

# VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 35: 28 August to 3 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	0.38	0.00	3	3		
Green Bank (Burlington Co.)/25	Coastal	3.87	0.08	59 (61)	8 (9)		
Corbin City (Atlantic Co.)/25	Coastal	2.01	1.12	197 (225)	15 (16)	1	5.08
Dennisville (Cape May Co.)/50	Coastal	5.67	0.12	69	12		
Winslow (Camden Co.)/50	Inland	1.64	1.66	810	22	1	1.38
Centerton (Salem Co.)/50	Inland	3.48	0.04	240	14		
Turkey Swamp (Monmouth Co.)/50	Inland	1.63	0.30	80 (95)	14 (15)	1	12.50
Glassboro (Gloucester Co.)/50	Inland	0.48	0.06	101	14	1	10.20

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

**Remarks:** EEE virus is clearly circulating through a significant portion of New Jersey. Two new positive EEE pools in *Culiseta melanura* were detected. Total positive EEE pools detected is 8, with 6 pools of *Cs. melanura* and 2 pools of *Culex pipiens*. A total of 3 horse cases have been found, two in Morris County and one in Ocean County.

**Traditional Resting Box Sites:** 1559 *Cs. melanura* from 102 pools have been tested for EEE, with 3 pools of 45 *Cs. melanura* to be tested. Two new positive melanura pools were detected, one at Glassboro site, collected 30 Aug and the other at Winslow site, collected 29 Aug. Statewide, 3741 *Cs. melanura* have been tested, with four positive pools detected (two traditional, two county sites), for an overall *Cs. melanura* MFIR of 1.52, an increase from 1.07 last week. 14,687 specimens from 18 other species have also been tested, with two reported positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.43.

		Additional <i>Cs. melanura</i> trapped by counties			
		*traps with positives indicated in <b>BOLD</b> .			
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO <sub>2</sub> , RB	24	364		
Burlington	CO <sub>2</sub>	42	1055		
Cape May	CDC, CO <sub>2</sub> , GR, RB	126	310		
Cumberland	CDC, RB	13	63		
Middlesex	<b>RB</b>	39	565	2	3.54
Ocean	CO <sub>2</sub> , GR, RB	13	30		
Sussex	CO <sub>2</sub> , GR	2	2		
<b>TOTAL</b>		<b>259</b>	<b>2389</b>	<b>2</b>	<b>0.84</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>	1	6		
<i>Aedes canadensis canadensis</i>	1	19		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	1	4		
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	17	696		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Anopheles bradleyi</i>	65	340		
<i>Anopheles crucians</i>	2	40		
<i>Anopheles punctipennis</i>	13	25		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	89	1614		
<i>Culex erraticus</i>	44	352		
<i>Culex pipiens</i>	665	8507	2	0.235
<i>Culex restuans</i>	1	3		
<i>Culex salinarius</i>	271	2683		
<i>Culex</i> sp.	47	130		
<i>Culex territans</i>	1	12		
<i>Psorophora columbiae</i>	1	2		
<b>State Total</b>	<b>1250</b>	<b>14687</b>	<b>2</b>	<b>0.136</b>

**Additional Species:** Eighteen 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 third positive horse has been detected, a one yo filly from Ocean County, with an incomplete vaccination history and onset of symptoms 26 Aug, euthanized the same day. Previously, two positive horses have been reported, both from Morris County and less than 5 miles from each other. First horse was a 7 yo mare with symptom onset on 9 Aug, euthanized 13 Aug. Second horse was a 3 yo gelding, symptom onset 23 Aug, euthanized same day. Both horses had either an unknown or no vaccination history and no travel history.

**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.

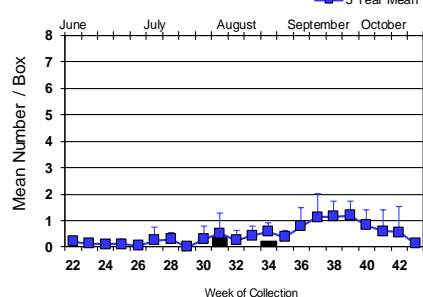
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: [http://www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm)

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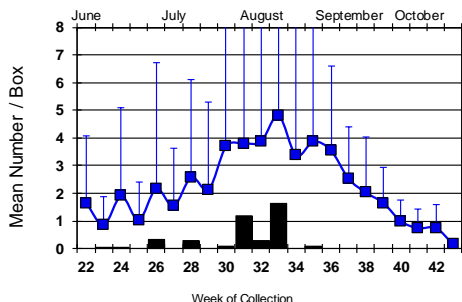
# Culiseta melanura Population Graphs

## Coastal

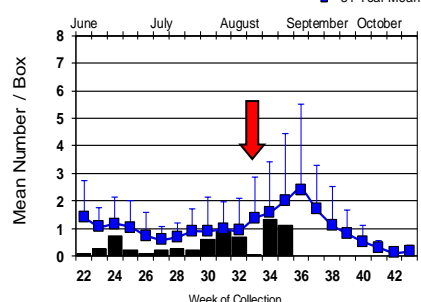
**BASS RIVER (Burlington Co.)**      2016  
 — 3 Year Mean



