

# VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 36: 4 September to 10 September, 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	0.78	0.60	3 (6)	3 (4)		
Green Bank (Burlington Co.)/25	Coastal	3.55	0.04	61 (62)	9 (10)		
Corbin City (Atlantic Co.)/25	Coastal	2.41	0.72	225 (243)	16 (17)	1	5.08
Dennisville (Cape May Co.)/50	Coastal	5.21	0.00	69	12		
Winslow (Camden Co.)/50	Inland	2.46	1.68	810	24	2	1.38
Centerton (Salem Co.)/50	Inland	3.07	0.08	240	15		
Turkey Swamp (Monmouth Co.)/50	Inland	2.11	nd	80 (95)	15	1	12.50
Glassboro (Gloucester Co.)/50	Inland	0.89	0.02	101	15	1	10.20

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

**Remarks:** EEE virus continues to circulate in NJ. One new positive EEE pool in *Culiseta melanura* was detected and one new horse case developed. Total positive EEE pools detected is 9, with 7 pools of *Cs. melanura* and 2 pools of *Culex pipiens*. A total of 4 horse cases have been found, the latest in Passaic County – a continuance of the northward trend of EEE in NJ.

**Traditional Resting Box Sites:** 1693 *Cs. melanura* from 109 pools have been tested for EEE, with 3 pools of 22 *Cs. melanura* to be tested. One new positive melanura pool was detected at the Winslow site, collected 6 Sep. Statewide, 4327 *Cs. melanura* have been tested, with seven positive pools detected (five traditional, two county sites), for an overall *Cs. melanura* MFIR of 1.62, an increase from 1.52 last week. 15,765 specimens from 21 other species have also been tested, with two reported positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.43.

**Additional *Cs. melanura* trapped by counties**

\*traps with positives indicated in **BOLD**.

County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO <sub>2</sub> , RB	25	366		
Burlington	CO <sub>2</sub>	47	1199		
Cape May	CDC, CO <sub>2</sub> , GR, RB	136	344		
Cumberland	CDC, RB	16	88		
Middlesex	<b>RB</b>	40	571	2	3.50
Ocean	CO <sub>2</sub> , GR, RB	16	39		
Sussex	CO <sub>2</sub> , GR	3	4		
Union	LT	1	23		
<b>TOTAL</b>		<b>284</b>	<b>2634</b>	<b>2</b>	<b>0.76</b>

**Additional *Cs. melanura*:** Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. Two positive pools were detected in Middlesex, the first on 25 July.

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	3	8		
<i>Aedes canadensis canadensis</i>	2	65		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	1	4		
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	20	705		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	4	42		
<i>Anopheles bradleyi</i>	68	359		
<i>Anopheles crucians</i>	3	54		
<i>Anopheles punctipennis</i>	18	41		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	99	1907		
<i>Culex erraticus</i>	65	565		
<i>Culex pipiens</i>	693	8759	2	0.228
<i>Culex restuans</i>	1	3		
<i>Culex salinarius</i>	288	2777		
<i>Culex sp.</i>	56	365		
<i>Culex territans</i>	1	12		
<i>Psorophora columbiae</i>	1	2		
<b>State Total</b>	<b>1357</b>	<b>15925</b>	<b>2</b>	<b>0.126</b>

**Additional Species:** Twenty-one 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:** A fourth positive EEE horse has been detected, a 23 yo gelding from Passaic County, with onset date of 5 Sep, euthanized on 6 Sep. There was no vaccination or travel history. Previously, one horse from Ocean and two horses from Morris counties had been euthanized for EEE. **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.

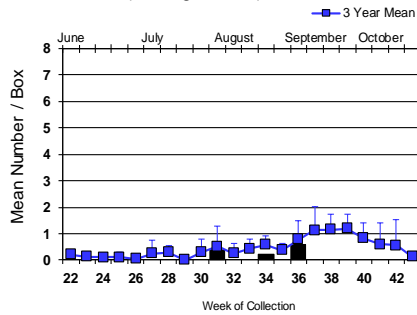
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see:

[http://www.aep.org/vaccination\\_guidelines.htm](http://www.aep.org/vaccination_guidelines.htm)

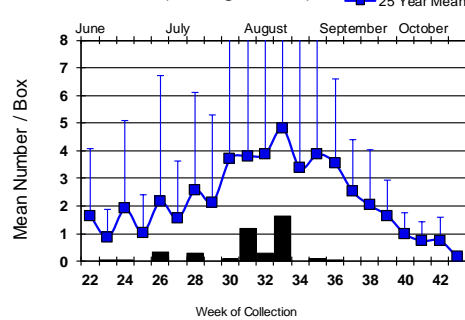
# Culiseta melanura Population Graphs

## Coastal

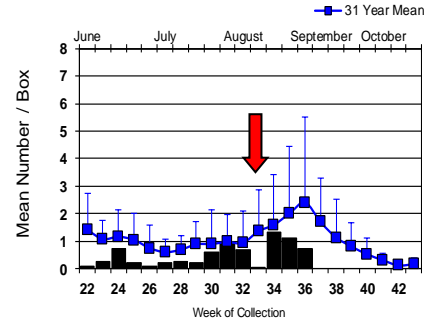
BASS RIVER (Burlington Co.)



