

**VECTOR SURVEILLANCE IN NEW JERSEY**  
**EEE, WNV, SLE and LAC**  
CDC WEEK 26: June 27 to July 3, 2010

*Culiseta melanura* and Eastern Equine Encephalitis

SITE	Inland / Coastal	Historic Mean	Current Weekly Mean	Total Tested to Date*	Total Pools Submitted	EEE Isolations	MFIR
<b>Green Bank</b> (Burlington County)	Coastal	2.83	0.20	43	5	0	0
<b>Corbin City</b> (Atlantic County)	Coastal	0.81	1.04	226	6	0	0
<b>Dennisville</b> (Cape May County)	Coastal	3.76	0	90	4	0	0
<b>Winslow</b> (Camden County)	Inland	No history this week	0.20	716	16	0	0
<b>Centerton</b> (Salem County)	Inland	1.82	5.12	546	13	0	0
<b>Turkey Swamp</b> (Monmouth County)	Inland	0.77	0.26	122	18	0	0
<b>Glassboro</b> (Gloucester County)	Inland	0.6 <sup>†</sup>	1.00	196	5	0	0

\*Including trial run last week in May. † mean from location < 1 mile away.

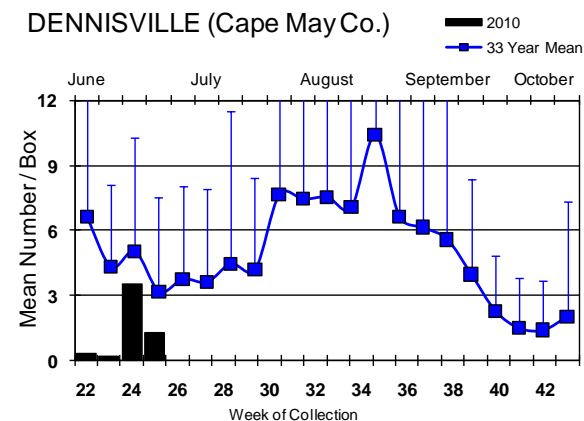
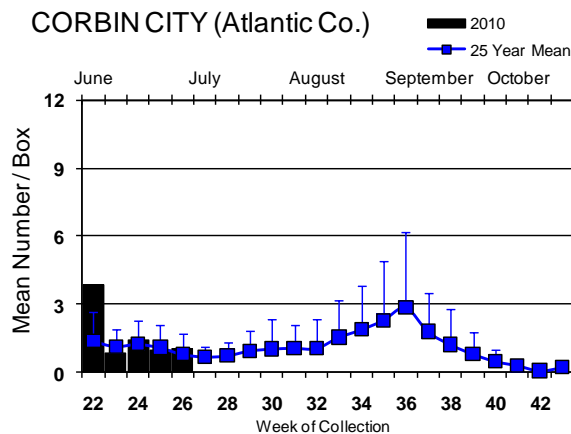
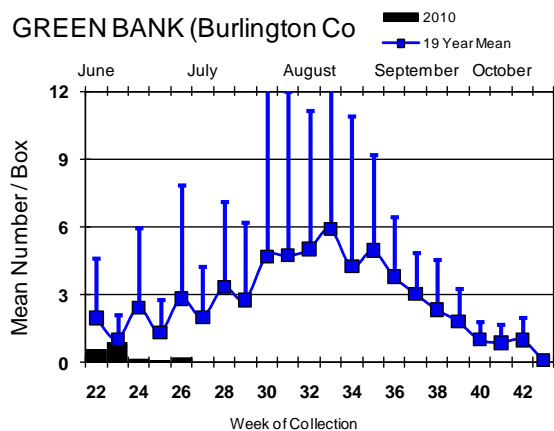
**Remarks:** There are no positive EEE pools to report at this time. To date, 1939 *Culiseta melanura* mosquitoes forming 67 pools from the seven traditional resting box sites have been tested. An additional 1383 *Cs. melanura* have been tested from 3 sites in Burlington County, 10 sites in Cape May, 6 sites in Gloucester, 13 sites in Ocean and 8 sites in Sussex counties, all negative. The table below indicates non-melanura species tested for EEE.