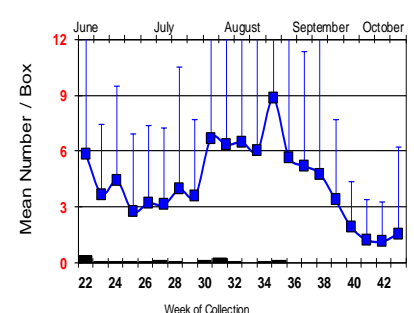
**GREEN BANK (Burlington Co.)**      2016  
 — 25 Year Mean



**CORBINCITY (Atlantic Co.)**      2016  
 — 31 Year Mean

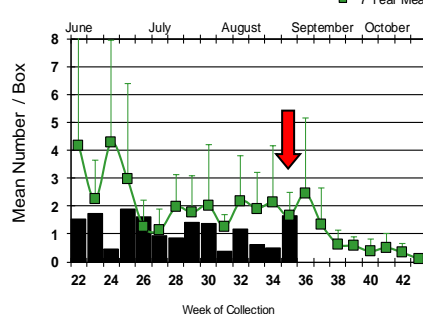


**DENNISVILLE (Cape May Co.)**      2016  
 — 39 Year Mean

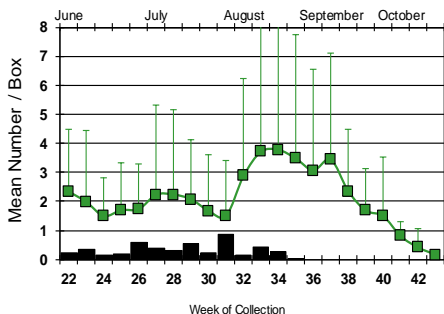


## Inland

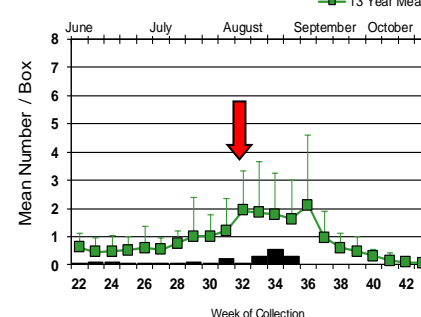
**WINSLOW (Camden Co.)**      2016  
 — 7 Year Mean



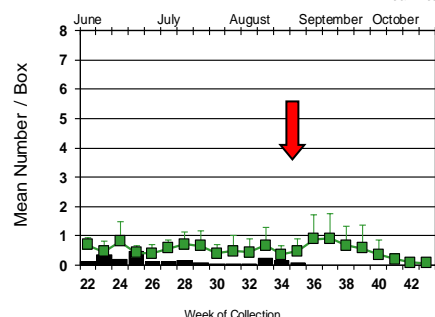
**CENTERTON (Salem Co.)**      2016  
 — 31 Year Mean



**TURKEY SWAMP (Monmouth Co.)**      2016  
 — 13 Year Mean



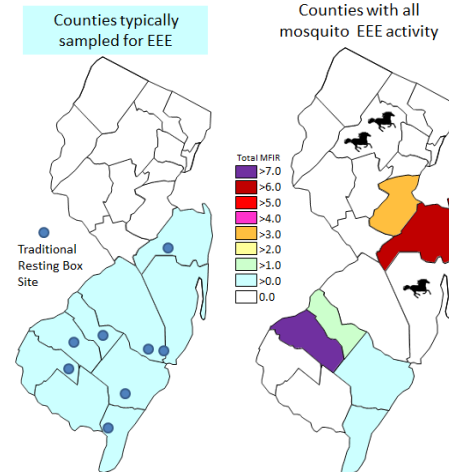
**GLASSBORO (Gloucester Co.)**      2016  
 — 7 Year Mean



Two additional positive pools of *Cs. melanura* were detected at the traditional resting box sites despite relative low to average numbers of the enzootic vector.

Maps to right: Note that Middlesex County (in orange, far right) and Morris County (with two 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. (right map 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(2) FL(19) GA(5) LA(6) MS(3) NC(1) NJ(3) **NY(1)** SC(14) TN(1) TX(1) VA(6) **WI(2)**
- mosquito pools: LA(1) MA(4) NJ(6) **NY(1)** RI(1)
- sentinel: FL(**69**) 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	0	0	35/38
Arkansas				0	1
California	1081/1137	2780/2939	213/231	9/12	78/123
Colorado	10	103		1	46/62
Connecticut		54/72			0
Delaware					
DC					
Florida		2	57/72	1	2/3
Georgia		0			0
Hawaii					
Idaho	0	26/29		4	2
Illinois	20/32	1756/1960		1	5/15
Indiana	0	114/149		0	1
Iowa		2/5		1/6	2
Kansas	1	0		1	7
Kentucky				2	
Louisiana	13	145		1	14
Maine		0			0
Maryland		1			
Mass.		118/145		0	1
Michigan	13	4		1	2/3
Minnesota		6		7	2/14
Mississippi		22			15/18
Missouri		8		1	0