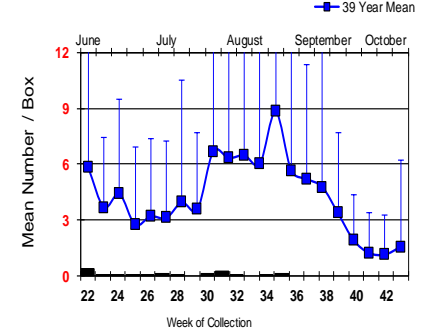
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

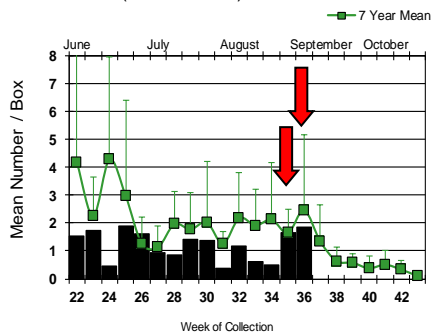


DENNISVILLE (Cape May Co.)

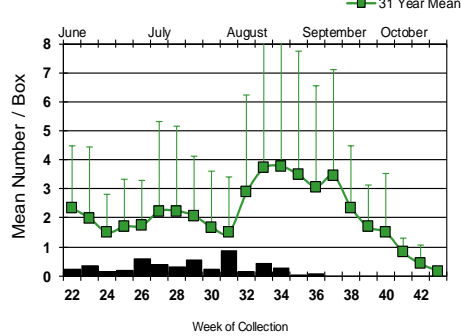


## Inland

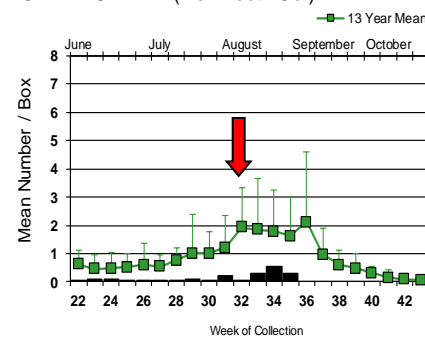
WINSLOW (Camden Co.)



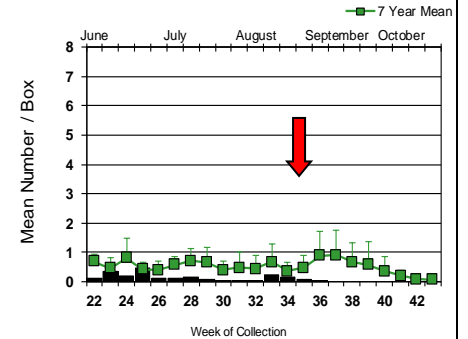
CENTERTON (Salem Co.)



TURKEY SWAMP (Monmouth Co.)




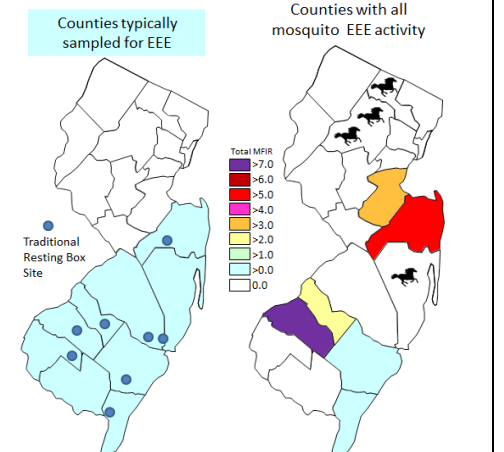
GLASSBORO (Gloucester Co.)



A total of 5 positive pools of *Cs. melanura* have been detected at the traditional resting box sites, the latest at the Winslow site.

Maps to right: Note that Middlesex County (in orange, 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 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) FL(19) GA(5) LA(7) MS(7) NC(1) NJ(4) NY(1) SC(14) TN(1) TX(1) VA(6) WI(2)
- mosquito pools: LA(1) MA(4) NJ(9) NY(2) RI(1)
- sentinel: FL(73) GA(2) TX(24)
- 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					5
Alaska					
Arizona	1	63/83	0	0	38/41
Arkansas				0	1
California	1137/1186	2939/3105	231/284	12/15	123/155
Colorado	10	103		1	62/76
Connecticut		72/85			1
Delaware					
DC					1
Florida		2/5	72/96	1	3
Georgia		0			0
Hawaii					
Idaho	0	29		4	2/5
Illinois	32/48	1960/2037		1	15
Indiana	0	149/186		0	1/2
Iowa		5		6	2/6
Kansas	1	0		1	7/9
Kentucky				2	
Louisiana	13/20	145/159		1/2	14/24
Maine		0			0
Maryland		1			
Mass.		145/157		0	1
Michigan	13	4		1	3/7
Minnesota		6		7	14/24
Mississippi		22			18/20
Missouri		8		1	1

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					3
Nebraska	2	80/90		1	28/36
Nevada				2	1/4
New Hampshire		0		0	0
New Jersey		231/292		0	2
New Mexico					1
New York		355/424		1	0
North Carolina					
North Dakota	8	15		4	42/50
Ohio		8		0	4
Oklahoma		7		2	11/12
Oregon	7/8	39/44	0	3	0
Pennsylvania	7	934/1119			5
Rhode Island		1			
South Carolina		6			4
South Dakota		180/203			79/95
Tennessee					1/2
Texas	1	1245/1318	2	9/13	96/108
Utah		140/190		2/3	3/7
Vermont		11/13			2
Virginia					
Washington	1	82/95		11/18	6
West Virginia					
Wisconsin	14/23	8		1/5	2
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 10 September 2016

