

VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 37: 11 September to 17 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	1.12	0.00	6	4	1	166.67
Green Bank (Burlington Co.)/25	Coastal	2.53	0.08	62 (66)	11 (12)		
Corbin City (Atlantic Co.)/25	Coastal	1.70	1.00	243 (268)	17 (18)	1	3.73
Dennisville (Cape May Co.)/50	Coastal	4.76	0.00	69	12		
Winslow (Camden Co.)/50	Inland	1.34	1.16	952	26	2	2.10
Centerton (Salem Co.)/50	Inland	3.44	0.26	257	16		
Turkey Swamp (Monmouth Co.)/50	Inland	2.11	nd	96	15	1	10.42
Glassboro (Gloucester Co.)/50	Inland	0.90	0.06	105	16	1	9.52

*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 a traditional resting box site. Total positive EEE pools detected is 10, with 8 pools of *Cs. melanura* and 2 pools of *Culex pipiens*. A total of 4 horse cases have been found.

Traditional Resting Box Sites: 1790 *Cs. melanura* from 117 pools have been tested for EEE, with 2 pools of 29 *Cs. melanura* to be tested. One new positive melanura pool was detected at the Bass River site, collected 7 Sep. Statewide, 4486 *Cs. melanura* have been tested, with eight positive pools detected (six traditional, two county sites), for an overall *Cs. melanura* MFIR of 1.78, an increase from 1.62 last week. 16,427 specimens from 22 other species have also been tested, with two positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.48.

Additional *Cs. melanura* trapped by counties

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

County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO ₂ , RB	26	382		
Burlington	CO ₂	47	1199		
Cape May	CDC, CO ₂ , GR, RB	157	378		
Cumberland	CDC, RB	16	88		
Middlesex	RB	44	581	2	3.44
Ocean	CO ₂ , GR, RB	17	40		
Sussex	CO ₂ , GR	4	5		
Union	LT	1	23		
TOTAL		312	2696	2	0.74

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>	4	9		
<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>	21	706		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	7	49		
<i>Anopheles bradleyi</i>	76	378		
<i>Anopheles crucians</i>	4	67		
<i>Anopheles punctipennis</i>	22	75		
<i>Anopheles quadrimaculatus</i>	2	5		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	101	1909		
<i>Culex erraticus</i>	84	657		
<i>Culex pipiens</i>	738	9044	2	0.221
<i>Culex restuans</i>	2	4		
<i>Culex salinarius</i>	311	2805		
<i>Culex sp.</i>	59	378		
<i>Culex territans</i>	1	12		
<i>Psorophora columbiae</i>	1	2		
<i>Psorophora ferox</i>	1	2		
State Total	1470	16427	2	0.122

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.

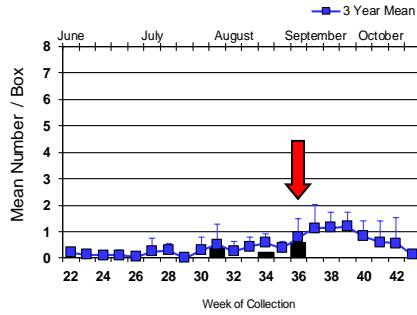
Horses and Humans: Four horses have been detected with EEE, two from Morris, one from Ocean and one from Passaic. All horses were not up to date with vaccinations. **Horse owners are urged to make sure their horses are up to date on their vaccinations. Horse cases are known to occur through October and sometimes into November.** Other sensitive species are non-native birds, such as Ostriches/Emus and Gallinaceous birds such as pheasants of Eurasian origins.

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

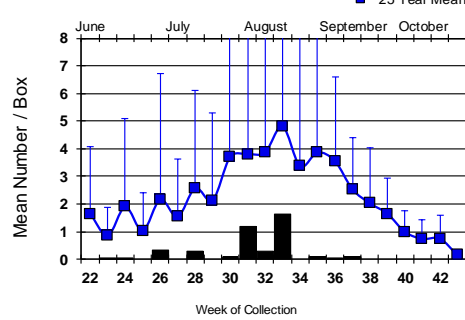
Culiseta melanura Population Graphs

Coastal

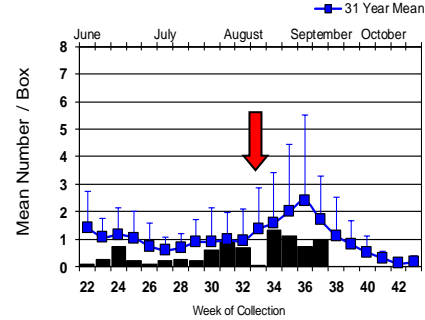
BASS RIVER (Burlington Co.)



