VECTOR SURVEILLANCE IN NEW JERSEY

EEE, WNV, SLE and LAC

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CDC WEEK 27: July 3 to July 9, 2011

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Culiseta melanura and Eastern Equine Encephalitis

SITE	Inland / Coastal	Historic Mean	Current Weekly Mean	Total Tested to Date*	Total Pools Submitted /Tested†	EEE Isolations	MFIR
Green Bank (Burlington County)	Coastal	1.91	0.04	4†	4/3	0	
Corbin City (Atlantic County)	Coastal	0.69	0.04	28†	4/3	0	
Dennisville (Cape May County)	Coastal	3.52	0.64	73††	6	0	
Winslow (Camden County)	Inland	0.30	0.38	185††	7	0	
Centerton (Salem County)	Inland	2.51	0.16	140††	6	0	
Turkey Swamp (Monmouth County)	Inland	0.74	0.22	26	9	0	
Glassboro (Gloucester County)	Inland	0.47	0.68	138††	6	0	

*Including trial run last week in May. † Some samples are noted in the system, but not yet tested. †† tested, not yet in system

Remarks: The 7 traditional resting box sites for the collection of *Culiseta melanura*, the primary enzootic vector, continue to show no detectable EEE activity, and with generally low *Cs. melanura* activity. To date 594 *Cs. melanura* from 40 pools have tested negative, with two pools to be tested.

Eighty-seven additional pools containing 756 *Cs. melanura* have tested negative from other county trapping sites.

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	350 (13)	0	
Cape May	Gravid, RB	144 (22)	0	
Cumberland	RB	69 (12)	0	
Gloucester	RB	164 (28)	0	
Ocean	CO2, Gravid, RB	15 (11)	0	
Sussex	CO2	14 (1)	0	
TOTAL		**605 (87)**	**0**	

The table below indicates non-*melanura* species tested for EEE:

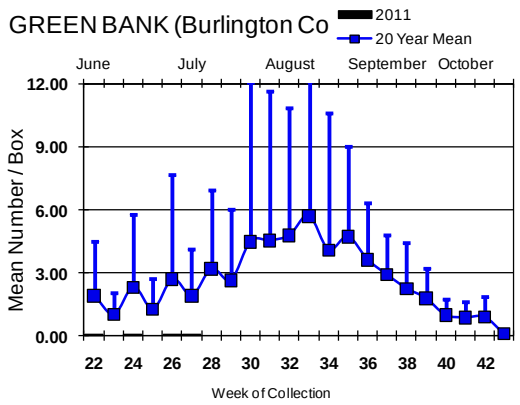
Species other than *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	3	7		
Aedes canadensis canadensis	8	295		
Aedes cantator	10	155		
Aedes grossbecki	1	3		
Aedes japonicus	3	23		
Aedes sollicitans	6	73		
Aedes sticticus	1	3		
Aedes taeniorhynchus	6	69		
Aedes thibaulti	1	1		
Aedes triseriatus	2	5		
Aedes vexans	3	101		
Anopheles barberi	1	1		
Anopheles bradleyi	2	5		
Anopheles punctipennis	11	152		
Anopheles quadrimaculatus	5	27		
Coquillettidia perturbans	41	912		
Culex erraticus	12	411		
Culex pipiens	107	809		
Culex restuans	6	7		
Culex salinarius	26	402		
Culex spp.	106	4256		
Psorophora howardii	1	2		
State Total	**362**	**7719**		

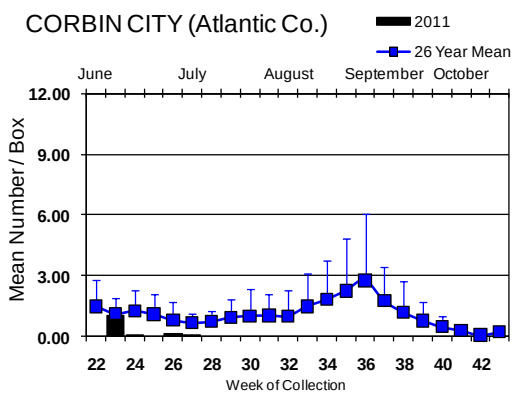
Horses and Humans: No positive horses or humans to date.