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1552	17144	4	0.233
<i>Aedes atlanticus</i>	13	28		
<i>Aedes atropalpus</i>	24	71		
<i>Aedes canadensis canadensis</i>	35	696		
<i>Aedes cantator</i>	36	246		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	451	2536	2	0.789
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	28	875		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	22	656		
<i>Aedes triseriatus</i>	216	441		
<i>Aedes trivittatus</i>	4	36		
<i>Aedes vexans</i>	84	963	1	1.038
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	81	671		
<i>Anopheles crucians</i>	6	61		
<i>Anopheles punctipennis</i>	69	231		
<i>Anopheles quadrimaculatus</i>	131	1130		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	118	2834	1	0.353
<i>Culex erraticus</i>	99	902		
<i>Culex pipiens</i>	1007	25312	41	1.620
<i>Culex restuans</i>	703	7855	6	0.764
<i>Culex salinarius</i>	301	3119		
<i>Culex</i> spp.	2524	97429	236	2.422
<i>Culex territans</i>	39	354		
<i>Culiseta melanura</i>	395	4300	1	0.233
<i>Orthopodomyia signifera</i>	4	4		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	17	107		
<i>Psorophora ferox</i>	15	131		
<i>Uranotaenia sapphirina</i>	2	6		
<b>Grand Total</b>	<b>7984</b>	<b>168156</b>	<b>292</b>	<b>1.736</b>

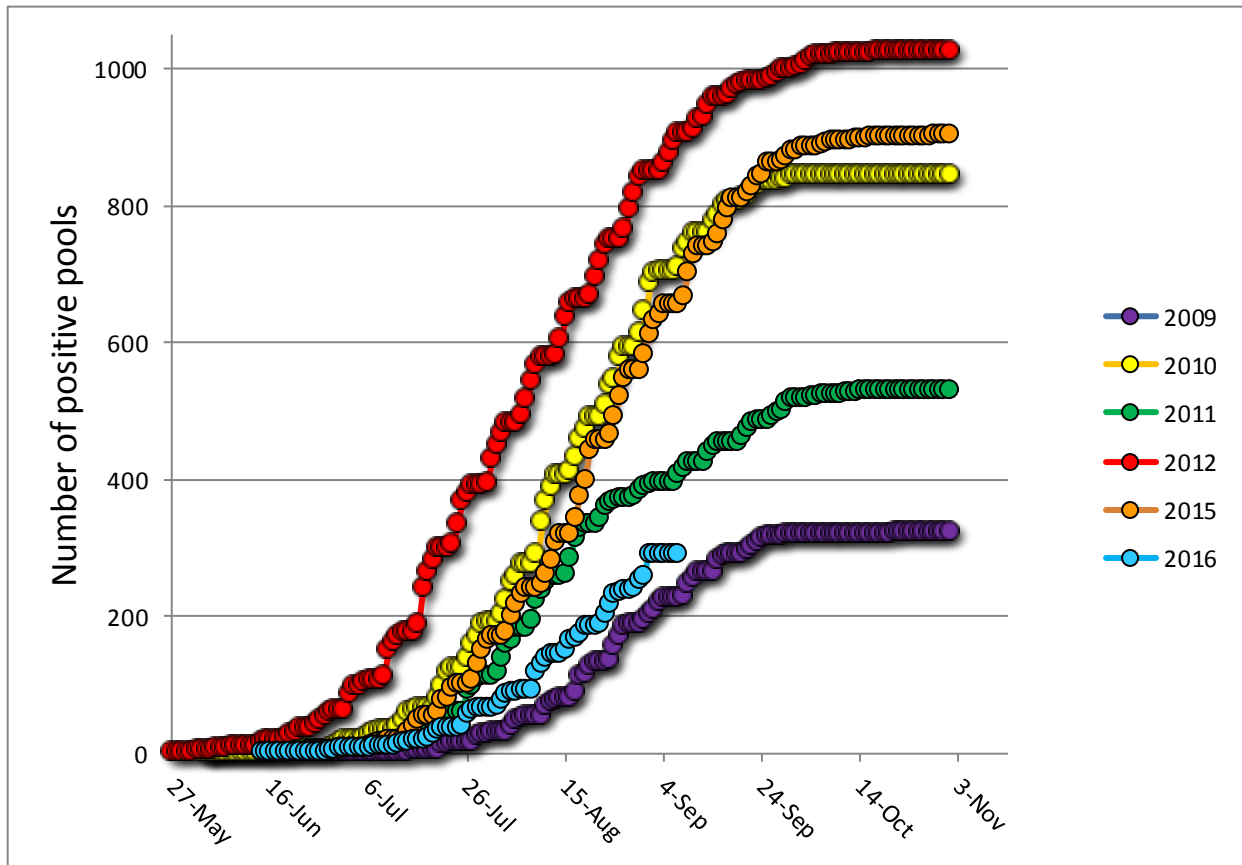
**Remarks:** To date, 7,984 pools of 168,156 mosquitoes from 33 species have been tested, with 292 positive pools detected. New positive species include *Aedes vexans* (collected 1 Sep in Cumberland County) and *Culiseta melanura* (collected 30 Aug in Cape May County). Most new positives continue to be detected in *Culex* Mix pools. Previously, a *Coquillettidia perturbans* pool from Burlington County was collected on 22 Aug. 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 two human cases have been detected; one most recently from Monmouth County, with an onset date of 2 Aug. Currently, case count is Camden (1) and Monmouth (1). The human case from Camden County had an onset date 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, with numbers trending between low (2009) and moderate (2011) activity.