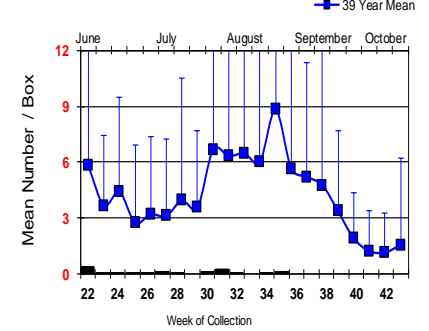
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

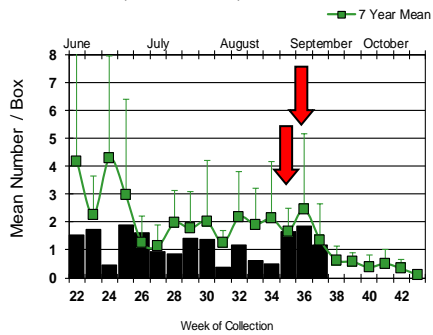


DENNISVILLE (Cape May Co.)

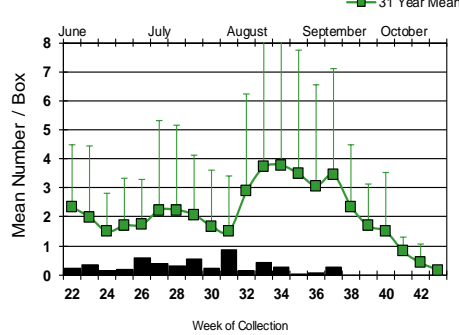


Inland

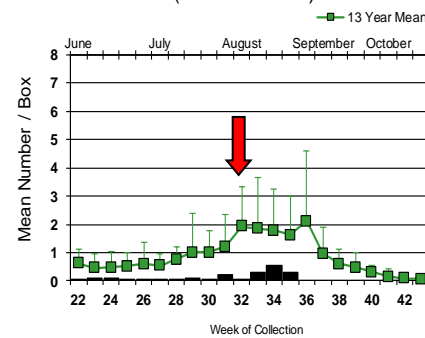
WINSLOW (Camden Co.)



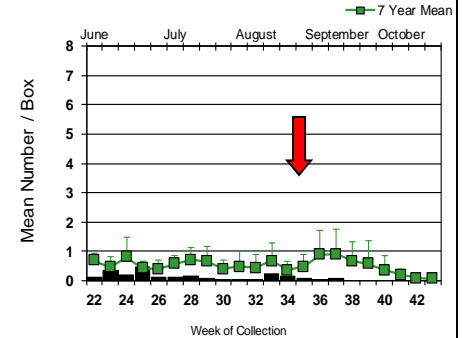
CENTERTON (Salem Co.)



TURKEY SWAMP (Monmouth Co.)



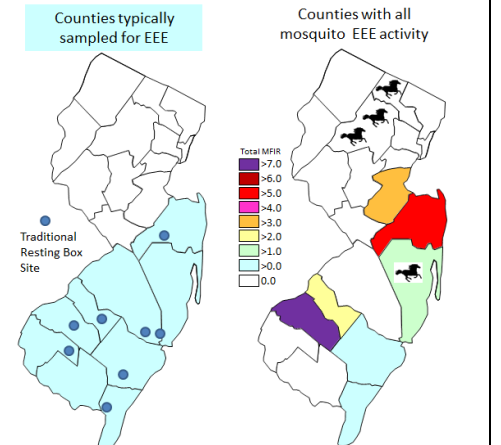
GLASSBORO (Gloucester Co.)



A total of 6 positive pools of *Cs. melanura* have been detected at the traditional resting box sites, the latest at the Bass River site. This positive in a population of extremely low numbers reinforces the ability of EEE to transmit through low population levels of the enzootic vector.

