

# VECTOR SURVEILLANCE IN NEW JERSEY

## EEE, WNV, SLE, LAC, DENV, CHIK and ZIKV

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CDC WEEK 32: 7 August to 13 August, 2016



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### *Culiseta melanura* and Eastern Equine Encephalitis

SITE/Boxes	Inland or Coastal	Historic Population Mean	Current Weekly Mean	Total Tested* (Collected)	Total Pools Tested* (Submitted)	EEE Isolation Pools	MFIR
Bass River (Burlington Co.)/5	Coastal	0.25	0.00	2	2		
Green Bank (Burlington Co.)/25	Coastal	3.87	0.28	51 (58)	6 (7)		
Corbin City (Atlantic Co.)/25	Coastal	0.94	0.68	106 (123)	12 (13)		
Dennisville (Cape May Co.)/50	Coastal	6.47	0.04	60	10		
Winslow (Camden Co.)/50	Inland	2.18	1.16	669	18		
Centerton (Salem Co.)/50	Inland	2.87	0.14	202	11		
Turkey Swamp (Monmouth Co.)/50	Inland	1.93	0.04	36 (38)	11 (12)	1	27.78
Glassboro (Gloucester Co.)/50	Inland	0.44	0.02	80	11		

\*Current week (in parentheses) results pending. ‡ corrected NC=no collection

**Remarks:** Two new positive EEE pools in *Culiseta melanura*, was detected in NJ. Total positive EEE pools detected are 5, with 3 pools of *Cs. melanura* and 2 pools of *Culex pipiens*.

**Traditional Resting Box Sites:** 1206 *Cs. melanura* from 81 pools have been tested for EEE, with 3 pools of 26 *Cs. melanura* to be tested. One positive pool from Turkey Swamp, collected 3 Aug was detected. Statewide, 3083 *Cs. melanura* have been tested, with three positive pools detected (one traditional, two county sites), for an overall *Cs. melanura* MFIR of 0.79. 12,091 specimens from 14 other species have also been tested, with two reported positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.33

		Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in <b>BOLD</b> .			
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO <sub>2</sub> , RB	19	245		
Burlington	CO <sub>2</sub>	33	854		
Cape May	CDC, CO <sub>2</sub> , GR, RB	88	226		
Cumberland	CDC, RB	5	29		
Middlesex	<b>RB</b>	33	497	2	4.02
Ocean	CO <sub>2</sub> , GR, RB	10	26		
<b>TOTAL</b>		<b>188</b>	<b>1877</b>	<b>2</b>	<b>1.07</b>

**Additional *Cs. melanura*:** Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. One positive pool was detected, sampled from a Middlesex county resting box on 25 July and now a second positive pool from the same site was found, collected on the 8 August.

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1	1		
<i>Aedes cantator</i>	24	51		
<i>Aedes sollicitans</i>	12	439		
<i>Aedes taeniorhynchus</i>	2	68		
<i>Anopheles bradleyi</i>	48	235		
<i>Anopheles crucians</i>	2	40		
<i>Anopheles punctipennis</i>	10	21		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	73	1275		
<i>Culex erraticus</i>	19	115		
<i>Culex pipiens</i>	546	7671	2	0.261
<i>Culex restuans</i>	1	3		
<i>Culex salinarius</i>	211	2053		
<i>Culex</i> sp.	39	106		
<i>Culex territans</i>	1	12		
<b>State Total</b>	<b>990</b>	<b>12091</b>	<b>2</b>	<b>0.165</b>

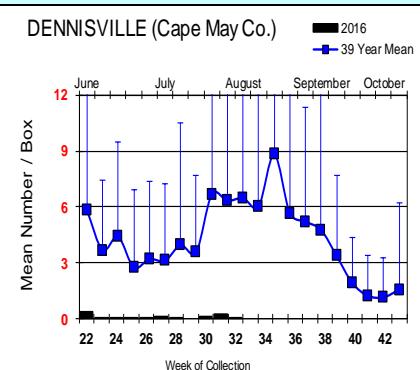
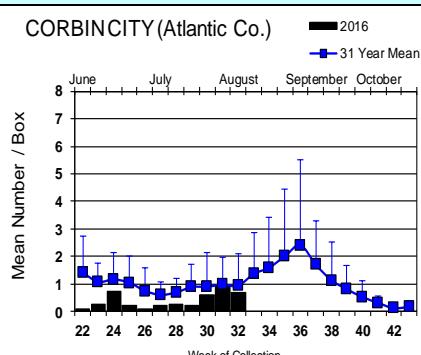
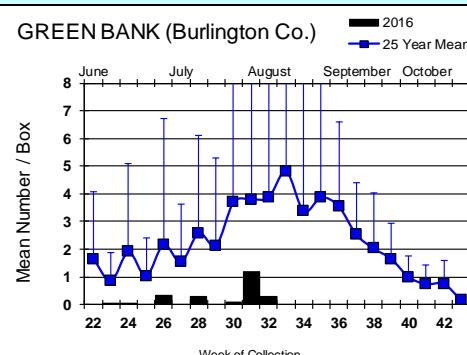
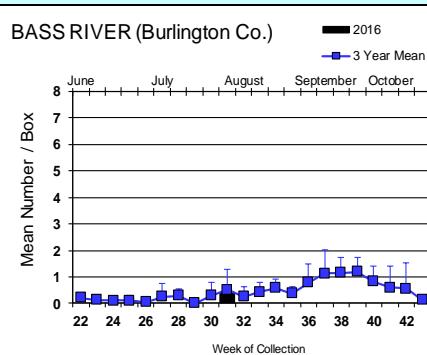
**Additional Species:** Twelve additional species were tested for EEE. First positive pools were detected in *Culex pipiens*, an ornithophilic species, in Cape May, collected on 6 July.