Species of than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Coquillettidia perturbans</i>	7	235		
<i>Culex erraticus</i>	2	61		
<i>Culex pipiens</i>	33	436		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	1	7		
<i>Culex</i> spp.	23	581		
<i>Culiseta minnesotae</i>	1	1		
<b>State Total</b>	<b>68</b>	<b>1322</b>	<b>0</b>	<b>0.00</b>

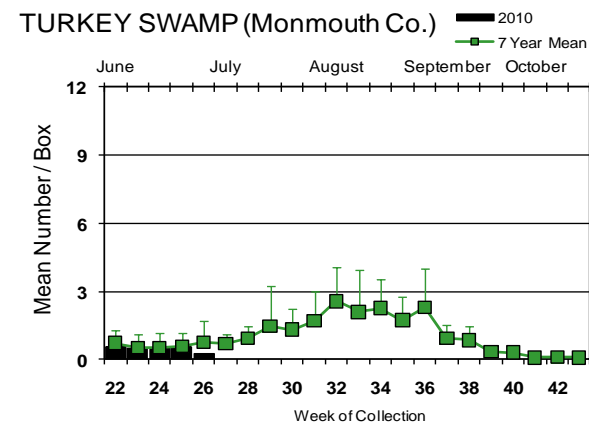
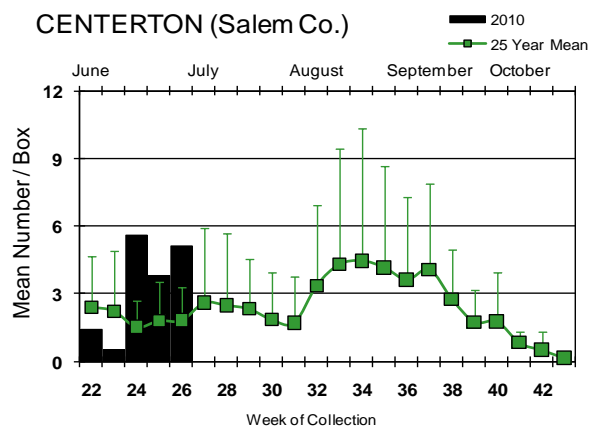
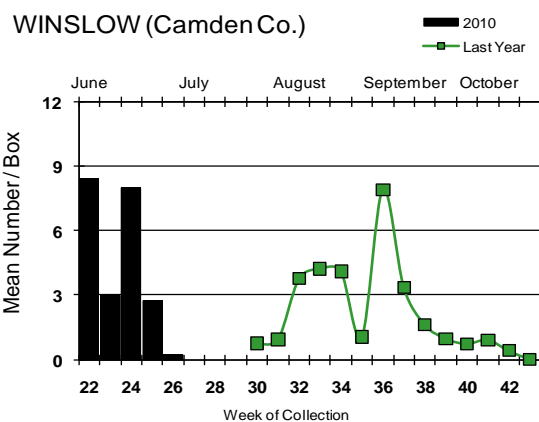
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: [http://www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm)

# Culiseta melanura Population Graphs

## Coastal

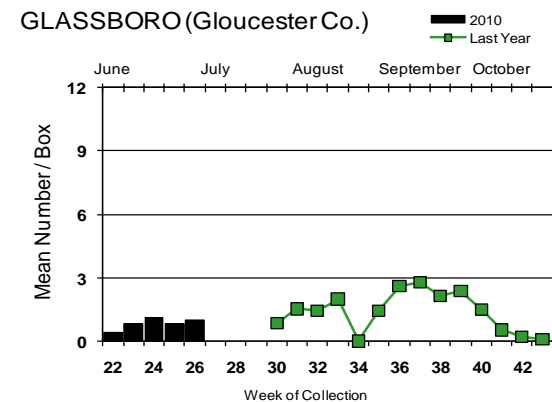


## Inland



*Cs. melanura* populations in resting boxes at the seven monitoring sites decreased at Dennisville (first zero collection since 2002), Winslow and Turkey Swamp but increased slightly at Green Bank, Corbin City and Glassboro. Populations at Centerton also increased substantially. The populations caught in resting boxes appear to be somewhat lagged over those caught in the standard New Jersey light traps of the adult surveillance program. That population appears to have peaked and declined.