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 all species mosquito MFIR)

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



EEE in US (2016 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: AL(7) FL(19) GA(5) LA(7) MS(7) **MI(1)** NC(1) NJ(4) NY(1) SC(14) TN(1) TX(1) VA(6) WI(3)
- mosquito pools: LA(1) MA(4) NJ(**10**) NY(**5**) 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	83/87	0	0	41/47
Arkansas				0	1
California	1186/1235	3105/3176	248/279	15/18	155/199
Colorado	10	103		1	76/98
Connecticut		85/88			1
Delaware					
DC					1
Florida		5	96	1	3/4
Georgia		0			0
Hawaii					
Idaho	0	29/34		4/7	5/6
Illinois	48/58	2037/2198		1	15/30
Indiana	0	186		0	2
Iowa		5/19		6/9	6/7
Kansas	1	0		1	7/9
Kentucky				2	
Louisiana	20	159		2	24
Maine		0			0
Maryland		1			
Mass.		157/176		0	1/2
Michigan	13	4		1/2	7/11
Minnesota		6		7/12	24
Mississippi		22			20/21
Missouri		8		1/2	1/2

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					3/5
Nebraska	2	90		1	36/47
Nevada				2/6	4/7
New Hampshire		0		0	0
New Jersey		292/343		0	2/3
New Mexico					1/2
New York		424/447		1/3	1
North Carolina					
North Dakota	8	15		4	50/60
Ohio		8		1	4
Oklahoma		7		2	12/14
Oregon	8/9	44/49	0	3/5	3
Pennsylvania	7/9	1119/1265			5/6
Rhode Island		1			
South Carolina		6			4
South Dakota		203/242			95/111
Tennessee					1/2
Texas	1/3	1318/1420	2	13/15	108/126
Utah		190/203		3	7/8
Vermont		13			2
Virginia					
Washington	1	95		18/25	6/8
West Virginia					
Wisconsin	23/44	8		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 17 September 2016