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					
Nebraska	2	54/80		1	21/28
Nevada				2	1/4
New Hampshire		0		0	0
New Jersey		135/231		0	2
New Mexico					1
New York		239/355		1	0
North Carolina					
North Dakota	6/8	15		2/4	26/42
Ohio		8		0	4
Oklahoma		7		2	6/11
Oregon	6/7	32/39	0	1/3	0
Pennsylvania	5/7	766/934			5
Rhode Island		1			
South Carolina					
South Dakota		139/180			64/79
Tennessee					1/2
Texas	1	1164/1245	2	7/9	69/96
Utah		140		2	3
Vermont		10/11			2
Virginia					
Washington	1	79/82		10/11	3/6
West Virginia					
Wisconsin	14	6/8		1	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 3 September 2016

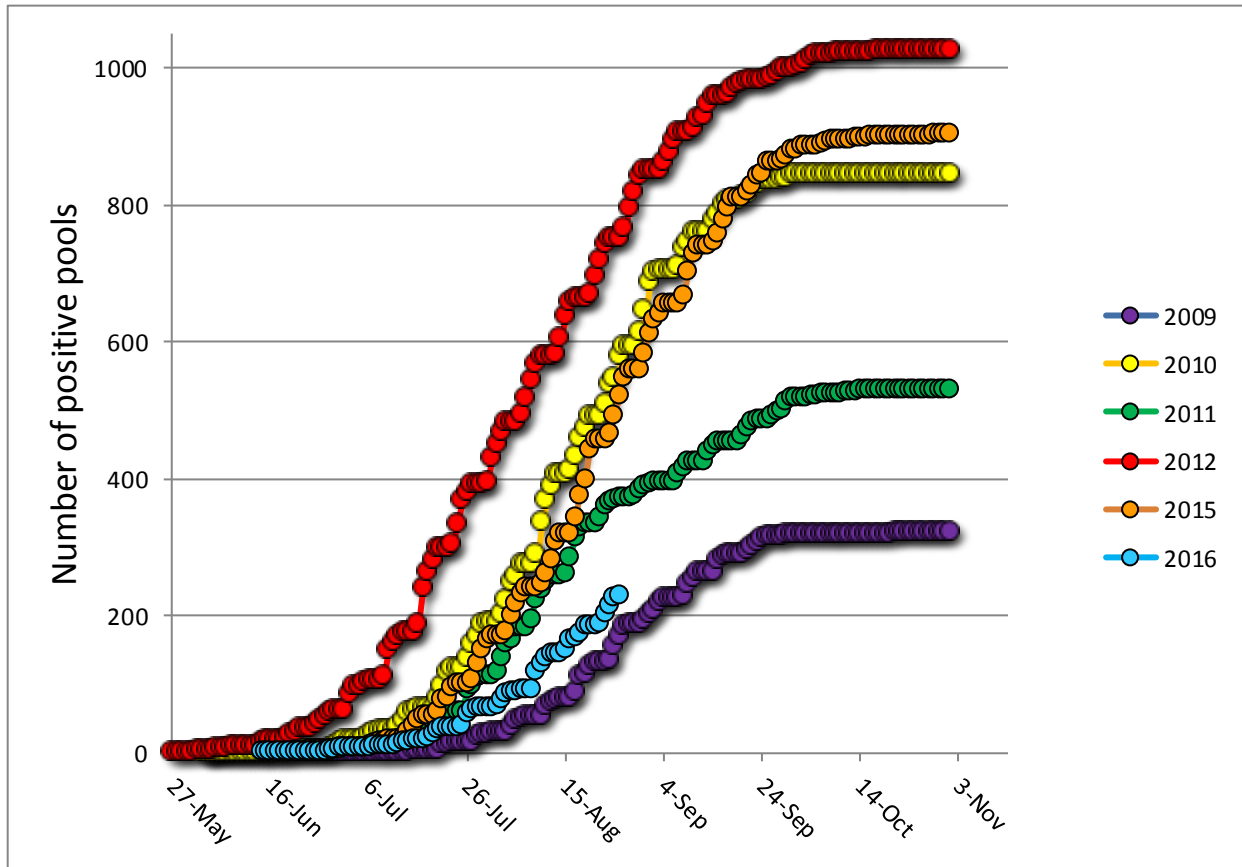
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1345	13974	4	0.286
<i>Aedes atlanticus</i>	9	16		
<i>Aedes atropalpus</i>	23	70		
<i>Aedes canadensis canadensis</i>	34	650		
<i>Aedes cantator</i>	36	246		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	440	2420	2	0.826
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	24	815		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	20	570		
<i>Aedes triseriatus</i>	206	427		
<i>Aedes trivittatus</i>	2	34		
<i>Aedes vexans</i>	66	806		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	74	566		
<i>Anopheles crucians</i>	4	46		
<i>Anopheles punctipennis</i>	56	190		
<i>Anopheles quadrimaculatus</i>	119	1068		
<i>Coquillettidia perturbans</i>	108	2541	1	0.394
<i>Culex erraticus</i>	70	584		
<i>Culex pipiens</i>	935	22770	27	1.186
<i>Culex restuans</i>	688	7649	4	0.523
<i>Culex salinarius</i>	282	2928		
<i>Culex spp.</i>	2347	91582	193	2.107
<i>Culex territans</i>	36	336		
<i>Culiseta melanura</i>	363	3921		
<i>Orthopodomyia signifera</i>	3	3		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	15	90		
<i>Psorophora ferox</i>	14	125		
<i>Uranotaenia sapphirina</i>	2	6		
<b>Grand Total</b>	<b>7328</b>	<b>154450</b>	<b>231</b>	<b>1.496</b>

