

VECTOR SURVEILLANCE IN NEW JERSEY

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

Prepared by Lisa M. Reed and Mark Robson
 Center for Vector Biology, Rutgers University
 CDC WEEK 38: 18 September to 24 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	1.15	1.00	6 (11)	4 (5)	1	166.67
Green Bank (Burlington Co.)/25	Coastal	2.02	0.04	66 (67)	11 (12)		
Corbin City (Atlantic Co.)/25	Coastal	1.14	0.08	268 (270)	18 (19)	1	3.73
Dennisville (Cape May Co.)/50	Coastal	3.37	0.00	69	12		
Winslow (Camden Co.)/50	Inland	0.64	0.16	960	27	2	2.08
Centerton (Salem Co.)/50	Inland	2.35	0.00	257	16		
Turkey Swamp (Monmouth Co.)/50	Inland	0.96	0.76	96 (134)	16 (17)	1	10.42
Glassboro (Gloucester Co.)/50	Inland	0.66	0.02	106	17	1	9.43

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

Remarks: EEE virus continues to circulate in NJ in the enzootic vector. One new positive EEE pool in *Culiseta melanura* was detected at an additional county site in Middlesex County where two previous positive pools had been found. Total positive EEE pools detected is 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: 1828 *Cs. melanura* from 121 pools have been tested for EEE, with 4 pools of 46 *Cs. melanura* to be tested. No new positive pools were detected at the traditional resting box sites. Statewide, 4596 *Cs. melanura* have been tested, with nine positive pools detected (six traditional, three county sites), for an overall *Cs. melanura* MFIR of 1.96, an increase from 1.78 last week. 16,958 specimens from 22 other species have also been tested, with two positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.51.

Additional *Cs. melanura* trapped by counties

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

County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO ₂ , RB	27	394		
Burlington	CO ₂	50	1214		
Cape May	CDC, CO ₂ , GR, RB	169	398		
Cumberland	CDC, RB	16	88		
Middlesex	RB	46	600	3	5.00
Ocean	CO ₂ , GR, RB	20	44		
Passaic	EVS	1	1		
Sussex	CO ₂ , GR	5	6		
Union	LT	1	23		
TOTAL		335	2768	3	1.08

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.

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>	1	6		
<i>Aedes sollicitans</i>	22	715		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	9	74		
<i>Anopheles bradleyi</i>	81	409		
<i>Anopheles crucians</i>	5	72		
<i>Anopheles punctipennis</i>	24	112		
<i>Anopheles quadrimaculatus</i>	4	12		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	107	1922		
<i>Culex erraticus</i>	104	871		
<i>Culex pipiens</i>	762	9197	2	0.217
<i>Culex restuans</i>	2	4		
<i>Culex salinarius</i>	315	2828		
<i>Culex</i> sp.	60	380		
<i>Culex territans</i>	1	12		
<i>Psorophora columbiae</i>	1	2		
<i>Psorophora ferox</i>	2	4		
State Total	1541	16958	2	0.118

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

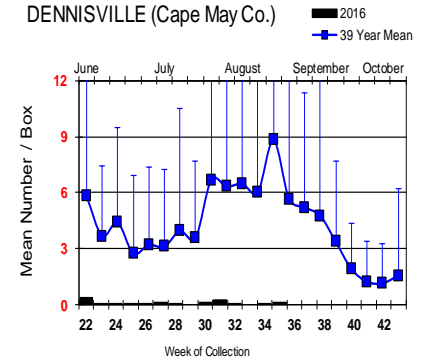
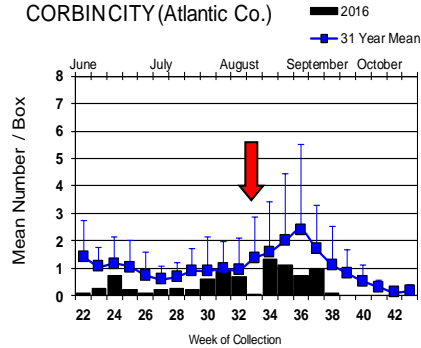
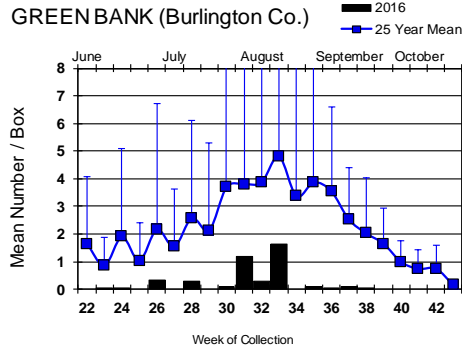
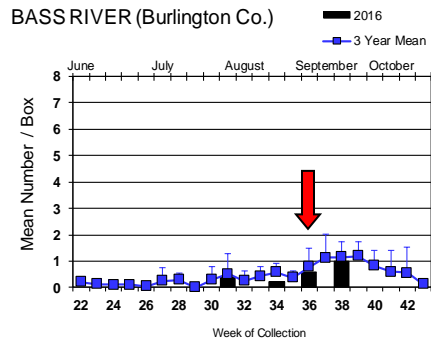
Horses and Humans: Four horses have been detected with EEE, two from Morris, one from Ocean and one from Passaic. All horses were not up to date with vaccinations. **Horse owners are urged to make sure their horses are up to date on their vaccinations. Horse cases are known to occur through October and 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:

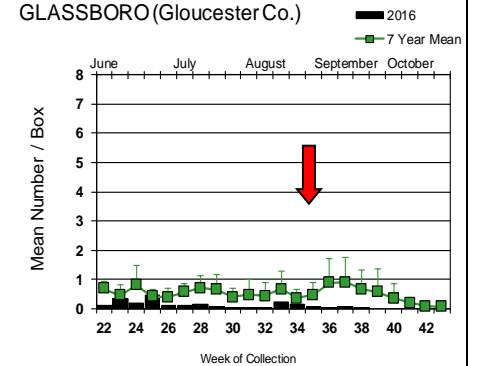
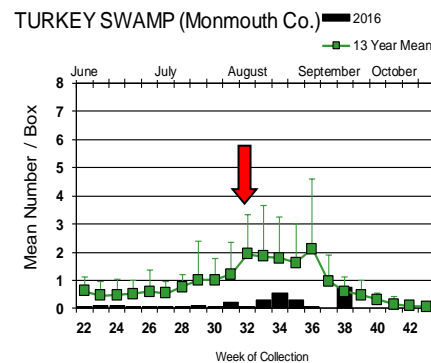
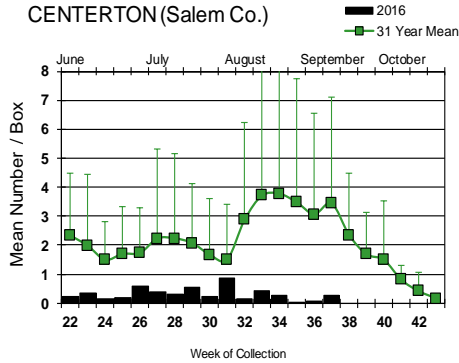
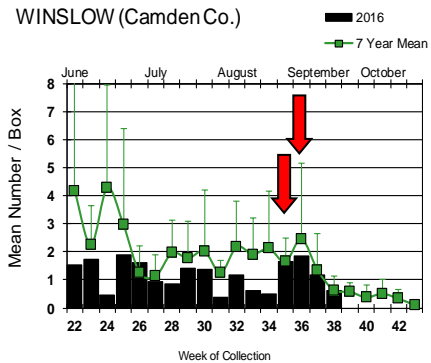
http://www.aep.org/vaccination_guidelines.htm

Culiseta melanura Population Graphs

Coastal



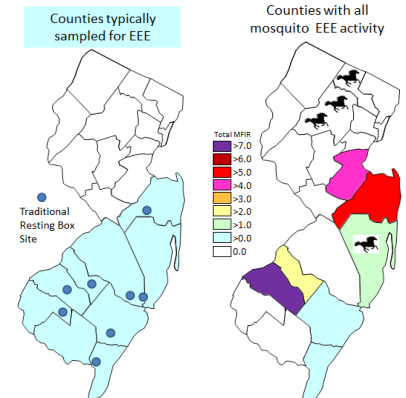
Inland



A total of 6 positive pools of *Cs. melanura* have been detected at the traditional resting box sites.

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).