### WNV Results by County through 10 September 2016

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>226</b>	<b>6443</b>	<b>9</b>	<b>1.397</b>
	<i>Aedes albopictus</i>	39	391		
	<i>Aedes japonicus</i>	4	18		
	<i>Aedes sollicitans</i>	10	636		
	<i>Aedes sticticus</i>	1	6		
	<i>Aedes taeniorhynchus</i>	7	363		
	<i>Aedes vexans</i>	9	303		
	<i>Anopheles bradleyi</i>	5	141		
	<i>Anopheles punctipennis</i>	2	18		
	<i>Anopheles quadrimaculatus</i>	2	34		
	<i>Coquillettidia perturbans</i>	22	524		
	<i>Culex erraticus</i>	10	106		
	<i>Culex pipiens</i>	27	1433	8	5.583
	<i>Culex restuans</i>	3	52		

	<i>Culex salinarius</i>	6	220		
	<i>Culex</i> spp.	33	1526	1	0.655
	<i>Culiseta melanura</i>	41	591		
	<i>Psorophora columbiae</i>	1	10		
	<i>Psorophora ferox</i>	4	71		
<b>Bergen</b>		<b>221</b>	<b>13824</b>	<b>60</b>	<b>4.340</b>
	<i>Aedes albopictus</i>	40	349		
	<i>Aedes japonicus</i>	6	350		
	<i>Culex</i> spp.	175	13125	60	4.571
<b>Burlington</b>		<b>177</b>	<b>6079</b>	<b>7</b>	<b>1.152</b>
	<i>Aedes albopictus</i>	9	246		
	<i>Aedes atropalpus</i>	3	18		
	<i>Aedes canadensis canadensis</i>	2	65		
	<i>Aedes japonicus</i>	8	174		
	<i>Aedes mitchellae</i>	1	6		
	<i>Aedes taeniorhynchus</i>	4	195		
	<i>Aedes triseriatus</i>	8	28		
	<i>Anopheles barberi</i>	1	1		
	<i>Anopheles bradleyi</i>	2	58		
	<i>Anopheles crucians</i>	2	40		
	<i>Coquillettidia perturbans</i>	5	303	1	3.300
	<i>Culex erraticus</i>	5	110		
	<i>Culex salinarius</i>	14	519		
	<i>Culex</i> spp.	69	3185	6	1.884
	<i>Culex territans</i>	1	12		
	<i>Culiseta melanura</i>	43	1119		
<b>Camden</b>		<b>181</b>	<b>4233</b>	<b>5</b>	<b>1.181</b>
	<i>Aedes albopictus</i>	36	142		
	<i>Aedes japonicus</i>	22	80		
	<i>Culex</i> spp.	99	3117	5	1.604
	<i>Culiseta melanura</i>	24	894		
<b>Cape May</b>		<b>2746</b>	<b>18021</b>	<b>1</b>	<b>0.055</b>
	<i>Aedes albopictus</i>	344	644		
	<i>Aedes atlanticus</i>	11	20		
	<i>Aedes atropalpus</i>	21	53		
	<i>Aedes canadensis canadensis</i>	13	249		
	<i>Aedes cantator</i>	25	52		
	<i>Aedes japonicus</i>	204	400		
	<i>Aedes sollicitans</i>	3	5		
	<i>Aedes taeniorhynchus</i>	2	2		
	<i>Aedes triseriatus</i>	147	258		
	<i>Aedes vexans</i>	9	12		
	<i>Anopheles atropos</i>	1	1		
	<i>Anopheles bradleyi</i>	66	301		
	<i>Anopheles punctipennis</i>	10	11		
	<i>Anopheles quadrimaculatus</i>	109	1048		
	<i>Coquillettidia perturbans</i>	27	426		
	<i>Culex erraticus</i>	14	30		
	<i>Culex pipiens</i>	694	8760		
	<i>Culex restuans</i>	569	4109		
	<i>Culex salinarius</i>	242	759		
	<i>Culex</i> spp.	39	107		

