

# VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 43/44: To 1 November, 2017



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, Department of Agriculture and of the 21 county mosquito control agencies of New Jersey.

### *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	0.10	0.00	60	9		
Green Bank (Burlington Co.)/25	Coastal	0.14	0.04	191	14		
Corbin City (Atlantic Co.)/25	Coastal	0.16	0.12	369	21	1	2.71
Dennisville (Cape May Co.)/50	Coastal	0.00	0.00	160	16		
Winslow (Camden Co.)/50	Inland	0.10	0.24	981	32	1	1.02
Centerton (Salem Co.)/50	Inland	0.15	0.06	882	31	5	5.67
Turkey Swamp (Monmouth Co.)/50	Inland	0.05	0.02	247	20	1	4.05
Glassboro (Gloucester Co.)/50	Inland	0.05	0.16	230	21	1	4.35

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

**Remarks:** A total of eighteen positive EEE pools have been detected, all in *Culiseta melanura*. The last positive pool was found at a traditional resting box site. A total of five horses have been reported infected with EEE. No human cases have been reported. (note: a sixth horse was infected after the posting of this report – see below.)

Statewide, 8,745 *Cs. melanura* from 742 pools have been tested, with eighteen positive pools detected for an overall *Cs. melanura* MFIR of 2.058. 18,491 specimens from 21 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.661.

**Traditional Resting Box Sites:** 3,120 *Cs. melanura* from 164 pools have been tested in 2017 for EEE. The first positive pool was collected on 22 August from Centerton and the last positive pool was also collected at Centerton on 10 Oct. A total of 9 positive pools were collected at the traditional resting box sites.

Additional <i>Cs. melanura</i> trapped by counties					
*traps with positives indicated in <b>BOLD</b> .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	GR, <b>LT</b> , RB	53	1019	2	1.96
Burlington	CO <sub>2</sub> , <b>UVLT</b>	79	2065	3	1.45
Cape May	BGS, GR, <b>RB</b>	242	1104	3	2.72
Cumberland	<b>LT</b> , <b>RB</b>	24	267	1	3.75
Gloucester	RB	58	412		
Middlesex	RB	33	403		
Monmouth	CDC	1	1		
Morris	ABC	1	1		
Ocean	GR, <b>LT</b> , RB	29	125		
Passaic	RB	6	6		
Salem	<b>LT</b>	6	36		
Sussex	ABC, BGS, GR, RB	44	172		
Warren	<b>LT</b>	2	14		
<b>TOTAL</b>		<b>578</b>	<b>5625</b>	<b>9</b>	<b>1.60</b>

**Additional County-set *Cs. melanura*:** Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. No new positives have been collected since the previous nine positive pools.

**Horses and Humans:** A sixth horse (13 yo mare) was detected with EEE after the posting of this report in Gloucester County. Date of onset was 2 Nov with euthanasia on 14 Nov. No history of vaccination. There have been five horses with EEE infections. The last two horses were from Cape May County and were both unvaccinated geldings (one 10 and one 11 yo) and both euthanized on 24 Oct. The third horse reported, in Cumberland County, had onset of symptoms on 30 September and euthanized the same day. There was no vaccination history. The second horse was a 9 yo mare with date of onset 17 September and no vaccination history for 2017, but reportedly vaccinated two years ago. The first horse case was a 5 yo mare from Cumberland County, with onset date of 23 Aug, euthanized on 28 Aug. There was no vaccination history. Nearly all of the horse cases from previous years include those horses who were either not vaccinated or had incomplete vaccination histories. **Horse owners are urged to make sure their horses are up to date on their vaccinations. Horse cases are known to occur through October and sometimes into November (see link below).** Other sensitive species are non-native birds, such as Ostriches/Emus and Gallinaceous birds such as pheasants of Eurasian origins.

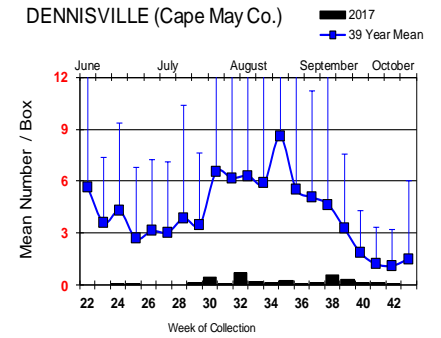
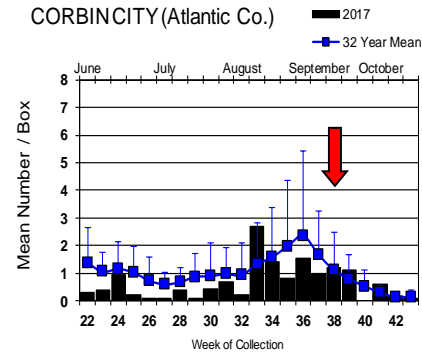
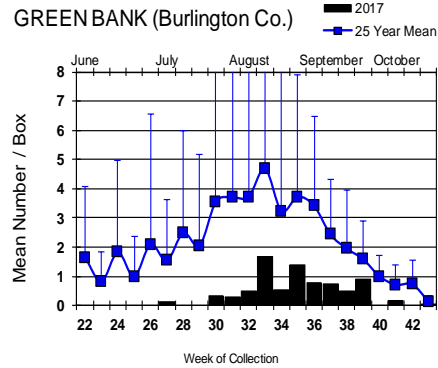
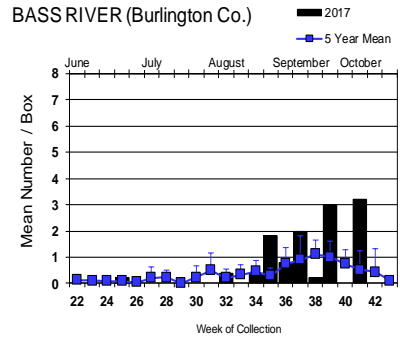
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: [http://www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm)