- equine: AL(7) FL(19) GA(5) LA(7) MS(7) MI(2) NC(1) NJ(4) NY(1) SC(14) TN(1) TX(1) VA(6) WI(4)
- mosquito pools: CT(1) LA(1) MA(4) NJ(11) NY(5) RI(1)
- sentinel: FL(75) 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	87	0	1	47/53
Arkansas				0	1/3
California	1235/1276	3176/3249	279/295	18/19	199/234
Colorado	10/17	103/207		1/3	98
Connecticut		88/106			1
Delaware					
DC					1
Florida		5	96/113	1	4
Georgia		0			1
Hawaii					
Idaho	0	34		7/9	6/8
Illinois	58/61	2198/2271		1	30
Indiana	0	186/213		0	2/6
Iowa		19		9	7
Kansas	1	0		1	9/15
Kentucky				2/4	
Louisiana	20/31	159/168		2/3	24/26
Maine		0			0
Maryland		1			
Mass.		176/185		0	2/5
Michigan	13	4		1/2	11/22
Minnesota		6		7/12	24
Mississippi		22/24			21/22
Missouri		8		2	2

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					5
Nebraska	2	90		1	47/52
Nevada				2/6	4/7
New Hampshire		1		0	0
New Jersey		343/384		0	4/6
New Mexico					2
New York		447/497		3	1
North Carolina					
North Dakota	8	15		4	60/69
Ohio		8		1	4
Oklahoma		7		2	14
Oregon	9	49/51	0	5/6	3
Pennsylvania	9/12	1265/1352		3	6/7
Rhode Island		1			
South Carolina		6			4
South Dakota		242			111/127
Tennessee					2/4
Texas	3/4	1420/1457	2	15	126/144
Utah		203		3	8
Vermont		13/17			2/3
Virginia					
Washington	1	95		25	8/9
West Virginia				1	
