

# VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 42: 16 October to 22 October, 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	0.55	0.00	15	8	1	66.67
Green Bank (Burlington Co.)/25	Coastal	0.74	0.36	105 (114)	16 (17)		
Corbin City (Atlantic Co.)/25	Coastal	0.13	0.24	293 (299)	22 (23)	1	3.41
Dennisville (Cape May Co.)/50	Coastal	1.55	0.02	90	16		
Winslow (Camden Co.)/50	Inland	0.33	0.02	992	31	2	2.02
Centerton (Salem Co.)/50	Inland	0.41	0.06	297	20		
Turkey Swamp (Monmouth Co.)/50	Inland	0.08	0.04	154 (156)	20 (21)	1	6.49
Glassboro (Gloucester Co.)/49	Inland	0.08	0.04	109	19	1	9.17

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

**Remarks:** No new positive EEE pools have been detected during the current week. Total positive EEE pools detected remain at 11, with 9 pools of *Cs. melanura* and 2 pools of *Culex pipiens*. A total of 4 horse cases have been found.

**Traditional Resting Box Sites:** 2,055 *Cs. melanura* from 152 pools have been tested for EEE, with 3 pools of 17 *Cs. melanura* to be tested. No new positive pools were detected at the traditional resting box sites. Statewide, 5,334 *Cs. melanura* have been tested, with nine positive pools detected (six traditional, three county sites), for an overall *Cs. melanura* MFIR of 1.69, a slight decrease from 1.70 last week. 18,771 specimens from 24 other species have also been tested, with two positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.46. (Last week's report of overall MFIR 0.38 was in error.)

		<b>Additional <i>Cs. melanura</i> trapped by counties</b> *traps with positives indicated in <b>BOLD</b> .			
<b>County</b>	<b>Trap types*</b>	<b>Pools</b>	<b>Mosquitoes</b>	<b>Positives</b>	<b>MFIR</b>
Atlantic	CO <sub>2</sub> , RB	36	449		
Burlington	CO <sub>2</sub>	72	1576		
Cape May	CDC, CO <sub>2</sub> , GR, RB	204	444		
Cumberland	BGS, CDC, GRA RB	21	103		
Middlesex	<b>RB</b>	53	614	3	4.89
Ocean	CO <sub>2</sub> , GR, RB	26	56		
Passaic	EVS	1	1		
Sussex	CO <sub>2</sub> , GR	10	13		
Union	LT	1	23		
<b>TOTAL</b>		<b>424</b>	<b>3279</b>	<b>3</b>	<b>0.91</b>

**Additional *Cs. melanura*:** Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. Three positive pools were detected in Middlesex, the first on 25 July and the most recent at the same site on 20 Sep.

**Horses and Humans:** Four horses have been detected with EEE, two from Morris, one from Ocean and one from Passaic. All horses were not up to date with vaccinations. ***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.*** 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)

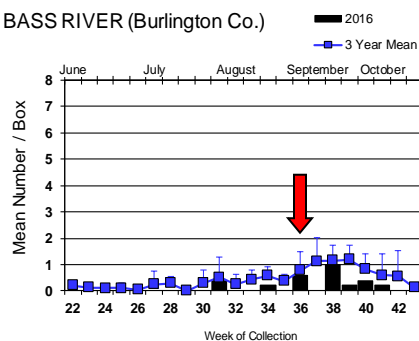
Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	5	10		
<i>Aedes canadensis canadensis</i>	3	74		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	1	4		
<i>Aedes mitchellae</i>	2	39		
<i>Aedes sollicitans</i>	36	1174		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	11	81		
<i>Anopheles bradleyi</i>	98	531		
<i>Anopheles crucians</i>	10	129		
<i>Anopheles punctipennis</i>	30	122		
<i>Anopheles quadrimaculatus</i>	6	14		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	109	1957		
<i>Culex erraticus</i>	165	1034		
<i>Culex pipiens</i>	890	9737	2	0.205
<i>Culex restuans</i>	3	6		
<i>Culex salinarius</i>	342	3075		
<i>Culex</i> sp.	74	454		
<i>Culex territans</i>	1	12		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	2		
<i>Psorophora ferox</i>	3	20		
<i>Uranotaenia sapphirina</i>	1	45		
<b>State Total</b>	<b>1824</b>	<b>18771</b>	<b>2</b>	<b>0.107</b>

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

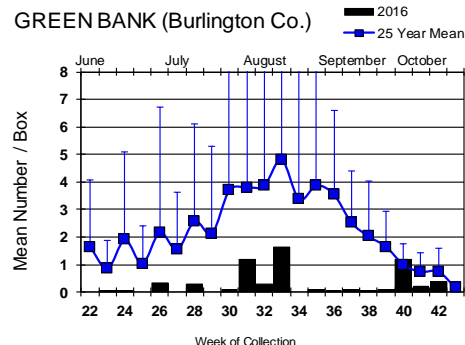
# Culiseta melanura Population Graphs

## Coastal

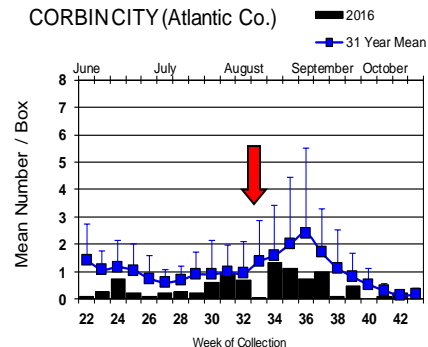
BASS RIVER (Burlington Co.)