**Remarks:** To date, 7,328 pools of 154,450 mosquitoes from 32 species have been tested, with 231 positive pools detected. Most new positives were detected in *Culex pipiens* or *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 3 September 2016

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>199</b>	<b>5737</b>	<b>6</b>	<b>1.046</b>
	<i>Aedes albopictus</i>	31	331		
	<i>Aedes japonicus</i>	3	15		
	<i>Aedes sollicitans</i>	9	585		
	<i>Aedes sticticus</i>	1	6		
	<i>Aedes taeniorhynchus</i>	5	277		
	<i>Aedes vexans</i>	9	303		
	<i>Anopheles bradleyi</i>	4	97		
	<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>	22	1180	6	5.085
	<i>Culex restuans</i>	3	52		
	<i>Culex salinarius</i>	4	123		
	<i>Culex spp.</i>	28	1444		
	<i>Culiseta melanura</i>	39	561		
	<i>Psorophora columbiae</i>	1	10		
	<i>Psorophora ferox</i>	4	71		
<b>Bergen</b>		<b>200</b>	<b>12582</b>	<b>51</b>	<b>4.053</b>
	<i>Aedes albopictus</i>	35	307		

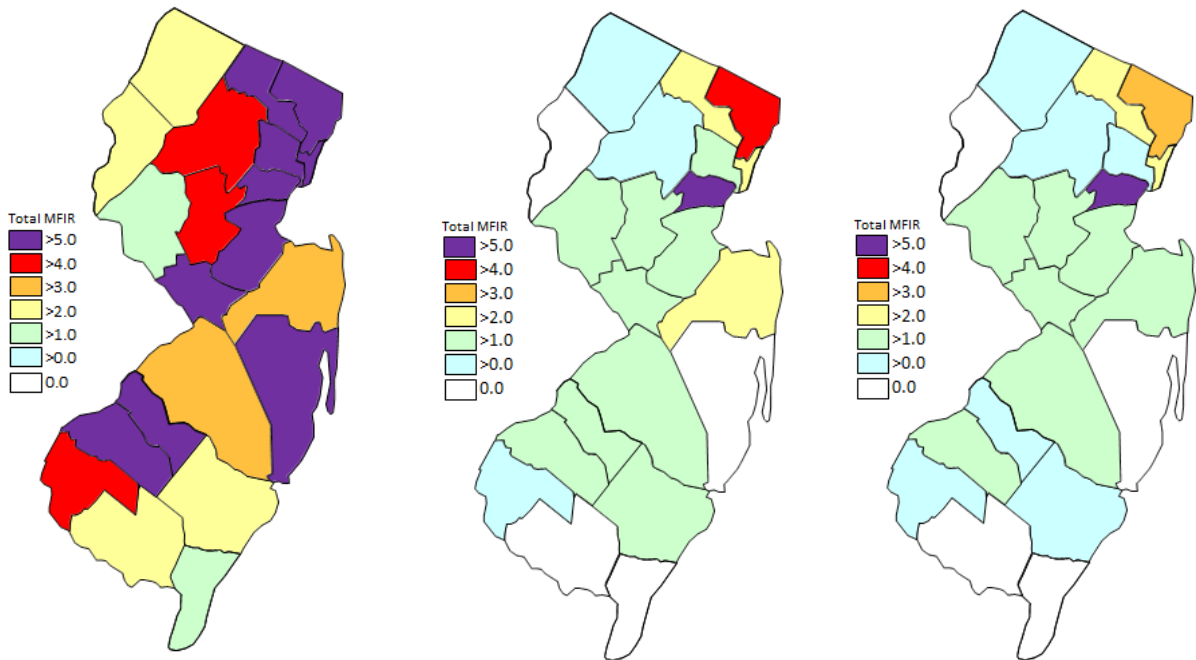
<i>Aedes japonicus</i>	5	275		
<i>Culex</i> spp.	160	12000	51	4.250
<b>Burlington</b>	<b>160</b>	<b>5365</b>	<b>6</b>	<b>1.118</b>
<i>Aedes albopictus</i>	6	86		
<i>Aedes atropalpus</i>	3	18		
<i>Aedes canadensis canadensis</i>	1	19		
<i>Aedes japonicus</i>	8	174		
<i>Aedes mitchellae</i>	1	6		
<i>Aedes 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>	3	176	1	5.682
<i>Culex erraticus</i>	4	52		
<i>Culex salinarius</i>	13	463		
<i>Culex</i> spp.	65	3062	5	1.633
<i>Culex territans</i>	1	12		
<i>Culiseta melanura</i>	38	975		
<b>Camden</b>	<b>179</b>	<b>4149</b>	<b>5</b>	<b>1.205</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>	22	810		
<b>Cape May</b>	<b>2614</b>	<b>17485</b>		
<i>Aedes albopictus</i>	305	559		
<i>Aedes atlanticus</i>	8	14		
<i>Aedes atropalpus</i>	20	52		
<i>Aedes canadensis canadensis</i>	13	249		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	202	397		
<i>Aedes sollicitans</i>	2	4		
<i>Aedes taeniorhynchus</i>	2	2		
<i>Aedes triseriatus</i>	141	249		
<i>Aedes vexans</i>	9	12		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles bradleyi</i>	63	282		
<i>Anopheles punctipennis</i>	10	11		
<i>Anopheles quadrimaculatus</i>	103	998		
<i>Coquillettidia perturbans</i>	27	426		
<i>Culex erraticus</i>	12	24		
<i>Culex pipiens</i>	666	8508		
<i>Culex restuans</i>	558	4089		
<i>Culex salinarius</i>	227	731		
<i>Culex</i> spp.	38	104		
<i>Culex territans</i>	35	324		
<i>Culiseta melanura</i>	138	379		
<i>Orthopodomyia signifera</i>	2	2		
<i>Psorophora columbiae</i>	2	2		
<i>Psorophora ferox</i>	3	8		
<i>Uranotaenia sapphirina</i>	2	6		
<b>Cumberland</b>	<b>158</b>	<b>3126</b>		