Wisconsin	44	8		5/6	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 24 September 2016

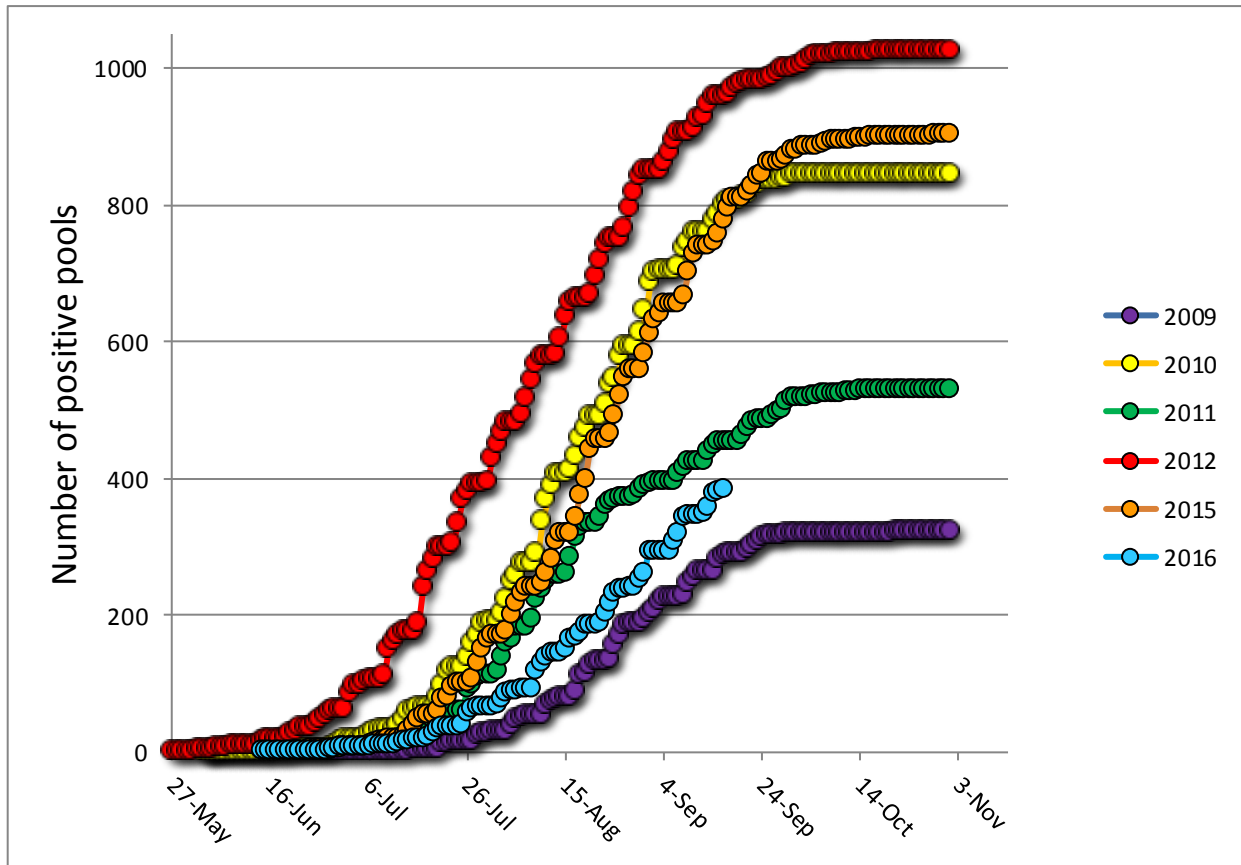
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1875	20376	4	0.196
<i>Aedes atlanticus</i>	16	44		
<i>Aedes atropalpus</i>	26	76		
<i>Aedes canadensis canadensis</i>	37	707		
<i>Aedes cantator</i>	36	246		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	484	2792	2	0.716
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	30	885		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	24	659		
<i>Aedes triseriatus</i>	241	543		
<i>Aedes trivittatus</i>	4	36		
<i>Aedes vexans</i>	96	1112	1	0.899
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	95	726		
<i>Anopheles crucians</i>	8	79		
<i>Anopheles punctipennis</i>	83	320		
<i>Anopheles quadrimaculatus</i>	149	1197		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	126	2849	1	0.351
<i>Culex erraticus</i>	141	1212		
<i>Culex pipiens</i>	1118	28096	47	1.673
<i>Culex restuans</i>	764	8117	7	0.862
<i>Culex salinarius</i>	329	3178		
<i>Culex</i> spp.	2954	111091	320	2.881
<i>Culex territans</i>	42	365		
<i>Culiseta melanura</i>	458	4569	2	0.438
<i>Orthopodomyia signifera</i>	4	4		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	17	107		
<i>Psorophora ferox</i>	19	137		
<i>Uranotaenia sapphirina</i>	2	6		
Grand Total	9186	189547	384	2.026