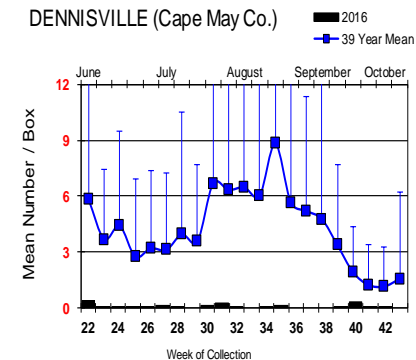
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

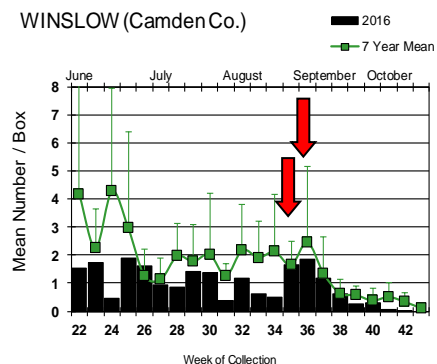


DENNISVILLE (Cape May Co.)

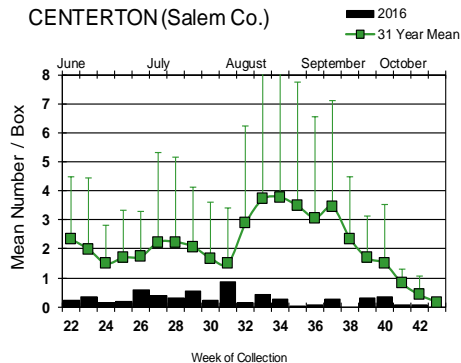


## Inland

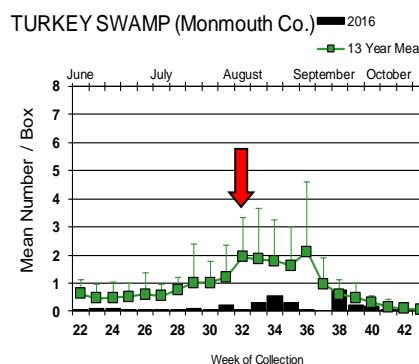
WINSLOW (Camden Co.)



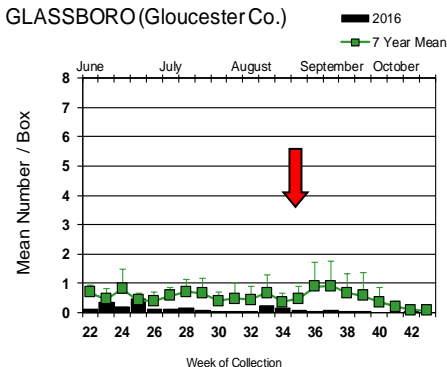
CENTERTON (Salem Co.)



TURKEY SWAMP (Monmouth Co.)

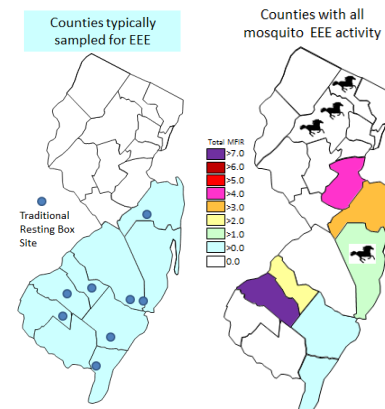


GLASSBORO (Gloucester Co.)



No new detection have occurred at the traditional resting box sites. The Corbin City site was the only site where abundances were mildly above historical values.

Maps to right: Note that Middlesex County (in pink, far right) and Passaic and Morris County (with a total of three horse symbols, representing the positive horses – symbols do not point to location within the county of the horse cases) are north of the areas typically sampled for EEE (left map). Horse cases have occurred on occasion in the northern half of the state. (map to right up-to-date for all species mosquito MFIR).



↕ = 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(7) AR(1) FL(21) GA(5) LA(11) MA(4) MS(7) MI(3) NC(7) NJ(4) NY(1) SC(15) TN(1) TX(5) VA(6) WI(18)
- mosquito pools: CT(1) LA(3) MA(4) NJ(11) NY(5) RI(2)
- sentinel: FL(80) GA(2) TX(26)
- human: MI(1) NC(1)

**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					5
Alaska					
Arizona	1	87/115	0	1	68/70
Arkansas				2	4
California	1322/1329	3438/3446	323/328	20	327/347
Colorado	17	207		3/6	125/130
Connecticut		122			1
Delaware					
DC					1
Florida		5	142/161	1	6
Georgia		0			2
Hawaii					
Idaho	0	34		10	8
Illinois	73	2425/2429		1	115
Indiana	0	248/259		0	10
Iowa		46		12	25/31
Kansas	1	1/2		1	22
Kentucky				4	
Louisiana	57	185		5	30
Maine		0			0
Maryland		1			1
Mass.		189		0	12/14
Michigan	13	4		2	32/34
Minnesota		6		19	41
Mississippi		25			26/32
Missouri		8		2/3	2/6

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					5/6
Nebraska	2	110/112		1	76/85
Nevada				6	12/13
New Hampshire		1		0	0
New Jersey		436/441		0	7/8
New Mexico					5
New York		539/542		3	14/18
North Carolina					
North Dakota	8	15		6	79
Ohio		452		1	14
Oklahoma		7		2	24/26
Oregon	9	51	0	6	3
Pennsylvania	15	1454		6	13
Rhode Island		1			
South Carolina		6			5
South Dakota		242		2	146
Tennessee					4/5
Texas	4	1633/1659	13	21/35	200/215
Utah		243/244		7	13
Vermont		19			3
Virginia					
Washington	2	95		27	9
West Virginia		5		1	
Wisconsin	59	11		7	2/6
Wyoming	1	23			9

