

# VECTOR SURVEILLANCE IN NEW JERSEY

## EEE, WNV, SLE and LAC

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### *Culiseta melanura* and Eastern Equine Encephalitis

SITE/Boxes	Inland / Coastal	Historic Population Mean	Current Weekly Mean	Total (Collected) Tested*	Total Pools (Submitted) Tested	EEE Isolation Pools	MFIR
Bass River (Burlington Co.)/5	Coastal	0.1	0	2	1		
Green Bank (Burlington Co.)/25	Coastal	0.96	0.04	5	1		
Corbin City (Atlantic Co.)/25	Coastal	1.13	0.16	8	2		
Dennisville (Cape May Co.)/50	Coastal	3.97	0.18	13	2		
Winslow (Camden Co.)/50	Inland	2.64	0.60	30	1		
Centerton (Salem Co.)/50	Inland	2.13	0.52	26	1		
Turkey Swamp (Monmouth Co.)/42	Inland	0.52	Not collected	27	3		
Glassboro (Gloucester Co.)/50	Inland	0.69	0	0	0		

\*Current week results pending.

**Remarks:** Currently, there are no positive EEE pools of *Cs. melanura* at the traditional resting box sites. Activity levels are relatively low (see population graphs, page 3).

To date 107 *Cs. melanura* from 10 pools have been tested from the traditional resting box sites for an MFIR of 0. Because of the patterns of collection and testing, there are pools submitted in the above table that are not reflected in the total numbers tested to date. There has been no detection of EEE in any samples collected in the state.

**Additional *Cs. melanura*:** Seventeen additional pools containing 349 *Cs. melanura* have been tested from other sites using other traps in addition to resting boxes. No positive *Cs. melanura* pools from these sites have been detected.

<b>Additional <i>Cs. melanura</i> trapped by counties</b> *traps with positives indicated in <b>BOLD</b> .				
<b>County</b>	<b>Trap types*</b>	<b>Number collected (pools)</b>	<b>Number of positives pools</b>	<b>MFIR</b>
Burlington	CO <sub>2</sub>	237(5)		
Cape May	Gravid, RB	9(2)		
Gloucester	RB	85(5)		
Monmouth	CO <sub>2</sub>	14 (2)		
Ocean	CO <sub>2</sub> , RB	4 (3)		
<b>TOTAL</b>		<b>349 (17)</b>	<b>0</b>	0.00

**Additional Species:** The table below indicates non-*Cs. melanura* mosquitoes tested for EEE. Last year, *Culex erraticus*, a known enzootic vector and potential bridge vector, was found positive. Last week's numbers for *Culex restuans* was in error and have been updated. Currently, no other species have been found positive.

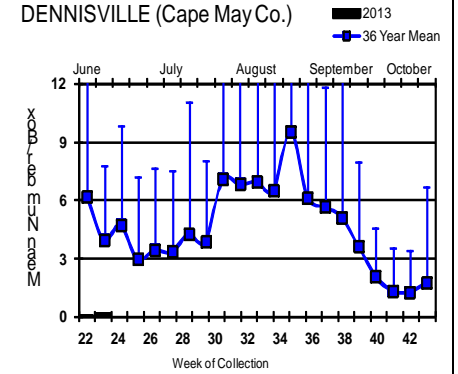
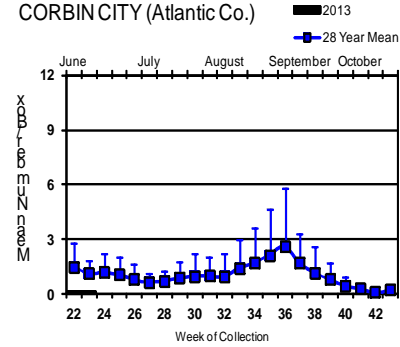
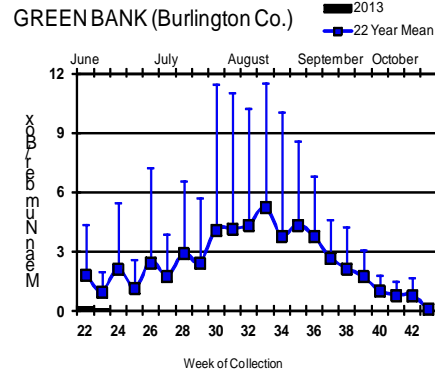
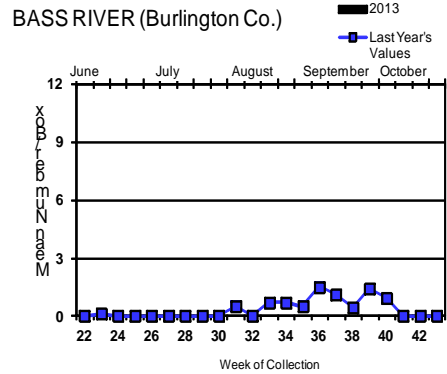
<b>Species other than <i>Cs. melanura</i></b>	<b>Pools</b>	<b>Mosquitoes</b>	<b>Positives</b>	<b>MFIR</b>
<i>Aedes cantator</i>	1	1		
<i>Culex pipiens</i>	10	45		
<i>Culex restuans</i>	1	1		
<i>Culex</i> spp.	3	8		
State Total	<b>15</b>	<b>55</b>	<b>0</b>	<b>0.00</b>

