

VECTOR SURVEILLANCE IN NEW JERSEY

EEE, WNV, SLE and LAC

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CDC WEEK 25: June 19 to June 25, 2011

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This New Jersey Agricultural Experiment Station report is supported by Rutgers University, Hatch funds, funding from the NJ State Mosquito Control Commission and with the participation of the Department of Health and Senior Services, Department of Agriculture and of the 21 county mosquito control agencies of New Jersey.

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	1.26	0	3	2	0	
Corbin City (Atlantic County)	Coastal	1.10	0	27	2	0	
Dennisville (Cape May County)	Coastal	3.13	0.04	36	4	0	
Winslow (Camden County)	Inland	2.74	0.76	130	5	0	
Centerton (Salem County)	Inland	1.89	0.16	102	4	0	
Turkey Swamp (Monmouth County)	Inland	0.59	0.06 [†]	12	5	0	
Glassboro (Gloucester County)	Inland	0.82	0.20	81	4	0	

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

Remarks: The 7 traditional resting box sites for the collection of *Culiseta melanura*, the primary enzootic vector, continue to show no detectable EEE activity. To date 391 *Cs. melanura* from 26 pools have tested negative. Population numbers are considerably lower than historical values. However, past experience has shown the ability to detect positive EEE pools even when populations are low.

Sixty-four additional pools containing 584 *Cs. melanura* have tested negative from other county trapping sites.

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	CO2	290 (11)	0	
Cape May	Gravid, RB	120 (17)	0	
Cumberland	RB	63 (10)	0	
Gloucester	RB	101 (20)	0	
Ocean	CO2, Gravid, RB	10 (6)	0	
TOTAL		584 (64)	0	

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

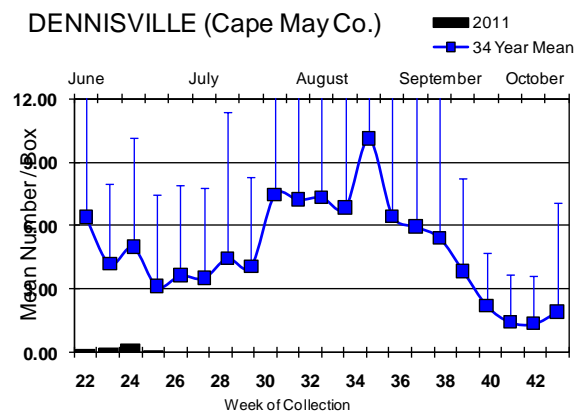
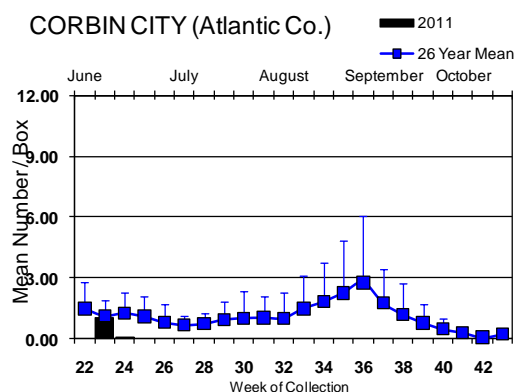
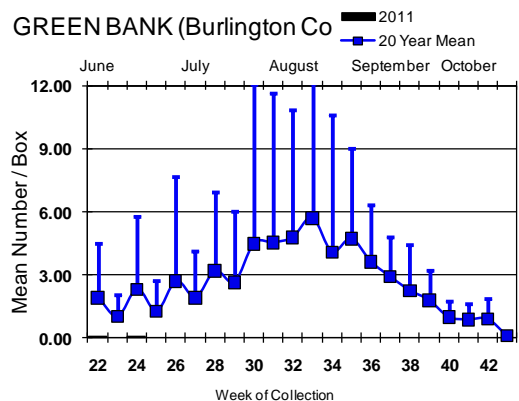
Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1	1		
<i>Aedes canadensis canadensis</i>	6	175		
<i>Aedes cantator</i>	7	104		
<i>Aedes japonicus</i>	1	2		
<i>Aedes sollicitans</i>	4	37		
<i>Aedes sticticus</i>	1	3		
<i>Aedes taeniorhynchus</i>	4	29		
<i>Aedes thibaulti</i>	1	1		
<i>Aedes vexans</i>	1	29		
<i>Anopheles punctipennis</i>	5	27		
<i>Anopheles quadrimaculatus</i>	3	23		
<i>Coquillettidia perturbans</i>	30	568		
<i>Culex erraticus</i>	5	180		
<i>Culex pipiens</i>	61	542		
<i>Culex restuans</i>	4	4		
<i>Culex salinarius</i>	13	160		
<i>Culex</i> spp.	74	2458		
State Total	221	4343		