**Additional Species:** Twenty-one additional species were tested for EEE. No additional positives were detected. Previously reported *Aedes provocans* was re-assigned to *Anopheles punctipennis*.

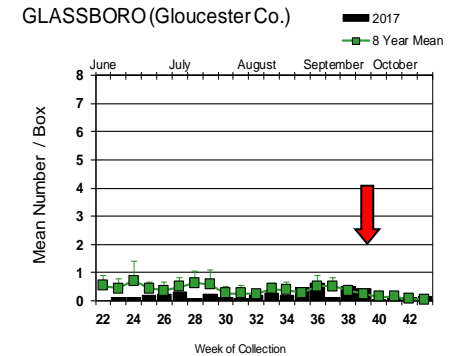
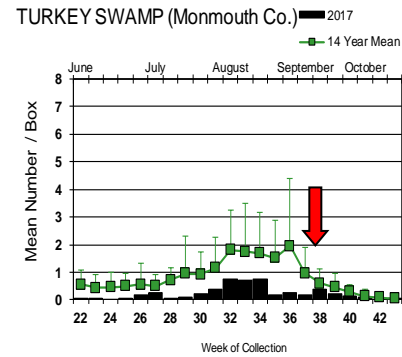
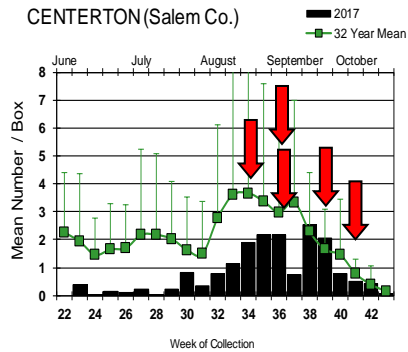
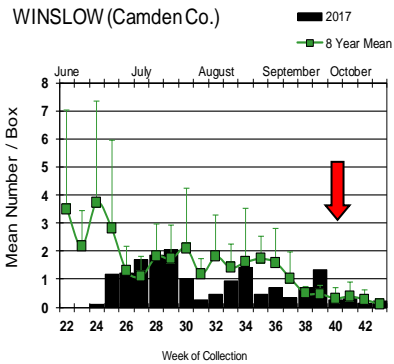
<b>Species other than <i>Cs. melanura</i></b>	<b>Pools</b>	<b>Mosquitoes</b>	<b>Positives</b>	<b>MFIR</b>
<i>Aedes albopictus</i>	1	1		
<i>Aedes canadensis canadensis</i>	19	218		
<i>Aedes cantator</i>	14	30		
<i>Aedes japonicus</i>	2	20		
<i>Aedes mitchellae</i>	3	12		
<i>Aedes sollicitans</i>	8	26		
<i>Aedes taeniorhynchus</i>	2	11		
<i>Aedes triseriatus</i>	1	4		
<i>Aedes vexans</i>	7	156		
<i>Anopheles bradleyi</i>	176	1114		
<i>Anopheles crucians</i>	7	179		
<i>Anopheles punctipennis</i>	49	393		
<i>Anopheles quadrimaculatus</i>	28	322		
<i>Coquillettidia perturbans</i>	77	1442		
<i>Culex erraticus</i>	178	2405		
<i>Culex pipiens</i>	995	9757		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	331	1938		
<i>Culex</i> sp.	71	402		
<i>Psorophora columbiae</i>	4	50		
<i>Psorophora cyanescens</i>	1	1		
<i>Psorophora ferox</i>	3	9		
<b>State Total</b>	<b>1978</b>	<b>18491</b>		

# Culiseta melanura Population Graphs

## Coastal



## Inland



The last positive EEE pool was detected at the Centerton site and collected 10 October. No further positive pools in any species were collected past that date. *Cs. melanura* populations continued to decrease and collections stopped with one significant cold period.