\* 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 22 October 2016

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	2291	23187	5	0.216
<i>Aedes atlanticus</i>	16	44		
<i>Aedes atropalpus</i>	29	81		
<i>Aedes canadensis canadensis</i>	38	709		
<i>Aedes cantator</i>	36	246		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	559	3070	2	0.651
<i>Aedes mitchellae</i>	2	39		
<i>Aedes sollicitans</i>	48	1383		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	29	698		
<i>Aedes triseriatus</i>	268	582		
<i>Aedes trivittatus</i>	4	36		
<i>Aedes vexans</i>	117	1351	1	0.740
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	117	872		
<i>Anopheles crucians</i>	13	136		
<i>Anopheles punctipennis</i>	105	356		
<i>Anopheles quadrimaculatus</i>	173	1249		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	128	2884	1	0.347
<i>Culex erraticus</i>	224	1539	1	0.650
<i>Culex pipiens</i>	1387	34559	61	1.765
<i>Culex restuans</i>	903	8673	11	1.268
<i>Culex salinarius</i>	357	3426		
<i>Culex spp.</i>	3321	117668	356	3.025
<i>Culex territans</i>	44	367		
<i>Culiseta melanura</i>	578	5307	3	0.565
<i>Orthopodomyia signifera</i>	7	7		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	19	112		
<i>Psorophora ferox</i>	26	178		
<i>Uranotaenia sapphirina</i>	7	58		
<b>Grand Total</b>	<b>10853</b>	<b>208829</b>	<b>441</b>	<b>2.112</b>

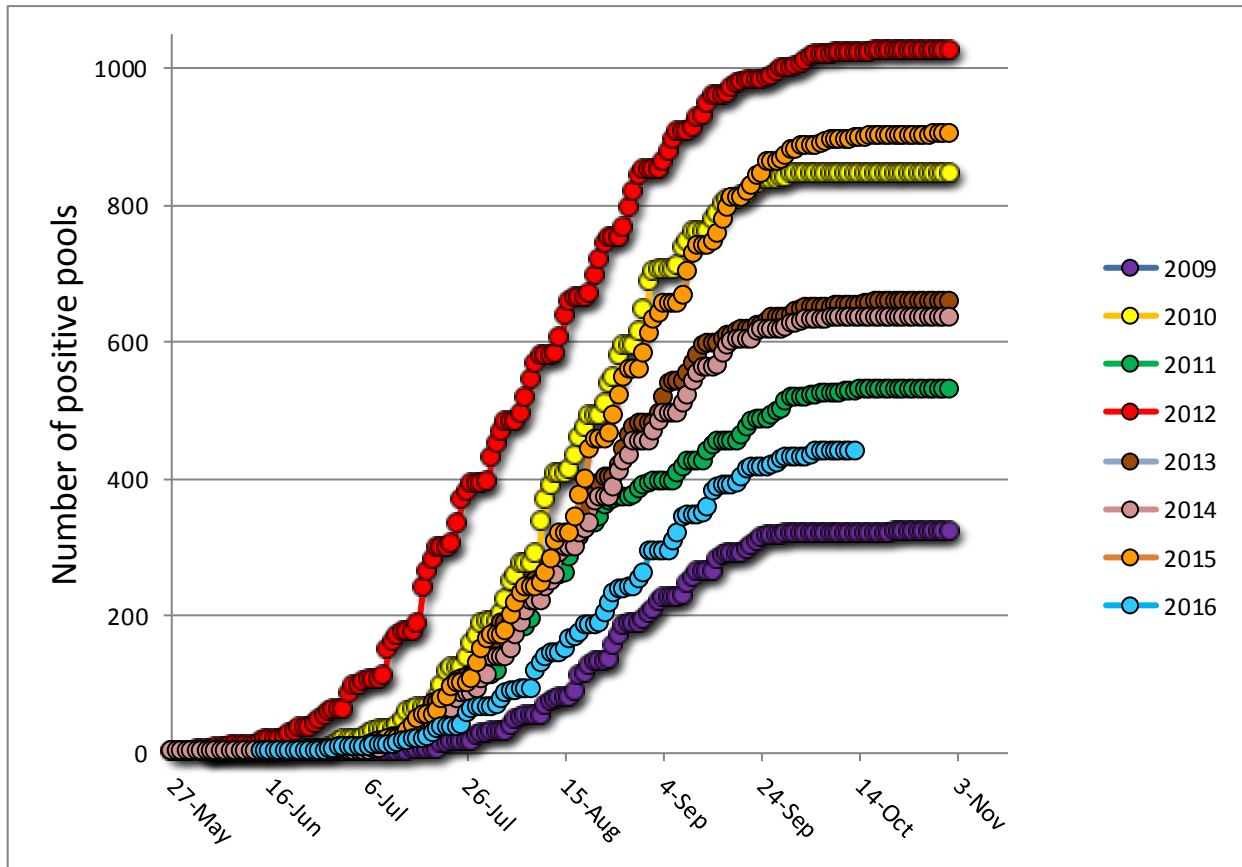
**Remarks:** To date, 10,853 pools of 208,829 mosquitoes from 33 species have been tested, with 441 positive pools detected. New positives were in *Culex* pools. First non-*Culex* detection occurred in *Aedes albopictus*, collected in Hudson County on 19 July. The first positive pool of *Culex* Mix was collected on 14 June in Monmouth County.

**Humans, Horses and Wild Birds:** A total of eight human cases have been detected. Currently, case count is Camden (2), Gloucester (1), Middlesex (1) Monmouth (1), Passaic (1), Somerset (1) and Union (1). No horse cases are currently reported. 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 from 2009-2016, with 2012 as the most active year and 2009 as the least active year. Positives continue to taper off as the season comes to a close, with numbers trending between low (2009) and moderate (2011) activity.