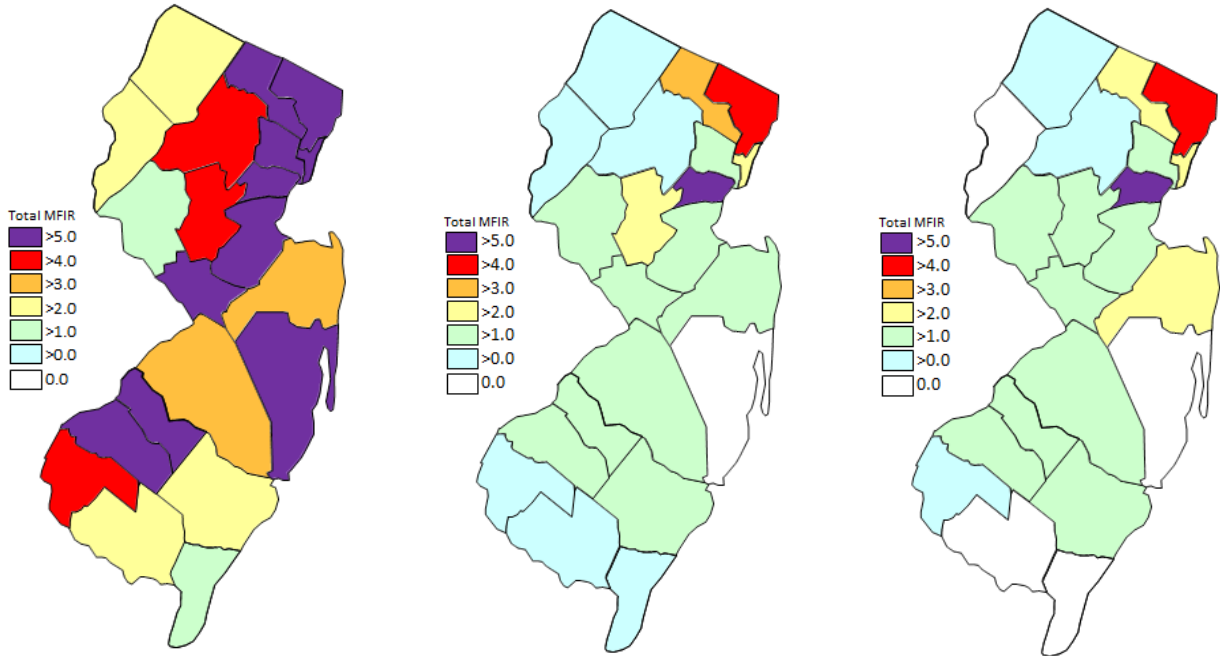
	<i>Culex territans</i>	38	342		
	<i>Culiseta melanura</i>	148	413	1	2.421
	<i>Orthopodomyia signifera</i>	3	3		
	<i>Psorophora columbiae</i>	2	2		
	<i>Psorophora ferox</i>	3	8		
	<i>Uranotaenia sapphirina</i>	2	6		
<b>Cumberland</b>		<b>205</b>	<b>3534</b>	<b>1</b>	<b>0.283</b>
	<i>Aedes albopictus</i>	22	283		
	<i>Aedes cantator</i>	1	1		
	<i>Aedes japonicus</i>	9	18		
	<i>Aedes sollicitans</i>	10	223		
	<i>Aedes taeniorhynchus</i>	3	26		
	<i>Aedes triseriatus</i>	2	4		
	<i>Aedes vexans</i>	36	528	1	1.894
	<i>Anopheles bradleyi</i>	5	157		
	<i>Anopheles crucians</i>	1	5		
	<i>Anopheles punctipennis</i>	8	61		
	<i>Anopheles quadrimaculatus</i>	2	6		
	<i>Coquillettidia perturbans</i>	7	110		
	<i>Culex erraticus</i>	14	183		
	<i>Culex pipiens</i>	2	9		
	<i>Culex salinarius</i>	31	1430		
	<i>Culex spp.</i>	22	296		
	<i>Culiseta melanura</i>	16	88		
	<i>Orthopodomyia signifera</i>	1	1		
	<i>Psorophora ciliata</i>	1	1		
	<i>Psorophora columbiae</i>	11	91		
	<i>Psorophora ferox</i>	1	13		
<b>Essex</b>		<b>228</b>	<b>1390</b>	<b>2</b>	<b>1.439</b>
	<i>Aedes albopictus</i>	97	523		
	<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>	122	855	2	2.339
<b>Gloucester</b>		<b>398</b>	<b>17097</b>	<b>29</b>	<b>1.696</b>
	<i>Aedes albopictus</i>	121	2527	1	0.396
	<i>Aedes japonicus</i>	21	246		
	<i>Aedes triseriatus</i>	3	10		
	<i>Anopheles punctipennis</i>	4	14		
	<i>Culex pipiens</i>	234	14198	28	1.972
	<i>Culiseta melanura</i>	15	102		
<b>Hudson</b>		<b>188</b>	<b>8876</b>	<b>23</b>	<b>2.591</b>
	<i>Aedes albopictus</i>	42	1765	1	0.567
	<i>Culex spp.</i>	146	7111	22	3.094
<b>Hunterdon</b>		<b>183</b>	<b>8417</b>	<b>13</b>	<b>1.544</b>
	<i>Aedes albopictus</i>	4	173		
	<i>Culex spp.</i>	179	8244	13	1.577
<b>Mercer</b>		<b>349</b>	<b>7554</b>	<b>14</b>	<b>1.853</b>