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

**EEE in US** (2017 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: FL(6/1 deer) GA(5) LA(5) MI(6) NC(1) NJ(5) NY(1) OH(1) SC(8) TX(2) WI(21)
- mosquito pools: CT(6) MA(1) NJ(18) NY(36) RI(2)
- sentinel: FL(38) TX(6)
- human: FL(1)

**West Nile Virus Positive Organisms in US, 2017**

West Nile in US (2017 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					37/42
Alaska					
Arizona	1	284/338		0	85/108
Arkansas				1	14
California	449/502	3234/3360	281/304	17/20	258/465
Colorado	5	148		5/8	53/66
Connecticut		123/125			3
Delaware					
DC					1
Florida	1	2	87/150	3	1/2
Georgia		0		1	31/37
Hawaii					
Idaho	3	122		8	19/23
Illinois	24/25	1964/2022			62/82
Indiana	0	641/649		11/12	16/18
Iowa	1	85/88		2	10/12
Kansas		13		0	19/24
Kentucky				14/16	5/8
Louisiana	43/50	418/428		1	44/50
Maine		0		0	0
Maryland					4/5
Mass.		289		0	2/3
Michigan	148	86		13	36/39
Minnesota					23
Mississippi		254		1	60/62
Missouri		0		4/5	13/15

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					10/11
Nebraska	1	81		1	52/66
Nevada					49/50
New Hampshire		7/9		0	1
New Jersey		826/861		2	5/7 (8)
New Mexico					26/30
New York		1213/1215		15	37/44
North Carolina					2
North Dakota	11	16		1	61
Ohio		2178/2234		10/11	22/32
Oklahoma					30/37
Oregon		91		5/6	6/7
Pennsylvania	42	3199/3204		13/14	12/19
Rhode Island		3		0	1/2
South Carolina	13/22	104/110		4/8	10/17
South Dakota	2	55			69/73
Tennessee					19/29
Texas	3	980/1041		9/14	105/125
Utah		433		30/35	52/61
Vermont					1
Virginia				1	9/13
Washington	4	34		9	6/12
West Virginia					1
Wisconsin	84/87	37		19/23	14/32
Wyoming				1	1/7

\* 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.

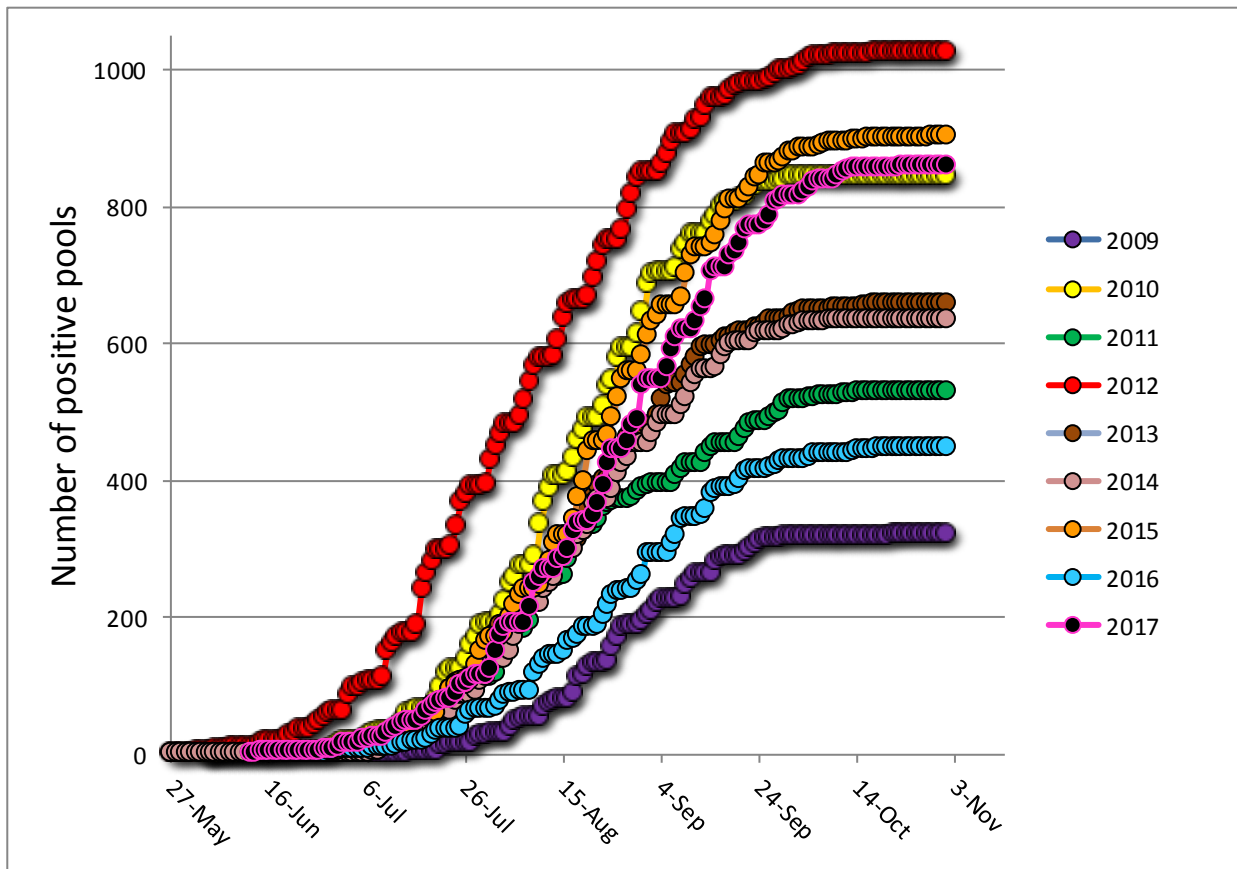
## Mosquito Species Submitted and Tested for West Nile Virus Testing through 1 November 2017

