

VECTOR SURVEILLANCE IN NEW JERSEY

EEE, WNV, SLE and LAC

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CDC WEEK 25: June 16 – June 22, 2013

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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	0	3	2		
Green Bank (Burlington Co.)/25	Coastal	1.14	0.04	9*	4		
Corbin City (Atlantic Co.)/25	Coastal	1.05	0.36	21*	4		
Dennisville (Cape May Co.)/50	Coastal	2.95	0.00	23	3		
Winslow (Camden Co.)/50	Inland	4.40	0.90	193	5		
Centerton (Salem Co.)/50	Inland	1.81	0.34	65	3		
Turkey Swamp (Monmouth Co.)/44	Inland	0.57	0.95	84*	5		
Glassboro (Gloucester Co.)/50	Inland	0.51	0.14	9	2		

*Current week results pending.

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

To date 344 *Cs. melanura* from 25 pools have been tested from the traditional resting box sites for an MFIR of 0 with additional *Culiseta* mosquitoes from Green Bank and Turkey Swamp to be tested. There has been no detection of EEE in any samples collected in the state.

Additional *Cs. melanura*: Forty-three additional pools containing 1115 *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.

Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in BOLD .				
County	Trap types*	Number collected (pools)	Number of positives pools	MFIR
Burlington	CO ₂	946 (17)		
Cape May	Gravid, RB	58 (11)		
Gloucester	RB	85 (5)		
Monmouth	CO ₂	14 (2)		
Ocean	CO ₂ , RB	12 (8)		
TOTAL		1115 (43)	0	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. Currently, no other species have been found positive.

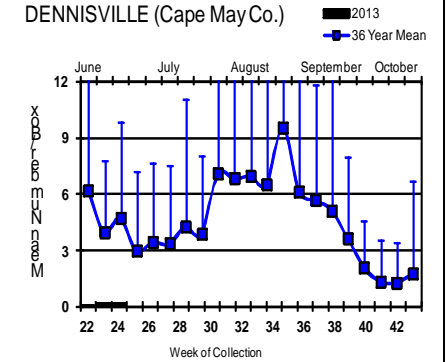
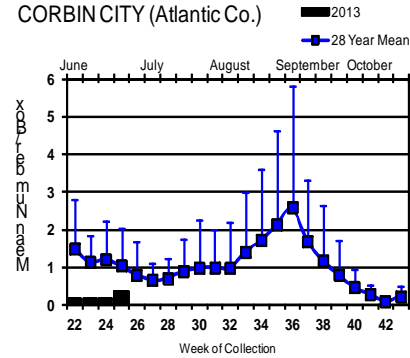
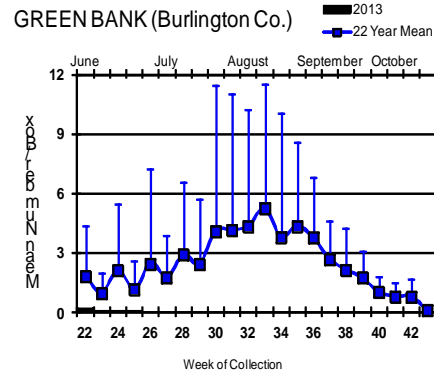
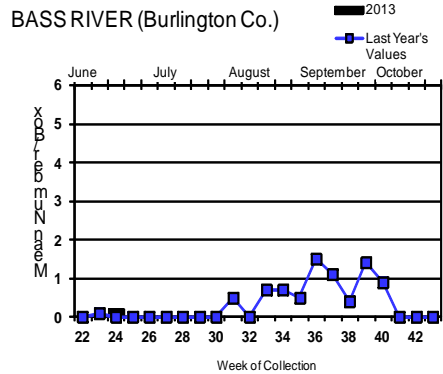
Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes cantator</i>	4	4		
<i>Aedes sticticus</i>	2	3		
<i>Culex pipiens</i>	54	602		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	1	1		
<i>Culex</i> spp.	17	54		
State Total	79	665	0	0.00

