VECTOR SURVEILLANCE IN NEW JERSEY

EEE, WNV, SLE and LAC

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CDC WEEK 23: June 3 to June 9, 2012

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Culiseta melanura and Eastern Equine Encephalitis

SITE/Boxes	Inland / Coastal	Historic Population Mean	Current Weekly Mean	Total Tested to Date*	Total Pools Submitted /Tested	EEE Isolations	MFIR
Bass River (Burlington Co.)/10	**Coastal**	na	0.10	1	††		
Green Bank (Burlington Co.)/25	**Coastal**	1.00	0.04	1	††		
Corbin City (Atlantic Co.)/25	**Coastal**	1.14	0.88	22	1	0	
Dennisville (Cape May Co.)/50	**Coastal**	4.08	0.18	9	**		
Winslow (Camden Co.)/50	**Inland**	2.00	3.92	196	**		
Centerton (Salem Co.)/50	**Inland**	2.12	2.30	115	**		
Turkey Swamp (Monmouth Co.)/48	**Inland**	0.48	0.96	148	4	0	
Glassboro (Gloucester Co.)/50	**Inland**	0.55	0.96	48	**		

*Including trial run last week in May. † No data. †† Results in the next week.

Remarks: Bass River will replace the Green Bank site. This is a test site, with only 10 boxes rather than 25 or 50 boxes as at the other sites. Samples from these two sites have been sent in to PHEAL. Dennisville, Winslow, Centerton and Glassboro are currently being collected and will be tested at the Cape May within the month (**).

No *Cs. melanura* pools have detectable EEE virus to date. Total tested values will be reported when all sites are tested.

Forty-seven additional pools containing 1901 *Cs. melanura* have tested negative from other county trapping sites using other traps in addition to resting boxes. No detection of EEE has occurred.

Additional *Cs. melanura* trapped by counties *traps with positives indicated in BOLD.				
County	**Trap types***	**Number collected (pools)**	**Number of positives pools**	**MFIR**
Burlington	CO2, Other	1436 (29)	0	
Cape May	RB	170 (3)		
Cumberland	CO2, Gravid, RB	118 (6)	0	
Gloucester	RB	171 (7)	0	
TOTAL		**1901 (47)**	**0**	

Horses and Humans: No cases to date.

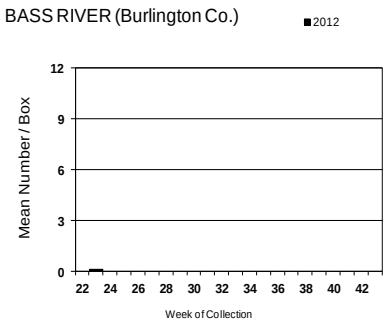
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

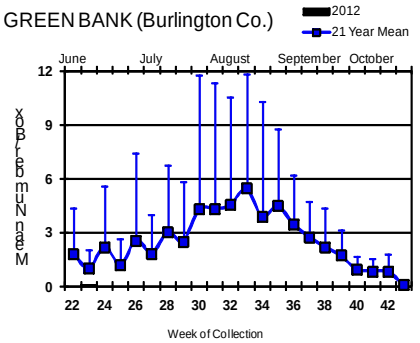
Species other than *Cs. melanura*	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Aedes canadensis canadensis	6	163		
Aedes cantator	4	153		
Aedes japonicus	11	27		
Aedes mitchellae	3	42		
Aedes sticticus	1	8		
Aedes trivittatus	1	2		
Aedes vexans	1	8		
Anopheles bradleyi	1	4		
Anopheles crucians	2	29		
Anopheles punctipennis	2	13		
Anopheles quadrimaculatus	4	11		
Coquillettidia perturbans	11	357		
Culex erraticus	2	4		
Culex pipiens	6	222		
Culex restuans	3	55		
Culex salinarius	5	86		
Culex sp.	63	2489		
State Total	126	3673		

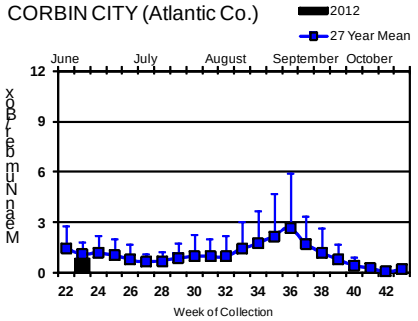
The table to the left indicates non-*Cs. melanura* mosquitoes tested for EEE. An additional 16 species of mosquitoes have been tested with no detection of EEE.