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1736	18541	14	0.755
<i>Aedes atlanticus</i>	21	53		
<i>Aedes atropalpus</i>	39	200		
<i>Aedes canadensis canadensis</i>	65	619		
<i>Aedes cantator</i>	32	244		
<i>Aedes cinereus</i>	1	54		
<i>Aedes grossbecki</i>	2	4		
<i>Aedes japonicus</i>	586	2368	5	2.111
<i>Aedes mitchellae</i>	3	12		
<i>Aedes sollicitans</i>	32	665		
<i>Aedes stimulans</i>	1	10		
<i>Aedes taeniorhynchus</i>	17	99		
<i>Aedes triseriatus</i>	349	900		
<i>Aedes trivittatus</i>	8	156		
<i>Aedes vexans</i>	128	1166		
<i>Anopheles barberi</i>	4	4		
<i>Anopheles bradleyi</i>	198	1612		
<i>Anopheles crucians</i>	11	258	1	3.876
<i>Anopheles earlei</i>	1	1		
<i>Anopheles punctipennis</i>	123	610	1	1.639
<i>Anopheles quadrimaculatus</i>	221	1438		
<i>Coquillettidia perturbans</i>	94	1562		
<i>Culex erraticus</i>	205	2531		
<i>Culex pipiens</i>	1207	13631	33	2.421
<i>Culex restuans</i>	991	4801	14	2.916
<i>Culex salinarius</i>	359	2594	2	0.771
<i>Culex</i> spp.	3147	119160	775	6.504
<i>Culex territans</i>	59	154		
<i>Culiseta inornata</i>	1	1		
<i>Culiseta melanura</i>	749	8766	15	1.711
<i>Orthopodomyia signifera</i>	10	10		
<i>Psorophora ciliata</i>	4	8		
<i>Psorophora columbiae</i>	31	183	1	5.464
<i>Psorophora cyanescens</i>	1	1		
<i>Psorophora ferox</i>	20	293		
<i>Uranotaenia sapphirina</i>	12	50		
<b>Grand Total</b>	<b>10468</b>	<b>182759</b>	<b>861</b>	<b>4.711</b>

**Remarks:** To date, 10,468 pools of 182,759 mosquitoes from 35 species have been tested. 861 positive pools have been detected. Most positive pools were in the enzootic vector, *Culex* (Mix, *pipiens* or *restuans*). Overall MFIR for New Jersey is at 4.711, down from 4.865 of the previous reported week. Activity level surpassed 2010 levels (see graph below), making 2017 the third most active year despite a relatively slow start. First positive *Culex* Mix pool was detected in Sussex County on 12 June. Last year, the first positive pool of *Culex* Mix was collected on 14 June in Monmouth County. Last positive pool was collected on 25 October in Cape May County, in a pool of *Cx. restuans*.

**Humans, Horses and Wild Birds:** Seven human cases of WNV have been detected: Atlantic (1) Cape May (1) Gloucester (1) Mercer (2) Middlesex (1) and Monmouth (1). An eighth, late-season case has been reported, date on onset 2 Nov, but county is unknown. (A previous case in Atlantic County has been re-assigned to a different state as the person developed symptoms a day after arriving in NJ.) Previously, two horse cases have been detected. The second horse, from Salem County, had an onset of symptoms date 29 September. There was no vaccination history, but the horse is, at this date, still alive. The first presumptive horse case was in Gloucester County, a 1 yo colt with symptom onset date of 24 September. An initial dose of 3 vaccinations was reported. This horse too is still reported alive at this date. Last year, human cases were first reported in CDC week 20, but under unusual circumstances. First typical case occurred in CDC week 27. For further information, see <http://www.nj.gov/health/cd/statistics/arboviral-stats/>.

Birds are no longer routinely tested in New Jersey.



Above is a graph showing cumulative number of positive pools for the last 9 years, inclusive of the most active (2012) and least active (2009) years. As the season peaks, the cumulative increase for 2017 (black markers with pink borders) has surpassed 2010 with the number of positive pools. The year began slowly and looked as if it would be a moderately active year. But then mid-August, activity increased significantly (as northern New Jersey became “abnormally dry” according to the US Drought Monitor, and the result is that 2017 was a year of high activity).