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

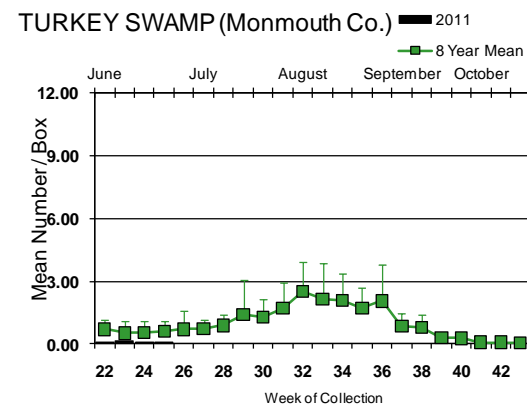
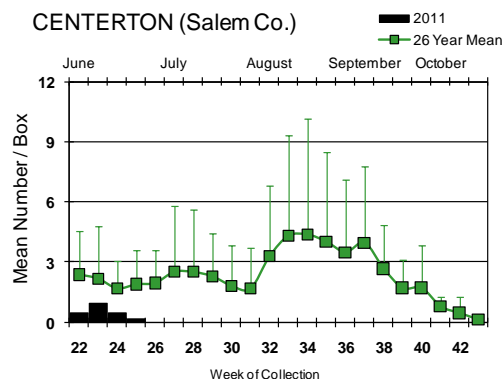
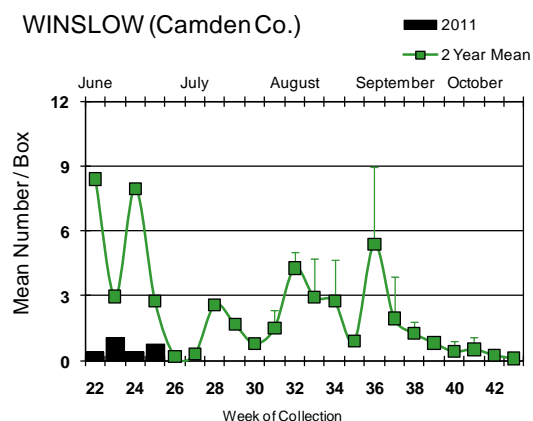
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

Culiseta melanura Population Graphs

Coastal



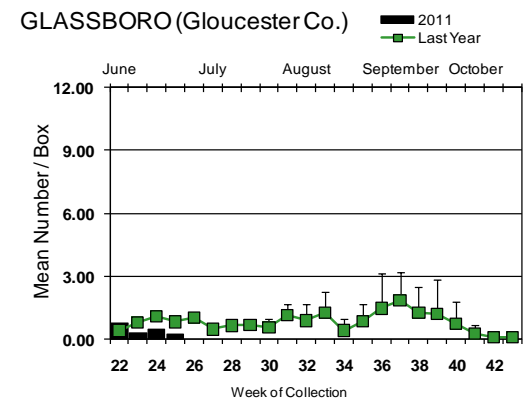
Inland



Populations of *Culiseta melanura* continue to remain well below historical values at all traditional resting box sites. Factors contributing toward these low numbers may include low or moderate population levels from the end of last year with lower overwintering survival and/or lower water levels that form larval habitat. The adult mosquito surveillance program indicates less water in the southern half of New Jersey at this time.