Remarks: To date, 9,186 pools of 189,547 mosquitoes from 33 species have been tested, with 384 positive pools detected. New positives were all detected 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 six human cases have been detected; one most recently from Camden County (no onset date given). Currently, case count is Camden (2), Gloucester (1), Middlesex (1) Monmouth (1) and Passaic (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 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 24 September 2016

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		265	7251	11	1.517
	<i>Aedes albopictus</i>	52	505		
	<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>	10	332		
	<i>Anopheles bradleyi</i>	6	146		
	<i>Anopheles punctipennis</i>	2	18		
	<i>Anopheles quadrimaculatus</i>	2	34		
	<i>Coquillettidia perturbans</i>	23	526		
	<i>Culex erraticus</i>	15	139		
	<i>Culex pipiens</i>	30	1581	8	5.060
	<i>Culex restuans</i>	3	52		
	<i>Culex salinarius</i>	6	220		
	<i>Culex spp.</i>	44	1932	2	1.035
	<i>Culiseta melanura</i>	45	662	1	1.511
	<i>Psorophora columbiae</i>	1	10		

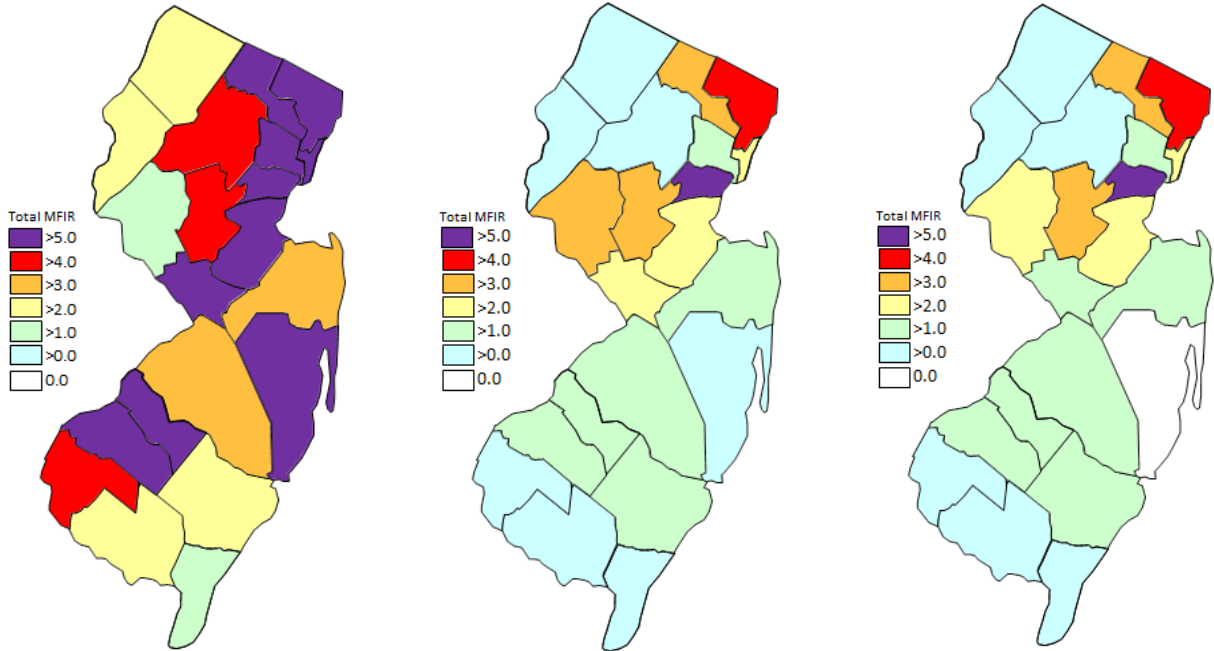
<i>Psorophora ferox</i>	4	71		
Bergen	258	16028	79	4.929
<i>Aedes albopictus</i>	47	398		
<i>Aedes japonicus</i>	8	405		
<i>Culex</i> spp.	203	15225	79	5.189
Burlington	194	6280	7	1.115
<i>Aedes albopictus</i>	10	251		
<i>Aedes atropalpus</i>	3	18		
<i>Aedes canadensis canadensis</i>	3	74		
<i>Aedes japonicus</i>	9	203		
<i>Aedes mitchellae</i>	1	6		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes triseriatus</i>	9	35		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	3	81		
<i>Anopheles crucians</i>	3	45		
<i>Anopheles punctipennis</i>	1	11		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	5	303	1	3.300
<i>Culex erraticus</i>	5	110		
<i>Culex salinarius</i>	16	538		
<i>Culex</i> spp.	73	3260	6	1.840
<i>Culex territans</i>	1	12		
<i>Culiseta melanura</i>	46	1134		
Camden	208	4646	6	1.291
<i>Aedes albopictus</i>	41	165		
<i>Aedes japonicus</i>	24	82		
<i>Anopheles punctipennis</i>	1	4		
<i>Culex</i> spp.	115	3435	6	1.747
<i>Culiseta melanura</i>	27	960		
Cape May	3085	19195	2	0.104
<i>Aedes albopictus</i>	427	871		
<i>Aedes atlanticus</i>	13	31		
<i>Aedes atropalpus</i>	23	58		
<i>Aedes canadensis canadensis</i>	13	249		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	210	406		
<i>Aedes sollicitans</i>	4	6		
<i>Aedes taeniorhynchus</i>	4	5		
<i>Aedes triseriatus</i>	163	291		
<i>Aedes vexans</i>	11	15		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles bradleyi</i>	78	328		
<i>Anopheles punctipennis</i>	10	11		
<i>Anopheles quadrimaculatus</i>	121	1090		
<i>Coquillettidia perturbans</i>	27	426		
<i>Culex erraticus</i>	26	75		
<i>Culex pipiens</i>	762	9191		
<i>Culex restuans</i>	624	4340	1	0.230
<i>Culex salinarius</i>	267	791		
<i>Culex</i> spp.	43	118		
<i>Culex territans</i>	41	353		