### WNV Results by County through 1 November 2017.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>270</b>	<b>6059</b>	<b>5</b>	<b>0.825</b>
	<i>Aedes albopictus</i>	37	599		
	<i>Aedes canadensis canadensis</i>	2	4		
	<i>Aedes japonicus</i>	8	125		
	<i>Aedes sollicitans</i>	6	318		

<i>Aedes taeniorhynchus</i>	3	71		
<i>Aedes triseriatus</i>	2	14		
<i>Aedes vexans</i>	7	323		
<i>Anopheles bradleyi</i>	14	452		
<i>Anopheles punctipennis</i>	2	2		
<i>Coquillettidia perturbans</i>	14	468		
<i>Culex erraticus</i>	18	266		
<i>Culex pipiens</i>	32	942	1	1.062
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	8	120		
<i>Culex spp.</i>	36	879	3	3.413
<i>Culex territans</i>	2	2		
<i>Culiseta melanura</i>	74	1388	1	0.720
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	3	84		
<b>Bergen</b>	<b>245</b>	<b>11617</b>	<b>125</b>	<b>10.760</b>
<i>Aedes albopictus</i>	4	129		
<i>Aedes japonicus</i>	13	103		
<i>Culex spp.</i>	228	11385	125	10.979
<b>Burlington</b>	<b>318</b>	<b>8383</b>	<b>27</b>	<b>3.221</b>
<i>Aedes albopictus</i>	14	227		
<i>Aedes canadensis canadensis</i>	14	206		
<i>Aedes cantator</i>	5	21		
<i>Aedes japonicus</i>	11	126		
<i>Aedes mitchellae</i>	3	12		
<i>Aedes taeniorhynchus</i>	2	11		
<i>Aedes triseriatus</i>	5	41		
<i>Aedes vexans</i>	6	155		
<i>Anopheles bradleyi</i>	11	292		
<i>Anopheles crucians</i>	7	179		
<i>Anopheles punctipennis</i>	1	2		
<i>Anopheles quadrimaculatus</i>	3	3		
<i>Coquillettidia perturbans</i>	2	124		
<i>Culex erraticus</i>	8	232		
<i>Culex salinarius</i>	20	807		
<i>Culex spp.</i>	102	3626	23	6.343
<i>Culiseta melanura</i>	102	2316	4	1.727
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	2		
<b>Camden</b>	<b>209</b>	<b>6342</b>	<b>38</b>	<b>5.992</b>
<i>Aedes albopictus</i>	31	185	4	21.622
<i>Aedes japonicus</i>	25	91	1	10.989
<i>Aedes triseriatus</i>	1	1		
<i>Anopheles punctipennis</i>	1	1		
<i>Culex spp.</i>	117	5079	31	6.104
<i>Culiseta melanura</i>	34	985	2	2.030
<b>Cape May</b>	<b>4587</b>	<b>23161</b>	<b>27</b>	<b>1.166</b>
<i>Aedes albopictus</i>	804	2492		
<i>Aedes atlanticus</i>	21	53		
<i>Aedes atropalpus</i>	38	190		
<i>Aedes canadensis canadensis</i>	24	34		
<i>Aedes cantator</i>	9	9		

