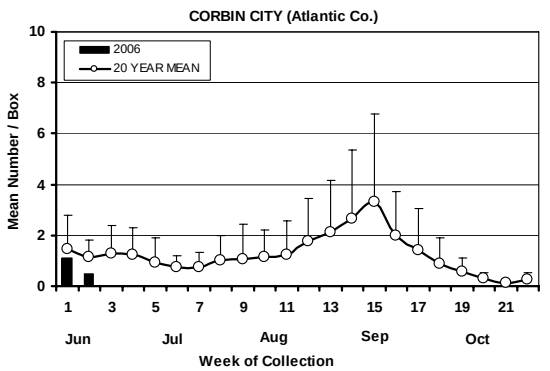
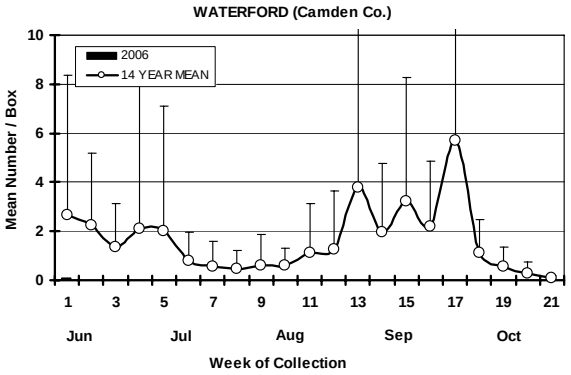
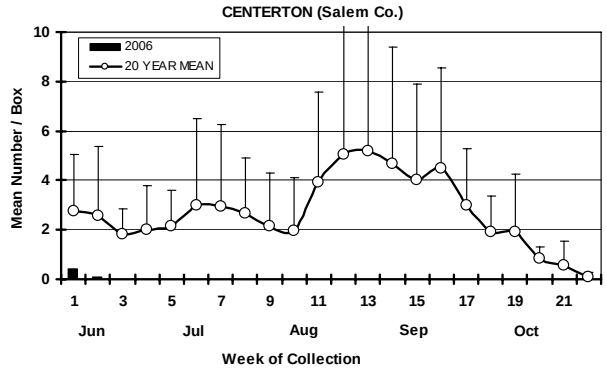
Culiseta melanura Population Graphs

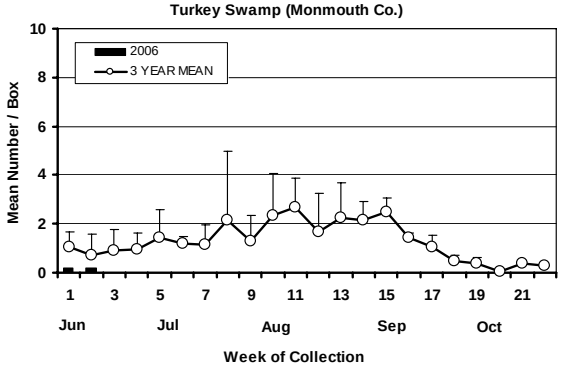












The 20 year population mean at the Centerton study site provides the clearest pattern of typical bi-voltine emergence for *Cs. melanura:* 1) an early peak in June, representing larvae that overwintered in the 4th instar, 2) rising numbers in June, representing larvae that overwintered in earlier instars, and, 3) a major peak in August and September, representing the cohort produced from eggs laid by the spring generation. The timing of the late season cohort appears to be extremely important for EEE amplification. Nulliparous *Cs. melanura* in the presence of hatch-year birds favor amplification of EEE. As a result, EEE amplification is usually most intense when a large 2nd cohort emerges in late July or early August.