↓ = Zero positive pool(s) detected.



**EEE in US (2010 cumulative cases):** (Black/Red = previous/new reported cases occurring)

- equine: 17(FL)
- mosquito: 2(FL)
- sentinel: 36/13(FL)
- human: 1(TX-out of country acquired case)

## West Nile Virus

**West Nile in US (2010 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		65			
Arkansas					
California	30/40	23/48		1	
Colorado					
Connecticut		1			
Delaware					
DC					
Florida			45		
Georgia					2
Hawaii					
Idaho					
Illinois	10	4/6			
Indiana					
Iowa		0	0	0	0
Kansas					
Kentucky				0	
Louisiana					
Maine					
Maryland					
Mass.		2			
Michigan					
Minnesota					
Mississippi					1
Missouri		17			
Montana					
Nebraska					

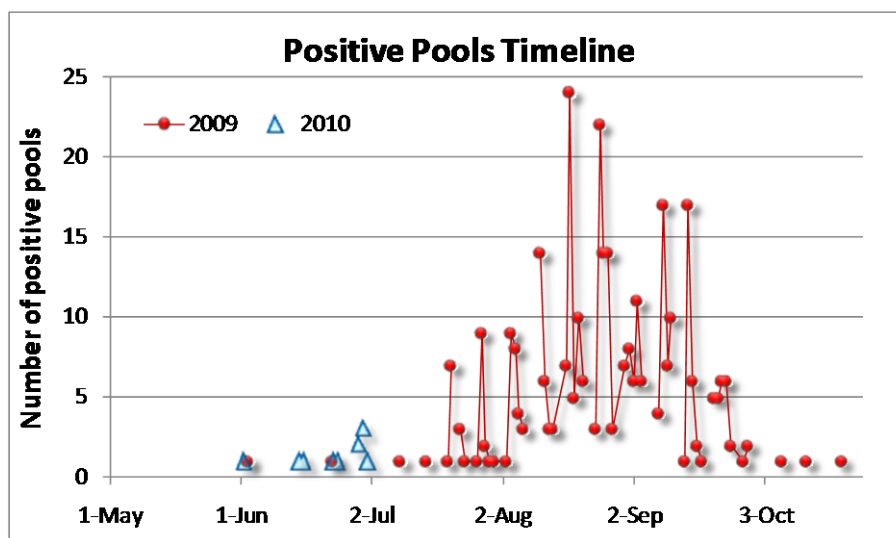
	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada					
New Hampshire					
New Jersey	1	5/14	0	0	0
New Mexico					
New York					
North Carolina					
North Dakota					1
Ohio		1/2			
Oklahoma					
Oregon					
Pennsylvania		11/12			
Rhode Island					
South Carolina					
South Dakota					
Tennessee		1			
Texas		7/11			0
Utah		1			
Vermont					
Virginia					
Washington		1/3			
West Virginia		8			
Wisconsin					
Wyoming		2			

**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 1 July 2010**

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	35	124		
<i>Aedes canadensis canadensis</i>	18	354		
<i>Aedes cantator</i>	7	21		
<i>Aedes japonicus</i>	70	370		
<i>Aedes sticticus</i>	1	1		
<i>Aedes triseriatus</i>	23	69		
<i>Aedes trivittatus</i>	2	24		
<i>Aedes vexans</i>	6	63		
<i>Anopheles punctipennis</i>	6	120		
<i>Anopheles quadrimaculatus</i>	7	96		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	32	876		
<i>Culex erraticus</i>	2	61		
<i>Culex pipiens</i>	122	3197	5	1.564
<i>Culex restuans</i>	63	492		
<i>Culex salinarius</i>	5	13		
<i>Culex spp.</i>	484	18228	9	0.494
<i>Culiseta melanura</i>	122	2175		
<i>Culiseta minnesotae</i>	1	1		
<i>Orthopodomyia signifera</i>	1	1		
State Total	<b>1008</b>	<b>26287</b>	<b>14</b>	<b>0.533</b>