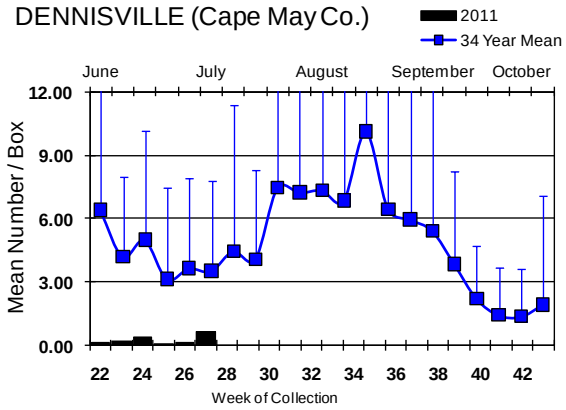
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

Culiseta melanura Population Graphs

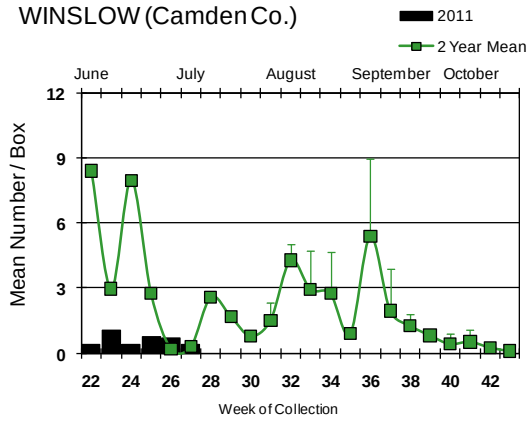
Coastal

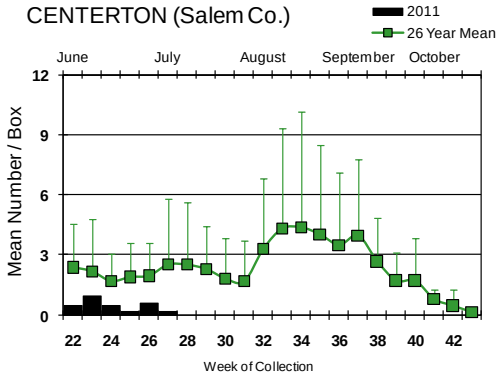


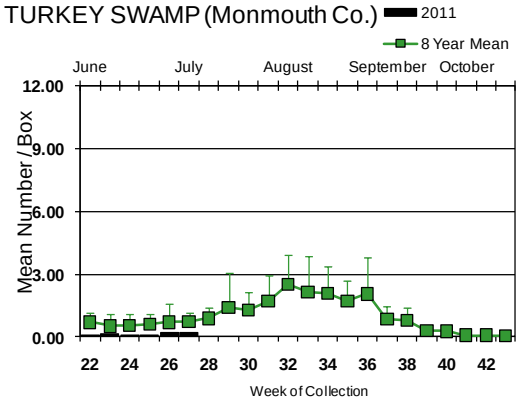




Inland



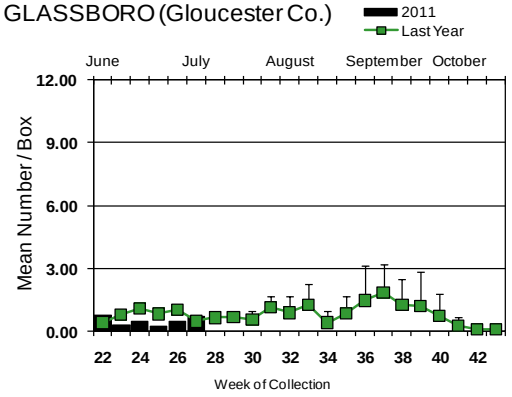




Populations of *Culiseta melanura* at most of the traditional resting box surveillance sites remain low, with Winslow and Glassboro sites somewhat above the historical trend. It should be noted that the historical data for both these sites consists only on the previous year and that these values are still considerably low abundances.

= Positive pool(s) detected.

Note: Both Winslow and Glassboro have single point historical data (the previous year) for weeks 22 to 29.



