VECTOR SURVEILLANCE IN NEW JERSEY

EEE, WNV, SLE and LAC

Prepared by Lisa M. Reed, Scott Crans and Mark Robson
Center for Vector Biology, Rutgers University

CDC WEEK 24: June 9 – June 15, 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	0.20	3*	2		
Green Bank (Burlington Co.)/25	**Coastal**	2.12	0.08	8*	3		
Corbin City (Atlantic Co.)/25	**Coastal**	1.21	0.46	12	3		
Dennisville (Cape May Co.)/50	**Coastal**	4.73	0.20	23	3		
Winslow (Camden Co.)/50	**Inland**	5.98	2.36	148	4		
Centerton (Salem Co.)/50	**Inland**	1.60	0.44	48	2		
Turkey Swamp (Monmouth Co.)/44	**Inland**	0.58	0.34	42*	4		
Glassboro (Gloucester Co.)/50	**Inland**	0.82	0.04	2	1		

*Current week results pending.

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

To date 264 *Cs. melanura* from 18 pools have been tested from the traditional resting box sites for an MFIR of 0 with an additional 18 mosquitoes from three pools at Bass River, 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*: Thirty-three additional pools containing 762 *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 *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD.**				
County	**Trap types***	**Number collected (pools)**	**Number of positives pools**	**MFIR**
Burlington	CO_2	599 (10)		
Cape May	Gravid, RB	58 (11)		
Gloucester	RB	85 (5)		
Monmouth	CO_2	14 (2)		
Ocean	CO_2, RB	5 (4)		
TOTAL		**762 (33)**	**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.

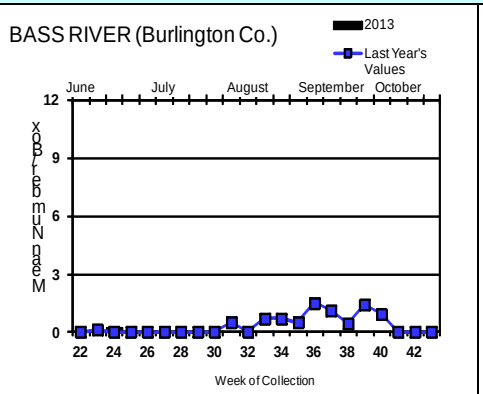
Species other than *Cs. melanura*	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Aedes cantator	4	4		
Aedes sticticus	1	1		
Culex pipiens	54	602		
Culex restuans	1	1		
Culex salinarius	1	1		
Culex spp.	16	51		
State Total	**77**	**660**	**0**	**0.00**

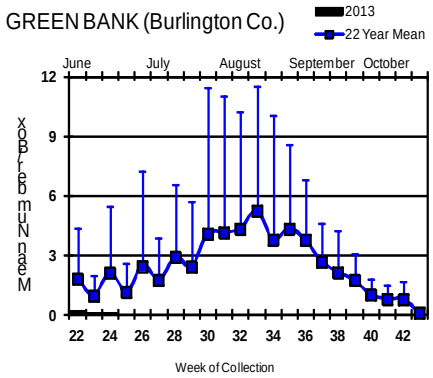
Horses and Humans: Currently there is no reported horse, other livestock or human cases.

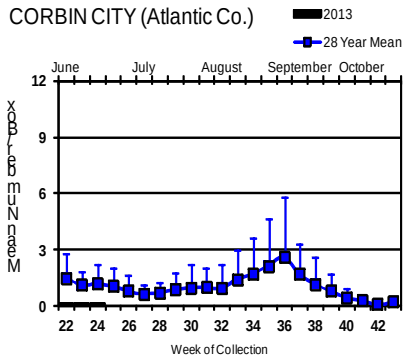
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