**Remarks:** The number of positive WNV mosquito pools to date is 14, with 9 additional pools found since last week. Additional pools come from Atlantic, Gloucester, Middlesex and Passaic counties. The increase in this year's activity is ahead of what happened in 2009 (see graph below). This pattern of increased activity is occurring during a period of abnormal dryness ([www.drought.gov](http://www.drought.gov)). Periods of drought has been reported by researchers to correlate with increased WNV activity.



**Humans, Horses and Wild Birds:** No humans or horses have been found positive for WNV to date. For more details plus information about WNV, see the West Nile Virus Alert and FAQ Sheets from the NJ Department of Health and Senior Services, Communicable Disease Service, Infectious and Zoonotic Disease Program: <http://www.state.nj.us/health/cd/westnile/enceph.htm>

First WNV positive bird out of thirty birds tested to date has been found. This was an American Crow (*Corvus brachyrhynchos*) from Ocean County, collected on July 6th. This positive bird was found considerably ahead of the first positive bird from 2009 (a Blue Jay, testing positive the beginning of August, also from Ocean County). This year's tested birds include 8 *Corvus* (3 American, 4 Fish and 4 unidentified Crows), 6 Blue Jays (*Cyanocitta cristata*), 1 Hawk (unknown species) and 12 unknown species.

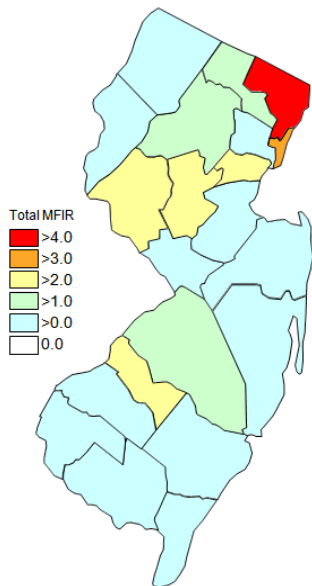
2010 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
14/ 1008 (0.014%)	2/ 1932 (0.001%)
2010 Positive Birds to date / Total Birds Submitted	This time last year
1/ 30 (0.03%)	0/ 25 (0%)

#### WNV Results by County through 1 July 2010

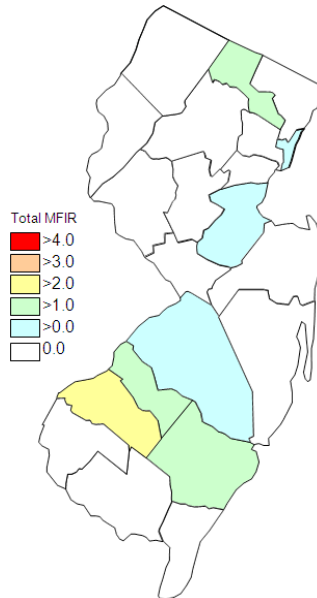
County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>58</b>	<b>1787</b>	<b>3</b>	<b>1.679</b>
	<i>Aedes albopictus</i>	2	4		
	<i>Aedes canadensis canadensis</i>	2	54		
	<i>Aedes cantator</i>	3	14		
	<i>Aedes japonicus</i>	2	4		
	<i>Aedes trivittatus</i>	2	24		
	<i>Aedes vexans</i>	2	51		
	<i>Anopheles punctipennis</i>	1	37		
	<i>Anopheles quadrimaculatus</i>	1	2		
	<i>Coquillettidia perturbans</i>	3	4		
	<i>Culex</i> spp.	30	1343	3	2.234
	<i>Culiseta melanura</i>	9	249		
	<i>Orthopodomyia signifera</i>	1	1		
<b>Bergen</b>		<b>30</b>	<b>2250</b>		
	<i>Culex</i> spp.	30	2250		
<b>Burlington</b>		<b>20</b>	<b>1132</b>	<b>1</b>	<b>0.883</b>
	<i>Culex</i> spp.	6	450	1	2.222
	<i>Culiseta melanura</i>	14	682		
<b>Camden</b>		<b>18</b>	<b>594</b>	<b>1</b>	<b>1.684</b>
	<i>Aedes albopictus</i>	1	1		
	<i>Aedes canadensis canadensis</i>	1	1		
	<i>Aedes japonicus</i>	2	2		
	<i>Culex</i> spp.	14	590	1	1.695
<b>Cape May</b>		<b>226</b>	<b>2978</b>		
	<i>Aedes albopictus</i>	2	5		
	<i>Aedes japonicus</i>	10	23		
	<i>Aedes triseriatus</i>	4	19		
	<i>Anopheles quadrimaculatus</i>	1	10		
	<i>Coquillettidia perturbans</i>	1	1		
	<i>Culex erraticus</i>	2	61		
	<i>Culex pipiens</i>	68	1158		
	<i>Culex restuans</i>	53	387		
	<i>Culex salinarius</i>	1	7		
	<i>Culex</i> spp.	42	543		