EEE in US (2011 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: 1(FL)
- mosquito pools:
- sentinel: 9 chickens/19 wild bird (FL)
- human:

West Nile Virus

West Nile in US (2011 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	15/19	0	0	1
Arkansas					
California	29/37	31/46			
Colorado	0	0			0
Connecticut		1			0
Delaware					
DC					
Florida	1 flavi		31		
Georgia	0	0		1	0
Hawaii					
Idaho					
Illinois	2	4	0	0	0
Indiana	0	0		0	0
Iowa		1	0	0	0
Kansas					
Kentucky					
Louisiana					
Maine		0		0	0
Maryland					
Mass.		2		0	0
Michigan	0	0	0	0	0
Minnesota	1				
Mississippi		3		0	1
Missouri		12/22		0	0

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana				0	0
Nebraska	0	3		0	0
Nevada					0
New Hampshire		0		0	0
New Jersey	0	9		0	0
New Mexico					0
New York		0		0	0
North Carolina					
North Dakota	0	0		0*	0
Ohio		3/4		0	0
Oklahoma					
Oregon	0	0	0	0	0
Pennsylvania	1	13/27		0*	0
Rhode Island		0		0	0
South Carolina	0	0		0	0
South Dakota		0		0	0
Tennessee	0	15/31		0	0
Texas	0	18/54		0	0
Utah		0	0	0	0
Vermont	0	0		0	0
Virginia		0	0	0	0
Washington	0	0		0	0
West Virginia					
Wisconsin	0	0		0	0
Wyoming		2		0	0

* Other species (e.g., dogs) 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 for West Nile Virus Testing through 9 July 2011

Species	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	71	229		
Aedes aurifer	1	2		
Aedes canadensis canadensis	43	742		
Aedes cantator	21	181		
Aedes grossbecki	3	8		
Aedes japonicus	101	392		
Aedes sollicitans	9	85		
Aedes sticticus	2	24		
Aedes stimulans	3	45		
Aedes taeniorhynchus	10	116		
Aedes thibaulti	1	1		
Aedes triseriatus	68	168		
Aedes trivittatus	3	4		
Aedes vexans	27	259		
Anopheles barberi	1	1		
Anopheles bradleyi	5	15		
Anopheles punctipennis	23	169		
Anopheles quadrimaculatus	18	85		
Coquillettidia perturbans	55	974		
Culex erraticus	14	414		
Culex pipiens	202	4001	5	1.250
Culex restuans	209	1528		
Culex salinarius	29	420		
Culex spp.	596	24838	4	0.161
Culiseta melanura	138	1400		
Psorophora ferox	3	17		
Psorophora howardii	1	2		
State Total	**1,657**	**36,120**	**9**	**0.249**

Remarks: To date, there have been 36,120 mosquitoes tested in 1,657 pools of 26 species. Positive pools have been detected last week in *Culex pipiens* or Mixed *Culex* pools form Gloucester, Hunterdon, Middlesex and Warren County. Dates samples were collected were between 28 June and 7 July.

Humans, Horses and Wild Birds: There are no positive human or horse cases reported.

Bird testing began in mid-April. Twenty-one birds have been tested with no positives detected. Species include American Crow *Corvus brachyrhynchos* (1), Blue Jays *Cyanocitta cristata* (2), Fish Crows *Corvus ossifragus* (7) and Other (non-corvid) species (11). The birds were submitted from Atlantic, Burlington, Cape May, Cumberland, Gloucester, Monmouth, Ocean and Warren counties.

2011 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
9/ 1657 (0.005%)	35/ 1374 (.025%)
2011 Positive Birds to date / Total Birds Submitted	This time last year
0/ 21 (0%)	1/ 36 (0.03%)

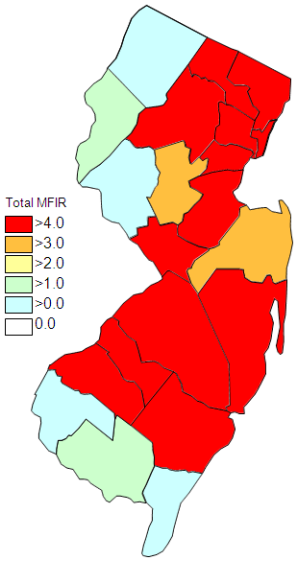
WNV Results by County through 9 July 2011