<i>Culiseta melanura</i>	181	467	1	2.141
<i>Orthopodomyia signifera</i>	3	3		
<i>Psorophora columbiae</i>	2	2		
<i>Psorophora ferox</i>	4	9		
<i>Uranotaenia sapphirina</i>	2	6		
Cumberland	228	3784	1	0.264
<i>Aedes albopictus</i>	27	333		
<i>Aedes cantator</i>	1	1		
<i>Aedes japonicus</i>	9	18		
<i>Aedes sollicitans</i>	11	232		
<i>Aedes taeniorhynchus</i>	3	26		
<i>Aedes triseriatus</i>	2	4		
<i>Aedes vexans</i>	39	612	1	1.634
<i>Anopheles bradleyi</i>	5	157		
<i>Anopheles crucians</i>	1	5		
<i>Anopheles punctipennis</i>	8	61		
<i>Anopheles quadrimaculatus</i>	3	18		
<i>Coquillettidia perturbans</i>	7	110		
<i>Culex erraticus</i>	20	205		
<i>Culex pipiens</i>	2	9		
<i>Culex salinarius</i>	31	1430		
<i>Culex spp.</i>	29	369		
<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		
Essex	268	1541	2	1.298
<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
Gloucester	455	19589	35	1.787
<i>Aedes albopictus</i>	136	2831	1	0.353
<i>Aedes japonicus</i>	24	254		
<i>Aedes triseriatus</i>	4	13		
<i>Anopheles punctipennis</i>	6	16		
<i>Culex pipiens</i>	268	16369	34	2.077
<i>Culiseta melanura</i>	17	106		
Hudson	211	9776	25	2.557
<i>Aedes albopictus</i>	49	2194	1	0.456
<i>Culex spp.</i>	162	7582	24	3.165
Hunterdon	215	9906	31	3.129
<i>Aedes albopictus</i>	6	234		
<i>Culex spp.</i>	209	9672	31	3.205
Mercer	429	8544	18	2.107
<i>Aedes albopictus</i>	119	1389		

<i>Aedes japonicus</i>	26	106		
<i>Aedes triseriatus</i>	2	24		
<i>Aedes vexans</i>	3	12		
<i>Culex erraticus</i>	12	40		
<i>Culex pipiens</i>	49	935	5	5.348
<i>Culex restuans</i>	125	3703	6	1.620
<i>Culex</i> spp.	93	2335	7	2.998
Middlesex	384	12642	28	2.215
<i>Aedes albopictus</i>	80	742		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex erraticus</i>	3	4		
<i>Culex</i> spp.	253	11293	28	2.479
<i>Culiseta melanura</i>	47	601		
Monmouth	733	8854	15	1.694
<i>Aedes albopictus</i>	434	5071	1	0.197
<i>Aedes atlanticus</i>	3	13		
<i>Aedes canadensis canadensis</i>	20	314		
<i>Aedes cantator</i>	10	193		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	36	113		
<i>Aedes sollicitans</i>	5	11		
<i>Aedes taeniorhynchus</i>	6	70		
<i>Aedes triseriatus</i>	10	19		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	10	29		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles crucians</i>	2	2		
<i>Anopheles punctipennis</i>	37	78		
<i>Anopheles quadrimaculatus</i>	6	6		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	6	17		
<i>Culex restuans</i>	2	4		
<i>Culex</i> spp.	116	2779	14	5.038
<i>Culiseta melanura</i>	17	97		
<i>Psorophora columbiae</i>	2	3		
<i>Psorophora ferox</i>	4	27		
Morris	396	12788	10	0.782
<i>Aedes albopictus</i>	70	987		
<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.	309	11700	10	0.855
<i>Psorophora ferox</i>	2	4		
Ocean	327	4316	1	0.232
<i>Aedes albopictus</i>	107	1456		
<i>Aedes canadensis canadensis</i>	1	70		
<i>Aedes japonicus</i>	28	89		
<i>Aedes triseriatus</i>	12	20		
<i>Aedes vexans</i>	1	1		