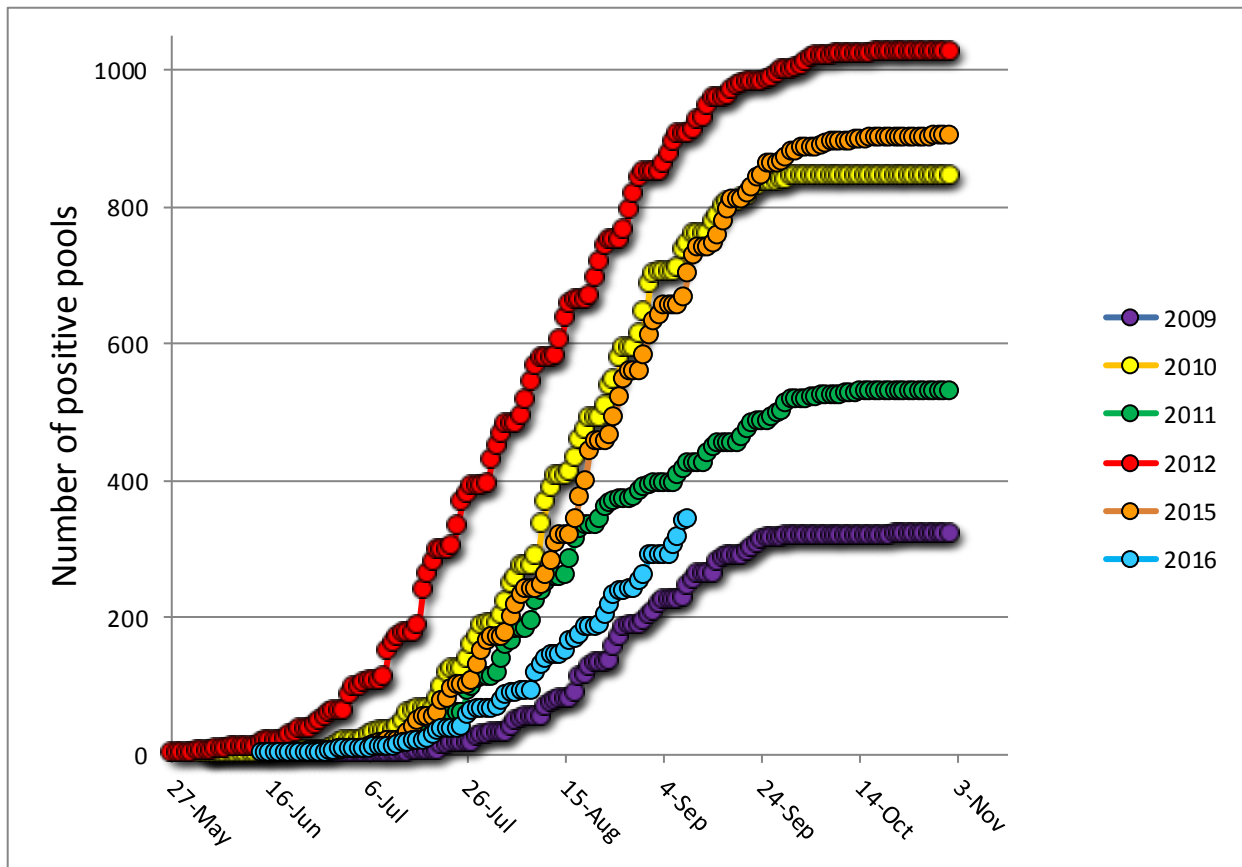
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1756	19298	4	0.207
<i>Aedes atlanticus</i>	16	44		
<i>Aedes atropalpus</i>	26	76		
<i>Aedes canadensis canadensis</i>	36	698		
<i>Aedes cantator</i>	36	246		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	465	2629	2	0.761
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	29	876		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	24	659		
<i>Aedes triseriatus</i>	235	499		
<i>Aedes trivittatus</i>	4	36		
<i>Aedes vexans</i>	91	1003	1	0.997
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	90	695		
<i>Anopheles crucians</i>	7	74		
<i>Anopheles punctipennis</i>	76	273		
<i>Anopheles quadrimaculatus</i>	140	1156		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	120	2836	1	0.353
<i>Culex erraticus</i>	119	996		
<i>Culex pipiens</i>	1056	25624	41	1.600
<i>Culex restuans</i>	745	8059	7	0.869
<i>Culex salinarius</i>	325	3155		
<i>Culex</i> spp.	2762	105841	285	2.693
<i>Culex territans</i>	42	365		
<i>Culiseta melanura</i>	431	4459	2	0.449
<i>Orthopodomyia signifera</i>	4	4		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	17	107		
<i>Psorophora ferox</i>	18	135		
<i>Uranotaenia sapphirina</i>	2	6		
Grand Total	8680	179867	343	1.907

Remarks: To date, 8,680 pools of 179,867 mosquitoes from 33 species have been tested, with 343 positive pools detected. Most new positives continue to be detected in *Culex* Mix 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 three human cases have been detected; one most recently from Middlesex County (no onset date given). Currently, case count is Camden (1), Middlesex (1) and Monmouth (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 17 September 2016

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		244	6809	11	1.616
	<i>Aedes albopictus</i>	45	450		
	<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>	22	524		
	<i>Culex erraticus</i>	13	135		
	<i>Culex pipiens</i>	27	1433	8	5.583
	<i>Culex restuans</i>	3	52		
	<i>Culex salinarius</i>	6	220		
	<i>Culex spp.</i>	38	1736	2	1.152
	<i>Culiseta melanura</i>	43	625	1	1.600