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

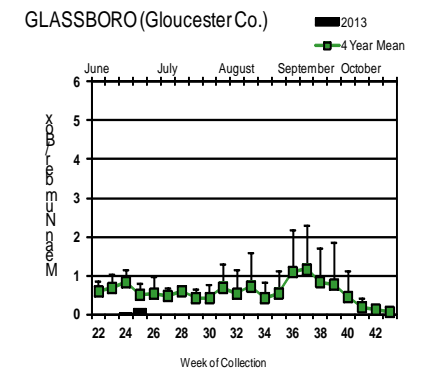
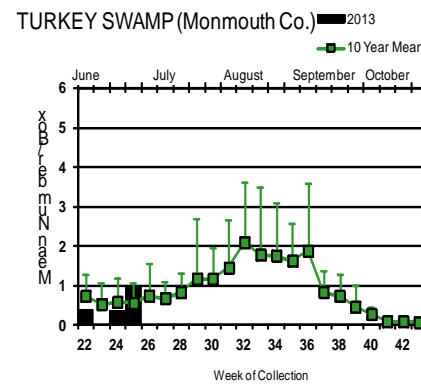
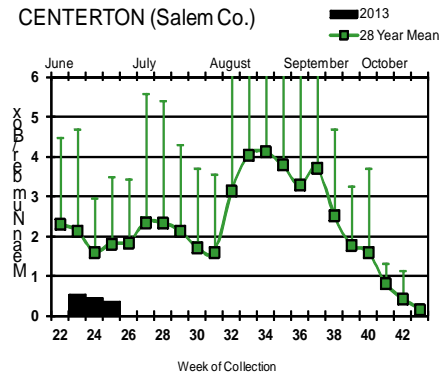
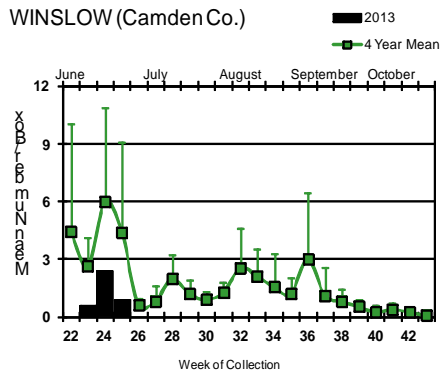
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

Culiseta melanura Population Graphs


Coastal



Inland



This week's populations of *Cs. melanura* continued to remain low at most historical sites. At Turkey Swamp, populations were higher than historical values, but within historical error. Populations from resting boxes are generally lower than seen in the light trap collections for the NJ Adult Mosquito Surveillance program. Note axis change (from 12 to 6) on Bass River, Corbin City, Centerton, Turkey Swamp and Glassboro sites.

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

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

- equine: 3(GA) 11(FL)
- mosquito pools:
- sentinel: 37/3 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	0
California	17/37	39/70	1	0	1
Colorado					
Connecticut		0			
Delaware					
DC					
Florida			45/49		
Georgia	0	0		0	0
Hawaii					
Idaho					
Illinois	0	2/3		0	0
Indiana	0	1		0	0
Iowa					
Kansas					
Kentucky					
Louisiana		6			
Maine					
Maryland					
Mass.		0		0	0
Michigan	1 wild			0	
Minnesota					
Mississippi		0		0	1/2
Missouri		0		0	0

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey	0	0		0	0
New Mexico					0
New York					
North Carolina					
North Dakota	0	0		0	0
Ohio					
Oklahoma					
Oregon	0	2	0	0	0
Pennsylvania	1	2		0	0
Rhode Island					
South Carolina					
South Dakota					
Tennessee	0	37/47		0	1
Texas		11		1	2
Utah		1	0	0	0
Vermont					
Virginia					
Washington	0	2		0	0
West Virginia					
Wisconsin	1	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 24 June 2013

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	28	75		
<i>Aedes canadensis canadensis</i>	18	579		
<i>Aedes cantator</i>	9	12		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	69	340		
<i>Aedes sticticus</i>	2	3		
<i>Aedes triseriatus</i>	5	8		
<i>Aedes vexans</i>	7	15		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles punctipennis</i>	4	6		
<i>Anopheles quadrimaculatus</i>	3	12		
<i>Coquillettidia perturbans</i>	2	6		
<i>Culex erraticus</i>	1	3		
<i>Culex pipiens</i>	135	3628		
<i>Culex restuans</i>	131	1436		
<i>Culex salinarius</i>	1	1		
<i>Culex spp.</i>	456	17222		
<i>Culiseta melanura</i>	79	1563		
<i>Psorophora ferox</i>	1	1		
State Total	953	24912		

Remarks: To date, 953 pools of 24912 mosquitoes from 18 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, 28 birds have been tested, all negative. Testing includes: American Crow (*Corvus brachyrhynchos* 0/3), Blue Jay (*Cyanocitta cristata* 0/1), Hawk/Raptor (0/3) and other avian species (0/21). Counties submitting birds are Burlington, Cumberland, Gloucester, Hunterdon, Monmouth, Morris, Ocean, Sussex, Union and Warren.