### WNV Results by County through 22 October 2016

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>329</b>	<b>8303</b>	<b>12</b>	<b>1.445</b>
	<i>Aedes albopictus</i>	59	520		
	<i>Aedes japonicus</i>	4	18		
	<i>Aedes sollicitans</i>	14	871		
	<i>Aedes sticticus</i>	1	6		
	<i>Aedes taeniorhynchus</i>	8	390		
	<i>Aedes vexans</i>	14	403		
	<i>Anopheles bradleyi</i>	9	154		
	<i>Anopheles punctipennis</i>	2	18		
	<i>Anopheles quadrimaculatus</i>	2	34		
	<i>Coquillettidia perturbans</i>	23	526		
	<i>Culex erraticus</i>	20	157		
	<i>Culex pipiens</i>	40	1851	9	4.862
	<i>Culex restuans</i>	8	152		
	<i>Culex salinarius</i>	6	220		
	<i>Culex spp.</i>	53	2145	2	0.932
	<i>Culiseta melanura</i>	58	742	1	1.348
	<i>Psorophora columbiae</i>	1	10		

<i>Psorophora ferox</i>	7	86		
<b>Bergen</b>	<b>280</b>	<b>17283</b>	<b>88</b>	<b>5.092</b>
<i>Aedes albopictus</i>	48	406		
<i>Aedes japonicus</i>	11	432		
<i>Culex</i> spp.	221	16445	88	5.351
<b>Burlington</b>	<b>294</b>	<b>7633</b>	<b>8</b>	<b>1.048</b>
<i>Aedes albopictus</i>	21	347		
<i>Aedes atropalpus</i>	3	18		
<i>Aedes canadensis canadensis</i>	3	74		
<i>Aedes japonicus</i>	11	207		
<i>Aedes mitchellae</i>	2	39		
<i>Aedes sollicitans</i>	1	2		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes triseriatus</i>	9	35		
<i>Aedes vexans</i>	1	6		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	6	184		
<i>Anopheles crucians</i>	7	101		
<i>Anopheles punctipennis</i>	3	13		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	7	338	1	2.959
<i>Culex erraticus</i>	7	113		
<i>Culex pipiens</i>	1	2		
<i>Culex salinarius</i>	20	653		
<i>Culex</i> spp.	92	3629	7	1.929
<i>Culex territans</i>	1	12		
<i>Culiseta melanura</i>	92	1616		
<i>Uranotaenia sapphirina</i>	1	45		
<b>Camden</b>	<b>235</b>	<b>4851</b>	<b>8</b>	<b>1.649</b>
<i>Aedes albopictus</i>	50	200		
<i>Aedes japonicus</i>	24	82		
<i>Anopheles punctipennis</i>	1	4		
<i>Culex</i> spp.	129	3573	8	2.239
<i>Culiseta melanura</i>	31	992		
<b>Cape May</b>	<b>3662</b>	<b>20666</b>	<b>6</b>	<b>0.290</b>
<i>Aedes albopictus</i>	577	1224		
<i>Aedes atlanticus</i>	13	31		
<i>Aedes atropalpus</i>	26	63		
<i>Aedes canadensis canadensis</i>	13	249		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	235	460		
<i>Aedes sollicitans</i>	5	7		
<i>Aedes taeniorhynchus</i>	5	6		
<i>Aedes triseriatus</i>	179	311		
<i>Aedes vexans</i>	12	17		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles bradleyi</i>	92	347		
<i>Anopheles punctipennis</i>	12	13		
<i>Anopheles quadrimaculatus</i>	138	1122		
<i>Coquillettidia perturbans</i>	27	426		
<i>Culex erraticus</i>	59	127		
<i>Culex pipiens</i>	890	9731	1	0.103