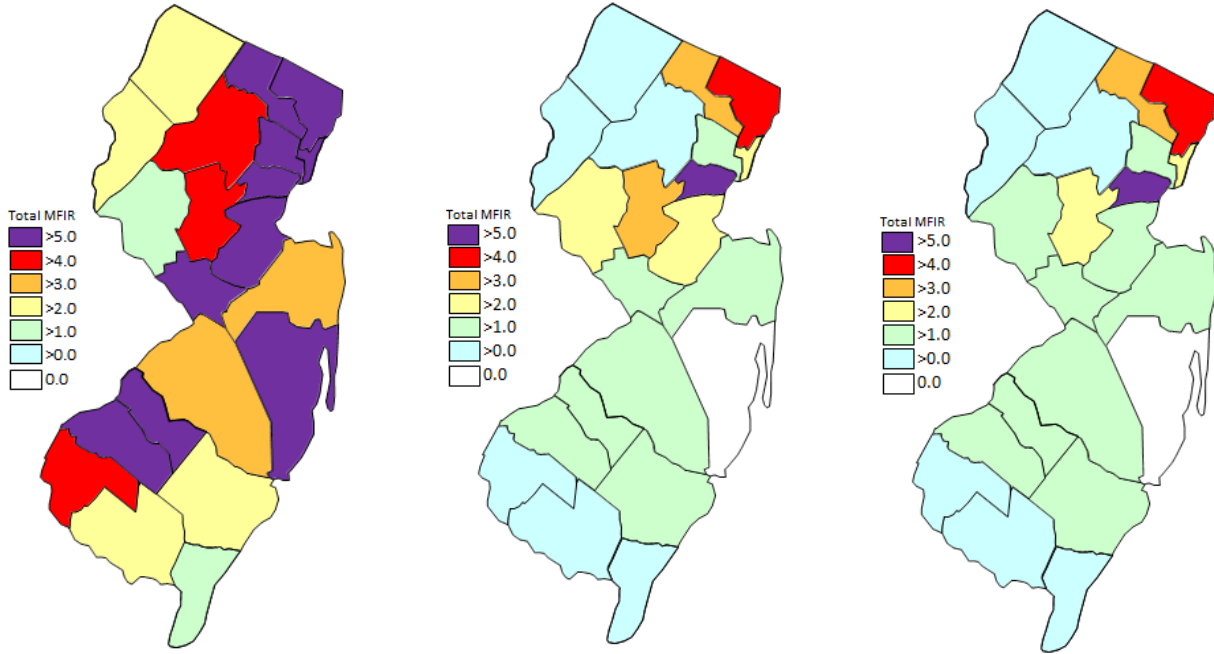
<i>Psorophora columbiae</i>	1	10		
<i>Psorophora ferox</i>	4	71		
Bergen	242	15011	72	4.796
<i>Aedes albopictus</i>	45	381		
<i>Aedes japonicus</i>	7	380		
<i>Culex</i> spp.	190	14250	72	5.053
Burlington	177	6079	7	1.152
<i>Aedes albopictus</i>	9	246		
<i>Aedes atropalpus</i>	3	18		
<i>Aedes canadensis 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		
Camden	194	4435	5	1.127
<i>Aedes albopictus</i>	37	158		
<i>Aedes japonicus</i>	23	81		
<i>Culex</i> spp.	108	3244	5	1.541
<i>Culiseta melanura</i>	26	952		
Cape May	2991	18874	2	0.106
<i>Aedes albopictus</i>	402	823		
<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>	209	405		
<i>Aedes sollicitans</i>	4	6		
<i>Aedes taeniorhynchus</i>	4	5		
<i>Aedes triseriatus</i>	162	290		
<i>Aedes vexans</i>	11	15		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles bradleyi</i>	74	320		
<i>Anopheles punctipennis</i>	10	11		
<i>Anopheles quadrimaculatus</i>	116	1069		
<i>Coquillettidia perturbans</i>	27	426		
<i>Culex erraticus</i>	22	43		
<i>Culex pipiens</i>	739	9045		
<i>Culex restuans</i>	609	4305	1	0.232
<i>Culex salinarius</i>	265	787		
<i>Culex</i> spp.	41	113		
<i>Culex territans</i>	41	353		
<i>Culiseta melanura</i>	169	447	1	2.237
<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		210	3584	1	0.279
	<i>Aedes albopictus</i>	27	333		
	<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		
Essex		244	1470	2	1.361
	<i>Aedes albopictus</i>	105	562		
	<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>	130	896	2	2.232
Gloucester		414	17404	29	1.666
	<i>Aedes albopictus</i>	136	2831	1	0.353
	<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>	16	105		
Hudson		205	9563	25	2.614
	<i>Aedes albopictus</i>	47	2082	1	0.480
	<i>Culex spp.</i>	158	7481	24	3.208
Hunterdon		200	9228	21	2.276
	<i>Aedes albopictus</i>	6	234		
	<i>Culex spp.</i>	194	8994	21	2.335
Mercer		389	8062	16	1.985
	<i>Aedes albopictus</i>	99	1162		
	<i>Aedes japonicus</i>	25	103		
	<i>Aedes triseriatus</i>	2	24		

