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	0.00	3	2		
Green Bank (Burlington Co.)/25	**Coastal**	2.45	0.04	9 (10)	4 (5)		
Corbin City (Atlantic Co.)/25	**Coastal**	0.79	0.64	21 (37)	4 (5)		
Dennisville (Cape May Co.)/50	**Coastal**	3.45	0.00	23	3		
Winslow (Camden Co.)/50	**Inland**	0.61	1.32	259	7		
Centerton (Salem Co.)/50	**Inland**	1.83	0.36	83	4		
Turkey Swamp (Monmouth Co.)/44	**Inland**	0.74	0.32	84 (98)	5 (6)		
Glassboro (Gloucester Co.)/50	**Inland**	0.54	0.34	26	3		

*Current week (in parentheses) results pending.

Remarks: Currently, there are no positive EEE pools of *Cs. melanura* from any site in New Jersey.

For counties accessing the West Nile database: Results from samples recently tested at the Cape May labs will be entered soon (above table include some samples currently not in the system).

To date 508 *Cs. melanura* from 32 pools have been tested from the traditional resting box sites for an MFIR of 0 with an additional 3 pools of 31 mosquitoes to be tested. There has been no detection of EEE in any samples collected in the state.

Additional *Cs. melanura*: Fifty-three additional pools containing 1558 *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	1375 (23)		
Cape May	Gravid, RB	68 (12)		
Gloucester	RB	85 (5)		
Monmouth	CO_2	14 (2)		
Ocean	CO_2, RB	16 (11)		
TOTAL		**1558 (53)**	**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.

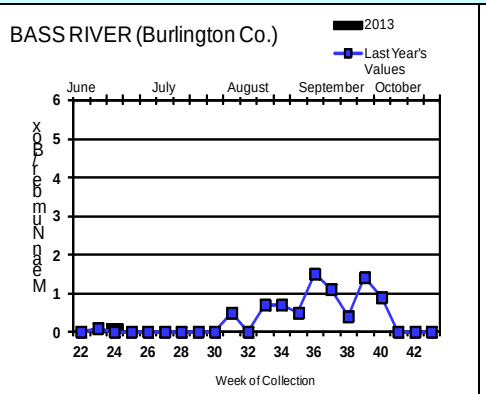
Species other than *Cs. melanura*	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Aedes cantator	4	4		
Aedes sticticus	2	3		
Culex erraticus	1	15		
Culex pipiens	54	602		
Culex restuans	1	1		
Culex salinarius	2	52		
Culex spp.	18	56		
State Total	**82**	**733**	**0**	**0.00**

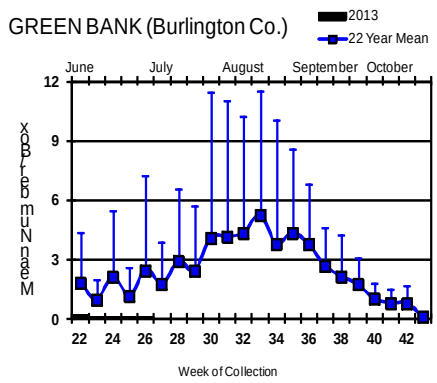
Horses and Humans: Currently there is no reported horse, other livestock or human cases.

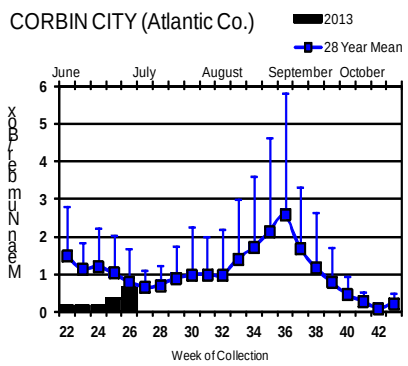
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