**Horses and Humans:** No positive horse or humans have been reported. Last year one positive horse was reported.

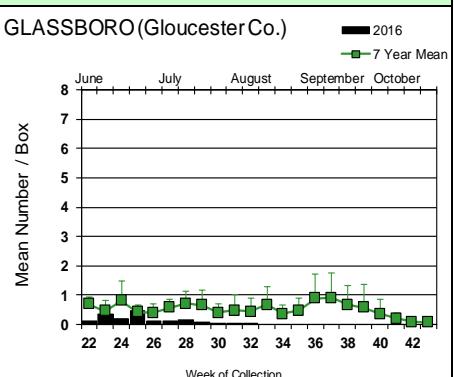
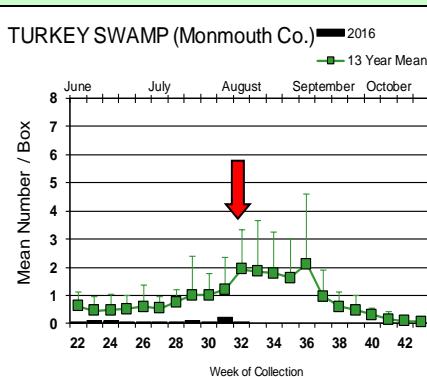
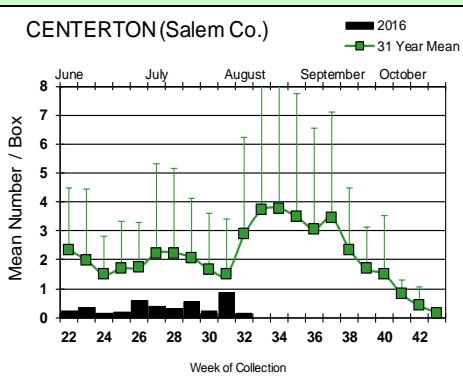
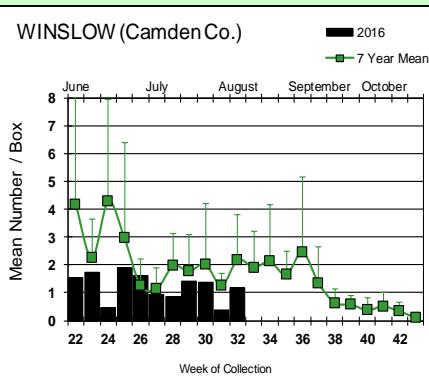
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see:  
[http://www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm)

# Culiseta melanura Population Graphs

## Coastal



## Inland



First positive *Cs. melanura* has occurred in a traditional resting box site, Turkey Swamp. Despite the low population numbers seen at that resting box site and like Green Bank, another site previously with low number and detectable positive pools, we see EEE activity there. Population numbers continue to appear low at most resting box sites, but light trap data (see adult surveillance reports), suggests that populations are near their typical amounts.



= Positive pool(s) detected (red = melanura, purple = other species).