<i>Aedes vexans</i>	3	12		
<i>Culex erraticus</i>	10	38		
<i>Culex pipiens</i>	48	929	5	5.382
<i>Culex restuans</i>	122	3685	6	1.628
<i>Culex spp.</i>	80	2109	5	2.371
Middlesex	368	12401	26	2.097
<i>Aedes albopictus</i>	80	742		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex erraticus</i>	3	4		
<i>Culex spp.</i>	239	11071	26	2.348
<i>Culiseta melanura</i>	45	582		
Monmouth	686	8240	15	1.820
<i>Aedes albopictus</i>	401	4600	1	0.217
<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>	34	107		
<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>	10	29		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles crucians</i>	2	2		
<i>Anopheles punctipennis</i>	35	74		
<i>Anopheles quadrimaculatus</i>	5	5		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	6	17		
<i>Culex restuans</i>	2	4		
<i>Culex spp.</i>	109	2651	14	5.281
<i>Culiseta melanura</i>	17	97		
<i>Psorophora columbiae</i>	2	3		
<i>Psorophora ferox</i>	4	27		
Morris	359	12136	8	0.659
<i>Aedes albopictus</i>	56	888		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	2	5		
<i>Anopheles punctipennis</i>	5	35		
<i>Anopheles quadrimaculatus</i>	1	4		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	2	20		
<i>Culex spp.</i>	289	11179	8	0.716
<i>Psorophora ferox</i>	1	2		
Ocean	313	4261		
<i>Aedes albopictus</i>	107	1456		
<i>Aedes canadensis canadensis</i>	1	70		
<i>Aedes japonicus</i>	26	85		
<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>	23	461		
<i>Culex erraticus</i>	10	58		
<i>Culex restuans</i>	1	2		
<i>Culex</i> spp.	92	1954		
<i>Culiseta melanura</i>	33	113		
<i>Psorophora ferox</i>	1	9		
Passaic	271	6675	21	3.146
<i>Aedes albopictus</i>	13	53		
<i>Aedes japonicus</i>	61	412	2	4.854
<i>Aedes triseriatus</i>	7	11		
<i>Aedes vexans</i>	13	37		
<i>Culex</i> spp.	177	6162	19	3.083
Salem	259	1696	1	0.590
<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>	26	295		
<i>Culex pipiens</i>	3	3		
<i>Culex restuans</i>	7	8		
<i>Culex</i> spp.	65	595		
<i>Culiseta melanura</i>	16	257		
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	3	4		
Somerset	195	3712	12	3.233
<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.	169	3567	12	3.364
Sussex	314	9216	5	0.543
<i>Aedes albopictus</i>	10	39		
<i>Aedes japonicus</i>	15	523		
<i>Aedes triseriatus</i>	3	37		
<i>Aedes trivittatus</i>	1	33		
<i>Aedes vexans</i>	5	44		
<i>Anopheles punctipennis</i>	1	44		
<i>Coquillettidia perturbans</i>	17	900		
<i>Culex erraticus</i>	1	2		
<i>Culex pipiens</i>	3	7		
<i>Culex restuans</i>	1	3		
<i>Culex salinarius</i>	9	199		
<i>Culex</i> spp.	244	7380	5	0.678
<i>Culiseta melanura</i>	4	5		
Union	193	10806	63	5.830
<i>Aedes albopictus</i>	45	1853		
<i>Culex erraticus</i>	9	111		

<i>Culex</i> spp.	136	8773	63	7.181
<i>Culiseta melanura</i>	3	69		
Warren	212	10205	1	0.098
<i>Culex</i> spp.	212	10205	1	0.098
Grand Total	8680	179867	343	1.907



Cumulative WNV activity in 2015. WNV activity to 17 September 2016. WNV activity last week, 2016.