**Horses and Humans:** Currently there is no reported horse, other livestock or human cases.

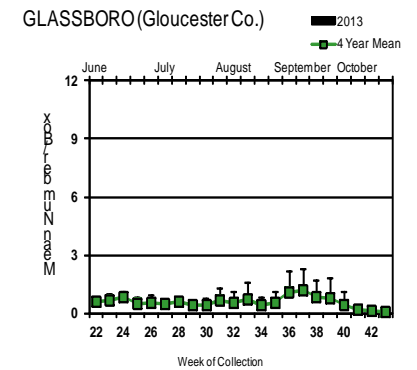
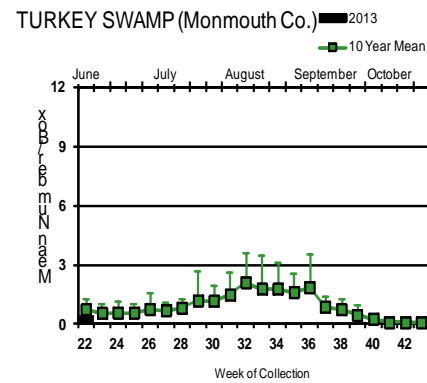
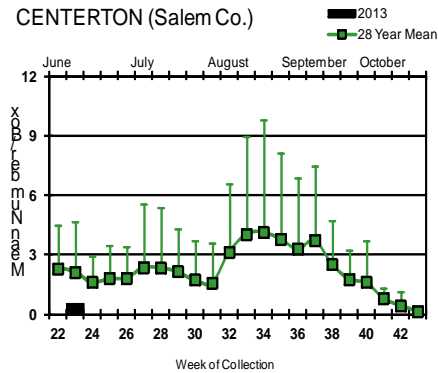
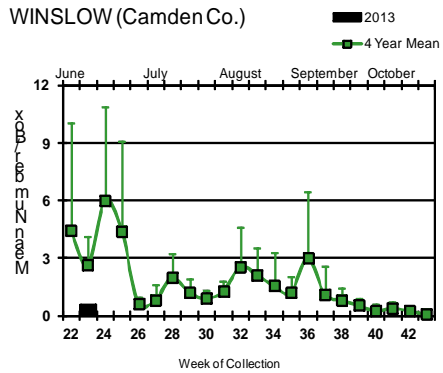
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: [http://www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm)

# Culiseta melanura Population Graphs

## Coastal



## Inland



This week's populations of *Cs. melanura* remain low compared to historical values at the traditional resting box sites.

= Positive pool(s) detected (red = melanura, purple = other).

EEE in US (2013 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: 2(GA) 7 (FL)
- mosquito pools:
- sentinel: 24/3 wild (FL)
- human: 2 (FL)

## West Nile Virus

West Nile in US (2013 cumulative cases): Single black values indicate no change from previous week. Black values / red values equals previous week/**New totals**.  
 Note: Data reported by all states should be considered provisional and subject to change. Sources for this table can be found [here](#).