**EEE in US** (2016 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: AL(1) FL(18) GA(5) LA(5) MS(3) NC(1) SC(12) TN(1) VA(4)
- mosquito pools: NJ(5) MA(1) RI(1)
- sentinel: FL(60) GA(2) TX(21)
- human:

## West Nile Virus Positive Organisms in US, 2016

West Nile in US (2016 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					2/4
Alaska					
Arizona	1	39	0	0	27/29
Arkansas				0	1
California	834/910	1841/2221	84/135	2/5	10/22
Colorado	1	17/28		1	6/13
Connecticut		14/17			0
Delaware					
DC					
Florida		2	52/57	1	
Georgia		0			0
Hawaii					
Idaho	0	18/21		1/3	1
Illinois	7/8	593/928		0	4
Indiana	0	28/41		0	1
Iowa		1			0
Kansas	1	0		1	2
Kentucky				0	
Louisiana					0
Maine		0			0
Maryland		1			
Mass.		36/61		0	0
Michigan	13	3/4		1	1
Minnesota		6			2
Mississippi		20/22			9/11
Missouri		8		0	0

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					
Nebraska	2	33/37		1	8/14
Nevada					1
New Hampshire		0		0	0
New Jersey		61/102		0	1
New Mexico					1
New York		51/136		1	0
North Carolina					
North Dakota	6	15		1/2	7/15
Ohio		8		0	1
Oklahoma		7		1	4
Oregon	1	9/14	0	0	0
Pennsylvania	2/4	249/360			1
Rhode Island		1			
South Carolina					
South Dakota		68			26/43
Tennessee					1
Texas	1	692/903		3/4	24/37
Utah		47/71			
Vermont		1			1/2
Virginia					
Washington	1	50/62		1	0
West Virginia					
Wisconsin	8/11	1		1	0
Wyoming	1	23			1

\* 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 13 August 2016**

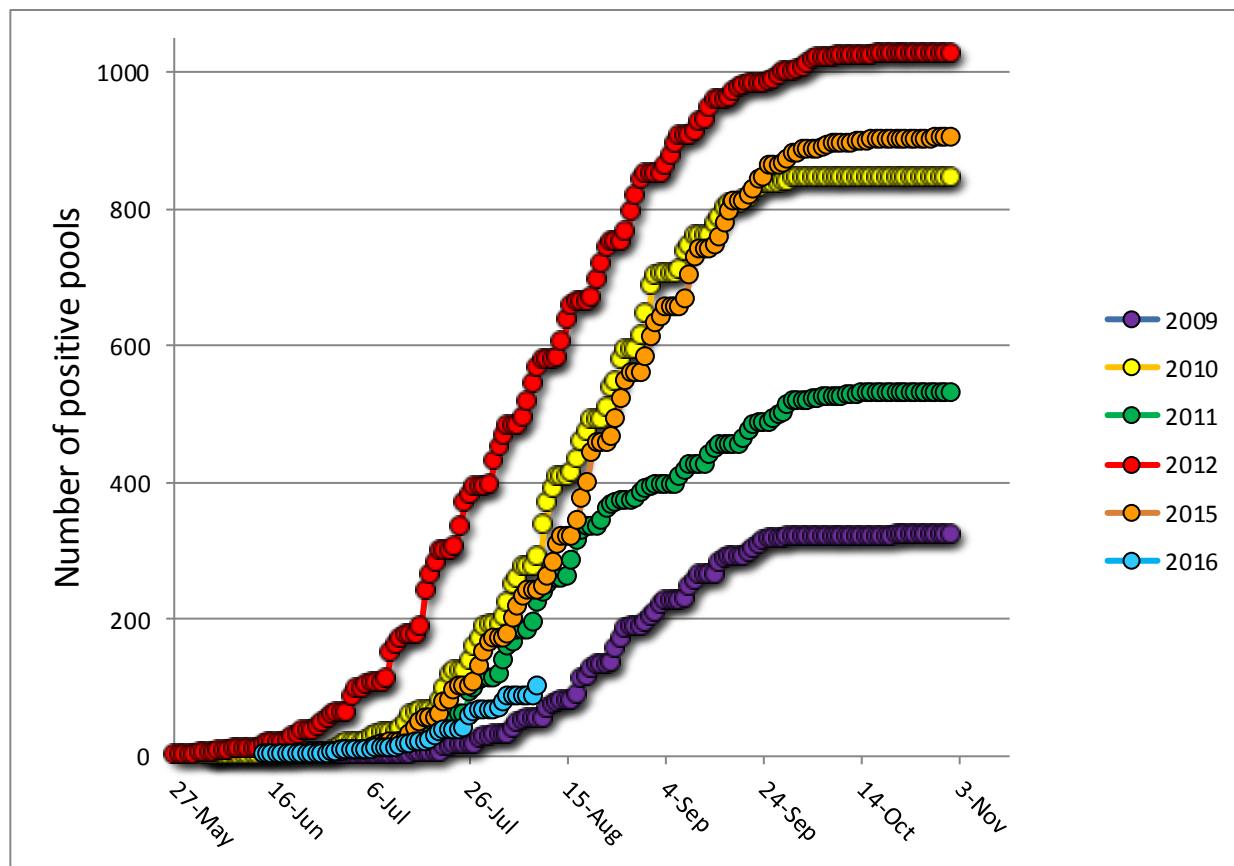
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	705	4784	2	0.418
<i>Aedes atlanticus</i>	4	6		
<i>Aedes atropalpus</i>	19	62		
<i>Aedes canadensis canadensis</i>	32	630		
<i>Aedes cantator</i>	35	245		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	364	1960	2	1.020
<i>Aedes sollicitans</i>	17	554		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	14	370		
<i>Aedes triseriatus</i>	151	313		
<i>Aedes trivittatus</i>	2	34		
<i>Aedes vexans</i>	39	479		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	55	452		
<i>Anopheles crucians</i>	4	46		
<i>Anopheles punctipennis</i>	41	147		
<i>Anopheles quadrimaculatus</i>	86	876		
<i>Coquillettidia perturbans</i>	91	2199		
<i>Culex erraticus</i>	31	164		
<i>Culex pipiens</i>	737	18521	9	0.486
<i>Culex restuans</i>	635	7343	1	0.136
<i>Culex salinarius</i>	217	2198		
<i>Culex spp.</i>	1799	72353	88	1.216
<i>Culex territans</i>	23	244		
<i>Culiseta melanura</i>	268	3009		
<i>Orthopodomyia signifera</i>	3	3		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	8	48		
<i>Psorophora ferox</i>	10	90		
<i>Uranotaenia sapphirina</i>	1	3		
<b>Grand Total</b>	<b>5397</b>	<b>117144</b>	<b>102</b>	<b>0.871</b>

