

VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 44: 30 October to 11 November, 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			15	8	1	66.67
Green Bank (Burlington Co.)/25	Coastal	No Collection	No Collection	115	18		
Corbin City (Atlantic Co.)/25	Coastal			299	23	1	3.34
Dennisville (Cape May Co.)/50	Coastal			90	16		
Winslow (Camden Co.)/50	Inland			992	31	2	2.02
Centerton (Salem Co.)/50	Inland			297	20		
Turkey Swamp (Monmouth Co.)/50	Inland			156	21	1	6.41
Glassboro (Gloucester Co.)/49	Inland			109	19	1	9.17

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

Remarks: This is the final report for 2016. Total positive EEE pools detected remain at 11, with 9 pools of *Cs. melanura* and 2 pools of *Culex pipiens*. A total of 4 horse cases have been found.

Traditional Resting Box Sites: 2,073 *Cs. melanura* from 156 pools have been tested for EEE. No new positive pools were detected at the traditional resting box sites. Statewide, 5,484 *Cs. melanura* have been tested, with nine positive pools detected (six traditional, three county sites), for an overall *Cs. melanura* MFIR of 1.64. 19,284 specimens from 24 other species have also been tested, with two positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.44.

Additional <i>Cs. melanura</i> trapped by counties					
*traps with positives indicated in BOLD .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO ₂ , RB	38	452		
Burlington	CO ₂	82	1682		
Cape May	CDC, CO ₂ , GR, RB	213	464		
Cumberland	BGS, CDC, GRA RB	21	103		
Middlesex	RB	54	615	3	4.88
Ocean	CO ₂ , GR, RB	26	56		
Passaic	EVS	1	1		
Sussex	CO ₂ , GR	12	15		
Union	LT	1	23		
TOTAL		448	3411	3	0.88

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

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

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

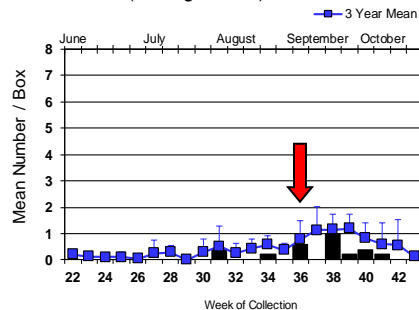
Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	5	10		
<i>Aedes canadensis canadensis</i>	5	85		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	1	4		
<i>Aedes mitchellae</i>	5	82		
<i>Aedes sollicitans</i>	37	1197		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	12	138		
<i>Anopheles bradleyi</i>	109	630		
<i>Anopheles crucians</i>	13	174		
<i>Anopheles punctipennis</i>	32	124		
<i>Anopheles quadrimaculatus</i>	7	15		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	110	1961		
<i>Culex erraticus</i>	193	1080		
<i>Culex pipiens</i>	925	9856	2	0.203
<i>Culex restuans</i>	3	6		
<i>Culex salinarius</i>	356	3136		
<i>Culex sp.</i>	75	456		
<i>Culex territans</i>	1	12		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	2		
<i>Psorophora ferox</i>	3	20		
<i>Uranotaenia sapphirina</i>	1	45		
State Total	1927	19284	2	0.104

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

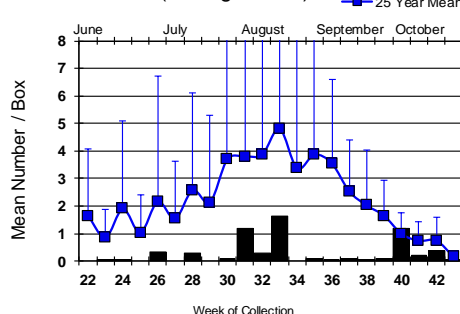
Culiseta melanura Population Graphs

Coastal

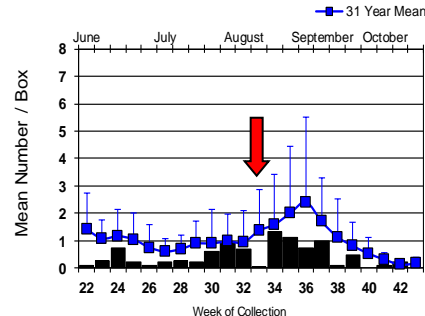
BASS RIVER (Burlington Co.)