<i>Aedes albopictus</i>	79	947		
<i>Aedes japonicus</i>	22	100		
<i>Aedes triseriatus</i>	2	24		
<i>Aedes vexans</i>	3	12		
<i>Culex erraticus</i>	9	36		
<i>Culex pipiens</i>	45	904	5	5.531
<i>Culex restuans</i>	121	3678	6	1.631
<i>Culex</i> spp.	68	1853	3	1.619
<b>Middlesex</b>	<b>335</b>	<b>11520</b>	<b>20</b>	<b>1.736</b>
<i>Aedes albopictus</i>	73	635		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex erraticus</i>	1	1		
<i>Culex</i> spp.	219	10310	20	1.940
<i>Culiseta melanura</i>	41	572		
<b>Monmouth</b>	<b>638</b>	<b>7754</b>	<b>15</b>	<b>1.934</b>
<i>Aedes albopictus</i>	371	4298	1	0.233
<i>Aedes atlanticus</i>	2	8		
<i>Aedes canadensis canadensis</i>	19	312		
<i>Aedes cantator</i>	10	193		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	33	101		
<i>Aedes sollicitans</i>	5	11		
<i>Aedes taeniorhynchus</i>	6	70		
<i>Aedes triseriatus</i>	8	15		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	9	28		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles crucians</i>	2	2		
<i>Anopheles punctipennis</i>	32	66		
<i>Anopheles quadrimaculatus</i>	4	4		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	6	17		
<i>Culex restuans</i>	1	3		
<i>Culex</i> spp.	102	2493	14	5.616
<i>Culiseta melanura</i>	16	96		
<i>Psorophora columbiae</i>	2	3		
<i>Psorophora ferox</i>	3	26		
<b>Morris</b>	<b>323</b>	<b>11120</b>	<b>5</b>	<b>0.450</b>
<i>Aedes albopictus</i>	43	717		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	2	5		
<i>Anopheles punctipennis</i>	4	9		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	2	20		
<i>Culex</i> spp.	269	10366	5	0.482
<b>Ocean</b>	<b>288</b>	<b>4125</b>		
<i>Aedes albopictus</i>	97	1360		
<i>Aedes canadensis canadensis</i>	1	70		
<i>Aedes japonicus</i>	26	85		
<i>Aedes triseriatus</i>	11	19		
<i>Aedes vexans</i>	1	1		
<i>Anopheles crucians</i>	1	14		

<i>Anopheles punctipennis</i>	2	2		
<i>Coquillettidia perturbans</i>	22	460		
<i>Culex erraticus</i>	8	55		
<i>Culex restuans</i>	1	2		
<i>Culex</i> spp.	87	1940		
<i>Culiseta melanura</i>	30	108		
<i>Psorophora ferox</i>	1	9		
<b>Passaic</b>	<b>256</b>	<b>6316</b>	<b>19</b>	<b>3.008</b>
<i>Aedes albopictus</i>	12	50		
<i>Aedes japonicus</i>	59	400	2	5.000
<i>Aedes triseriatus</i>	7	11		
<i>Aedes vexans</i>	13	37		
<i>Culex</i> spp.	165	5818	17	2.922
<b>Salem</b>	<b>252</b>	<b>1630</b>	<b>1</b>	<b>0.613</b>
<i>Aedes albopictus</i>	63	273	1	3.663
<i>Aedes japonicus</i>	14	34		
<i>Aedes triseriatus</i>	22	32		
<i>Anopheles bradleyi</i>	3	14		
<i>Anopheles punctipennis</i>	5	5		
<i>Anopheles quadrimaculatus</i>	13	37		
<i>Coquillettidia perturbans</i>	12	85		
<i>Culex erraticus</i>	26	295		
<i>Culex pipiens</i>	3	3		
<i>Culex restuans</i>	7	8		
<i>Culex</i> spp.	65	595		
<i>Culiseta melanura</i>	15	244		
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	3	4		
<b>Somerset</b>	<b>176</b>	<b>3468</b>	<b>9</b>	<b>2.595</b>
<i>Aedes albopictus</i>	14	63		
<i>Aedes japonicus</i>	4	35		
<i>Aedes triseriatus</i>	3	22		
<i>Culex</i> spp.	155	3348	9	2.688
<b>Sussex</b>	<b>268</b>	<b>8460</b>	<b>3</b>	<b>0.355</b>
<i>Aedes albopictus</i>	8	36		
<i>Aedes japonicus</i>	14	487		
<i>Aedes triseriatus</i>	1	16		
<i>Aedes trivittatus</i>	1	33		
<i>Aedes vexans</i>	2	37		
<i>Anopheles punctipennis</i>	1	44		
<i>Coquillettidia perturbans</i>	16	899		
<i>Culex erraticus</i>	1	2		
<i>Culex pipiens</i>	2	5		
<i>Culex restuans</i>	1	3		
<i>Culex salinarius</i>	8	191		
<i>Culex</i> spp.	210	6703	3	0.448
<i>Culiseta melanura</i>	3	4		
<b>Union</b>	<b>168</b>	<b>9719</b>	<b>55</b>	<b>5.659</b>
<i>Aedes albopictus</i>	38	1722		
<i>Culex erraticus</i>	5	67		

<i>Culex</i> spp.	122	7861	55	6.997
<i>Culiseta melanura</i>	3	69		
<b>Warren</b>	<b>178</b>	<b>8576</b>	<b>1</b>	<b>0.117</b>
<i>Culex</i> spp.	178	8576	1	0.117
<b>Grand Total</b>	<b>7984</b>	<b>168156</b>	<b>292</b>	<b>1.736</b>



Cumulative WNV activity in 2015. WNV activity to 10 September 2016. WNV activity last week, 2016.