**Remarks:** To date, 5,397 pools of 117,144 mosquitoes from 31 species have been tested, with 102 positive pools detected. A second non-*Culex* species was found infected with WNV, collected at two sites in Passaic County on the 9 Aug. This pattern is fairly typical for New Jersey, with both *Ae. albopictus* and *Ae. japonicus* coming up positive. First non-*Culex* detection occurred in *Aedes albopictus*, collected in Hudson County on 19 July. The first positive pool of *Culex* Mix was collected on 14 June in Monmouth County.

**Humans, Horses and Wild Birds:** One human from Camden County had been reported with WNV, onset of early July. Last year 26 humans and one horse were positive. Onset in 2015 for humans began in early August and the onset for the horse case began in September. For further information, see <http://www.state.nj.us/health/cd/westnile/techinfo.shtml>.

Birds are no longer routinely tested in New Jersey.

The graph below shows cumulative positive pools for several years, with 2012 as the most active year and 2009 as the least active year. A slight increase in activity from the previous week has occurred.



### WNV Results by County through 13 August 2016

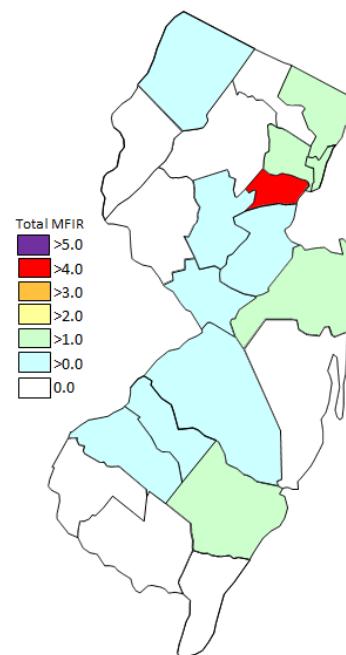
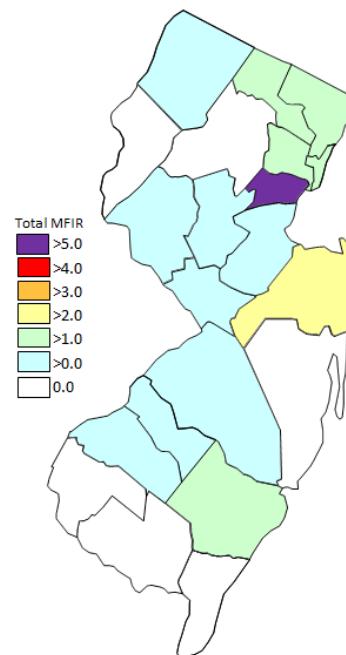
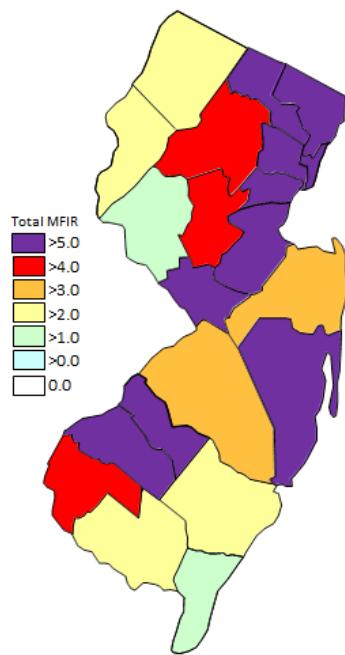
County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		134	4046	5	1.236
	<i>Aedes albopictus</i>	13	157		
	<i>Aedes japonicus</i>	2	8		
	<i>Aedes sollicitans</i>	5	333		
	<i>Aedes sticticus</i>	1	6		
	<i>Aedes taeniorhynchus</i>	4	266		
	<i>Aedes vexans</i>	6	203		
	<i>Anopheles bradleyi</i>	3	95		
	<i>Coquillettidia perturbans</i>	18	357		
	<i>Culex erraticus</i>	4	49		
	<i>Culex pipiens</i>	16	872	5	5.734
	<i>Culex restuans</i>	3	52		
	<i>Culex salinarius</i>	4	123		
	<i>Culex</i> spp.	21	1127		
	<i>Culiseta melanura</i>	31	351		
	<i>Psorophora ferox</i>	3	47		
<b>Bergen</b>		130	8667	16	1.846
	<i>Aedes albopictus</i>	15	72		
	<i>Aedes japonicus</i>	2	120		
	<i>Culex</i> spp.	113	8475	16	1.888
<b>Burlington</b>		121	4263	3	0.704
	<i>Aedes albopictus</i>	6	86		