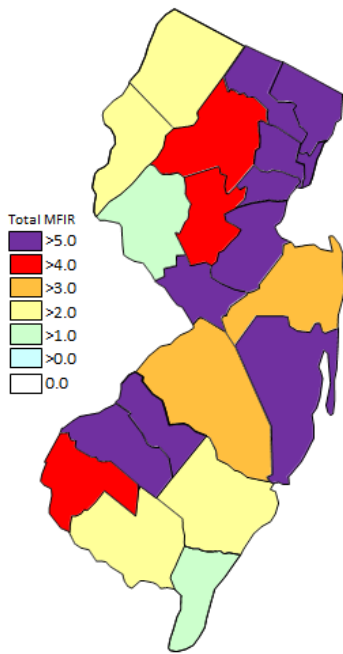


	<i>Culex restuans</i>	739	4618	4	0.866
	<i>Culex salinarius</i>	284	811		
	<i>Culex spp.</i>	51	136		
	<i>Culex territans</i>	43	355		
	<i>Culiseta melanura</i>	220	534	1	1.873
	<i>Orthopodomyia signifera</i>	5	5		
	<i>Psorophora columbiae</i>	2	2		
	<i>Psorophora ferox</i>	4	9		
	<i>Uranotaenia sapphirina</i>	5	9		
<b>Cumberland</b>		<b>307</b>	<b>4563</b>	<b>1</b>	<b>0.219</b>
	<i>Aedes albopictus</i>	47	496		
	<i>Aedes cantator</i>	1	1		
	<i>Aedes japonicus</i>	10	19		
	<i>Aedes sollicitans</i>	19	453		
	<i>Aedes taeniorhynchus</i>	5	36		
	<i>Aedes triseriatus</i>	2	4		
	<i>Aedes vexans</i>	49	766	1	1.305
	<i>Anopheles bradleyi</i>	5	157		
	<i>Anopheles crucians</i>	1	5		
	<i>Anopheles punctipennis</i>	11	67		
	<i>Anopheles quadrimaculatus</i>	3	18		
	<i>Coquillettidia perturbans</i>	8	111		
	<i>Culex erraticus</i>	23	233		
	<i>Culex pipiens</i>	10	24		
	<i>Culex salinarius</i>	37	1542		
	<i>Culex spp.</i>	38	416		
	<i>Culiseta melanura</i>	21	103		
	<i>Orthopodomyia signifera</i>	1	1		
	<i>Psorophora ciliata</i>	1	1		
	<i>Psorophora columbiae</i>	12	92		
	<i>Psorophora ferox</i>	2	14		
	<i>Uranotaenia sapphirina</i>	1	4		
<b>Essex</b>		<b>268</b>	<b>1541</b>	<b>2</b>	<b>1.298</b>
	<i>Aedes albopictus</i>	116	599		
	<i>Aedes japonicus</i>	7	14		
	<i>Aedes triseriatus</i>	2	2		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Anopheles quadrimaculatus</i>	1	1		
	<i>Culex spp.</i>	141	924	2	2.165
<b>Gloucester</b>		<b>596</b>	<b>26194</b>	<b>47</b>	<b>1.794</b>
	<i>Aedes albopictus</i>	176	3873	1	0.258
	<i>Aedes japonicus</i>	27	263		
	<i>Aedes triseriatus</i>	6	17		
	<i>Anopheles punctipennis</i>	7	20		
	<i>Culex pipiens</i>	361	21912	46	2.099
	<i>Culiseta melanura</i>	19	109		
<b>Hudson</b>		<b>229</b>	<b>10273</b>	<b>28</b>	<b>2.726</b>
	<i>Aedes albopictus</i>	50	2229	1	0.449
	<i>Culex spp.</i>	179	8044	27	3.357
<b>Hunterdon</b>		<b>260</b>	<b>11178</b>	<b>39</b>	<b>3.489</b>

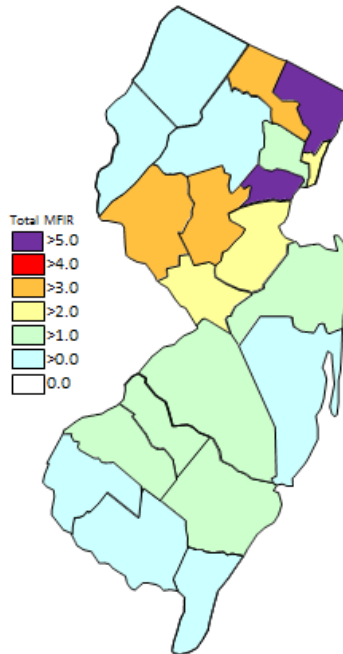
<i>Aedes albopictus</i>	6	234		
<i>Culex</i> spp.	254	10944	39	3.564
<b>Mercer</b>	<b>530</b>	<b>9173</b>	<b>24</b>	<b>2.616</b>
<i>Aedes albopictus</i>	147	1522		
<i>Aedes japonicus</i>	41	126		
<i>Aedes triseriatus</i>	2	24		
<i>Aedes vexans</i>	3	12		
<i>Culex erraticus</i>	22	81	1	12.346
<i>Culex pipiens</i>	53	942	5	5.308
<i>Culex restuans</i>	136	3862	7	1.813
<i>Culex</i> spp.	126	2604	11	4.224
<b>Middlesex</b>	<b>430</b>	<b>12899</b>	<b>29</b>	<b>2.248</b>
<i>Aedes albopictus</i>	97	868		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex erraticus</i>	3	4		
<i>Culex</i> spp.	275	11410	29	2.542
<i>Culiseta melanura</i>	54	615		
<b>Monmouth</b>	<b>866</b>	<b>9721</b>	<b>16</b>	<b>1.646</b>
<i>Aedes albopictus</i>	499	5565	1	0.180
<i>Aedes atlanticus</i>	3	13		
<i>Aedes canadensis canadensis</i>	21	316		
<i>Aedes cantator</i>	10	193		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	43	130		
<i>Aedes sollicitans</i>	9	50		
<i>Aedes taeniorhynchus</i>	7	71		
<i>Aedes triseriatus</i>	13	22		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	13	33		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles crucians</i>	2	2		
<i>Anopheles punctipennis</i>	46	93		
<i>Anopheles quadrimaculatus</i>	8	8		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	12	46		
<i>Culex restuans</i>	3	6		
<i>Culex salinarius</i>	1	1		
<i>Culex</i> spp.	140	2974	15	5.044
<i>Culiseta melanura</i>	21	155		
<i>Psorophora columbiae</i>	3	7		
<i>Psorophora ferox</i>	5	28		
<b>Morris</b>	<b>467</b>	<b>13645</b>	<b>12</b>	<b>0.879</b>
<i>Aedes albopictus</i>	81	1020		
<i>Aedes japonicus</i>	4	19		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	2	5		
<i>Anopheles punctipennis</i>	6	61		
<i>Anopheles quadrimaculatus</i>	2	8		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	2	20		
<i>Culex</i> spp.	365	12505	12	0.960
<i>Psorophora ferox</i>	2	4		