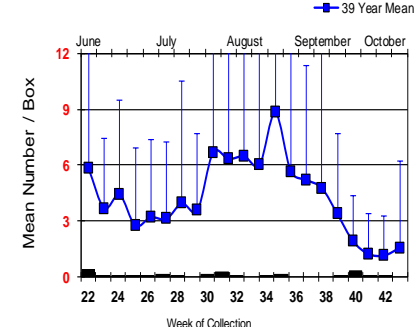
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

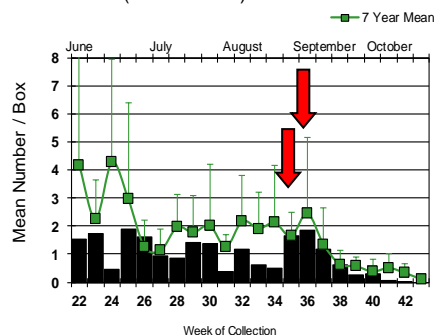


DENNISVILLE (Cape May Co.)

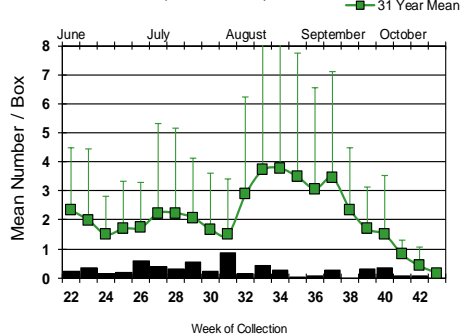


Inland

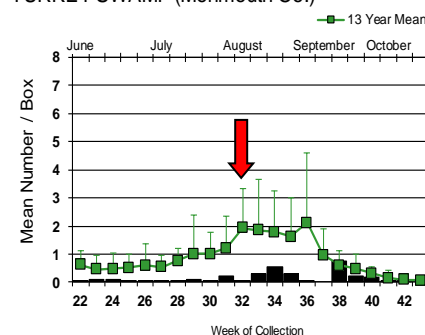
WINSLOW (Camden Co.)



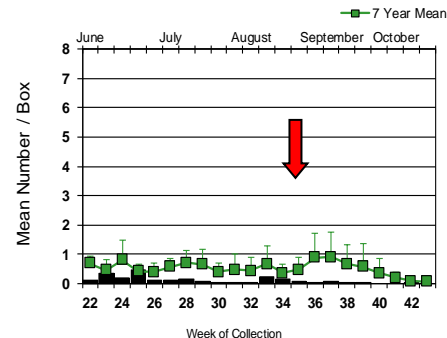
CENTERTON (Salem Co.)



TURKEY SWAMP (Monmouth Co.)



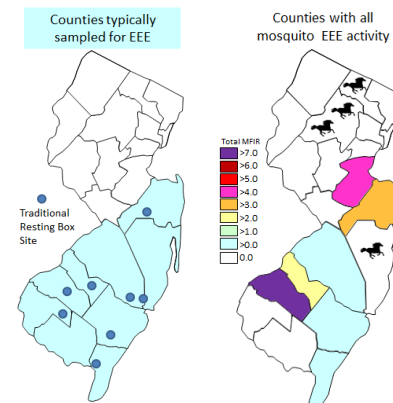
GLASSBORO (Gloucester Co.)



No new detection have occurred at the traditional resting box sites.

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 – modified due to county data correction).

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



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

- equine: AL(7) AR(1) FL(22) GA(5) LA(14) MA(4) MS(8) MI(3) NC(7) NJ(4) NY(1) SC(15) TN(2) TX(6) VA(6) WI(19)
- mosquito pools: CT(1) LA(3) MA(4) NJ(11) NY(5) RI(2)
- sentinel: FL(81) GA(2) TX(26)
- human: MI(1) NC(1)

West Nile Virus Positive Organisms in US, 2016

West Nile in US (2016 cumulative cases): Single black values indicate no change from previous week. Black values / red values equals previous week/**New totals**. Note: Data reported by all states should be considered provisional and subject to change. Sources for this table can be found [here](#).