### Saint Louis Encephalitis (SLE) to 10 September 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>74</b>	<b>3277</b>		
	<i>Anopheles barberi</i>	1	1		
	<i>Culex erraticus</i>	4	91		
	<i>Culex</i> spp.	69	3185		
<b>Cape May</b>		<b>732</b>	<b>8866</b>		
	<i>Culex pipiens</i>	693	8759		
	<i>Culex</i> spp.	39	107		
<b>Grand Total</b>		<b>806</b>	<b>12143</b>		

### La Crosse Encephalitis (LAC) to 10 September 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>28</b>	<b>466</b>		
	<i>Aedes albopictus</i>	9	246		
	<i>Aedes atropalpus</i>	3	18		
	<i>Aedes japonicus</i>	8	174		
	<i>Aedes triseriatus</i>	8	28		
<b>Grand Total</b>		<b>28</b>	<b>466</b>		

### Dengue (DENV) to 10 September 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 39 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>39</b>	<b>391</b>	<b>39</b>	<b>391</b>	<b>39</b>	<b>391</b>	<b>39</b>	<b>391</b>		
	<i>Aedes albopictus</i>	39	391	39	391	39	391	39	391		
<b>Bergen</b>		<b>40</b>	<b>349</b>	<b>40</b>	<b>349</b>	<b>40</b>	<b>349</b>	<b>40</b>	<b>349</b>		
	<i>Aedes albopictus</i>	40	349	40	349	40	349	40	349		
<b>Camden</b>		<b>36</b>	<b>142</b>	<b>36</b>	<b>142</b>	<b>36</b>	<b>142</b>	<b>36</b>	<b>142</b>		
	<i>Aedes albopictus</i>	36	142	36	142	36	142	36	142		
<b>Cumberland</b>		<b>22</b>	<b>283</b>	<b>22</b>	<b>283</b>	<b>22</b>	<b>283</b>	<b>22</b>	<b>283</b>		
	<i>Aedes albopictus</i>	22	283	22	283	22	283	22	283		
<b>Essex</b>		<b>97</b>	<b>523</b>	<b>97</b>	<b>523</b>	<b>97</b>	<b>523</b>	<b>97</b>	<b>523</b>		
	<i>Aedes albopictus</i>	97	523	97	523	97	523	97	523		
<b>Gloucester</b>		<b>105</b>	<b>2328</b>	<b>105</b>	<b>2328</b>	<b>105</b>	<b>2328</b>	<b>105</b>	<b>2328</b>		
	<i>Aedes albopictus</i>	105	2328	105	2328	105	2328	105	2328		
<b>Hudson</b>		<b>42</b>	<b>1765</b>	<b>42</b>	<b>1765</b>	<b>42</b>	<b>1765</b>	<b>42</b>	<b>1765</b>		
	<i>Aedes albopictus</i>	42	1765	42	1765	42	1765	42	1765		
<b>Hunterdon</b>		<b>4</b>	<b>173</b>	<b>4</b>	<b>173</b>	<b>4</b>	<b>173</b>	<b>4</b>	<b>173</b>		

	<i>Aedes albopictus</i>	4	173	4	173	4	173	4	173		
<b>Mercer</b>		<b>79</b>	<b>947</b>	<b>79</b>	<b>947</b>	<b>79</b>	<b>947</b>	<b>79</b>	<b>947</b>		
	<i>Aedes albopictus</i>	79	947	79	947	79	947	79	947		
<b>Middlesex</b>		<b>74</b>	<b>636</b>	<b>74</b>	<b>636</b>	<b>74</b>	<b>636</b>	<b>74</b>	<b>636</b>		
	<i>Aedes albopictus</i>	73	635	73	635	73	635	73	635		
	<i>Culiseta melanura</i>	1	1	1	1	1	1	1	1		
<b>Monmouth</b>		<b>315</b>	<b>3969</b>	<b>315</b>	<b>3969</b>	<b>315</b>	<b>3969</b>	<b>315</b>	<b>3969</b>		
	<i>Aedes albopictus</i>	315	3969	315	3969	315	3969	315	3969		
<b>Morris</b>		<b>43</b>	<b>718</b>	<b>43</b>	<b>718</b>	<b>43</b>	<b>718</b>	<b>43</b>	<b>718</b>		
	<i>Aedes albopictus</i>	41	715	41	715	41	715	41	715		
	<i>Culex</i> spp.	2	3	2	3	2	3	2	3		
<b>Ocean</b>		<b>6</b>	<b>100</b>	<b>6</b>	<b>100</b>	<b>6</b>	<b>100</b>	<b>6</b>	<b>100</b>		
	<i>Aedes albopictus</i>	6	100	6	100	6	100	6	100		
<b>Passaic</b>		<b>4</b>	<b>13</b>	<b>4</b>	<b>13</b>	<b>4</b>	<b>13</b>	<b>4</b>	<b>13</b>		
	<i>Aedes albopictus</i>	4	13	4	13	4	13	4	13		
<b>Salem</b>		<b>63</b>	<b>273</b>	<b>63</b>	<b>273</b>	<b>63</b>	<b>273</b>	<b>63</b>	<b>273</b>		
	<i>Aedes albopictus</i>	63	273	63	273	63	273	63	273		
<b>Somerset</b>		<b>10</b>	<b>47</b>	<b>10</b>	<b>47</b>	<b>10</b>	<b>47</b>	<b>10</b>	<b>47</b>		
	<i>Aedes albopictus</i>	10	47	10	47	10	47	10	47		
<b>Sussex</b>		<b>8</b>	<b>36</b>	<b>8</b>	<b>36</b>	<b>8</b>	<b>36</b>	<b>8</b>	<b>36</b>		
	<i>Aedes albopictus</i>	8	36	8	36	8	36	8	36		
<b>Union</b>		<b>31</b>	<b>1589</b>	<b>31</b>	<b>1589</b>	<b>31</b>	<b>1589</b>	<b>31</b>	<b>1589</b>		
	<i>Aedes albopictus</i>	31	1589	31	1589	31	1589	31	1589		
<b>Grand Total</b>		<b>1018</b>	<b>14282</b>	<b>1018</b>	<b>14282</b>	<b>1018</b>	<b>14282</b>	<b>1018</b>	<b>14282</b>		