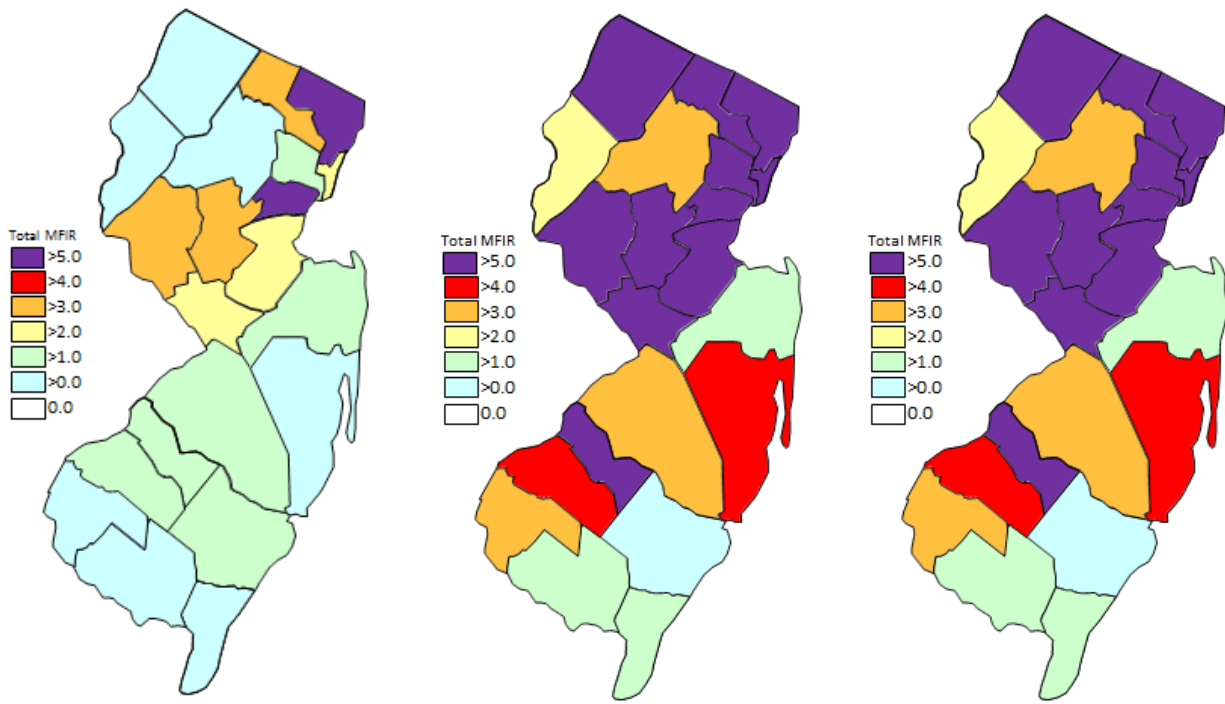


<i>Aedes japonicus</i>	305	744		
<i>Aedes sollicitans</i>	6	6		
<i>Aedes taeniorhynchus</i>	5	7		
<i>Aedes triseriatus</i>	255	446		
<i>Aedes vexans</i>	45	124		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	166	767		
<i>Anopheles punctipennis</i>	22	29		
<i>Anopheles quadrimaculatus</i>	158	962		
<i>Coquillettidia perturbans</i>	17	22		
<i>Culex erraticus</i>	117	1645		
<i>Culex pipiens</i>	1000	9822	16	1.629
<i>Culex restuans</i>	888	3177	8	2.518
<i>Culex salinarius</i>	302	806	2	2.481
<i>Culex spp.</i>	56	320		
<i>Culex territans</i>	57	152		
<i>Culiseta melanura</i>	259	1265	1	0.791
<i>Orthopodomyia signifera</i>	7	7		
<i>Psorophora columbiae</i>	8	9		
<i>Psorophora ferox</i>	5	22		
<i>Uranotaenia sapphirina</i>	12	50		
<b>Cumberland</b>	<b>243</b>	<b>2934</b>	<b>3</b>	<b>1.022</b>
<i>Aedes albopictus</i>	40	499		
<i>Aedes canadensis canadensis</i>	2	3		
<i>Aedes japonicus</i>	10	41		
<i>Aedes sollicitans</i>	2	20		
<i>Aedes triseriatus</i>	1	2		
<i>Aedes vexans</i>	27	383		
<i>Anopheles bradleyi</i>	3	83		
<i>Anopheles punctipennis</i>	4	33		
<i>Anopheles quadrimaculatus</i>	15	96		
<i>Coquillettidia perturbans</i>	11	105		
<i>Culex erraticus</i>	7	28		
<i>Culex pipiens</i>	1	1		
<i>Culex salinarius</i>	10	283		
<i>Culex spp.</i>	71	866	3	3.464
<i>Culiseta melanura</i>	24	267		
<i>Psorophora columbiae</i>	10	120		
<i>Psorophora ferox</i>	5	104		
<b>Essex</b>	<b>170</b>	<b>1054</b>	<b>6</b>	<b>5.693</b>
<i>Aedes albopictus</i>	77	327		
<i>Aedes japonicus</i>	11	16		
<i>Culex spp.</i>	82	711	6	8.439
<b>Gloucester</b>	<b>546</b>	<b>21200</b>	<b>103</b>	<b>4.858</b>
<i>Aedes albopictus</i>	99	2349	2	0.851
<i>Aedes atropalpus</i>	1	10		
<i>Aedes japonicus</i>	25	225		
<i>Aedes triseriatus</i>	5	38		
<i>Aedes vexans</i>	1	1		
<i>Anopheles crucians</i>	1	75	1	13.333
<i>Anopheles punctipennis</i>	34	327		
<i>Anopheles quadrimaculatus</i>	22	302		
<i>Coquillettidia perturbans</i>	4	11		