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Alabama					5
Alaska					
Arizona	1/2	115	0	1	71/73
Arkansas				2	4
California	1340	3481/3491	335	20	370/380
Colorado	17	207		6	137
Connecticut		122			1
Delaware					
DC					1
Florida		5	169/178	1	6
Georgia		0			2
Hawaii					
Idaho	0	34		10	8
Illinois	73/74	2430/2434		1/4	136
Indiana	0	261		0	10
Iowa		46		15	35/37
Kansas	1	2		1	25/29
Kentucky				4/6	
Louisiana	64/72	190/202		5/9	36/40
Maine		0			0
Maryland		1			1
Mass.		189		0	14/15
Michigan	13	4		2	32/34
Minnesota		6		19	41
Mississippi		25			36
Missouri		8		7	7/9

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					6
Nebraska	2	112		5	85/88
Nevada				6	13/15
New Hampshire		1		0	0
New Jersey		448		0	9/10
New Mexico					5
New York		542		3	18/20
North Carolina					
North Dakota	8	15		6	79
Ohio		452		1	14
Oklahoma		7		2	26
Oregon	9	51	0	6	3
Pennsylvania	16/18	1457		6	14/15
Rhode Island		1			
South Carolina		6			5
South Dakota		242		2	146
Tennessee				2	5/6
Texas	5	1727/1754	13/17	84/105	225/258
Utah		244		7	13
Vermont		19			3
Virginia					
Washington	2	95		27	9
West Virginia		5		1	
Wisconsin	59	11		7	6
Wyoming	1	23			9

* Can include other species (e.g., dogs, cows) reported positive.

Protocol: New Jersey Department of Health (NJDH Public Health Environmental and Agricultural Laboratories, PHEAL) and the Cape May County Department of Mosquito Control tests mosquito pools using RT-PCR Taqman techniques.

Mosquito Species Submitted and Tested for West Nile Virus Testing through 1 November 2016