= 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:
- mosquito pools:
- sentinel: 7 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	2	0	0	0
Arkansas					
California	12/23	6/16			
Colorado	0	0			0
Connecticut		0			0
Delaware					
DC					
Florida	1 flavi		27		
Georgia	0	0		1	0
Hawaii					
Idaho					
Illinois	2	1	0	0	0
Indiana	0	0		0	0
Iowa		1	0	0	0
Kansas					
Kentucky					
Louisiana					
Maine		0		0	0
Maryland					
Mass.		0		0	0
Michigan	0	0	0	0	0
Minnesota					
Mississippi		1/2		0	1
Missouri	0	0		0	0

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana				0	0
Nebraska	0	0		0	0
Nevada					0
New Hampshire		0		0	0
New Jersey	0	0		0	0
New Mexico					0
New York		0		0	0
North Carolina					
North Dakota	0	0		0*	0
Ohio		0		0	0
Oklahoma					
Oregon	0	0	0	0	0
Pennsylvania	0	2/9		0*	0
Rhode Island		0		0	0
South Carolina	0	0		0	0
South Dakota		0		0	0
Tennessee	0	3/7		0	0
Texas	0	3/13		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		0		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 28 June 2011

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	29	74		
<i>Aedes canadensis canadensis</i>	31	466		
<i>Aedes cantator</i>	14	109		
<i>Aedes japonicus</i>	2	5		
<i>Aedes sollicitans</i>	42	164		
<i>Aedes sticticus</i>	5	40		
<i>Aedes stimulans</i>	2	24		
<i>Aedes taeniorhynchus</i>	2	44		
<i>Aedes thibaulti</i>	5	45		
<i>Aedes triseriatus</i>	1	1		
<i>Aedes trivittatus</i>	37	103		
<i>Aedes vexans</i>	2	3		
<i>Anopheles bradleyi</i>	17	145		
<i>Anopheles punctipennis</i>	1	4		
<i>Anopheles quadrimaculatus</i>	10	36		
<i>Coquillettidia perturbans</i>	6	62		
<i>Culex erraticus</i>	35	587		
<i>Culex pipiens</i>	5	180		
<i>Culex restuans</i>	112	2036		
<i>Culex salinarius</i>	143	1212		
<i>Culex spp.</i>	14	176		
<i>Culiseta melanura</i>	289	11041		
<i>Psorophora ferox</i>	92	977		
State Total	898	17549		

Remarks: To date, there have been 17,549 mosquitoes tested in 898 pools of 22 species tested with no positives detected. Last year at this time, there were six positive pools detected during a very active year.

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

Bird testing began in mid-April. Eleven birds have been tested with no positives detected. Species include American Crow *Corvus brachyrhynchos* (1), Blue Jays *Cyanocitta cristata* (2), Fish Crows *Corvus ossifragus* (4) and Other (non-corvid) species (9). The birds were submitted from Atlantic, Burlington, Cape May, Cumberland, Gloucester, Monmouth, Ocean and Warren counties.

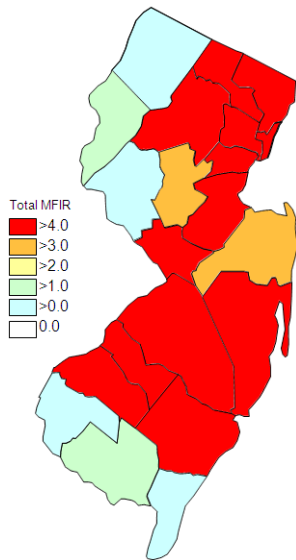
2011 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
0/898 (0%)	6 / 810 (.007%)
2011 Positive Birds to date / Total Birds Submitted	This time last year
0/ 16 (0%)	0/22 (0%)