<i>Aedes albopictus</i>	12	217		
<i>Aedes cantator</i>	1	1		
<i>Aedes japonicus</i>	8	13		
<i>Aedes sollicitans</i>	8	215		
<i>Aedes taeniorhynchus</i>	3	26		
<i>Aedes triseriatus</i>	2	4		
<i>Aedes vexans</i>	27	428		
<i>Anopheles bradleyi</i>	4	122		
<i>Anopheles crucians</i>	1	5		
<i>Anopheles punctipennis</i>	6	45		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	7	110		
<i>Culex erraticus</i>	7	116		
<i>Culex pipiens</i>	2	9		
<i>Culex salinarius</i>	30	1420		
<i>Culex</i> spp.	14	240		
<i>Culiseta melanura</i>	13	63		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	9	74		
<i>Psorophora ferox</i>	1	13		
<b>Essex</b>	<b>208</b>	<b>1329</b>	<b>2</b>	<b>1.505</b>
<i>Aedes albopictus</i>	86	490		
<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</i> spp.	113	827	2	2.418
<b>Gloucester</b>	<b>336</b>	<b>14553</b>	<b>20</b>	<b>1.374</b>
<i>Aedes albopictus</i>	98	1975	1	0.506
<i>Aedes japonicus</i>	17	218		
<i>Aedes triseriatus</i>	3	10		
<i>Anopheles punctipennis</i>	2	10		
<i>Culex pipiens</i>	202	12239	19	1.552
<i>Culiseta melanura</i>	14	101		
<b>Hudson</b>	<b>175</b>	<b>8185</b>	<b>20</b>	<b>2.443</b>
<i>Aedes albopictus</i>	34	1197	1	0.835
<i>Culex</i> spp.	141	6988	19	2.719
<b>Hunterdon</b>	<b>166</b>	<b>7594</b>	<b>11</b>	<b>1.449</b>
<i>Aedes albopictus</i>	2	100		
<i>Culex</i> spp.	164	7494	11	1.468
<b>Mercer</b>	<b>308</b>	<b>6625</b>	<b>9</b>	<b>1.358</b>
<i>Aedes albopictus</i>	58	594		
<i>Aedes japonicus</i>	22	100		
<i>Aedes triseriatus</i>	2	24		
<i>Aedes vexans</i>	1	3		
<i>Culex erraticus</i>	5	23		
<i>Culex pipiens</i>	40	828	2	2.415
<i>Culex restuans</i>	118	3494	4	1.145
<i>Culex</i> spp.	62	1559	3	1.924