<i>Anopheles crucians</i>	2	27		
<i>Anopheles punctipennis</i>	4	5		
<i>Coquillettidia perturbans</i>	25	463		
<i>Culex erraticus</i>	12	71		
<i>Culex restuans</i>	1	2		
<i>Culex</i> spp.	96	1982	1	0.505
<i>Culiseta melanura</i>	37	121		
<i>Psorophora ferox</i>	1	9		
Passaic	287	7010	22	3.138
<i>Aedes albopictus</i>	13	53		
<i>Aedes japonicus</i>	62	423	2	4.728
<i>Aedes triseriatus</i>	7	11		
<i>Aedes vexans</i>	13	37		
<i>Coquillettidia perturbans</i>	2	5		
<i>Culex</i> spp.	189	6480	20	3.086
<i>Culiseta melanura</i>	1	1		
Salem	267	1843	1	0.543
<i>Aedes albopictus</i>	69	326	1	3.067
<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>	31	431		
<i>Culex pipiens</i>	4	4		
<i>Culex restuans</i>	7	8		
<i>Culex</i> spp.	67	605		
<i>Culiseta melanura</i>	16	257		
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	3	4		
Somerset	210	3855	13	3.372
<i>Aedes albopictus</i>	17	79		
<i>Aedes japonicus</i>	4	35		
<i>Aedes triseriatus</i>	4	26		
<i>Anopheles punctipennis</i>	1	5		
<i>Culex</i> spp.	184	3710	13	3.504
Sussex	339	9587	5	0.522
<i>Aedes albopictus</i>	10	39		
<i>Aedes japonicus</i>	19	592		
<i>Aedes triseriatus</i>	4	66		
<i>Aedes trivittatus</i>	1	33		
<i>Aedes vexans</i>	7	69		
<i>Anopheles punctipennis</i>	1	44		
<i>Coquillettidia perturbans</i>	18	904		
<i>Culex erraticus</i>	2	9		
<i>Culex pipiens</i>	3	7		
<i>Culex restuans</i>	2	8		
<i>Culex salinarius</i>	9	199		
<i>Culex</i> spp.	258	7611	5	0.657
<i>Culiseta melanura</i>	5	6		

Union		208	11838	71	5.998
	<i>Aedes albopictus</i>	45	1853		
	<i>Culex erraticus</i>	9	111		
	<i>Culex</i> spp.	151	9805	71	7.241
	<i>Culiseta melanura</i>	3	69		
Warren		219	10274	1	0.097
	<i>Culex</i> spp.	219	10274	1	0.097
Grand Total		9186	189547	384	2.026



Cumulative WNV activity in 2015. WNV activity to 24 September 2016. WNV activity last week, 2016.

Saint Louis Encephalitis (SLE) to 24 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
Burlington		78	3352		
	<i>Anopheles barberi</i>	1	1		
	<i>Culex erraticus</i>	4	91		
	<i>Culex</i> spp.	73	3260		
Cape May		804	9312		
	<i>Culex pipiens</i>	762	9197		
	<i>Culex</i> spp.	42	115		
Grand Total		882	12664		

La Crosse Encephalitis (LAC) to 24 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
Burlington		31	507		
	<i>Aedes albopictus</i>	10	251		
	<i>Aedes atropalpus</i>	3	18		
	<i>Aedes japonicus</i>	9	203		
	<i>Aedes triseriatus</i>	9	35		
Grand Total		31	507		

Dengue (DENV) to 24 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 55 imported human cases of Dengue.

County	Species	DENV1		DENV2		DENV3		DENV4		Pos.	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Atlantic		52	505	52	505	52	505	52	505		
	<i>Aedes albopictus</i>	52	505	52	505	52	505	52	505		
Bergen		47	398	47	398	47	398	47	398		
	<i>Aedes albopictus</i>	47	398	47	398	47	398	47	398		
Camden		41	165	41	165	41	165	41	165		
	<i>Aedes albopictus</i>	41	165	41	165	41	165	41	165		
Cumberland		27	333	27	333	27	333	27	333		
	<i>Aedes albopictus</i>	27	333	27	333	27	333	27	333		
Essex		116	599	116	599	116	599	116	599		
	<i>Aedes albopictus</i>	116	599	116	599	116	599	116	599		
Gloucester		120	2632	120	2632	120	2632	120	2632		
	<i>Aedes albopictus</i>	120	2632	120	2632	120	2632	120	2632		