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**70**	**2332**		
	Aedes albopictus	4	53		
	Aedes canadensis canadensis	1	4		
	Aedes cantator	3	20		
	Aedes japonicus	2	8		
	Aedes sollicitans	1	7		
	Aedes taeniorhynchus	1	29		
	Aedes thibaulti	1	1		
	Aedes triseriatus	1	5		
	Aedes vexans	4	36		
	Anopheles bradleyi	1	5		
	Coquillettidia perturbans	3	11		
	Culex restuans	1	1		
	Culex spp.	43	2121		
	Culiseta melanura	4	31		
Burlington		**153**	**5851**		
	Aedes albopictus	3	7		
	Aedes canadensis canadensis	7	290		
	Aedes cantator	2	63		
	Aedes grossbecki	1	3		
	Aedes japonicus	3	23		
	Aedes sollicitans	4	64		
	Aedes sticticus	1	3		
	Aedes taeniorhynchus	3	8		
	Aedes triseriatus	1	3		
	Aedes vexans	3	101		
	Anopheles punctipennis	2	13		
	Coquillettidia perturbans	18	593		
	Culex pipiens	3	24		
	Culex salinarius	8	66		
	Culex spp.	74	4141		
	Culiseta melanura	19	447		
	Psorophora howardii	1	2		
Camden		**66**	**1607**		
	Aedes albopictus	11	21		
	Aedes japonicus	10	35		
	Aedes triseriatus	1	2		
	Culex spp.	38	1383		
	Culiseta melanura	6	166		
Cape May		**498**	**4738**		
	Aedes albopictus	4	5		
	Aedes canadensis canadensis	11	312		
	Aedes cantator	7	68		
	Aedes japonicus	22	60		
	Aedes sollicitans	2	9		
	Aedes taeniorhynchus	5	78		
	Aedes triseriatus	18	40		
	Anopheles bradleyi	3	9		
	Anopheles punctipennis	3	4		
	Anopheles quadrimaculatus	9	53		

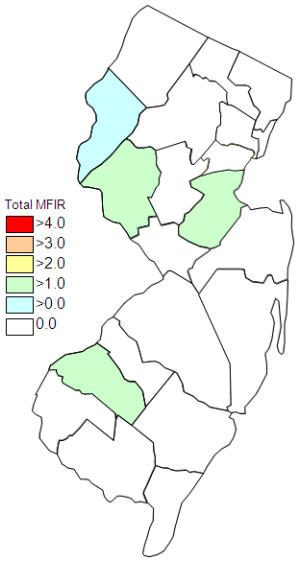
	Coquillettidia perturbans	12	202		
	Culex erraticus	12	411		
	Culex pipiens	128	1287		
	Culex restuans	195	1505		
	Culex salinarius	18	336		
	Culex spp.	37	174		
	Culiseta melanura	27	185		
Cumberland		**49**	**490**		
	Aedes albopictus	4	4		
	Aedes canadensis canadensis	2	6		
	Aedes japonicus	1	7		
	Aedes triseriatus	6	12		
	Aedes vexans	1	2		
	Anopheles punctipennis	1	2		
	Coquillettidia perturbans	6	86		
	Culex pipiens	1	7		
	Culex restuans	2	5		
	Culex spp.	11	282		
	Culiseta melanura	14	77		
Essex		**120**	**2588**		
	Aedes albopictus	6	19		
	Aedes canadensis canadensis	2	8		
	Aedes grossbecki	2	5		
	Aedes japonicus	16	88		
	Aedes sticticus	1	21		
	Aedes stimulans	3	45		
	Aedes triseriatus	14	37		
	Aedes vexans	8	75		
	Culex spp.	67	2276		
	Psorophora ferox	1	14		
Gloucester		**132**	**3188**	**5**	**1.568**
	Aedes albopictus	3	10		
	Aedes japonicus	6	25		
	Aedes triseriatus	3	8		
	Anopheles punctipennis	6	131		
	Anopheles quadrimaculatus	5	27		
	Coquillettidia perturbans	1	1		
	Culex pipiens	68	2681	5	1.865
	Culiseta melanura	40	305		
Hudson		**15**	**1007**		
	Culex spp.	15	1007		
Hunterdon		**15**	**750**	**1**	**1.333**
	Culex spp.	15	750	1	1.333
Middlesex		**19**	**1038**	**2**	**1.927**
	Culex spp.	19	1038	2	1.927
Monmouth		**124**	**1281**		
	Aedes albopictus	10	10		
	Aedes canadensis canadensis	12	98		