<b>Middlesex</b>	<b>310</b>	<b>10719</b>	<b>16</b>	<b>1.493</b>
<i>Aedes albopictus</i>	67	591		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex erraticus</i>	1	1		
<i>Culex</i> spp.	201	9559	16	1.674
<i>Culiseta melanura</i>	40	566		
<b>Monmouth</b>	<b>584</b>	<b>6804</b>	<b>14</b>	<b>2.058</b>
<i>Aedes albopictus</i>	337	3493	1	0.286
<i>Aedes atlanticus</i>	1	2		
<i>Aedes canadensis canadensis</i>	19	312		
<i>Aedes cantator</i>	10	193		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	32	100		
<i>Aedes sollicitans</i>	5	11		
<i>Aedes taeniorhynchus</i>	6	70		
<i>Aedes triseriatus</i>	7	14		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	6	22		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles crucians</i>	1	1		
<i>Anopheles punctipennis</i>	28	55		
<i>Anopheles quadrimaculatus</i>	3	3		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	5	16		
<i>Culex restuans</i>	1	3		
<i>Culex</i> spp.	97	2397	13	5.423
<i>Culiseta melanura</i>	15	81		
<i>Psorophora columbiae</i>	2	3		
<i>Psorophora ferox</i>	2	20		
<b>Morris</b>	<b>287</b>	<b>10312</b>	<b>2</b>	<b>0.194</b>
<i>Aedes albopictus</i>	41	715		
<i>Coquillettidia perturbans</i>	1	8		
<i>Culex</i> spp.	245	9589	2	0.209
<b>Ocean</b>	<b>255</b>	<b>3785</b>		
<i>Aedes albopictus</i>	85	1248		
<i>Aedes canadensis canadensis</i>	1	70		
<i>Aedes japonicus</i>	26	85		
<i>Aedes triseriatus</i>	9	16		
<i>Aedes vexans</i>	1	1		
<i>Anopheles punctipennis</i>	2	2		
<i>Coquillettidia perturbans</i>	19	337		
<i>Culex erraticus</i>	5	41		
<i>Culex restuans</i>	1	2		
<i>Culex</i> spp.	79	1877		
<i>Culiseta melanura</i>	26	97		
<i>Psorophora ferox</i>	1	9		
<b>Passaic</b>	<b>249</b>	<b>6178</b>	<b>17</b>	<b>2.752</b>
<i>Aedes albopictus</i>	11	49		
<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.	159	5681	15	2.640
<b>Salem</b>		<b>216</b>	<b>1434</b>	<b>1</b>	<b>0.697</b>
	<i>Aedes albopictus</i>	53	228	1	4.386
	<i>Aedes japonicus</i>	13	33		
	<i>Aedes triseriatus</i>	21	31		
	<i>Anopheles bradleyi</i>	1	7		
	<i>Anopheles punctipennis</i>	4	4		
	<i>Anopheles quadrimaculatus</i>	9	29		
	<i>Coquillettidia perturbans</i>	10	83		
	<i>Culex erraticus</i>	19	189		
	<i>Culex pipiens</i>	1	1		
	<i>Culex restuans</i>	6	6		
	<i>Culex</i> spp.	61	578		
	<i>Culiseta melanura</i>	14	240		
	<i>Psorophora columbiae</i>	1	1		
	<i>Psorophora ferox</i>	3	4		
<b>Somerset</b>		<b>157</b>	<b>3255</b>	<b>4</b>	<b>1.229</b>
	<i>Aedes albopictus</i>	10	43		
	<i>Aedes japonicus</i>	4	35		
	<i>Aedes triseriatus</i>	3	22		
	<i>Culex</i> spp.	140	3155	4	1.268
<b>Sussex</b>		<b>262</b>	<b>8379</b>	<b>3</b>	<b>0.358</b>
	<i>Aedes albopictus</i>	7	23		
	<i>Aedes japonicus</i>	14	487		
	<i>Aedes triseriatus</i>	1	16		
	<i>Aedes trivittatus</i>	1	33		
	<i>Anopheles punctipennis</i>	1	44		
	<i>Coquillettidia perturbans</i>	14	870		
	<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>	2	2		
<b>Union</b>		<b>144</b>	<b>8699</b>	<b>44</b>	<b>5.058</b>
	<i>Aedes albopictus</i>	31	1586		
	<i>Culex erraticus</i>	1	14		
	<i>Culex</i> spp.	110	7053	44	6.238
	<i>Culiseta melanura</i>	2	46		
<b>Warren</b>		<b>161</b>	<b>8155</b>		
	<i>Culex</i> spp.	161	8155		
<b>Grand Total</b>		<b>7328</b>	<b>154450</b>	<b>231</b>	<b>1.496</b>



Cumulative WNV activity in 2015. WNV activity to 3 September 2016. WNV activity last week, 2016.