	<i>Culiseta melanura</i>	42	764		
<b>Gloucester</b>		<b>52</b>	<b>2207</b>	<b>5</b>	<b>2.266</b>
	<i>Aedes japonicus</i>	1	8		
	<i>Culex pipiens</i>	43	1987	5	2.516
	<i>Culiseta melanura</i>	8	212		
<b>Hudson</b>		<b>43</b>	<b>1267</b>	<b>1</b>	<b>0.789</b>
	<i>Culex</i> spp.	43	1267	1	0.789
<b>Hunterdon</b>		<b>45</b>	<b>2244</b>		
	<i>Culex</i> spp.	45	2244		
<b>Middlesex</b>		<b>60</b>	<b>2900</b>	<b>2</b>	<b>0.690</b>
	<i>Aedes albopictus</i>	1	7		
	<i>Aedes japonicus</i>	3	21		
	<i>Aedes triseriatus</i>	1	6		
	<i>Culex</i> spp.	55	2866	2	0.698
<b>Monmouth</b>		<b>105</b>	<b>695</b>		
	<i>Aedes albopictus</i>	11	19		
	<i>Aedes canadensis canadensis</i>	9	88		
	<i>Aedes cantator</i>	3	6		
	<i>Aedes japonicus</i>	17	56		
	<i>Aedes triseriatus</i>	4	4		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Anopheles quadrimaculatus</i>	1	1		
	<i>Coquillettidia perturbans</i>	4	7		
	<i>Culex pipiens</i>	1	1		
	<i>Culex restuans</i>	1	1		
	<i>Culex salinarius</i>	2	2		
	<i>Culex</i> spp.	30	385		
	<i>Culiseta melanura</i>	21	124		
<b>Morris</b>		<b>28</b>	<b>889</b>		
	<i>Aedes vexans</i>	1	5		
	<i>Anopheles punctipennis</i>	2	6		
	<i>Anopheles quadrimaculatus</i>	3	82		
	<i>Coquillettidia perturbans</i>	4	184		
	<i>Culex</i> spp.	18	612		
<b>Ocean</b>		<b>84</b>	<b>1548</b>		
	<i>Aedes albopictus</i>	11	77		
	<i>Aedes canadensis canadensis</i>	6	211		
	<i>Aedes japonicus</i>	13	64		
	<i>Aedes sticticus</i>	1	1		
	<i>Aedes triseriatus</i>	4	18		
	<i>Aedes vexans</i>	2	6		
	<i>Coquillettidia perturbans</i>	5	81		
	<i>Culex</i> spp.	29	974		
	<i>Culiseta melanura</i>	13	116		
<b>Passaic</b>		<b>41</b>	<b>827</b>	<b>1</b>	<b>1.209</b>
	<i>Aedes albopictus</i>	2	4		