WNV Results by County through 28 June 2011

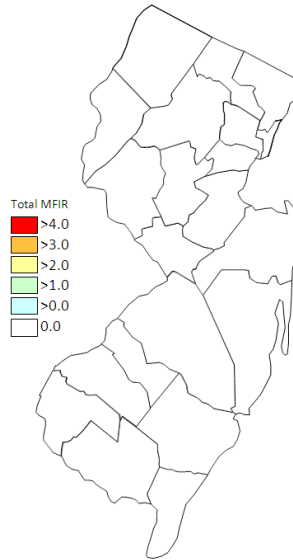
County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		46	1758		
	<i>Aedes albopictus</i>	2	14		
	<i>Aedes cantator</i>	1	8		
	<i>Aedes japonicus</i>	1	4		
	<i>Aedes thibaulti</i>	1	1		
	<i>Aedes triseriatus</i>	1	5		
	<i>Aedes vexans</i>	2	17		
	<i>Coquillettidia perturbans</i>	1	4		
	<i>Culex restuans</i>	1	1		
	<i>Culex</i> spp.	34	1677		
	<i>Culiseta melanura</i>	2	27		
Burlington		92	3324		
	<i>Aedes albopictus</i>	1	1		
	<i>Aedes canadensis canadensis</i>	5	170		
	<i>Aedes cantator</i>	1	44		
	<i>Aedes japonicus</i>	1	2		
	<i>Aedes sollicitans</i>	2	28		
	<i>Aedes sticticus</i>	1	3		
	<i>Aedes taeniorhynchus</i>	2	5		
	<i>Aedes vexans</i>	1	29		
	<i>Anopheles punctipennis</i>	1	8		
	<i>Coquillettidia perturbans</i>	13	337		
	<i>Culex pipiens</i>	1	10		
	<i>Culex salinarius</i>	5	43		
	<i>Culex</i> spp.	45	2351		
	<i>Culiseta melanura</i>	13	293		
Camden		37	925		
	<i>Aedes albopictus</i>	4	4		
	<i>Aedes japonicus</i>	5	14		
	<i>Aedes triseriatus</i>	1	2		
	<i>Culex</i> spp.	22	775		
	<i>Culiseta melanura</i>	5	130		
Cape May		323	3011		
	<i>Aedes canadensis canadensis</i>	8	172		
	<i>Aedes cantator</i>	5	36		
	<i>Aedes japonicus</i>	8	34		
	<i>Aedes sollicitans</i>	2	9		
	<i>Aedes taeniorhynchus</i>	3	40		
	<i>Aedes triseriatus</i>	9	22		
	<i>Anopheles bradleyi</i>	1	4		
	<i>Anopheles punctipennis</i>	1	2		
	<i>Anopheles quadrimaculatus</i>	3	39		
	<i>Coquillettidia perturbans</i>	10	159		
	<i>Culex erraticus</i>	5	180		
	<i>Culex pipiens</i>	70	708		
	<i>Culex restuans</i>	137	1203		
	<i>Culex salinarius</i>	8	117		
	<i>Culex</i> spp.	32	130		
	<i>Culiseta melanura</i>	21	156		

Cumberland	30	246		
<i>Aedes canadensis canadensis</i>	2	6		
<i>Aedes japonicus</i>	1	7		
<i>Aedes triseriatus</i>	4	8		
<i>Aedes vexans</i>	1	2		
<i>Anopheles punctipennis</i>	1	2		
<i>Coquillettidia perturbans</i>	3	49		
<i>Culex pipiens</i>	1	7		
<i>Culex restuans</i>	2	5		
<i>Culex</i> spp.	5	97		
<i>Culiseta melanura</i>	10	63		
Essex	53	948		
<i>Aedes albopictus</i>	1	1		
<i>Aedes canadensis canadensis</i>	2	8		
<i>Aedes grossbecki</i>	2	5		
<i>Aedes japonicus</i>	7	50		
<i>Aedes sticticus</i>	1	21		
<i>Aedes stimulans</i>	2	44		
<i>Aedes triseriatus</i>	8	26		
<i>Aedes vexans</i>	4	55		
<i>Culex</i> spp.	25	724		
<i>Psorophora ferox</i>	1	14		
Gloucester	76	1549		
<i>Aedes albopictus</i>	1	3		
<i>Aedes japonicus</i>	3	10		
<i>Aedes triseriatus</i>	2	3		
<i>Anopheles punctipennis</i>	3	17		
<i>Anopheles quadrimaculatus</i>	3	23		
<i>Coquillettidia perturbans</i>	1	1		
<i>Culex pipiens</i>	39	1310		
<i>Culiseta melanura</i>	24	182		
Monmouth	74	803		
<i>Aedes albopictus</i>	7	7		
<i>Aedes canadensis canadensis</i>	8	88		
<i>Aedes cantator</i>	3	16		
<i>Aedes japonicus</i>	5	17		
<i>Aedes sollicitans</i>	1	3		
<i>Aedes triseriatus</i>	3	14		
<i>Aedes trivittatus</i>	2	3		
<i>Aedes vexans</i>	4	12		
<i>Anopheles punctipennis</i>	2	4		
<i>Coquillettidia perturbans</i>	4	27		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	1	16		
<i>Culex</i> spp.	26	581		
<i>Culiseta melanura</i>	7	14		
Ocean	62	368		
<i>Aedes albopictus</i>	13	44		
<i>Aedes canadensis canadensis</i>	3	3		
<i>Aedes cantator</i>	4	5		
<i>Aedes japonicus</i>	7	16		