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Alabama					
Alaska					
Arizona	0	1	0	0	0
Arkansas					0
California	4/10	15/21	1	0	1
Colorado					
Connecticut					
Delaware					
DC					
Florida			36/41		
Georgia					
Hawaii					
Idaho					
Illinois		1			
Indiana					
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland					
Mass.		0		0	0
Michigan	1 wild			0	
Minnesota					
Mississippi		0		0	1
Missouri		0		0	0

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey					
New Mexico					0
New York					
North Carolina					
North Dakota					0
Ohio					
Oklahoma					
Oregon	0	0	0	0	0
Pennsylvania	0	2		0	0
Rhode Island					
South Carolina					
South Dakota					
Tennessee	0	15/23		0	0
Texas		9/10		1	1
Utah					
Vermont					
Virginia					
Washington	0	0		0	0
West Virginia					
Wisconsin	0	0		0	0
Wyoming					

\* Can include other species (e.g., dogs, cows) reported positive.

Protocol: New Jersey Department of Health (NJDH Public Health Environmental and Agricultural Laboratories, PHEAL) and the Cape May County Department of Mosquito Control tests mosquito pools using RT-PCR Taqman techniques.

### Mosquito Species Submitted and Tested for West Nile Virus Testing through 10 June 2013

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	2	7		
<i>Aedes canadensis canadensis</i>	7	129		
<i>Aedes cantator</i>	5	8		
<i>Aedes japonicus</i>	28	78		
<i>Aedes vexans</i>	4	8		
<i>Anopheles punctipennis</i>	2	3		
<i>Culex pipiens</i>	43	1159		
<i>Culex restuans</i>	59	694		
<i>Culex sp.</i>	166	6282		
<i>Culiseta melanura</i>	32	500		
<b>State Total</b>	<b>348</b>	<b>8868</b>		

**Remarks:** To date, 348 pools from 9 species (mostly ornithophilic) have been tested. Currently, there are no positive pools of West Nile virus detected in the species submitted.

**Humans, Horses and Wild Birds:** No human cases have been reported. See <http://www.state.nj.us/health/cd/westnile/techinfo.shtml> for further information.

Last year the first horse was detected in mid July. No horse or other livestock have been reported positive in 2013 to date.

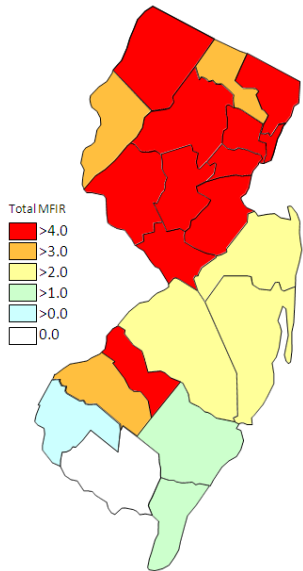
Bird testing began in mid-April. No positive birds have been reported. To date, 21 birds have been tested, all negative. Testing includes: American Crow (*Corvus brachyrhynchos* 0/2), Blue Jay (*Cyanocitta cristata* 0/1), Hawk/Raptor (0/2) and other avian species (0/16). Counties submitting birds are Burlington, Gloucester, Hunterdon, Monmouth, Morris, Ocean, and Warren.

2013 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
0 / 348 (0.0)	10 / 1083 (0.009)
2013 Positive Birds to date / Total Birds Submitted	This time last year
0 / 21 (0.0)	1 / 21 (0.048)