<i>Aedes atropalpus</i>	3	18		
<i>Aedes japonicus</i>	8	174		
<i>Aedes taeniorhynchus</i>	2	68		
<i>Aedes triseriatus</i>	5	13		
<i>Anopheles barbieri</i>	1	1		
<i>Anopheles bradleyi</i>	1	6		
<i>Anopheles crucians</i>	2	40		
<i>Coquillettidia perturbans</i>	1	58		
<i>Culex salinarius</i>	11	362		
<i>Culex</i> spp.	51	2651	3	1.132
<i>Culex territans</i>	1	12		
<i>Culiseta melanura</i>	29	774		
<b>Camden</b>	<b>124</b>	<b>3537</b>	<b>2</b>	<b>0.565</b>
<i>Aedes albopictus</i>	16	66		
<i>Aedes japonicus</i>	14	56		
<i>Culex</i> spp.	76	2746	2	0.728
<i>Culiseta melanura</i>	18	669		
<b>Cape May</b>	<b>2131</b>	<b>15756</b>		
<i>Aedes albopictus</i>	188	310		
<i>Aedes atlanticus</i>	3	4		
<i>Aedes atropalpus</i>	16	44		
<i>Aedes canadensis canadensis</i>	13	249		
<i>Aedes cantator</i>	24	51		
<i>Aedes japonicus</i>	183	371		
<i>Aedes sollicitans</i>	2	4		
<i>Aedes taeniorhynchus</i>	2	2		
<i>Aedes triseriatus</i>	107	194		
<i>Aedes vexans</i>	7	10		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles bradleyi</i>	47	229		
<i>Anopheles punctipennis</i>	9	10		
<i>Anopheles quadrimaculatus</i>	76	861		
<i>Coquillettidia perturbans</i>	27	426		
<i>Culex erraticus</i>	9	21		
<i>Culex pipiens</i>	548	7676		
<i>Culex restuans</i>	529	4034		
<i>Culex salinarius</i>	178	633		
<i>Culex</i> spp.	34	93		
<i>Culex territans</i>	22	232		
<i>Culiseta melanura</i>	98	286		
<i>Orthopodomyia signifera</i>	2	2		
<i>Psorophora columbiae</i>	2	2		
<i>Psorophora ferox</i>	3	8		
<i>Uranotaenia sapphirina</i>	1	3		
<b>Cumberland</b>	<b>80</b>	<b>1927</b>		
<i>Aedes albopictus</i>	6	87		
<i>Aedes cantator</i>	1	1		
<i>Aedes japonicus</i>	5	9		
<i>Aedes sollicitans</i>	7	210		
<i>Aedes taeniorhynchus</i>	3	26		
<i>Aedes vexans</i>	7	219		
<i>Anopheles bradleyi</i>	4	122		
<i>Anopheles crucians</i>	1	5		