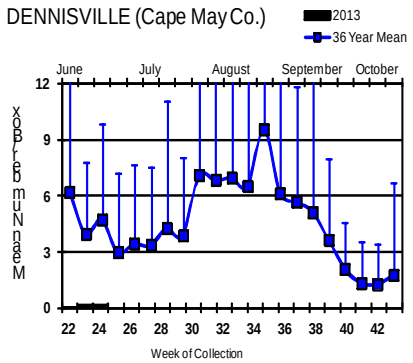
Culiseta melanura Population Graphs

Coastal

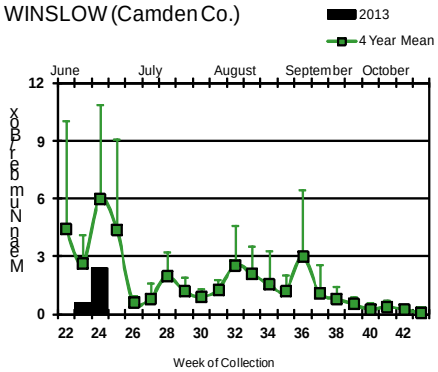


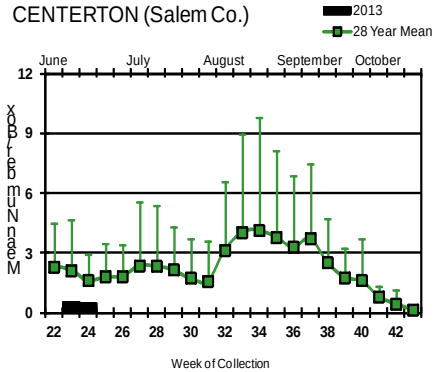


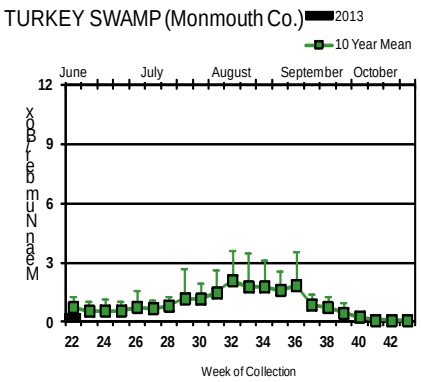


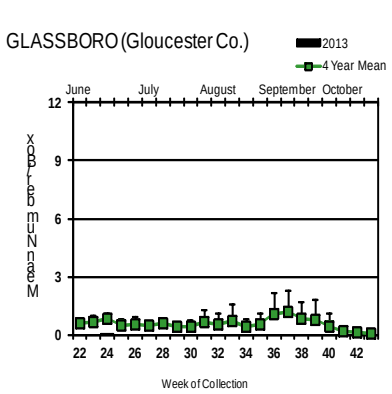


Inland









This week's populations of *Cs. melanura* remain low at most historical sites but were present at all sites. At Winslow, numbers increased from the previous week and are not likely significantly different from historical values.

= 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) 7 (FL)
- mosquito pools:
- sentinel: 29/3 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	10/17	21/39	1	0	1
Colorado					
Connecticut					
Delaware					
DC					
Florida			41/45		
Georgia	0	0		0	0
Hawaii					
Idaho					
Illinois	0	1/2		0	0
Indiana	0	1		0	0
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	0	0		0	0
New Mexico					0
New York					
North Carolina					
North Dakota	0	0		0	0
Ohio					
Oklahoma					
Oregon	0	0	0	0	0
Pennsylvania	1	2		0	0
Rhode Island					
South Carolina					
South Dakota					
Tennessee	0	23/37		0	0
Texas		10/11		1	1/2
Utah		1	0	0	0
Vermont					
Virginia					
Washington	0	0/2		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 17 June 2013

Species	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	18	42		
Aedes canadensis canadensis	12	452		
Aedes cantator	9	12		
Aedes grossbecki	1	1		
Aedes japonicus	52	178		
Aedes sticticus	1	1		
Aedes triseriatus	3	3		
Aedes vexans	7	15		
Anopheles bradleyi	1	1		
Anopheles punctipennis	4	6		
Anopheles quadrimaculatus	2	2		
Coquillettidia perturbans	1	1		
Culex erraticus	1	3		
Culex pipiens	110	2818		
Culex restuans	127	1387		
Culex salinarius	1	1		
Culex spp.	309	11851		
Culiseta melanura	59	1105		
State Total	**718**	**17879**		

Remarks: To date, 718 pools of 17879 mosquitoes from 17 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.