<i>Culex pipiens</i>	30	1200	7	5.833
<i>Culex restuans</i>	1	1		
<i>Culex</i> spp.	240	15937	93	5.835
<i>Culiseta melanura</i>	80	647		
<i>Psorophora ferox</i>	3	77		
<b>Hudson</b>	<b>201</b>	<b>7967</b>	<b>71</b>	<b>8.912</b>
<i>Culex</i> spp.	201	7967	71	8.912
<b>Hunterdon</b>	<b>321</b>	<b>12883</b>	<b>90</b>	<b>6.986</b>
<i>Culex erraticus</i>	3	54		
<i>Culex</i> spp.	318	12829	90	7.015
<b>Mercer</b>	<b>300</b>	<b>3849</b>	<b>24</b>	<b>6.235</b>
<i>Aedes albopictus</i>	33	343		
<i>Aedes japonicus</i>	60	189	2	10.582
<i>Culex erraticus</i>	1	2		
<i>Culex pipiens</i>	30	305	1	3.279
<i>Culex restuans</i>	59	952	2	2.101
<i>Culex</i> spp.	117	2058	19	9.232
<b>Middlesex</b>	<b>245</b>	<b>8072</b>	<b>57</b>	<b>7.061</b>
<i>Aedes albopictus</i>	4	67	1	14.925
<i>Culex erraticus</i>	1	1		
<i>Culex</i> spp.	207	7601	51	6.710
<i>Culiseta melanura</i>	33	403	5	12.407
<b>Monmouth</b>	<b>717</b>	<b>11317</b>	<b>16</b>	<b>1.414</b>
<i>Aedes albopictus</i>	311	7828		
<i>Aedes canadensis canadensis</i>	23	372		
<i>Aedes cantator</i>	17	176		
<i>Aedes grossbecki</i>	2	4		
<i>Aedes japonicus</i>	30	105		
<i>Aedes sollicitans</i>	16	318		
<i>Aedes taeniorhynchus</i>	7	10		
<i>Aedes triseriatus</i>	19	62		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	33	78		
<i>Anopheles barberi</i>	3	3		
<i>Anopheles bradleyi</i>	2	13		
<i>Anopheles crucians</i>	3	4		
<i>Anopheles earlei</i>	1	1		
<i>Anopheles punctipennis</i>	52	143	1	6.993
<i>Anopheles quadrimaculatus</i>	13	50		
<i>Coquillettidia perturbans</i>	8	18		
<i>Culex erraticus</i>	13	45		
<i>Culex restuans</i>	3	3		
<i>Culex salinarius</i>	2	14		
<i>Culex</i> spp.	117	1767	15	8.489
<i>Culiseta inornata</i>	1	1		
<i>Culiseta melanura</i>	23	254		
<i>Orthopodomyia signifera</i>	2	2		
<i>Psorophora ciliata</i>	3	3		
<i>Psorophora columbiae</i>	8	37		
<i>Psorophora cyanescens</i>	1	1		

<i>Psorophora ferox</i>	2	3		
<b>Morris</b>	<b>317</b>	<b>8420</b>	<b>29</b>	<b>3.444</b>
<i>Aedes albopictus</i>	62	211	1	4.739
<i>Coquillettidia perturbans</i>	12	429		
<i>Culex</i> spp.	242	7779	28	3.599
<i>Culiseta melanura</i>	1	1		
<b>Ocean</b>	<b>271</b>	<b>3483</b>	<b>15</b>	<b>4.307</b>
<i>Aedes albopictus</i>	100	1860	2	1.075
<i>Aedes japonicus</i>	14	56		
<i>Aedes triseriatus</i>	4	12		
<i>Aedes vexans</i>	1	2		
<i>Anopheles punctipennis</i>	1	1		
<i>Coquillettidia perturbans</i>	5	103		
<i>Culex erraticus</i>	13	109		
<i>Culex restuans</i>	2	3		
<i>Culex salinarius</i>	1	2		
<i>Culex</i> spp.	100	1205	13	10.788
<i>Culiseta melanura</i>	30	130		
<b>Passaic</b>	<b>162</b>	<b>1377</b>	<b>7</b>	<b>5.084</b>
<i>Aedes albopictus</i>	11	69		
<i>Aedes japonicus</i>	30	192		
<i>Aedes triseriatus</i>	3	11		
<i>Coquillettidia perturbans</i>	8	12		
<i>Culex erraticus</i>	3	5		
<i>Culex pipiens</i>	75	877	5	5.701
<i>Culex restuans</i>	14	90	1	11.111
<i>Culex</i> spp.	12	115	1	8.696
<i>Culiseta melanura</i>	6	6		
<b>Salem</b>	<b>221</b>	<b>2553</b>	<b>10</b>	<b>3.917</b>
<i>Aedes albopictus</i>	48	243	1	4.115
<i>Aedes japonicus</i>	12	29	1	34.483
<i>Aedes sollicitans</i>	2	3		
<i>Aedes triseriatus</i>	15	37		
<i>Aedes vexans</i>	5	10		
<i>Anopheles bradleyi</i>	2	5		
<i>Anopheles quadrimaculatus</i>	9	22		
<i>Coquillettidia perturbans</i>	6	66		
<i>Culex erraticus</i>	21	144		
<i>Culex pipiens</i>	7	8	1	125.000
<i>Culex restuans</i>	4	6		
<i>Culex salinarius</i>	2	3		
<i>Culex</i> spp.	47	1043	4	3.835
<i>Culiseta melanura</i>	37	918	2	2.179
<i>Psorophora columbiae</i>	3	14	1	71.429
<i>Psorophora ferox</i>	1	2		
<b>Somerset</b>	<b>233</b>	<b>5873</b>	<b>37</b>	<b>6.300</b>
<i>Aedes albopictus</i>	10	55		
<i>Aedes japonicus</i>	10	57		
<i>Aedes triseriatus</i>	4	13		
<i>Anopheles punctipennis</i>	4	22		