<i>Anopheles punctipennis</i>	3	38		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	4	104		
<i>Culex pipiens</i>	1	7		
<i>Culex salinarius</i>	21	989		
<i>Culex spp.</i>	4	19		
<i>Culiseta melanura</i>	5	29		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	4	44		
<i>Psorophora ferox</i>	1	13		
<b>Essex</b>	<b>129</b>	<b>670</b>	<b>1</b>	<b>1.493</b>
<i>Aedes albopictus</i>	39	165		
<i>Aedes japonicus</i>	5	8		
<i>Aedes triseriatus</i>	2	2		
<i>Anopheles punctipennis</i>	1	1		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Culex spp.</i>	81	493	1	2.028
<b>Gloucester</b>	<b>191</b>	<b>9845</b>	<b>3</b>	<b>0.305</b>
<i>Aedes albopictus</i>	16	199		
<i>Aedes japonicus</i>	14	186		
<i>Aedes triseriatus</i>	1	4		
<i>Anopheles punctipennis</i>	2	10		
<i>Culex pipiens</i>	147	9366	3	0.320
<i>Culiseta melanura</i>	11	80		
<b>Hudson</b>	<b>135</b>	<b>6687</b>	<b>11</b>	<b>1.645</b>
<i>Aedes albopictus</i>	18	423	1	2.364
<i>Culex spp.</i>	117	6264	10	1.596
<b>Hunterdon</b>	<b>119</b>	<b>5304</b>	<b>1</b>	<b>0.189</b>
<i>Culex spp.</i>	119	5304	1	0.189
<b>Mercer</b>	<b>212</b>	<b>5701</b>	<b>5</b>	<b>0.877</b>
<i>Aedes albopictus</i>	22	358		
<i>Aedes japonicus</i>	11	66		
<i>Aedes triseriatus</i>	2	24		
<i>Aedes vexans</i>	1	3		
<i>Culex pipiens</i>	24	599	1	1.669
<i>Culex restuans</i>	99	3250	1	0.308
<i>Culex spp.</i>	53	1401	3	2.141
<b>Middlesex</b>	<b>218</b>	<b>8859</b>	<b>8</b>	<b>0.903</b>
<i>Aedes albopictus</i>	33	217		
<i>Culex spp.</i>	151	8144	8	0.982
<i>Culiseta melanura</i>	34	498		
<b>Monmouth</b>	<b>406</b>	<b>4276</b>	<b>10</b>	<b>2.339</b>
<i>Aedes albopictus</i>	213	1704	1	0.587
<i>Aedes atlanticus</i>	1	2		
<i>Aedes canadensis canadensis</i>	18	311		
<i>Aedes cantator</i>	10	193		
<i>Aedes grossbecki</i>	1	1		

<i>Aedes japonicus</i>	21	41		
<i>Aedes sollicitans</i>	3	7		
<i>Aedes taeniorhynchus</i>	3	8		
<i>Aedes triseriatus</i>	5	12		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	5	21		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles crucians</i>	1	1		
<i>Anopheles punctipennis</i>	21	40		
<i>Anopheles quadrimaculatus</i>	2	2		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	4	15		
<i>Culex restuans</i>	1	3		
<i>Culex</i> spp.	76	1850	9	4.865
<i>Culiseta melanura</i>	12	37		
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	2	20		
<b>Morris</b>	<b>198</b>	<b>7306</b>		
<i>Aedes albopictus</i>	13	52		
<i>Culex</i> spp.	185	7254		
<b>Ocean</b>	<b>194</b>	<b>2978</b>		
<i>Aedes albopictus</i>	55	601		
<i>Aedes canadensis canadensis</i>	1	70		
<i>Aedes japonicus</i>	21	76		
<i>Aedes triseriatus</i>	8	14		
<i>Aedes vexans</i>	1	1		
<i>Anopheles punctipennis</i>	2	2		
<i>Coquillettidia perturbans</i>	16	311		
<i>Culex erraticus</i>	3	36		
<i>Culex restuans</i>	1	2		
<i>Culex</i> spp.	67	1782		
<i>Culiseta melanura</i>	19	83		
<b>Passaic</b>	<b>200</b>	<b>5089</b>	<b>8</b>	<b>1.572</b>
<i>Aedes albopictus</i>	7	12		
<i>Aedes japonicus</i>	50	313	2	6.390
<i>Aedes triseriatus</i>	5	6		
<i>Aedes vexans</i>	12	22		
<i>Culex</i> spp.	126	4736	6	1.267
<b>Salem</b>	<b>157</b>	<b>1073</b>		
<i>Aedes albopictus</i>	34	126		
<i>Aedes japonicus</i>	11	29		
<i>Aedes triseriatus</i>	14	24		
<i>Anopheles punctipennis</i>	2	2		
<i>Anopheles quadrimaculatus</i>	6	9		
<i>Coquillettidia perturbans</i>	9	82		
<i>Culex erraticus</i>	11	43		
<i>Culex pipiens</i>	1	1		
<i>Culex restuans</i>	2	2		
<i>Culex</i> spp.	54	550		
<i>Culiseta melanura</i>	11	202		
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	1	2		