## Chikungunya (CHIK) to 10 September 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 2 imported human case of Chikungunya.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>39</b>	<b>391</b>		
	<i>Aedes albopictus</i>	39	391		
<b>Bergen</b>		<b>40</b>	<b>349</b>		
	<i>Aedes albopictus</i>	40	349		
<b>Camden</b>		<b>36</b>	<b>142</b>		
	<i>Aedes albopictus</i>	36	142		
<b>Cape May</b>		<b>344</b>	<b>644</b>		
	<i>Aedes albopictus</i>	344	644		
<b>Cumberland</b>		<b>22</b>	<b>283</b>		
	<i>Aedes albopictus</i>	22	283		
<b>Essex</b>		<b>97</b>	<b>523</b>		
	<i>Aedes albopictus</i>	97	523		
<b>Gloucester</b>		<b>105</b>	<b>2328</b>		
	<i>Aedes albopictus</i>	105	2328		

<b>Hudson</b>		<b>42</b>	<b>1765</b>		
	<i>Aedes albopictus</i>	42	1765		
<b>Hunterdon</b>		<b>4</b>	<b>173</b>		
	<i>Aedes albopictus</i>	4	173		
<b>Mercer</b>		<b>79</b>	<b>947</b>		
	<i>Aedes albopictus</i>	79	947		
<b>Middlesex</b>		<b>74</b>	<b>636</b>		
	<i>Aedes albopictus</i>	73	635		
	<i>Culiseta melanura</i>	1	1		
<b>Monmouth</b>		<b>315</b>	<b>3969</b>		
	<i>Aedes albopictus</i>	315	3969		
<b>Morris</b>		<b>43</b>	<b>718</b>		
	<i>Aedes albopictus</i>	41	715		
	<i>Culex</i> spp.	2	3		
<b>Ocean</b>		<b>6</b>	<b>100</b>		
	<i>Aedes albopictus</i>	6	100		
<b>Passaic</b>		<b>4</b>	<b>13</b>		
	<i>Aedes albopictus</i>	4	13		
<b>Salem</b>		<b>63</b>	<b>273</b>		
	<i>Aedes albopictus</i>	63	273		
<b>Somerset</b>		<b>10</b>	<b>47</b>		
	<i>Aedes albopictus</i>	10	47		
<b>Sussex</b>		<b>8</b>	<b>36</b>		
	<i>Aedes albopictus</i>	8	36		
<b>Union</b>		<b>31</b>	<b>1589</b>		
	<i>Aedes albopictus</i>	31	1589		
<b>Grand Total</b>		<b>1362</b>	<b>14926</b>		

### Zika (ZIKV) to 10 September 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 126 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>26</b>	<b>234</b>		
	<i>Aedes albopictus</i>	26	234		
<b>Bergen</b>		<b>25</b>	<b>277</b>		
	<i>Aedes albopictus</i>	25	277		
<b>Camden</b>		<b>20</b>	<b>76</b>		
	<i>Aedes albopictus</i>	20	76		
<b>Cape May</b>		<b>344</b>	<b>644</b>		
	<i>Aedes albopictus</i>	344	644		
<b>Cumberland</b>		<b>16</b>	<b>196</b>		
	<i>Aedes albopictus</i>	16	196		
<b>Essex</b>		<b>58</b>	<b>358</b>		
	<i>Aedes albopictus</i>	58	358		
<b>Gloucester</b>		<b>105</b>	<b>2328</b>		

	<i>Aedes albopictus</i>	105	2328		
<b>Hudson</b>		<b>24</b>	<b>1342</b>		
	<i>Aedes albopictus</i>	24	1342		
<b>Hunterdon</b>		<b>4</b>	<b>173</b>		
	<i>Aedes albopictus</i>	4	173		
<b>Mercer</b>		<b>164</b>	<b>2283</b>		
	<i>Aedes albopictus</i>	164	2283		
<b>Middlesex</b>		<b>40</b>	<b>418</b>		
	<i>Aedes albopictus</i>	40	418		
<b>Monmouth</b>		<b>145</b>	<b>2395</b>		
	<i>Aedes albopictus</i>	145	2395		
<b>Morris</b>		<b>28</b>	<b>663</b>		
	<i>Aedes albopictus</i>	28	663		
<b>Ocean</b>		<b>6</b>	<b>100</b>		
	<i>Aedes albopictus</i>	6	100		
<b>Passaic</b>		<b>2</b>	<b>10</b>		
	<i>Aedes albopictus</i>	2	10		
<b>Salem</b>		<b>29</b>	<b>147</b>		
	<i>Aedes albopictus</i>	29	147		
<b>Somerset</b>		<b>10</b>	<b>47</b>		
	<i>Aedes albopictus</i>	10	47		
<b>Sussex</b>		<b>8</b>	<b>36</b>		
	<i>Aedes albopictus</i>	8	36		
<b>Union</b>		<b>31</b>	<b>1589</b>		
	<i>Aedes albopictus</i>	31	1589		
<b>Grand Total</b>		<b>1085</b>	<b>13316</b>		