Saint Louis Encephalitis (SLE) to 17 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		74	3277		
	<i>Anopheles barberi</i>	1	1		
	<i>Culex erraticus</i>	4	91		
	<i>Culex</i> spp.	69	3185		
Cape May		779	9157		
	<i>Culex pipiens</i>	738	9044		
	<i>Culex</i> spp.	41	113		
Grand Total		853	12434		

La Crosse Encephalitis (LAC) to 17 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		28	466		
	<i>Aedes albopictus</i>	9	246		
	<i>Aedes atropalpus</i>	3	18		
	<i>Aedes japonicus</i>	8	174		
	<i>Aedes triseriatus</i>	8	28		
Grand Total		28	466		

Dengue (DENV) to 17 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.		
Atlantic		45	450	45	450	45	450	45	450		
	<i>Aedes albopictus</i>	45	450	45	450	45	450	45	450		
Bergen		45	381	45	381	45	381	45	381		
	<i>Aedes albopictus</i>	45	381	45	381	45	381	45	381		
Camden		37	158	37	158	37	158	37	158		
	<i>Aedes albopictus</i>	37	158	37	158	37	158	37	158		
Cumberland		27	333	27	333	27	333	27	333		
	<i>Aedes albopictus</i>	27	333	27	333	27	333	27	333		
Essex		105	562	105	562	105	562	105	562		
	<i>Aedes albopictus</i>	105	562	105	562	105	562	105	562		
Gloucester		120	2632	120	2632	120	2632	120	2632		
	<i>Aedes albopictus</i>	120	2632	120	2632	120	2632	120	2632		
Hudson		47	2082	47	2082	47	2082	47	2082		
	<i>Aedes albopictus</i>	47	2082	47	2082	47	2082	47	2082		

Hunterdon		6	234	6	234	6	234	6	234		
	<i>Aedes albopictus</i>	6	234	6	234	6	234	6	234		
Mercer		99	1162	99	1162	99	1162	99	1162		
	<i>Aedes albopictus</i>	99	1162	99	1162	99	1162	99	1162		
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		340	4264	340	4264	340	4264	340	4264		
	<i>Aedes albopictus</i>	340	4264	340	4264	340	4264	340	4264		
Morris		55	888	55	888	55	888	55	888		
	<i>Aedes albopictus</i>	53	885	53	885	53	885	53	885		
	<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		1157	16246	1157	16246	1157	16246	1157	16246		

Chikungunya (CHIK) to 17 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 3 imported human case of Chikungunya.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		45	450		
	<i>Aedes albopictus</i>	45	450		
Bergen		45	381		
	<i>Aedes albopictus</i>	45	381		
Camden		37	158		
	<i>Aedes albopictus</i>	37	158		
Cape May		402	823		
	<i>Aedes albopictus</i>	402	823		
Cumberland		27	333		
	<i>Aedes albopictus</i>	27	333		
Essex		105	562		
	<i>Aedes albopictus</i>	105	562		
Gloucester		120	2632		

	<i>Aedes albopictus</i>	120	2632		
Hudson		47	2082		
	<i>Aedes albopictus</i>	47	2082		
Hunterdon		6	234		
	<i>Aedes albopictus</i>	6	234		
Mercer		99	1162		
	<i>Aedes albopictus</i>	99	1162		
Middlesex		81	743		
	<i>Aedes albopictus</i>	80	742		
	<i>Culiseta melanura</i>	1	1		
Monmouth		340	4264		
	<i>Aedes albopictus</i>	340	4264		
Morris		55	888		
	<i>Aedes albopictus</i>	53	885		
	<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		1559	17069		

Zika (ZIKV) to 17 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 128 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		32	293		
	<i>Aedes albopictus</i>	32	293		
Bergen		30	309		
	<i>Aedes albopictus</i>	30	309		
Camden		21	92		
	<i>Aedes albopictus</i>	21	92		
Cape May		402	823		
	<i>Aedes albopictus</i>	402	823		
Cumberland		21	246		
	<i>Aedes albopictus</i>	21	246		
Essex		66	397		
	<i>Aedes albopictus</i>	66	397		

Gloucester		120	2632		
	<i>Aedes albopictus</i>	120	2632		
Hudson		29	1659		
	<i>Aedes albopictus</i>	29	1659		
Hunterdon		6	234		
	<i>Aedes albopictus</i>	6	234		
Mercer		184	2498		
	<i>Aedes albopictus</i>	184	2498		
Middlesex		47	525		
	<i>Aedes albopictus</i>	47	525		
Monmouth		170	2690		
	<i>Aedes albopictus</i>	170	2690		
Morris		40	833		
	<i>Aedes albopictus</i>	40	833		
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		1282	15459		