<b>Somerset</b>	<b>120</b>	<b>2711</b>	<b>1</b>	<b>0.369</b>
<i>Aedes albopictus</i>	4	16		
<i>Aedes japonicus</i>	4	35		
<i>Aedes triseriatus</i>	1	4		
<i>Culex</i> spp.	111	2656	1	0.377
<b>Sussex</b>	<b>196</b>	<b>7229</b>	<b>2</b>	<b>0.277</b>
<i>Aedes japonicus</i>	13	468		
<i>Aedes triseriatus</i>	1	16		
<i>Aedes trivittatus</i>	1	33		
<i>Anopheles punctipennis</i>	1	44		
<i>Coquillettidia perturbans</i>	12	856		
<i>Culex salinarius</i>	3	91		
<i>Culex</i> spp.	165	5721	2	0.350
<b>Union</b>	<b>65</b>	<b>3688</b>	<b>26</b>	<b>7.050</b>
<i>Aedes albopictus</i>	7	133		
<i>Culex</i> spp.	58	3555	26	7.314
<b>Warren</b>	<b>137</b>	<b>7532</b>		
<i>Culex</i> spp.	137	7532		
<b>Grand Total</b>	<b>5397</b>	<b>117144</b>	<b>102</b>	<b>0.871</b>



Cumulative WNV activity in 2015. WNV activity to 13 August 2016. WNV activity last week, 2016.

## Saint Louis Encephalitis (SLE) to 13 August 2016.

New Jersey will be primarily testing for SLE this year only when adjacent states show human activity (Cape May tests mosquitoes in the Cape May lab independently). 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.

Currently, there are no reported positive pools of SLE for 2016. There are no human cases reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Burlington</b>		<b>52</b>	<b>2652</b>		
	<i>Anopheles barberi</i>	1	1		
	<i>Culex</i> spp.	51	2651		
<b>Cape May</b>		<b>581</b>	<b>7765</b>		
	<i>Aedes albopictus</i>	1	1		
	<i>Culex pipiens</i>	546	7671		
	<i>Culex</i> spp.	34	93		
<b>Grand Total</b>		<b>633</b>	<b>10417</b>		

## La Crosse Encephalitis (LAC) to 13 August 2016.

New Jersey will be primarily testing for LAC this year only when adjacent states show human activity (Cape May tests mosquitoes in the Cape May lab independently). 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).

Currently, there are no reported positive pools of LAC for 2016. There are no human cases reported.

County	Species		Positives	MFIR
<b>Burlington</b>		<b>22</b>	<b>291</b>	
	<i>Aedes albopictus</i>	6	86	
	<i>Aedes atropalpus</i>	3	18	
	<i>Aedes japonicus</i>	8	174	
	<i>Aedes triseriatus</i>	5	13	
<b>Grand Total</b>		<b>22</b>	<b>291</b>	

## Dengue (DENV) to 13 August 2016.

New Jersey will be selectively testing for DENV (including serotypes) this year. Dengue has not had a history of local transmission here in New Jersey, but each year, travelers can bring virus back from areas in the world with virus activity. This is significant as humans are NOT dead-end hosts and thus there is the potential for local transmission (i.e., New Jersey mosquitoes biting a sick person and then biting and transmitting the disease to someone else) to be established. DENV is a flavivirus but unlike WNV, *Aedes* mosquitoes are predominant vectors. In New Jersey, *Aedes albopictus* is a candidate for local transmission. There are 4 serotypes tested for Dengue.

\*Note\* Same pools of *Ae. albopictus* are tested for the four serotypes of Dengue as well as Chikungunya.

No pools have tested positive in 2016. Currently, New Jersey has 32 imported human cases of Dengue.