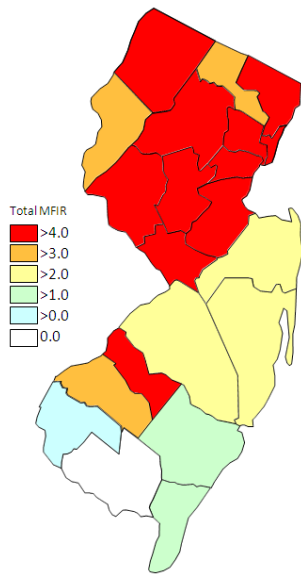
2013 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
0 / 953 (0.0)	36 / 1908 (0.019)
2013 Positive Birds to date / Total Birds Submitted	This time last year
0 / 28 (0.0)	3 / 37 (0.081)

WNV Results by County through 24 June 2013

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		16	104		
	<i>Aedes albopictus</i>	1	2		
	<i>Aedes canadensis canadensis</i>	1	52		
	<i>Aedes grossbecki</i>	1	1		
	<i>Aedes japonicus</i>	1	2		
	<i>Aedes sticticus</i>	2	3		
	<i>Aedes vexans</i>	1	5		
	<i>Anopheles bradleyi</i>	1	1		
	<i>Coquillettidia perturbans</i>	1	1		
	<i>Culex</i> spp.	3	18		
	<i>Culiseta melanura</i>	4	19		
Burlington		47	1953		
	<i>Aedes japonicus</i>	1	9		
	<i>Culex pipiens</i>	2	15		
	<i>Culex</i> spp.	22	972		
	<i>Culiseta melanura</i>	22	957		
Camden		16	576		
	<i>Aedes albopictus</i>	2	4		
	<i>Aedes japonicus</i>	1	4		
	<i>Culex</i> spp.	8	386		
	<i>Culiseta melanura</i>	5	182		
Cape May		305	2581		
	<i>Aedes albopictus</i>	9	14		
	<i>Aedes cantator</i>	5	5		
	<i>Aedes japonicus</i>	31	54		
	<i>Aedes triseriatus</i>	3	3		
	<i>Aedes vexans</i>	1	1		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Anopheles quadrimaculatus</i>	3	12		
	<i>Culex erraticus</i>	1	3		
	<i>Culex pipiens</i>	85	896		
	<i>Culex restuans</i>	129	1434		
	<i>Culex salinarius</i>	1	1		
	<i>Culex</i> spp.	22	76		
	<i>Culiseta melanura</i>	14	81		
Essex		7	141		
	<i>Culex</i> spp.	7	141		
Gloucester		59	2960		
	<i>Aedes albopictus</i>	1	6		
	<i>Aedes japonicus</i>	8	111		
	<i>Anopheles punctipennis</i>	1	2		
	<i>Culex pipiens</i>	48	2717		
	<i>Culiseta melanura</i>	11	124		
Hudson		9	239		
	<i>Culex</i> spp.	9	239		

Hunterdon	60	2645		
<i>Culex</i> spp.	60	2645		
Middlesex	18	291		
<i>Aedes albopictus</i>	1	7		
<i>Aedes japonicus</i>	2	10		
<i>Culex</i> spp.	15	274		
Monmouth	70	973		
<i>Aedes albopictus</i>	5	15		
<i>Aedes canadensis canadensis</i>	9	179		
<i>Aedes cantator</i>	4	7		
<i>Aedes japonicus</i>	9	38		
<i>Aedes triseriatus</i>	2	5		
<i>Aedes vexans</i>	3	7		
<i>Coquillettidia perturbans</i>	1	5		
<i>Culex restuans</i>	2	2		
<i>Culex</i> spp.	23	621		
<i>Culiseta melanura</i>	11	93		
<i>Psorophora ferox</i>	1	1		
Morris	67	3235		
<i>Culex</i> spp.	67	3235		
Ocean	52	751		
<i>Aedes albopictus</i>	8	24		
<i>Aedes canadensis canadensis</i>	8	348		
<i>Aedes japonicus</i>	7	29		
<i>Aedes vexans</i>	2	2		
<i>Anopheles punctipennis</i>	2	3		
<i>Culex</i> spp.	17	333		
<i>Culiseta melanura</i>	8	12		
Passaic	36	1601		
<i>Aedes albopictus</i>	1	3		
<i>Aedes japonicus</i>	3	30		
<i>Culex</i> spp.	32	1568		
Salem	3	65		
<i>Culiseta melanura</i>	3	65		
Somerset	60	1660		
<i>Aedes japonicus</i>	6	53		
<i>Culex</i> spp.	54	1607		
Sussex	35	1317		
<i>Culex</i> spp.	34	1287		
<i>Culiseta melanura</i>	1	30		
Union	25	1221		
<i>Culex</i> spp.	25	1221		
Warren	58	2599		
<i>Culex</i> spp.	58	2599		

Grand Total		953	24912		
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No activity

No activity

Cumulative WNV activity in 2012.

WNV activity to 24 June 2013.

WNV activity last week, 2013.

Saint Louis Encephalitis (SLE) to June 24 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 has begun testing samples at their lab).

County	Species	Pools	Mosquitoes	Positives	MFIR
Cape May		50	584		
	<i>Culex pipiens</i>	50	584		
Grand Total		50	584		

La Crosse Encephalitis (LAC) through 24 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

Grand Total			