Hudson		49	2194	49	2194	49	2194	49	2194		
	<i>Aedes albopictus</i>	49	2194	49	2194	49	2194	49	2194		
Hunterdon		6	234	6	234	6	234	6	234		
	<i>Aedes albopictus</i>	6	234	6	234	6	234	6	234		
Mercer		119	1389	119	1389	119	1389	119	1389		
	<i>Aedes albopictus</i>	119	1389	119	1389	119	1389	119	1389		
Middlesex		81	743	81	743	81	743	81	743		
	<i>Aedes albopictus</i>	80	742	80	742	80	742	80	742		
	<i>Culiseta melanura</i>	1	1	1	1	1	1	1	1		
Monmouth		367	4673	367	4673	367	4673	367	4673		
	<i>Aedes albopictus</i>	367	4673	367	4673	367	4673	367	4673		
Morris		68	986	68	986	68	986	68	986		
	<i>Aedes albopictus</i>	66	983	66	983	66	983	66	983		
	<i>Culex</i> spp.	2	3	2	3	2	3	2	3		
Ocean		16	196	16	196	16	196	16	196		
	<i>Aedes albopictus</i>	16	196	16	196	16	196	16	196		
Passaic		4	13	4	13	4	13	4	13		
	<i>Aedes albopictus</i>	4	13	4	13	4	13	4	13		
Salem		69	326	69	326	69	326	69	326		
	<i>Aedes albopictus</i>	69	326	69	326	69	326	69	326		
Somerset		13	63	13	63	13	63	13	63		
	<i>Aedes albopictus</i>	13	63	13	63	13	63	13	63		
Sussex		10	39	10	39	10	39	10	39		
	<i>Aedes albopictus</i>	10	39	10	39	10	39	10	39		
Union		38	1720	38	1720	38	1720	38	1720		
	<i>Aedes albopictus</i>	38	1720	38	1720	38	1720	38	1720		
Grand Total		1243	17208	1243	17208	1243	17208	1243	17208		

Chikungunya (CHIK) to 24 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 5 imported human case of Chikungunya.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		52	505		
	<i>Aedes albopictus</i>	52	505		
Bergen		47	398		
	<i>Aedes albopictus</i>	47	398		
Camden		41	165		
	<i>Aedes albopictus</i>	41	165		
Cape May		427	871		
	<i>Aedes albopictus</i>	427	871		
Cumberland		27	333		
	<i>Aedes albopictus</i>	27	333		
Essex		116	599		

	<i>Aedes albopictus</i>	116	599		
Gloucester		120	2632		
	<i>Aedes albopictus</i>	120	2632		
Hudson		49	2194		
	<i>Aedes albopictus</i>	49	2194		
Hunterdon		6	234		
	<i>Aedes albopictus</i>	6	234		
Mercer		119	1389		
	<i>Aedes albopictus</i>	119	1389		
Middlesex		81	743		
	<i>Aedes albopictus</i>	80	742		
	<i>Culiseta melanura</i>	1	1		
Monmouth		367	4673		
	<i>Aedes albopictus</i>	367	4673		
Morris		68	986		
	<i>Aedes albopictus</i>	66	983		
	<i>Culex</i> spp.	2	3		
Ocean		16	196		
	<i>Aedes albopictus</i>	16	196		
Passaic		4	13		
	<i>Aedes albopictus</i>	4	13		
Salem		69	326		
	<i>Aedes albopictus</i>	69	326		
Somerset		13	63		
	<i>Aedes albopictus</i>	13	63		
Sussex		10	39		
	<i>Aedes albopictus</i>	10	39		
Union		38	1720		
	<i>Aedes albopictus</i>	38	1720		
Grand Total		1670	18079		

Zika (ZIKV) to 24 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 142 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		39	348		
	<i>Aedes albopictus</i>	39	348		
Bergen		32	326		
	<i>Aedes albopictus</i>	32	326		
Camden		25	99		
	<i>Aedes albopictus</i>	25	99		
Cape May		427	871		
	<i>Aedes albopictus</i>	427	871		
Cumberland		21	246		
	<i>Aedes albopictus</i>	21	246		

Essex		77	434		
	<i>Aedes albopictus</i>	77	434		
Gloucester		120	2632		
	<i>Aedes albopictus</i>	120	2632		
Hudson		31	1771		
	<i>Aedes albopictus</i>	31	1771		
Hunterdon		6	234		
	<i>Aedes albopictus</i>	6	234		
Mercer		223	2902		
	<i>Aedes albopictus</i>	223	2902		
Middlesex		47	525		
	<i>Aedes albopictus</i>	47	525		
Monmouth		197	3099		
	<i>Aedes albopictus</i>	197	3099		
Morris		53	931		
	<i>Aedes albopictus</i>	53	931		
Ocean		16	196		
	<i>Aedes albopictus</i>	16	196		
Passaic		2	10		
	<i>Aedes albopictus</i>	2	10		
Salem		35	200		
	<i>Aedes albopictus</i>	35	200		
Somerset		13	63		
	<i>Aedes albopictus</i>	13	63		
Sussex		10	39		
	<i>Aedes albopictus</i>	10	39		
Union		38	1720		
	<i>Aedes albopictus</i>	38	1720		
Grand Total		1412	16646		