<b>Ocean</b>	<b>365</b>	<b>4441</b>	<b>1</b>	<b>0.225</b>
<i>Aedes albopictus</i>	129	1554		
<i>Aedes canadensis canadensis</i>	1	70		
<i>Aedes japonicus</i>	28	89		
<i>Aedes triseriatus</i>	13	21		
<i>Aedes vexans</i>	2	2		
<i>Anopheles crucians</i>	3	28		
<i>Anopheles punctipennis</i>	5	7		
<i>Coquillettidia perturbans</i>	24	462		
<i>Culex erraticus</i>	18	91		
<i>Culex restuans</i>	1	2		
<i>Culex</i> spp.	110	2021	1	0.495
<i>Culiseta melanura</i>	28	61		
<i>Psorophora ferox</i>	3	33		
<b>Passaic</b>	<b>303</b>	<b>7173</b>	<b>23</b>	<b>3.206</b>
<i>Aedes albopictus</i>	15	55		
<i>Aedes japonicus</i>	63	427	2	4.684
<i>Aedes triseriatus</i>	7	11		
<i>Aedes vexans</i>	13	37		
<i>Coquillettidia perturbans</i>	2	5		
<i>Culex</i> spp.	202	6637	21	3.164
<i>Culiseta melanura</i>	1	1		
<b>Salem</b>	<b>324</b>	<b>2343</b>	<b>1</b>	<b>0.427</b>
<i>Aedes albopictus</i>	78	361	1	2.770
<i>Aedes japonicus</i>	15	35		
<i>Aedes triseriatus</i>	25	35		
<i>Anopheles bradleyi</i>	5	30		
<i>Anopheles punctipennis</i>	7	7		
<i>Anopheles quadrimaculatus</i>	18	55		
<i>Coquillettidia perturbans</i>	12	85		
<i>Culex erraticus</i>	45	561		
<i>Culex pipiens</i>	5	5		
<i>Culex restuans</i>	10	11		
<i>Culex</i> spp.	79	855		
<i>Culiseta melanura</i>	20	297		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	3	4		
<b>Somerset</b>	<b>233</b>	<b>3932</b>	<b>14</b>	<b>3.561</b>
<i>Aedes albopictus</i>	19	87		
<i>Aedes japonicus</i>	5	38		
<i>Aedes triseriatus</i>	5	28		
<i>Anopheles punctipennis</i>	3	8		
<i>Culex</i> spp.	201	3771	14	3.713
<b>Sussex</b>	<b>419</b>	<b>10232</b>	<b>6</b>	<b>0.586</b>
<i>Aedes albopictus</i>	20	66		
<i>Aedes japonicus</i>	30	709		
<i>Aedes triseriatus</i>	5	72		
<i>Aedes trivittatus</i>	1	33		
<i>Aedes vexans</i>	8	70		

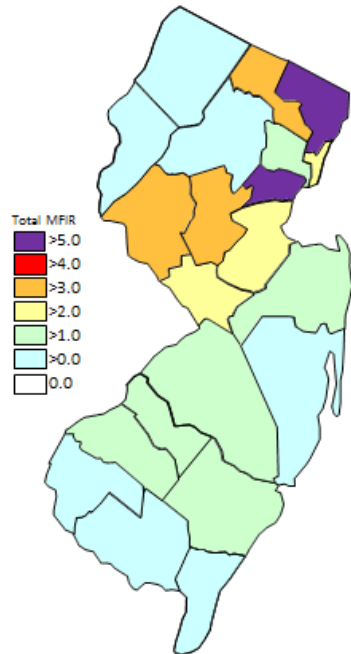
<i>Anopheles punctipennis</i>	1	44		
<i>Coquillettidia perturbans</i>	18	904		
<i>Culex erraticus</i>	6	15		
<i>Culex pipiens</i>	27	92		
<i>Culex restuans</i>	6	22		
<i>Culex salinarius</i>	9	199		
<i>Culex</i> spp.	278	7993	5	0.626
<i>Culiseta melanura</i>	10	13	1	76.923
<b>Union</b>	<b>227</b>	<b>12416</b>	<b>74</b>	<b>5.960</b>
<i>Aedes albopictus</i>	56	1961	1	0.510
<i>Culex erraticus</i>	9	111		
<i>Culex</i> spp.	159	10275	73	7.105
<i>Culiseta melanura</i>	3	69		
<b>Warren</b>	<b>229</b>	<b>10369</b>	<b>2</b>	<b>0.193</b>
<i>Aedes japonicus</i>	1	2		
<i>Culex</i> spp.	228	10367	2	0.193
<b>Grand Total</b>	<b>10853</b>	<b>208829</b>	<b>441</b>	<b>2.112</b>



Cumulative WNV activity in 2015.



WNV activity to 22 October 2016.



WNV activity last week, 2016.

## Saint Louis Encephalitis (SLE) to 22 October 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>99</b>	<b>3756</b>		
	<i>Aedes mitchellae</i>	1	33		
	<i>Anopheles barberi</i>	1	1		
	<i>Culex erraticus</i>	4	91		
	<i>Culex pipiens</i>	1	2		
	<i>Culex</i> spp.	92	3629		
<b>Cape May</b>		<b>940</b>	<b>9870</b>		
	<i>Culex pipiens</i>	890	9737		
	<i>Culex</i> spp.	50	133		
<b>Grand Total</b>		<b>1039</b>	<b>13626</b>		

## La Crosse Encephalitis (LAC) to 22 October 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	Pools	Mosquitoes	Positives	MFIR
<b>Burlington</b>		<b>40</b>	<b>579</b>		
	<i>Aedes albopictus</i>	17	319		
	<i>Aedes atropalpus</i>	3	18		
	<i>Aedes japonicus</i>	11	207		
	<i>Aedes triseriatus</i>	9	35		
<b>Grand Total</b>		<b>40</b>	<b>579</b>		