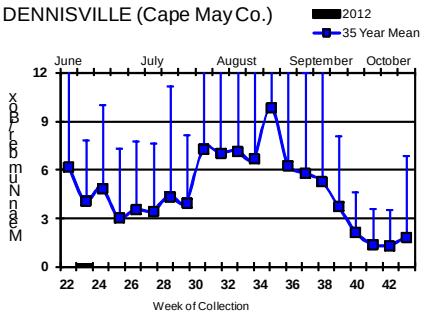
Culiseta melanura Population Graphs

Coastal

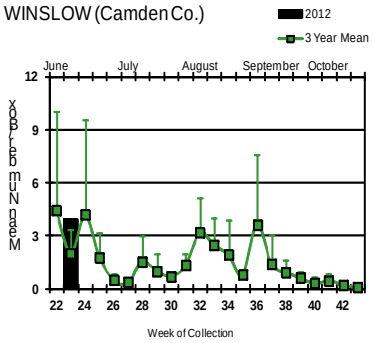


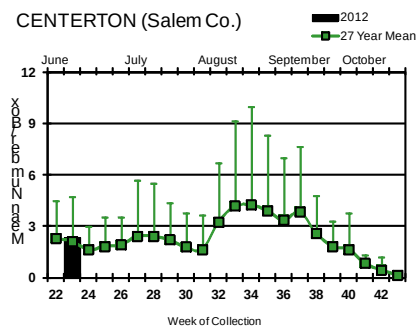


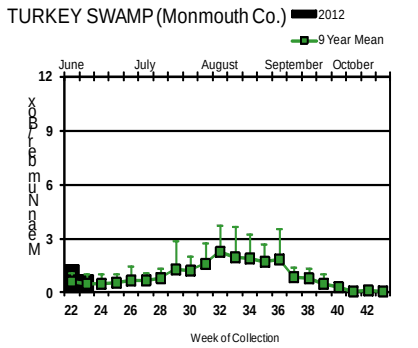


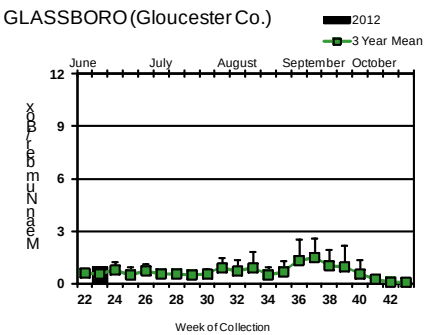


Inland









Population values are being reported now for several sites. Populations appear to be around historical values at Corbin City, Winslow, Centerton, Turkey Swamp and Glassboro while well below historical values at Green Bank and Dennisville.

= Positive pool(s) detected.

EEE in US (2012 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: 6(FL) 1(GA) 3(LA) 5(MS)
- mosquito pools:
- sentinel: 13(FL)
- human:

West Nile Virus

West Nile in US (2012 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		2			2?
Arkansas					
California	33/47	30/91			
Colorado					
Connecticut					
Delaware					
DC					
Florida			40/48		
Georgia		1			
Hawaii					
Idaho					
Illinois	1/3	8/11			
Indiana		1			
Iowa					
Kansas					
Kentucky					
Louisiana		14	1		
Maine					
Maryland					
Mass.					
Michigan					
Minnesota					
Mississippi					
Missouri					

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey	1	3/4			
New Mexico		1			
New York					
North Carolina					
North Dakota					
Ohio					
Oklahoma					
Oregon					
Pennsylvania	1	16/27		1	
Rhode Island					
South Carolina					
South Dakota					
Tennessee		19/26			
Texas		11/19		1	1
Utah					
Vermont					
Virginia					
Washington					
West Virginia					
Wisconsin					
Wyoming					

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

Protocol: New Jersey Department of Health and Senior Services (NJDHSS Public Health and Environmental Laboratories, PHEL) and the Cape May County Division of Mosquito Control tests mosquito pools using RT-PCR Taqman techniques.

Mosquito Species Submitted and Tested for West Nile Virus Testing through 12 June 2012

Species	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	17	68		
Aedes canadensis canadensis	18	334		
Aedes cantator	11	238		
Aedes japonicus	32	141		
Aedes mitchellae	3	42		
Aedes sticticus	3	12		
Aedes triseriatus	3	5		
Aedes trivittatus	2	4		
Aedes vexans	15	93		
Anopheles bradleyi	3	15		
Anopheles crucians	2	29		
Anopheles punctipennis	8	30		
Anopheles quadrimaculatus	7	24		
Coquillettidia perturbans	13	362		
Culex erraticus	3	24		
Culex pipiens	123	5453	1	0.183
Culex restuans	22	319		
Culex salinarius	9	103		
Culex sp.	299	10948	2	0.183
Culex territans	1	1		
Culiseta melanura	55	2109	1	0.474
Culiseta minnesotae	1	2		
Psorophora ferox	2	21		
State Total	**652**	**20,377**	**4**	**0.196**

Remarks: To date, there have been 20,377 mosquitoes tested in 652 pools from 22 species. Currently, 4 positive pools have been detected in *Culex pipiens,* Mixed *Cx.* species and *Culiseta melanura*, the latest pool of *Culex* spp. collected in Union County on the 1st of June.