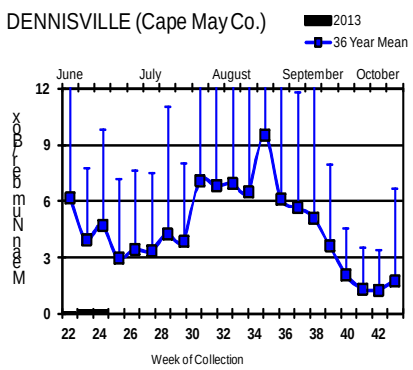
Culiseta melanura Population Graphs

Coastal

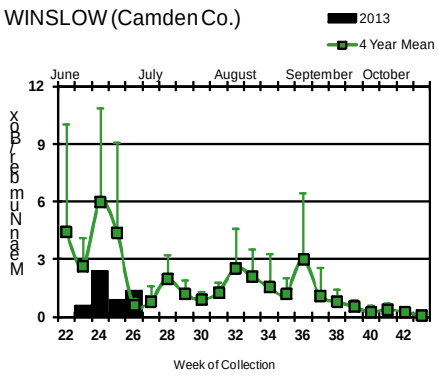


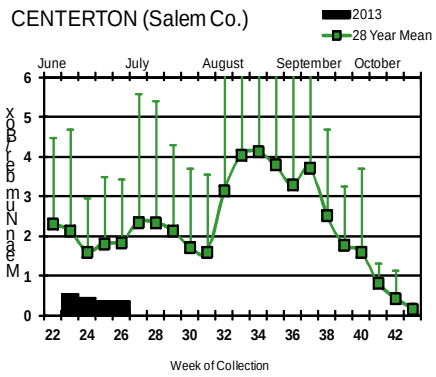


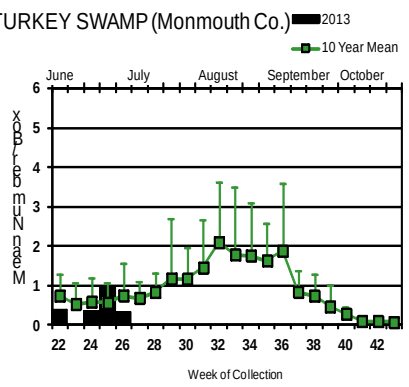


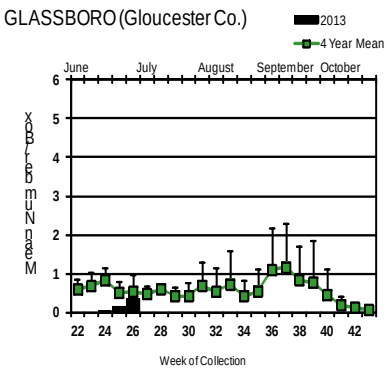


Inland









Cs. melanura numbers at the Winslow resting box site were higher than historical averages this past week. Populations at Bass River, Green Bank, Dennisville and Centerton were low while adult numbers at Corbin City, Turkey Swamp and Glassboro remained closer to historical values. Resting box numbers continue to be lower than light trap numbers, suggesting populations might be higher than the resting box numbers suggest.

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: 4(GA) 11(FL)
- mosquito pools:
- sentinel: 37/3 wild(FL)
- human: 2(FL)

West Nile Virus in US

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	37/87	70/124	1	0	1
Colorado					
Connecticut		0			
Delaware					
DC					
Florida			45/49		
Georgia	0	0		0	0
Hawaii					
Idaho					
Illinois	0	3/10		0	0
Indiana	0	1		0	0
Iowa					
Kansas		0			0
Kentucky					
Louisiana		6			
Maine					
Maryland					
Mass.		1		0	0
Michigan	3			0	
Minnesota					
Mississippi		1		0	2/5
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				1	
Oklahoma					
Oregon	0	2/9	0	0	0
Pennsylvania	1	2		0	0
Rhode Island					
South Carolina					
South Dakota		3			
Tennessee	0	47/59		0	1
Texas		11/13		1	2
Utah		1/8	0	0	0
Vermont					
Virginia					
Washington	0	2		0	0
West Virginia		6			
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 1 July 2013

Species	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	44	173		
Aedes canadensis canadensis	21	600		
Aedes cantator	10	14		
Aedes grossbecki	1	1		
Aedes japonicus	87	456		
Aedes sticticus	2	3		
Aedes taeniorhynchus	1	3		
Aedes triseriatus	11	70		
Aedes vexans	10	55		
Anopheles bradleyi	1	1		
Anopheles punctipennis	5	7		
Anopheles quadrimaculatus	4	25		
Coquillettidia perturbans	4	20		
Culex erraticus	2	18		
Culex pipiens	167	4537		
Culex restuans	138	1482		
Culex salinarius	2	52		
Culex spp.	646	24420		
Culiseta melanura	94	2070		
Psorophora ferox	1	1		
State Total	**1251**	**34008**		

Remarks: To date, 1251 pools of 34008 mosquitoes from 19 species 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, 32 birds have been tested, all negative. Testing includes: American Crow (*Corvus brachyrhynchos* 0/3), Fish Crow (*C. ossifragus* 0/1), Blue Jay (*Cyanocitta cristata* 0/1), Hawk/Raptor (0/3) and other avian species (0/24). Counties submitting birds are Burlington, Cumberland, Gloucester, Hunterdon, Monmouth, Morris, Ocean, Sussex, Union and Warren.