## Dengue (DENV) to 22 October 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 55 imported human cases of Dengue.

County	Species	DENV1		DENV2		DENV3		DENV4		Pos.	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
<b>Atlantic</b>		<b>59</b>	<b>520</b>	<b>59</b>	<b>520</b>	<b>59</b>	<b>520</b>	<b>59</b>	<b>520</b>		
	<i>Aedes albopictus</i>	59	520	59	520	59	520	59	520		
<b>Bergen</b>		<b>48</b>	<b>406</b>	<b>48</b>	<b>406</b>	<b>48</b>	<b>406</b>	<b>48</b>	<b>406</b>		
	<i>Aedes albopictus</i>	48	406	48	406	48	406	48	406		
<b>Burlington</b>		<b>4</b>	<b>28</b>	<b>4</b>	<b>28</b>	<b>4</b>	<b>28</b>	<b>4</b>	<b>28</b>		
	<i>Aedes albopictus</i>	4	28	4	28	4	28	4	28		
<b>Camden</b>		<b>50</b>	<b>200</b>	<b>50</b>	<b>200</b>	<b>50</b>	<b>200</b>	<b>50</b>	<b>200</b>		
	<i>Aedes albopictus</i>	50	200	50	200	50	200	50	200		
<b>Cumberland</b>		<b>47</b>	<b>496</b>	<b>47</b>	<b>496</b>	<b>47</b>	<b>496</b>	<b>47</b>	<b>496</b>		
	<i>Aedes albopictus</i>	47	496	47	496	47	496	47	496		
<b>Essex</b>		<b>116</b>	<b>599</b>	<b>116</b>	<b>599</b>	<b>116</b>	<b>599</b>	<b>116</b>	<b>599</b>		
	<i>Aedes albopictus</i>	116	599	116	599	116	599	116	599		
<b>Gloucester</b>		<b>160</b>	<b>3674</b>	<b>160</b>	<b>3674</b>	<b>160</b>	<b>3674</b>	<b>160</b>	<b>3674</b>		
	<i>Aedes albopictus</i>	160	3674	160	3674	160	3674	160	3674		
<b>Hudson</b>		<b>50</b>	<b>2229</b>	<b>50</b>	<b>2229</b>	<b>50</b>	<b>2229</b>	<b>50</b>	<b>2229</b>		
	<i>Aedes albopictus</i>	50	2229	50	2229	50	2229	50	2229		
<b>Hunterdon</b>		<b>6</b>	<b>234</b>	<b>6</b>	<b>234</b>	<b>6</b>	<b>234</b>	<b>6</b>	<b>234</b>		
	<i>Aedes albopictus</i>	6	234	6	234	6	234	6	234		
<b>Mercer</b>		<b>147</b>	<b>1522</b>	<b>147</b>	<b>1522</b>	<b>147</b>	<b>1522</b>	<b>147</b>	<b>1522</b>		
	<i>Aedes albopictus</i>	147	1522	147	1522	147	1522	147	1522		
<b>Middlesex</b>		<b>99</b>	<b>888</b>	<b>99</b>	<b>888</b>	<b>99</b>	<b>888</b>	<b>99</b>	<b>888</b>		
	<i>Aedes albopictus</i>	97	868	97	868	97	868	97	868		
	<i>Culex</i> spp.	1	19	1	19	1	19	1	19		
	<i>Culiseta melanura</i>	1	1	1	1	1	1	1	1		
<b>Monmouth</b>		<b>415</b>	<b>5081</b>	<b>415</b>	<b>5081</b>	<b>415</b>	<b>5081</b>	<b>415</b>	<b>5081</b>		
	<i>Aedes albopictus</i>	415	5081	415	5081	415	5081	415	5081		
<b>Morris</b>		<b>79</b>	<b>1019</b>	<b>79</b>	<b>1019</b>	<b>79</b>	<b>1019</b>	<b>79</b>	<b>1019</b>		
	<i>Aedes albopictus</i>	77	1016	77	1016	77	1016	77	1016		
	<i>Culex</i> spp.	2	3	2	3	2	3	2	3		
<b>Ocean</b>		<b>38</b>	<b>294</b>	<b>38</b>	<b>294</b>	<b>38</b>	<b>294</b>	<b>38</b>	<b>294</b>		
	<i>Aedes albopictus</i>	38	294	38	294	38	294	38	294		
<b>Passaic</b>		<b>6</b>	<b>15</b>	<b>6</b>	<b>15</b>	<b>6</b>	<b>15</b>	<b>6</b>	<b>15</b>		
	<i>Aedes albopictus</i>	6	15	6	15	6	15	6	15		
<b>Salem</b>		<b>78</b>	<b>361</b>	<b>78</b>	<b>361</b>	<b>78</b>	<b>361</b>	<b>78</b>	<b>361</b>		
	<i>Aedes albopictus</i>	78	361	78	361	78	361	78	361		

<b>Somerset</b>		<b>15</b>	<b>71</b>	<b>15</b>	<b>71</b>	<b>15</b>	<b>71</b>	<b>15</b>	<b>71</b>		
	<i>Aedes albopictus</i>	15	71	15	71	15	71	15	71		
<b>Sussex</b>		<b>20</b>	<b>66</b>	<b>20</b>	<b>66</b>	<b>20</b>	<b>66</b>	<b>20</b>	<b>66</b>		
	<i>Aedes albopictus</i>	20	66	20	66	20	66	20	66		
<b>Union</b>		<b>49</b>	<b>1828</b>	<b>49</b>	<b>1828</b>	<b>49</b>	<b>1828</b>	<b>49</b>	<b>1828</b>		
	<i>Aedes albopictus</i>	49	1828	49	1828	49	1828	49	1828		
<b>Grand Total</b>		<b>1486</b>	<b>19531</b>	<b>1486</b>	<b>19531</b>	<b>1486</b>	<b>19531</b>	<b>1486</b>	<b>19531</b>		