Humans, Horses and Wild Birds: There is no reported horse or human cases to date. See http://www.state.nj.us/health/cd/westnile/techinfo.shtml for further information.

Bird testing began in mid-April. WNV has been detected in an American Crow (*Corvus brachyrhynchos*) from Morris County, collected 9 April. To date, testing includes: American Crow (*Corvus brachyrhynchos* 1/4), Fish Crow (*Corvus ossifragus* 0/3), unidentified Crow (*Corvus* spp. 0/3) and other avian species (0/11). Counties submitting birds are Atlantic, Cape May, Hunterdon, Morris, Ocean, Sussex and Warren. County participation in submitting dead birds varies across the state.

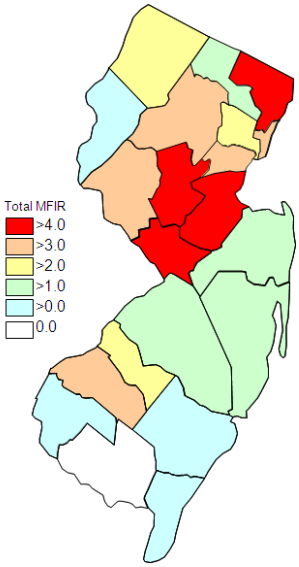
2012 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
4 / 652 (0.006)	0 / 293 (0.0)
2012 Positive Birds to date / Total Birds Submitted	This time last year
1 / 21 (0.048)	0 / 9 (0.0)

WNV Results by County through 12 June 2012

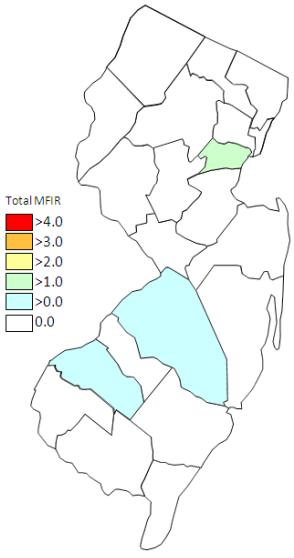
County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**1**	**22**		
	Culiseta melanura	1	22		
Burlington		**146**	**4900**	**1**	**0.204**
	Aedes canadensis canadensis	5	139		
	Aedes cantator	1	10		
	Aedes japonicus	11	27		
	Aedes mitchellae	3	42		
	Aedes sticticus	1	8		
	Aedes trivittatus	1	2		
	Aedes vexans	1	8		
	Anopheles bradleyi	1	4		
	Anopheles crucians	2	29		
	Anopheles punctipennis	2	13		
	Anopheles quadrimaculatus	2	4		
	Coquillettidia perturbans	9	323		
	Culex erraticus	1	3		
	Culex pipiens	6	222		
	Culex restuans	3	55		
	Culex salinarius	5	86		
	Culex spp.	63	2489	1	0.402
	Culiseta melanura	29	1436		
Camden		**14**	**501**		
	Aedes albopictus	1	1		
	Aedes japonicus	1	1		
	Aedes trivittatus	1	2		
	Culex spp.	11	497		
Cape May		**59**	**2093**		
	Aedes canadensis canadensis	1	24		
	Aedes cantator	3	143		
	Anopheles quadrimaculatus	1	10		
	Culex erraticus	1	20		
	Culex pipiens	41	1616		
	Culex restuans	8	93		
	Culex spp.	1	17		
	Culiseta melanura	3	170		
Cumberland		**36**	**280**		
	Aedes albopictus	1	3		
	Aedes canadensis canadensis	2	8		
	Aedes cantator	2	8		
	Aedes japonicus	2	4		
	Aedes triseriatus	1	3		
	Aedes vexans	2	6		
	Anopheles bradleyi	1	2		
	Anopheles punctipennis	3	9		
	Coquillettidia perturbans	1	33		
	Culex pipiens	4	20		
	Culex restuans	5	39		
	Culex salinarius	3	16		
	Culex spp.	2	10		