<i>Culex</i> spp.	205	5726	37	6.462
<b>Sussex</b>	<b>335</b>	<b>7027</b>	<b>40</b>	<b>5.692</b>
<i>Aedes albopictus</i>	9	18		
<i>Aedes japonicus</i>	7	131		
<i>Aedes triseriatus</i>	31	206		
<i>Anopheles punctipennis</i>	1	40		
<i>Coquillettidia perturbans</i>	5	90		
<i>Culex pipiens</i>	32	476	2	4.202
<i>Culex restuans</i>	19	568	3	5.282
<i>Culex salinarius</i>	14	559		
<i>Culex</i> spp.	173	4767	35	7.342
<i>Culiseta melanura</i>	44	172		
<b>Union</b>	<b>245</b>	<b>15327</b>	<b>100</b>	<b>6.524</b>
<i>Aedes albopictus</i>	39	1011	3	2.967
<i>Culex</i> spp.	206	14316	97	6.776
<b>Warren</b>	<b>312</b>	<b>13861</b>	<b>31</b>	<b>2.236</b>
<i>Aedes albopictus</i>	3	29		
<i>Aedes cantator</i>	1	38		
<i>Aedes cinereus</i>	1	54		
<i>Aedes japonicus</i>	15	138	1	7.246
<i>Aedes stimulans</i>	1	10		
<i>Aedes triseriatus</i>	4	17		
<i>Aedes trivittatus</i>	6	154		
<i>Aedes vexans</i>	3	90		
<i>Anopheles punctipennis</i>	1	10		
<i>Anopheles quadrimaculatis</i>	1	3		
<i>Coquillettidia perturbans</i>	2	114		
<i>Culex</i> spp.	270	13184	30	2.275
<i>Culiseta melanura</i>	2	14		
<i>Psorophora ciliata</i>	1	5		
<i>Psorophora ferox</i>	1	1		
<b>Grand Total</b>	<b>10468</b>	<b>182759</b>	<b>861</b>	<b>4.711</b>



Cumulative WNV activity in 2016. WNV activity to 1 November 2017. WNV activity last week, 2017

### Saint Louis Encephalitis (SLE) to 1 November 2017.

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.

No pools of SLE have tested positive for 2017. No human cases have been reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Burlington</b>		<b>22</b>	<b>1098</b>		
	<i>Culex</i> spp.	22	1098		
<b>Cape May</b>		<b>1051</b>	<b>10077</b>		
	<i>Culex pipiens</i>	995	9757		
	<i>Culex</i> spp.	56	320		
<b>Grand Total</b>		<b>1073</b>	<b>11175</b>		

### La Crosse Encephalitis (LAC) to 1 November 2017.

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).

No pools of SLE have tested positive for 2017. No human cases have been reported.

County	Species			Positives	MFIR
<b>Burlington</b>		<b>17</b>	<b>304</b>		
	<i>Aedes albopictus</i>	8	171		
	<i>Aedes japonicus</i>	4	92		
	<i>Aedes triseriatus</i>	5	41		
<b>Cape May</b>		<b>62</b>	<b>135</b>		
	<i>Aedes triseriatus</i>	62	135		
<b>Sussex</b>		<b>31</b>	<b>206</b>		
	<i>Aedes triseriatus</i>	31	206		
<b>Grand Total</b>		<b>110</b>	<b>645</b>		

### Dengue (DENV) to 1 November 2017.

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 of Dengue have tested positive in 2017. There are 9 travel-related human cases in NJ.

County	Species	DENV1		DENV2		DENV3		DENV4		Pos.	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
<b>Mercer</b>		<b>13</b>	<b>156</b>	<b>13</b>	<b>156</b>	<b>13</b>	<b>156</b>	<b>13</b>	<b>156</b>		
	<i>Aedes albopictus</i>	13	156	13	156	13	156	13	156		
<b>Middlesex</b>		<b>2</b>	<b>42</b>	<b>2</b>	<b>42</b>	<b>2</b>	<b>42</b>	<b>2</b>	<b>42</b>		
	<i>Aedes albopictus</i>	2	42	2	42	2	42	2	42		
<b>Grand Total</b>		<b>15</b>	<b>198</b>	<b>15</b>	<b>198</b>	<b>15</b>	<b>198</b>	<b>15</b>	<b>198</b>		

### Chikungunya (CHIK) to 1 November 2017.

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 of CHIK have tested positive in 2017. There are 8 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Cape May</b>		<b>434</b>	<b>1184</b>		
	<i>Aedes albopictus</i>	434	1184		
<b>Mercer</b>		<b>13</b>	<b>156</b>		
	<i>Aedes albopictus</i>	13	156		
<b>Middlesex</b>		<b>2</b>	<b>42</b>		
	<i>Aedes albopictus</i>	2	42		
<b>Grand Total</b>		<b>449</b>	<b>1382</b>		

### Zika (ZIKV) to 1 November 2017.

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 2017. There are 33 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Cape May</b>		<b>793</b>	<b>2465</b>		
	<i>Aedes albopictus</i>	793	2465		
<b>Mercer</b>		<b>13</b>	<b>156</b>		
	<i>Aedes albopictus</i>	13	156		
<b>Middlesex</b>		<b>2</b>	<b>42</b>		
	<i>Aedes albopictus</i>	2	42		
<b>Grand Total</b>		<b>808</b>	<b>2663</b>		