County	Species	DENV1		DENV2		DENV3		DENV4		Positives	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Atlantic		13	157	13	157	13	157	13	157		
	<i>Aedes albopictus</i>	13	157	13	157	13	157	13	157		
Bergen		15	72	15	72	15	72	15	72		
	<i>Aedes albopictus</i>	15	72	15	72	15	72	15	72		
Camden		16	66	16	66	16	66	16	66		
	<i>Aedes albopictus</i>	16	66	16	66	16	66	16	66		
Cumberland		6	87	6	87	6	87	6	87		
	<i>Aedes albopictus</i>	6	87	6	87	6	87	6	87		
Essex		39	165	39	165	39	165	39	165		
	<i>Aedes albopictus</i>	39	165	39	165	39	165	39	165		
Hudson		18	423	18	423	18	423	18	423		
	<i>Aedes albopictus</i>	18	423	18	423	18	423	18	423		
Mercer		22	358	22	358	22	358	22	358		
	<i>Aedes albopictus</i>	22	358	22	358	22	358	22	358		
Middlesex		34	218	34	218	34	218	34	218		
	<i>Aedes albopictus</i>	33	217	33	217	33	217	33	217		
	<i>Culiseta melanura</i>	1	1	1	1	1	1	1	1		
Monmouth		176	1582	176	1582	176	1582	176	1582		
	<i>Aedes albopictus</i>	176	1582	176	1582	176	1582	176	1582		
Morris		15	55	15	55	15	55	15	55		
	<i>Aedes albopictus</i>	13	52	13	52	13	52	13	52		
	<i>Culex</i> spp.	2	3	2	3	2	3	2	3		
Passaic		2	3	2	3	2	3	2	3		
	<i>Aedes albopictus</i>	2	3	2	3	2	3	2	3		
Salem		34	126	34	126	34	126	34	126		
	<i>Aedes albopictus</i>	34	126	34	126	34	126	34	126		
<b>Grand Total</b>		<b>390</b>	<b>3312</b>	<b>390</b>	<b>3312</b>	<b>390</b>	<b>3312</b>	<b>390</b>	<b>3312</b>		

### Chikungunya (CHIK) to 13 August 2016.

New Jersey will be selectively testing for CHIK this year. Chikungunya is similar in symptoms to Dengue, a “breakbone” fever and has a low mortality rate. But this virus has had recent worldwide activity, and in the past year has come to the Western Hemisphere. As with Dengue, transmission can occur when a mosquito bites an infected human, then bites an uninfected human who subsequently becomes ill. CHIK is an alphavirus with *Aedes* mosquitoes as potential vectors. In New Jersey, *Aedes albopictus* is the mosquito of interest.

No pools have tested positive in 2016. Currently, New Jersey has 1 imported human case of Chikungunya.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		13	157		
	<i>Aedes albopictus</i>	13	157		
Bergen		15	72		
	<i>Aedes albopictus</i>	15	72		
Camden		16	66		
	<i>Aedes albopictus</i>	16	66		

	<i>Aedes albopictus</i>	16	66		
<b>Cape May</b>		<b>188</b>	<b>313</b>		
	<i>Aedes albopictus</i>	187	309		
	<i>Culex pipiens</i>	1	4		
<b>Cumberland</b>		<b>6</b>	<b>87</b>		
	<i>Aedes albopictus</i>	6	87		
<b>Essex</b>		<b>39</b>	<b>165</b>		
	<i>Aedes albopictus</i>	39	165		
<b>Hudson</b>		<b>18</b>	<b>423</b>		
	<i>Aedes albopictus</i>	18	423		
<b>Mercer</b>		<b>22</b>	<b>358</b>		
	<i>Aedes albopictus</i>	22	358		
<b>Middlesex</b>		<b>34</b>	<b>218</b>		
	<i>Aedes albopictus</i>	33	217		
	<i>Culiseta melanura</i>	1	1		
<b>Monmouth</b>		<b>176</b>	<b>1582</b>		
	<i>Aedes albopictus</i>	176	1582		
<b>Morris</b>		<b>15</b>	<b>55</b>		
	<i>Aedes albopictus</i>	13	52		
	<i>Culex spp.</i>	2	3		
<b>Passaic</b>		<b>2</b>	<b>3</b>		
	<i>Aedes albopictus</i>	2	3		
<b>Salem</b>		<b>34</b>	<b>126</b>		
	<i>Aedes albopictus</i>	34	126		
<b>Grand Total</b>		<b>578</b>	<b>3625</b>		

## Zika (ZIKV) to 13 August 2016.

New Jersey will be selectively testing for ZIKV this year. Zika is an emerging arboviral threat with significant health consequences for fetuses and recent activity in the Western Hemisphere. Humans are potential hosts that can transmit through sexual activity. ZIKV is a flavivirus with *Aedes* mosquitoes as potential vectors. In New Jersey, *Aedes albopictus* is the mosquito of interest.

No pools have tested positive in 2016. Currently, New Jersey has 89 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Cape May</b>		<b>188</b>	<b>313</b>		
	<i>Aedes albopictus</i>	187	309		
	<i>Culex pipiens</i>	1	4		
<b>Mercer</b>		<b>36</b>	<b>469</b>		
	<i>Aedes albopictus</i>	36	469		
<b>Monmouth</b>		<b>6</b>	<b>8</b>		
	<i>Aedes albopictus</i>	6	8		
<b>Grand Total</b>		<b>230</b>	<b>790</b>		