## Chikungunya (CHIK) to 22 October 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 6 imported human case of Chikungunya.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>59</b>	<b>520</b>		
	<i>Aedes albopictus</i>	59	520		
<b>Bergen</b>		<b>48</b>	<b>406</b>		
	<i>Aedes albopictus</i>	48	406		
<b>Burlington</b>		<b>4</b>	<b>28</b>		
	<i>Aedes albopictus</i>	4	28		
<b>Camden</b>		<b>50</b>	<b>200</b>		
	<i>Aedes albopictus</i>	50	200		
<b>Cape May</b>		<b>573</b>	<b>1218</b>		
	<i>Aedes albopictus</i>	573	1218		
<b>Cumberland</b>		<b>47</b>	<b>496</b>		
	<i>Aedes albopictus</i>	47	496		
<b>Essex</b>		<b>116</b>	<b>599</b>		
	<i>Aedes albopictus</i>	116	599		
<b>Gloucester</b>		<b>160</b>	<b>3674</b>		
	<i>Aedes albopictus</i>	160	3674		
<b>Hudson</b>		<b>50</b>	<b>2229</b>		
	<i>Aedes albopictus</i>	50	2229		
<b>Hunterdon</b>		<b>6</b>	<b>234</b>		
	<i>Aedes albopictus</i>	6	234		
<b>Mercer</b>		<b>147</b>	<b>1522</b>		
	<i>Aedes albopictus</i>	147	1522		
<b>Middlesex</b>		<b>99</b>	<b>888</b>		
	<i>Aedes albopictus</i>	97	868		
	<i>Culex</i> spp.	1	19		
	<i>Culiseta melanura</i>	1	1		
<b>Monmouth</b>		<b>415</b>	<b>5081</b>		
	<i>Aedes albopictus</i>	415	5081		
<b>Morris</b>		<b>79</b>	<b>1019</b>		
	<i>Aedes albopictus</i>	77	1016		

	<i>Culex</i> spp.	2	3		
<b>Ocean</b>		<b>38</b>	<b>294</b>		
	<i>Aedes albopictus</i>	38	294		
<b>Passaic</b>		<b>6</b>	<b>15</b>		
	<i>Aedes albopictus</i>	6	15		
<b>Salem</b>		<b>78</b>	<b>361</b>		
	<i>Aedes albopictus</i>	78	361		
<b>Somerset</b>		<b>15</b>	<b>71</b>		
	<i>Aedes albopictus</i>	15	71		
<b>Sussex</b>		<b>20</b>	<b>66</b>		
	<i>Aedes albopictus</i>	20	66		
<b>Union</b>		<b>49</b>	<b>1828</b>		
	<i>Aedes albopictus</i>	49	1828		
<b>Grand Total</b>		<b>2059</b>	<b>20749</b>		

### Zika (ZIKV) to 22 October 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 159 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>46</b>	<b>363</b>		
	<i>Aedes albopictus</i>	46	363		
<b>Bergen</b>		<b>33</b>	<b>334</b>		
	<i>Aedes albopictus</i>	33	334		
<b>Burlington</b>		<b>4</b>	<b>28</b>		
	<i>Aedes albopictus</i>	4	28		
<b>Camden</b>		<b>34</b>	<b>134</b>		
	<i>Aedes albopictus</i>	34	134		
<b>Cape May</b>		<b>573</b>	<b>1218</b>		
	<i>Aedes albopictus</i>	573	1218		
<b>Cumberland</b>		<b>41</b>	<b>409</b>		
	<i>Aedes albopictus</i>	41	409		
<b>Essex</b>		<b>77</b>	<b>434</b>		
	<i>Aedes albopictus</i>	77	434		
<b>Gloucester</b>		<b>160</b>	<b>3674</b>		
	<i>Aedes albopictus</i>	160	3674		
<b>Hudson</b>		<b>32</b>	<b>1806</b>		
	<i>Aedes albopictus</i>	32	1806		
<b>Hunterdon</b>		<b>6</b>	<b>234</b>		
	<i>Aedes albopictus</i>	6	234		
<b>Mercer</b>		<b>309</b>	<b>3473</b>		
	<i>Aedes albopictus</i>	309	3473		
<b>Middlesex</b>		<b>65</b>	<b>670</b>		
	<i>Aedes albopictus</i>	64	651		
	<i>Culex</i> spp.	1	19		
<b>Monmouth</b>		<b>245</b>	<b>3507</b>		



	<i>Aedes albopictus</i>	245	3507		
<b>Morris</b>		<b>64</b>	<b>964</b>		
	<i>Aedes albopictus</i>	64	964		
<b>Ocean</b>		<b>38</b>	<b>294</b>		
	<i>Aedes albopictus</i>	38	294		
<b>Passaic</b>		<b>4</b>	<b>12</b>		
	<i>Aedes albopictus</i>	4	12		
<b>Salem</b>		<b>44</b>	<b>235</b>		
	<i>Aedes albopictus</i>	44	235		
<b>Somerset</b>		<b>15</b>	<b>71</b>		
	<i>Aedes albopictus</i>	15	71		
<b>Sussex</b>		<b>20</b>	<b>66</b>		
	<i>Aedes albopictus</i>	20	66		
<b>Union</b>		<b>49</b>	<b>1828</b>		
	<i>Aedes albopictus</i>	49	1828		
<b>Grand Total</b>		<b>1859</b>	<b>19754</b>		