### Saint Louis Encephalitis (SLE) to 3 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>69</b>	<b>3096</b>		
	<i>Anopheles barberi</i>	1	1		
	<i>Culex erraticus</i>	3	33		
	<i>Culex</i> spp.	65	3062		
<b>Cape May</b>		<b>703</b>	<b>8611</b>		
	<i>Culex pipiens</i>	665	8507		
	<i>Culex</i> spp.	38	104		
<b>Grand Total</b>		<b>772</b>	<b>11707</b>		

### La Crosse Encephalitis (LAC) to 3 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>25</b>	<b>306</b>	
	<i>Aedes albopictus</i>	6	86	
	<i>Aedes atropalpus</i>	3	18	
	<i>Aedes japonicus</i>	8	174	
	<i>Aedes triseriatus</i>	8	28	
<b>Grand Total</b>		<b>25</b>	<b>306</b>	

### Dengue (DENV) to 3 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 38 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>31</b>	<b>331</b>	<b>31</b>	<b>331</b>	<b>31</b>	<b>331</b>	<b>31</b>	<b>331</b>		
	<i>Aedes albopictus</i>	31	331	31	331	31	331	31	331		
<b>Bergen</b>		<b>35</b>	<b>307</b>	<b>35</b>	<b>307</b>	<b>35</b>	<b>307</b>	<b>35</b>	<b>307</b>		
	<i>Aedes albopictus</i>	35	307	35	307	35	307	35	307		
<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>12</b>	<b>217</b>	<b>12</b>	<b>217</b>	<b>12</b>	<b>217</b>	<b>12</b>	<b>217</b>		
	<i>Aedes albopictus</i>	12	217	12	217	12	217	12	217		
<b>Essex</b>		<b>86</b>	<b>490</b>	<b>86</b>	<b>490</b>	<b>86</b>	<b>490</b>	<b>86</b>	<b>490</b>		
	<i>Aedes albopictus</i>	86	490	86	490	86	490	86	490		
<b>Gloucester</b>		<b>82</b>	<b>1776</b>	<b>82</b>	<b>1776</b>	<b>82</b>	<b>1776</b>	<b>82</b>	<b>1776</b>		
	<i>Aedes albopictus</i>	82	1776	82	1776	82	1776	82	1776		
<b>Hudson</b>		<b>34</b>	<b>1197</b>	<b>34</b>	<b>1197</b>	<b>34</b>	<b>1197</b>	<b>34</b>	<b>1197</b>		
	<i>Aedes albopictus</i>	34	1197	34	1197	34	1197	34	1197		
<b>Hunterdon</b>		<b>2</b>	<b>100</b>	<b>2</b>	<b>100</b>	<b>2</b>	<b>100</b>	<b>2</b>	<b>100</b>		
	<i>Aedes albopictus</i>	2	100	2	100	2	100	2	100		
<b>Mercer</b>		<b>58</b>	<b>594</b>	<b>58</b>	<b>594</b>	<b>58</b>	<b>594</b>	<b>58</b>	<b>594</b>		
	<i>Aedes albopictus</i>	58	594	58	594	58	594	58	594		
<b>Middlesex</b>		<b>68</b>	<b>592</b>	<b>68</b>	<b>592</b>	<b>68</b>	<b>592</b>	<b>68</b>	<b>592</b>		
	<i>Aedes albopictus</i>	67	591	67	591	67	591	67	591		
	<i>Culiseta melanura</i>	1	1	1	1	1	1	1	1		
<b>Monmouth</b>		<b>285</b>	<b>3247</b>	<b>285</b>	<b>3247</b>	<b>285</b>	<b>3247</b>	<b>285</b>	<b>3247</b>		
	<i>Aedes albopictus</i>	285	3247	285	3247	285	3247	285	3247		
<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 spp.</i>	2	3	2	3	2	3	2	3		
<b>Ocean</b>		<b>4</b>	<b>71</b>	<b>4</b>	<b>71</b>	<b>4</b>	<b>71</b>	<b>4</b>	<b>71</b>		
	<i>Aedes albopictus</i>	4	71	4	71	4	71	4	71		
<b>Passaic</b>		<b>3</b>	<b>12</b>	<b>3</b>	<b>12</b>	<b>3</b>	<b>12</b>	<b>3</b>	<b>12</b>		
	<i>Aedes albopictus</i>	3	12	3	12	3	12	3	12		
<b>Salem</b>		<b>53</b>	<b>228</b>	<b>53</b>	<b>228</b>	<b>53</b>	<b>228</b>	<b>53</b>	<b>228</b>		
	<i>Aedes albopictus</i>	53	228	53	228	53	228	53	228		
<b>Somerset</b>		<b>6</b>	<b>27</b>	<b>6</b>	<b>27</b>	<b>6</b>	<b>27</b>	<b>6</b>	<b>27</b>		
	<i>Aedes albopictus</i>	6	27	6	27	6	27	6	27		
<b>Sussex</b>		<b>7</b>	<b>23</b>	<b>7</b>	<b>23</b>	<b>7</b>	<b>23</b>	<b>7</b>	<b>23</b>		
	<i>Aedes albopictus</i>	7	23	7	23	7	23	7	23		
<b>Union</b>		<b>24</b>	<b>1453</b>	<b>24</b>	<b>1453</b>	<b>24</b>	<b>1453</b>	<b>24</b>	<b>1453</b>		
	<i>Aedes albopictus</i>	24	1453	24	1453	24	1453	24	1453		
<b>Grand Total</b>		<b>869</b>	<b>11525</b>	<b>869</b>	<b>11525</b>	<b>869</b>	<b>11525</b>	<b>869</b>	<b>11525</b>		