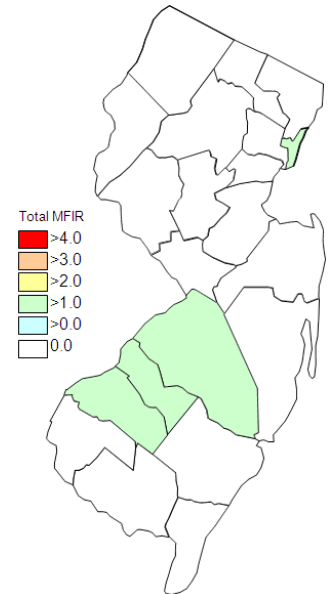
	<i>Aedes japonicus</i>	8	95		
	<i>Aedes triseriatus</i>	5	13		
	<i>Coquillettidia perturbans</i>	2	27		
	<i>Culex</i> spp.	24	688	1	1.453
<b>Salem</b>		<b>19</b>	<b>64</b>		
	<i>Aedes albopictus</i>	1	1		
	<i>Aedes cantator</i>	1	1		
	<i>Aedes japonicus</i>	3	4		
	<i>Aedes triseriatus</i>	1	1		
	<i>Aedes vexans</i>	1	1		
	<i>Anopheles quadrimaculatus</i>	1	1		
	<i>Anopheles walkeri</i>	1	1		
	<i>Culex restuans</i>	1	1		
	<i>Culex</i> spp.	9	53		
<b>Somerset</b>		<b>30</b>	<b>318</b>		
	<i>Aedes albopictus</i>	2	3		
	<i>Aedes japonicus</i>	5	31		
	<i>Aedes triseriatus</i>	4	8		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Culex</i> spp.	18	275		
<b>Sussex</b>		<b>80</b>	<b>1865</b>		
	<i>Coquillettidia perturbans</i>	4	201		
	<i>Culex pipiens</i>	10	51		
	<i>Culex restuans</i>	8	103		
	<i>Culex salinarius</i>	2	4		
	<i>Culex</i> spp.	40	1477		
	<i>Culiseta melanura</i>	15	28		
	<i>Culiseta minnesotae</i>	1	1		
<b>Union</b>		<b>39</b>	<b>1318</b>		
	<i>Aedes albopictus</i>	2	3		
	<i>Aedes japonicus</i>	6	62		
	<i>Coquillettidia perturbans</i>	1	9		
	<i>Culex</i> spp.	30	1244		
<b>Warren</b>		<b>30</b>	<b>1404</b>		
	<i>Anopheles punctipennis</i>	1	75		
	<i>Coquillettidia perturbans</i>	8	362		
	<i>Culex</i> spp.	21	967		
<b>Grand Total</b>		<b>1008</b>	<b>26287</b>	<b>14</b>	<b>0.533</b>



Cumulative WNV activity in 2009.



WNV activity to 29 June, 2010.



WNV activity last week, 2010.

### Saint Louis Encephalitis (SLE) through 1 July 2010.

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 tested positive to date for 2010.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Burlington</b>		<b>15</b>	<b>1089</b>		
	<i>Culex</i> spp.	6	450		
	<i>Culiseta melanura</i>	9	639		
<b>Camden</b>		<b>18</b>	<b>594</b>		
	<i>Aedes albopictus</i>	1	1		
	<i>Aedes canadensis canadensis</i>	1	1		
	<i>Aedes japonicus</i>	2	2		
	<i>Culex</i> spp.	14	590		
<b>Hudson</b>		<b>13</b>	<b>234</b>		
	<i>Culex</i> spp.	13	234		
<b>Salem</b>		<b>1</b>	<b>7</b>		
	<i>Culex</i> spp.	1	7		
<b>Grand Total</b>		<b>42</b>	<b>1549</b>		

### La Crosse Encephalitis (LAC) through 1 July 2010.

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 2010.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Cape May</b>		<b>3</b>	<b>9</b>		
	<i>Aedes triseriatus</i>	3	9		
<b>Warren</b>		<b>6</b>	<b>90</b>		
	<i>Aedes canadensis canadensis</i>	4	86		
	<i>Aedes triseriatus</i>	2	4		
<b>Grand Total</b>		<b>9</b>	<b>99</b>		