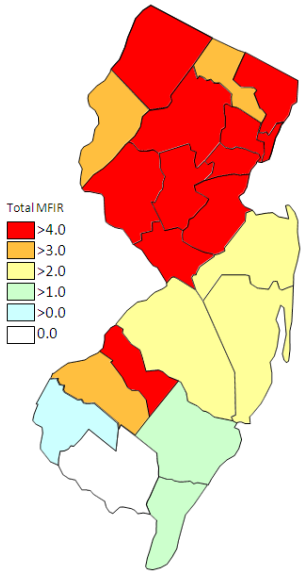
2013 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
0 / 1251 (0.0)	62 / 2371 (0.026)
2013 Positive Birds to date / Total Birds Submitted	This time last year
0 / 32 (0.0)	4 / 47 (0.085)

WNV Results by County through 1 July 2013

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**28**	**262**		
	Aedes albopictus	2	3		
	Aedes canadensis canadensis	2	56		
	Aedes grossbecki	1	1		
	Aedes japonicus	2	7		
	Aedes sticticus	2	3		
	Aedes taeniiorhynchus	1	3		
	Aedes triseriatus	1	6		
	Aedes vexans	2	29		
	Anopheles bradleyi	1	1		
	Coquillettidia perturbans	2	13		
	Culex spp.	6	103		
	Culiseta melanura	6	37		
Bergen		**15**	**1125**		
	Culex spp.	15	1125		
Burlington		**61**	**2604**		
	Aedes japonicus	2	13		
	Culex pipiens	2	15		
	Culex salinarius	1	51		
	Culex spp.	27	1138		
	Culiseta melanura	29	1387		
Camden		**36**	**1249**		
	Aedes albopictus	5	11		
	Aedes japonicus	3	19		
	Culex spp.	23	1037		
	Culiseta melanura	5	182		
Cape May		**325**	**2825**		
	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	4	25		
	Culex erraticus	2	18		
	Culex pipiens	96	1057		
	Culex restuans	135	1479		
	Culex salinarius	1	1		
	Culex spp.	22	76		
	Culiseta melanura	15	91		
Essex		**22**	**545**		
	Aedes japonicus	2	19		
	Culex spp.	20	526		
Gloucester		**90**	**3746**		
	Aedes albopictus	1	6		
	Aedes japonicus	9	121		

	Aedes triseriatus	1	30		
	Anopheles punctipennis	1	2		
	Culex pipiens	67	3463		
	Culiseta melanura	11	124		
Hudson		**19**	**542**		
	Culex spp.	19	542		
Hunterdon		**75**	**3257**		
	Culex spp.	75	3257		
Middlesex		**39**	**461**		
	Aedes albopictus	2	12		
	Aedes japonicus	2	10		
	Culex spp.	35	439		
Monmouth		**90**	**1148**		
	Aedes albopictus	10	42		
	Aedes canadensis canadensis	10	193		
	Aedes cantator	5	9		
	Aedes japonicus	11	41		
	Aedes triseriatus	4	22		
	Aedes vexans	3	7		
	Anopheles punctipennis	1	1		
	Coquillettidia perturbans	1	5		
	Culex restuans	2	2		
	Culex spp.	29	687		
	Culiseta melanura	13	138		
	Psorophora ferox	1	1		
Morris		**87**	**3704**		
	Culex spp.	87	3704		
Ocean		**69**	**880**		
	Aedes albopictus	12	68		
	Aedes canadensis canadensis	9	351		
	Aedes japonicus	9	32		
	Aedes vexans	2	2		
	Anopheles punctipennis	2	3		
	Coquillettidia perturbans	1	2		
	Culex spp.	23	406		
	Culiseta melanura	11	16		
Passaic		**36**	**1601**		
	Aedes albopictus	1	3		
	Aedes japonicus	3	30		
	Culex spp.	32	1568		
Salem		**14**	**111**		
	Aedes albopictus	2	14		
	Aedes japonicus	4	20		
	Aedes triseriatus	2	9		
	Culex pipiens	2	2		
	Culex restuans	1	1		
	Culiseta melanura	3	65		

Somerset		**75**	**1957**		
	Aedes japonicus	9	90		
	Aedes vexans	2	16		
	Culex spp.	64	1851		
Sussex		**43**	**1570**		
	Culex spp.	42	1540		
	Culiseta melanura	1	30		
Union		**50**	**2714**		
	Culex spp.	50	2714		
Warren		**77**	**3707**		
	Culex spp.	77	3707		
Grand Total		**1251**	**34008**		



Cumulative WNV activity in 2012.

No activity

WNV activity to 1 July 2013.

No activity

WNV activity last week, 2013.

Saint Louis Encephalitis (SLE) to 1 July 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.

No pools have been detected positive for SLE in 2013.

County	Species	Pools	Mosquitoes	Positives	MFIR
Cape May		**50**	**584**		
	Culex pipiens	50	584		
Grand Total		**50**	**584**		

La Crosse Encephalitis (LAC) through 1 July 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 detected positive for LAC in 2013.

County	Species	Pools	Mosquitoes	Positives	MFIR
Salem		**2**	**9**		
	Aedes triseriatus	2	9		
Grand Total		**2**	**9**		