### Chikungunya (CHIK) to 3 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>31</b>	<b>331</b>		
	<i>Aedes albopictus</i>	31	331		
<b>Bergen</b>		<b>35</b>	<b>307</b>		
	<i>Aedes albopictus</i>	35	307		
<b>Camden</b>		<b>36</b>	<b>142</b>		
	<i>Aedes albopictus</i>	36	142		
<b>Cape May</b>		<b>305</b>	<b>559</b>		
	<i>Aedes albopictus</i>	305	559		
<b>Cumberland</b>		<b>12</b>	<b>217</b>		
	<i>Aedes albopictus</i>	12	217		
<b>Essex</b>		<b>86</b>	<b>490</b>		
	<i>Aedes albopictus</i>	86	490		
<b>Gloucester</b>		<b>82</b>	<b>1776</b>		
	<i>Aedes albopictus</i>	82	1776		
<b>Hudson</b>		<b>34</b>	<b>1197</b>		
	<i>Aedes albopictus</i>	34	1197		
<b>Hunterdon</b>		<b>2</b>	<b>100</b>		
	<i>Aedes albopictus</i>	2	100		
<b>Mercer</b>		<b>58</b>	<b>594</b>		
	<i>Aedes albopictus</i>	58	594		
<b>Middlesex</b>		<b>68</b>	<b>592</b>		
	<i>Aedes albopictus</i>	67	591		
	<i>Culiseta melanura</i>	1	1		
<b>Monmouth</b>		<b>285</b>	<b>3247</b>		

	<i>Aedes albopictus</i>	285	3247		
<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>4</b>	<b>71</b>		
	<i>Aedes albopictus</i>	4	71		
<b>Passaic</b>		<b>3</b>	<b>12</b>		
	<i>Aedes albopictus</i>	3	12		
<b>Salem</b>		<b>53</b>	<b>228</b>		
	<i>Aedes albopictus</i>	53	228		
<b>Somerset</b>		<b>6</b>	<b>27</b>		
	<i>Aedes albopictus</i>	6	27		
<b>Sussex</b>		<b>7</b>	<b>23</b>		
	<i>Aedes albopictus</i>	7	23		
<b>Union</b>		<b>24</b>	<b>1453</b>		
	<i>Aedes albopictus</i>	24	1453		
<b>Grand Total</b>		<b>1174</b>	<b>12084</b>		

### Zika (ZIKV) to 3 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 102 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
<b>Atlantic</b>		<b>18</b>	<b>174</b>		
	<i>Aedes albopictus</i>	18	174		
<b>Bergen</b>		<b>20</b>	<b>235</b>		
	<i>Aedes albopictus</i>	20	235		
<b>Camden</b>		<b>20</b>	<b>76</b>		
	<i>Aedes albopictus</i>	20	76		
<b>Cape May</b>		<b>305</b>	<b>559</b>		
	<i>Aedes albopictus</i>	305	559		
<b>Cumberland</b>		<b>6</b>	<b>130</b>		
	<i>Aedes albopictus</i>	6	130		
<b>Essex</b>		<b>47</b>	<b>325</b>		
	<i>Aedes albopictus</i>	47	325		
<b>Gloucester</b>		<b>82</b>	<b>1776</b>		
	<i>Aedes albopictus</i>	82	1776		
<b>Hudson</b>		<b>16</b>	<b>774</b>		
	<i>Aedes albopictus</i>	16	774		
<b>Hunterdon</b>		<b>2</b>	<b>100</b>		
	<i>Aedes albopictus</i>	2	100		
<b>Mercer</b>		<b>107</b>	<b>1475</b>		
	<i>Aedes albopictus</i>	107	1475		
<b>Middlesex</b>		<b>34</b>	<b>374</b>		
	<i>Aedes albopictus</i>	34	374		
<b>Monmouth</b>		<b>115</b>	<b>1673</b>		

	<i>Aedes albopictus</i>	115	1673		
<b>Morris</b>		<b>28</b>	<b>663</b>		
	<i>Aedes albopictus</i>	28	663		
<b>Ocean</b>		<b>4</b>	<b>71</b>		
	<i>Aedes albopictus</i>	4	71		
<b>Passaic</b>		<b>1</b>	<b>9</b>		
	<i>Aedes albopictus</i>	1	9		
<b>Salem</b>		<b>19</b>	<b>102</b>		
	<i>Aedes albopictus</i>	19	102		
<b>Somerset</b>		<b>6</b>	<b>27</b>		
	<i>Aedes albopictus</i>	6	27		
<b>Sussex</b>		<b>7</b>	<b>23</b>		
	<i>Aedes albopictus</i>	7	23		
<b>Union</b>		<b>24</b>	<b>1453</b>		
	<i>Aedes albopictus</i>	24	1453		
<b>Grand Total</b>		<b>861</b>	<b>10019</b>		