	Culex territans	1	1		
	Culiseta melanura	6	118		
Essex		**28**	**454**		
	Aedes albopictus	1	1		
	Aedes japonicus	4	10		
	Aedes sticticus	1	1		
	Aedes vexans	6	49		
	Culex spp.	16	393		
Gloucester		**82**	**3815**	**2**	**0.524**
	Aedes albopictus	3	46		
	Aedes japonicus	4	34		
	Anopheles quadrimaculatus	2	7		
	Culex pipiens	66	3496	1	0.281
	Culiseta melanura	6	165	1	5.848
Hudson		**15**	**1050**		
	Culex spp.	15	1050		
Hunterdon		**30**	**1500**		
	Culex spp.	30	1500		
Monmouth		**37**	**736**		
	Aedes albopictus	1	1		
	Aedes canadensis canadensis	4	106		
	Aedes cantator	3	3		
	Aedes japonicus	4	9		
	Aedes triseriatus	1	1		
	Aedes vexans	2	4		
	Coquillettidia perturbans	1	2		
	Culex salinarius	1	1		
	Culex spp.	14	427		
	Culiseta melanura	6	182		
Morris		**40**	**1342**		
	Culex spp.	40	1342		
Ocean		**19**	**281**		
	Aedes albopictus	4	6		
	Aedes canadensis canadensis	3	48		
	Aedes cantator	2	74		
	Aedes japonicus	2	25		
	Culex spp.	6	122		
	Culiseta melanura	2	6		
Passaic		**9**	**295**		
	Aedes albopictus	1	2		
	Aedes japonicus	1	17		
	Culex spp.	7	276		
Salem		**34**	**192**		
	Aedes albopictus	4	5		
	Aedes canadensis canadensis	2	6		

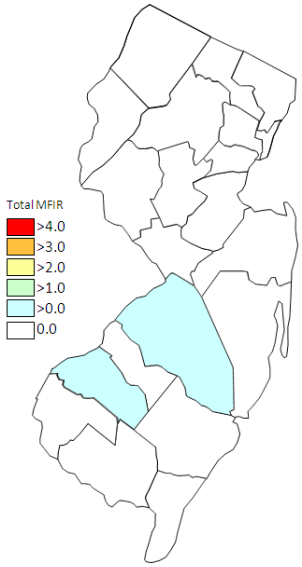
	Aedes sticticus	1	3		
	Aedes triseriatus	1	1		
	Aedes vexans	4	26		
	Anopheles bradleyi	1	9		
	Anopheles punctipennis	2	3		
	Anopheles quadrimaculatus	2	3		
	Coquillettidia perturbans	2	4		
	Culex erraticus	1	1		
	Culex pipiens	4	26		
	Culex restuans	2	15		
	Culex spp.	5	67		
	Culiseta minnesotae	1	2		
	Psorophora ferox	2	21		
Somerset		**6**	**23**		
	Aedes albopictus	1	3		
	Aedes canadensis canadensis	1	3		
	Aedes japonicus	3	14		
	Culex spp.	1	3		
Sussex		**34**	**879**		
	Culex pipiens	2	12		
	Culex restuans	4	117		
	Culex spp.	27	746		
	Culiseta melanura	1	4		
Union		**18**	**855**	**1**	**1.170**
	Culex spp.	18	855	1	1.170
Warren		**44**	**1139**		
	Anopheles punctipennis	1	5		
	Culex spp.	43	1134		
Grand Total		**652**	**20377**	**4**	**0.196**



Cumulative WNV activity in 2011.



WNV activity to 12 June 2012.



WNV activity last week, 2012.

Saint Louis Encephalitis (SLE) through 12 June 2012.

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.

No pools have tested positive for SLE to date in 2012.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		**146**	**4900**		
	Aedes canadensis canadensis	5	139		
	Aedes cantator	1	10		
	Aedes japonicus	11	27		
	Aedes mitchellae	3	42		
	Aedes sticticus	1	8		
	Aedes trivittatus	1	2		
	Aedes vexans	1	8		
	Anopheles bradleyi	1	4		
	Anopheles crucians	2	29		
	Anopheles punctipennis	2	13		
	Anopheles quadrimaculatus	2	4		
	Coquillettidia perturbans	9	323		
	Culex erraticus	1	3		
	Culex pipiens	6	222		
	Culex restuans	3	55		
	Culex salinarius	5	86		
	Culex spp.	63	2489		
	Culiseta melanura	29	1436		
Essex		**28**	**454**		
	Aedes albopictus	1	1		
	Aedes japonicus	4	10		
	Aedes sticticus	1	1		
	Aedes vexans	6	49		
	Culex spp.	16	393		
Hudson		**15**	**1070**		
	Aedes canadensis canadensis	15	1070		
Grand Total		**60**	**2378**		

La Crosse Encephalitis (LAC) through 12 June 2012.

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 tested positive to date for 2012.

County	Species	Pools	Mosquitoes	Positives	MFIR
Cumberland		**1**	**3**		
	Aedes triseriatus	1	3		
Salem		**1**	**1**		
	Aedes triseriatus	1	1		
Grand Total		**2**	**4**		