## WNV Results by County through 10 June 2013

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>1</b>	<b>4</b>		
	<i>Culiseta melanura</i>	1	4		
<b>Burlington</b>		<b>16</b>	<b>586</b>		
	<i>Aedes japonicus</i>	1	9		
	<i>Culex</i> spp.	8	333		
	<i>Culiseta melanura</i>	7	244		
<b>Camden</b>		<b>1</b>	<b>30</b>		
	<i>Culiseta melanura</i>	1	30		
<b>Cape May</b>		<b>115</b>	<b>896</b>		
	<i>Aedes cantator</i>	2	2		
	<i>Aedes japonicus</i>	15	24		
	<i>Culex pipiens</i>	25	118		
	<i>Culex restuans</i>	57	692		
	<i>Culex</i> spp.	10	36		
	<i>Culiseta melanura</i>	6	24		
<b>Gloucester</b>		<b>25</b>	<b>1136</b>		
	<i>Aedes japonicus</i>	2	10		
	<i>Culex pipiens</i>	18	1041		
	<i>Culiseta melanura</i>	5	85		
<b>Hunterdon</b>		<b>30</b>	<b>1460</b>		
	<i>Culex</i> spp.	30	1460		
<b>Monmouth</b>		<b>45</b>	<b>747</b>		
	<i>Aedes albopictus</i>	1	1		
	<i>Aedes canadensis canadensis</i>	6	124		
	<i>Aedes cantator</i>	3	6		
	<i>Aedes japonicus</i>	6	15		
	<i>Aedes vexans</i>	3	7		
	<i>Culex restuans</i>	2	2		
	<i>Culex</i> spp.	17	539		
	<i>Culiseta melanura</i>	7	53		
<b>Ocean</b>		<b>15</b>	<b>155</b>		
	<i>Aedes albopictus</i>	1	6		
	<i>Aedes canadensis canadensis</i>	1	5		
	<i>Aedes japonicus</i>	2	7		
	<i>Aedes vexans</i>	1	1		
	<i>Anopheles punctipennis</i>	2	3		
	<i>Culex</i> spp.	5	129		
	<i>Culiseta melanura</i>	3	4		
<b>Salem</b>		<b>1</b>	<b>26</b>		
	<i>Culiseta melanura</i>	1	26		
<b>Somerset</b>		<b>2</b>	<b>13</b>		
	<i>Aedes japonicus</i>	2	13		

<b>Sussex</b>	<b>06</b>	<b>644</b>		
<i>Culex</i> spp.	15	614		
<i>Culiseta melanura</i>	1	30		
<b>Union</b>	<b>11</b>	<b>636</b>		
<i>Culex</i> spp.	11	636		
<b>Warren</b>	<b>42</b>	<b>1838</b>		
<i>Culex</i> spp.	42	1838		
<b>Grand Total</b>	<b>348</b>	<b>8868</b>		



No activity

No activity

Cumulative WNV activity in 2012.

WNV activity to 10 June 2013.

WNV activity last week, 2013.

## Saint Louis Encephalitis (SLE) through 1 May 2013.

New Jersey will be selectively testing for SLE this year. SLE has had previous activity in New Jersey, most notably in 1964 and 1975 (CDC's SLE [website](#)), the latter prompting the surveillance reporting by Rutgers. SLE is a flavivirus and has a similar transmission pattern to West Nile, with *Culex* species as the predominant vectors.

SLE testing begins July 1 in 2013 (Cape May tests samples at their lab).

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Cape May</b>		<b>6</b>	<b>27</b>		
	<i>Culex pipiens</i>	6	27		
<b>Grand Total</b>		<b>6</b>	<b>27</b>		

## La Crosse Encephalitis (LAC) through 10 June 2013.

New Jersey will be selectively testing for La Crosse (LAC) virus this year. New Jersey has had 3 cases of this encephalitic disease since 1964 (see CDC's LAC [website](#)). The mortality is low but like other encephalitides, LAC can have both personal (lasting neurological sequelae) and economic impacts. LAC is a bunyavirus with a transmission cycle involving mosquitoes such as *Aedes triseriatus* and small mammals such as squirrels and chipmunks. LAC can not only infect *Aedes albopictus* but transovarial transmission was also demonstrated. (Tesh and Gubler 1975 Laboratory studies of transovarial transmission of La Crosse and other arboviruses by *Aedes albopictus* and *Culex fatigans*. American Journal of Tropical Medicine and Hygiene 24(5):876-880).

No pools have been submitted for LAC testing in 2013.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Grand Total</b>					