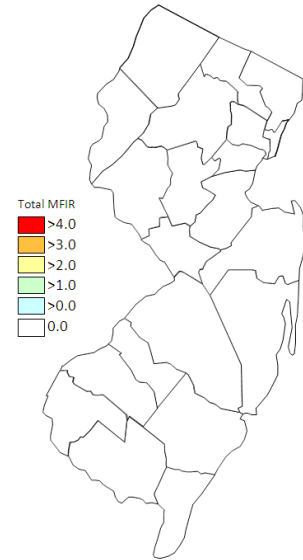
	<i>Aedes triseriatus</i>	6	13		
	<i>Aedes vexans</i>	3	11		
	<i>Coquillettidia perturbans</i>	1	3		
	<i>Culex restuans</i>	1	1		
	<i>Culex</i> spp.	17	261		
	<i>Culiseta melanura</i>	6	10		
	<i>Psorophora ferox</i>	1	1		
Salem		26	196		
	<i>Aedes canadensis canadensis</i>	3	19		
	<i>Aedes japonicus</i>	4	10		
	<i>Aedes triseriatus</i>	3	10		
	<i>Aedes vexans</i>	2	19		
	<i>Anopheles punctipennis</i>	2	3		
	<i>Coquillettidia perturbans</i>	2	7		
	<i>Culex pipiens</i>	1	1		
	<i>Culex restuans</i>	1	1		
	<i>Culex</i> spp.	4	24		
	<i>Culiseta melanura</i>	4	102		
Warren		79	4421		
	<i>Culex</i> spp.	79	4421		
Grand Total		898	17549		



Cumulative WNV activity in 2010.



WNV activity to 28 June 2011.



WNV activity last week, 2011.

Saint Louis Encephalitis (SLE) through 28 June 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		90	3321		
	<i>Aedes albopictus</i>	1	1		
	<i>Aedes canadensis canadensis</i>	5	170		
	<i>Aedes cantator</i>	1	44		
	<i>Aedes japonicus</i>	1	2		
	<i>Aedes sollicitans</i>	2	28		
	<i>Aedes sticticus</i>	1	3		
	<i>Aedes taeniorhynchus</i>	2	5		
	<i>Aedes vexans</i>	1	29		
	<i>Anopheles punctipennis</i>	1	8		
	<i>Coquillettidia perturbans</i>	13	337		
	<i>Culex pipiens</i>	1	10		
	<i>Culex salinarius</i>	5	43		
	<i>Culex</i> spp.	45	2351		
	<i>Culiseta melanura</i>	11	290		
Camden		32	795		
	<i>Aedes albopictus</i>	4	4		
	<i>Aedes japonicus</i>	5	14		
	<i>Aedes triseriatus</i>	1	2		
	<i>Culex</i> spp.	22	775		
Essex		53	948		
	<i>Aedes albopictus</i>	1	1		
	<i>Aedes canadensis canadensis</i>	2	8		
	<i>Aedes grossbecki</i>	2	5		
	<i>Aedes japonicus</i>	7	50		
	<i>Aedes sticticus</i>	1	21		
	<i>Aedes stimulans</i>	2	44		
	<i>Aedes triseriatus</i>	8	26		
	<i>Aedes vexans</i>	4	55		
	<i>Culex</i> spp.	25	724		
	<i>Psorophora ferox</i>	1	14		
Grand Total		175	5064		

La Crosse Encephalitis (LAC) through 28 June 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		9	22		
	<i>Aedes triseriatus</i>	9	22		
Cumberland		4	8		
	<i>Aedes triseriatus</i>	4	8		
Salem		3	10		
	<i>Aedes triseriatus</i>	3	10		
Grand Total		16	40		