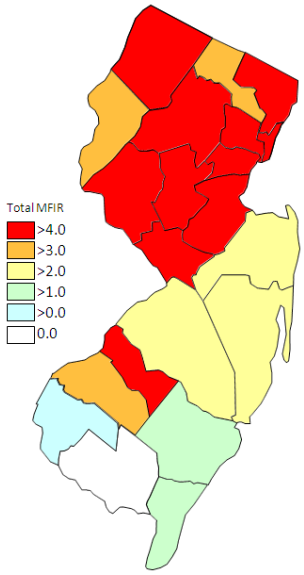
Bird testing began in mid-April. No positive birds have been reported. To date, 25 birds have been tested, all negative. Testing includes: American Crow (*Corvus brachyrhynchos* 0/3), Blue Jay (*Cyanocitta cristata* 0/1), Hawk/Raptor (0/2) and other avian species (0/19). Counties submitting birds are 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 / 718 (0.0)	18 / 1434 (0.013)
2013 Positive Birds to date / Total Birds Submitted	**This time last year**
0 / 25 (0.0)	2 / 27 (0.074)

WNV Results by County through 17 June 2013

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**13**	**95**		
	Aedes albopictus	1	2		
	Aedes canadensis canadensis	1	52		
	Aedes grossbecki	1	1		
	Aedes japonicus	1	2		
	Aedes sticticus	1	1		
	Aedes vexans	1	5		
	Anopheles bradleyi	1	1		
	Coquillettidia perturbans	1	1		
	Culex spp.	2	15		
	Culiseta melanura	3	15		
Burlington		**32**	**1407**		
	Aedes japonicus	1	9		
	Culex pipiens	2	15		
	Culex spp.	16	776		
	Culiseta melanura	13	607		
Camden		**4**	**148**		
	Culiseta melanura	4	148		
Cape May		**289**	**2359**		
	Aedes albopictus	9	14		
	Aedes cantator	5	5		
	Aedes japonicus	31	54		
	Aedes triseriatus	3	3		
	Aedes vexans	1	1		
	Anopheles punctipennis	1	1		
	Anopheles quadrimaculatus	2	2		
	Culex erraticus	1	3		
	Culex pipiens	74	733		
	Culex restuans	125	1385		
	Culex salinarius	1	1		
	Culex spp.	22	76		
	Culiseta melanura	14	81		
Gloucester		**51**	**2247**		
	Aedes albopictus	1	6		
	Aedes japonicus	5	52		
	Anopheles punctipennis	1	2		
	Culex pipiens	34	2070		
	Culiseta melanura	10	117		
Hunterdon		**45**	**2150**		
	Culex spp.	45	2150		
Monmouth		**50**	**765**		
	Aedes albopictus	2	2		
	Aedes canadensis canadensis	6	124		
	Aedes cantator	4	7		
	Aedes japonicus	7	22		
	Aedes vexans	3	7		

	Culex restuans	2	2		
	Culex spp.	19	548		
	Culiseta melanura	7	53		
Morris		**24**	**1122**		
	Culex spp.	24	1122		
Ocean		**33**	**529**		
	Aedes albopictus	4	15		
	Aedes canadensis canadensis	5	276		
	Aedes japonicus	4	16		
	Aedes vexans	2	2		
	Anopheles punctipennis	2	3		
	Culex spp.	11	211		
	Culiseta melanura	5	6		
Passaic		**20**	**933**		
	Aedes albopictus	1	3		
	Culex spp.	19	930		
Salem		**2**	**48**		
	Culiseta melanura	2	48		
Somerset		**45**	**1275**		
	Aedes japonicus	3	23		
	Culex spp.	42	1252		
Sussex		**28**	**994**		
	Culex spp.	27	964		
	Culiseta melanura	1	30		
Union		**25**	**1221**		
	Culex spp.	25	1221		
Warren		**57**	**2586**		
	Culex spp.	57	2586		
Grand Total		**718**	**17879**		



Cumulative WNV activity in 2012.

No activity

WNV activity to 17 June 2013.

No activity

WNV activity last week, 2013.

Saint Louis Encephalitis (SLE) to June 17 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**		
	Culex pipiens	50	584		
Grand Total		**50**	**584**		

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
Grand Total					