	Aedes cantator	5	25		
	Aedes japonicus	14	52		
	Aedes sollicitans	2	5		
	Aedes taeniorhynchus	1	1		
	Aedes triseriatus	7	23		
	Aedes trivittatus	2	3		
	Aedes vexans	4	12		
	Anopheles barberi	1	1		
	Anopheles punctipennis	5	11		
	Coquillettidia perturbans	6	29		
	Culex restuans	2	2		
	Culex salinarius	1	16		
	Culex spp.	41	965		
	Culiseta melanura	11	28		
Morris		**15**	**651**		
	Culex spp.	15	651		
Ocean		**109**	**667**		
	Aedes albopictus	21	83		
	Aedes canadensis canadensis	5	5		
	Aedes cantator	4	5		
	Aedes japonicus	13	29		
	Aedes triseriatus	7	14		
	Aedes trivittatus	1	1		
	Aedes vexans	4	12		
	Anopheles bradleyi	1	1		
	Coquillettidia perturbans	5	36		
	Culex erraticus	1	1		
	Culex restuans	4	5		
	Culex salinarius	2	2		
	Culex spp.	28	455		
	Culiseta melanura	11	15		
	Psorophora ferox	2	3		
Passaic		**15**	**647**		
	Aedes japonicus	1	9		
	Aedes triseriatus	1	2		
	Culex spp.	13	636		
Salem		**67**	**727**		
	Aedes albopictus	1	1		
	Aedes aurifer	1	2		
	Aedes canadensis canadensis	3	19		
	Aedes japonicus	10	33		
	Aedes triseriatus	7	16		
	Aedes vexans	3	21		
	Anopheles punctipennis	6	8		
	Anopheles quadrimaculatus	4	5		
	Coquillettidia perturbans	3	15		
	Culex erraticus	1	2		
	Culex pipiens	2	2		
	Culex restuans	2	3		
	Culex spp.	19	468		
	Culiseta melanura	5	132		

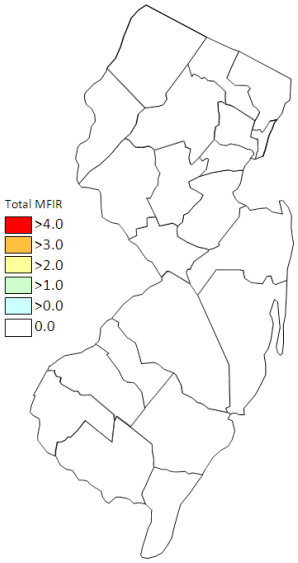
Somerset		**15**	**151**		
	Aedes albopictus	2	5		
	Aedes japonicus	1	14		
	Aedes triseriatus	2	6		
	Coquillettidia perturbans	1	1		
	Culex spp.	9	125		
Sussex		**27**	**939**		
	Culex restuans	3	7		
	Culex spp.	23	918		
	Culiseta melanura	1	14		
Union		**13**	**433**		
	Aedes albopictus	2	11		
	Aedes japonicus	2	9		
	Culex spp.	9	413		
Warren		**120**	**7035**	**1**	**0.142**
	Culex spp.	120	7035	1	0.142
Grand Total		**1657**	**36120**	**9**	**0.249**



Cumulative WNV activity in 2010.



WNV activity to 9 July 2011.



WNV activity last week, 2011.

Saint Louis Encephalitis (SLE) through 9 July 2011.

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 2011.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		**150**	**5847**		
	Aedes albopictus	3	7		
	Aedes canadensis canadensis	7	290		
	Aedes cantator	2	63		
	Aedes grossbecki	1	3		
	Aedes japonicus	3	23		
	Aedes sollicitans	4	64		
	Aedes sticticus	1	3		
	Aedes taeniorhynchus	3	8		
	Aedes triseriatus	1	3		
	Aedes vexans	3	101		
	Anopheles punctipennis	2	13		
	Coquillettidia perturbans	18	593		
	Culex pipiens	3	24		
	Culex salinarius	8	66		
	Culex spp.	74	4141		
	Culiseta melanura	16	443		
	Psorophora howardii	1	2		
Camden		**60**	**1441**		
	Aedes albopictus	11	21		
	Aedes japonicus	10	35		
	Aedes triseriatus	1	2		
	Culex spp.	38	1383		
Essex		**120**	**2588**		
	Aedes albopictus	6	19		
	Aedes canadensis canadensis	2	8		
	Aedes grossbecki	2	5		
	Aedes japonicus	16	88		
	Aedes sticticus	1	21		
	Aedes stimulans	3	45		
	Aedes triseriatus	14	37		
	Aedes vexans	8	75		
	Culex spp.	67	2276		
	Psorophora ferox	1	14		
Hudson		**15**	**1007**		
	Culex spp.	15	1007		
Grand Total		**345**	**10883**		

La Crosse Encephalitis (LAC) through 9 July 2011.

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 2011.

County	Species	Pools	Mosquitoes	Positives	MFIR
Cape May		**19**	**41**		
	Aedes japonicus	1	1		
	Aedes triseriatus	18	40		
Cumberland		**8**	**16**		
	Aedes triseriatus	8	16		
Salem		**7**	**16**		
	Aedes triseriatus	7	16		
Grand Total		**34**	**73**		