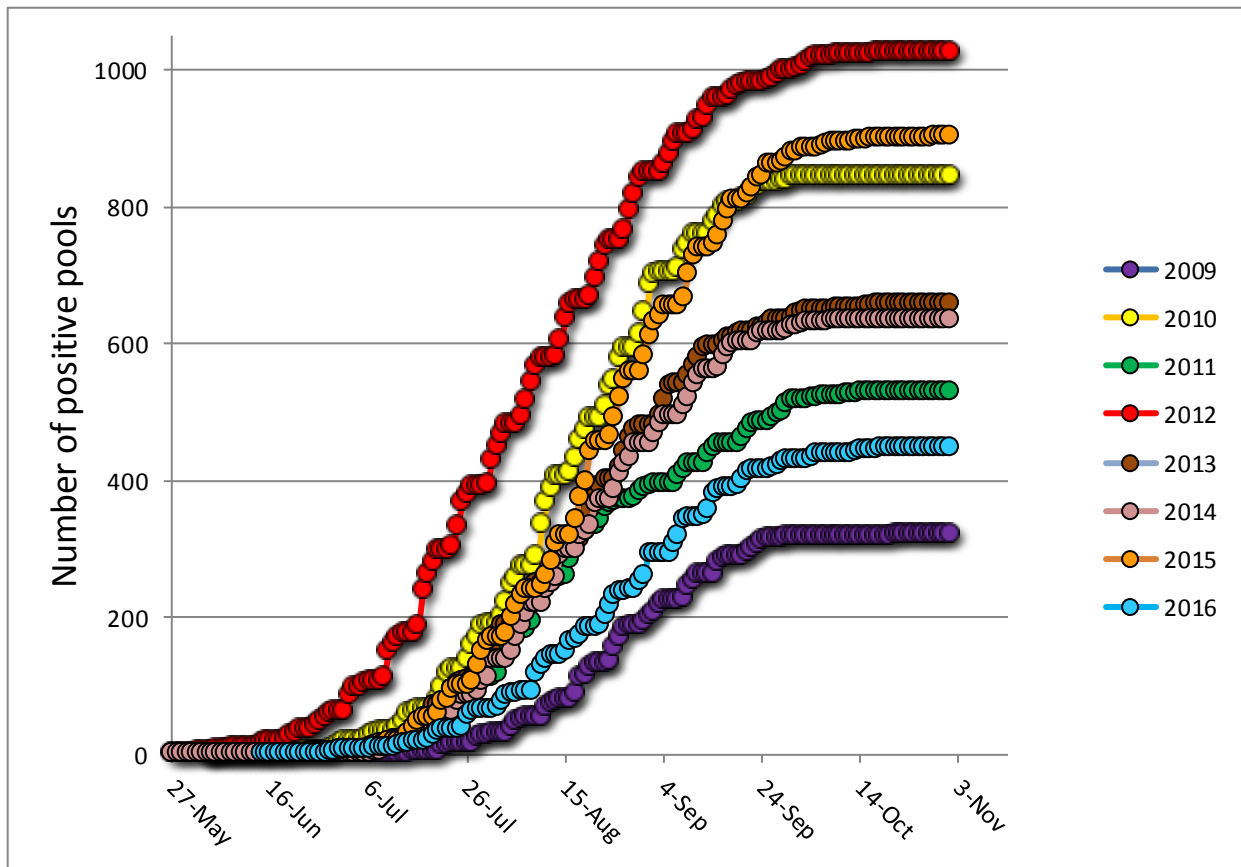
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	2441	24175	5	0.207
<i>Aedes atlanticus</i>	16	44		
<i>Aedes atropalpus</i>	31	84		
<i>Aedes canadensis canadensis</i>	40	720		
<i>Aedes cantator</i>	37	247		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	605	3203	2	0.624
<i>Aedes mitchellae</i>	5	82		
<i>Aedes sollicitans</i>	52	1428		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	30	702		
<i>Aedes triseriatus</i>	272	586		
<i>Aedes trivittatus</i>	4	36		
<i>Aedes vexans</i>	129	1712	1	0.584
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	129	1010		
<i>Anopheles crucians</i>	17	182		
<i>Anopheles punctipennis</i>	108	359		
<i>Anopheles quadrimaculatus</i>	184	1267		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	129	2888	1	0.346
<i>Culex erraticus</i>	259	1698	1	0.589
<i>Culex pipiens</i>	1469	35928	67	1.865
<i>Culex restuans</i>	969	8870	11	1.240
<i>Culex salinarius</i>	372	3552		
<i>Culex</i> spp.	3418	118565	356	3.003
<i>Culex territans</i>	44	367		
<i>Culiseta melanura</i>	606	5457	4	0.733
<i>Orthopodomyia signifera</i>	8	8		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	19	112		
<i>Psorophora ferox</i>	28	244		
<i>Uranotaenia sapphirina</i>	8	60		
Grand Total	11436	213598	448	2.097

Remarks: To date, 11,436 pools of 213,598 mosquitoes from 33 species have been tested, with 448 positive pools detected. No new positive pools were detected. Statewide MFIR is 2.097. 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 10 human cases have been detected. Currently, case count is Camden (2), Gloucester (1), Middlesex (1) Monmouth (1), Passaic (1), Somerset (1) and Union (3). No horse cases are currently reported. Last year 26 humans and one horse were positive. Onset in 2015 for humans began in early August and the onset for the horse case began in September. For further information, see <http://www.state.nj.us/health/cd/westnile/techinfo.shtml>.

Birds are no longer routinely tested in New Jersey.

The graph below shows cumulative positive pools from 2009-2016, with 2012 as the most active year and 2009 as the least active year. Positives continue to taper off as the season comes to a close, with numbers trending between low (2009) and moderate (2011) activity.



WNV Results by County through 1 November 2016

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		348	8742	14	1.601
	<i>Aedes albopictus</i>	64	540		
	<i>Aedes japonicus</i>	4	18		
	<i>Aedes sollicitans</i>	14	871		
	<i>Aedes sticticus</i>	1	6		
	<i>Aedes taeniorhynchus</i>	8	390		
	<i>Aedes vexans</i>	18	603		
	<i>Anopheles bradleyi</i>	10	193		
	<i>Anopheles punctipennis</i>	2	18		
	<i>Anopheles quadrimaculatus</i>	2	34		
	<i>Coquillettidia perturbans</i>	23	526		
	<i>Culex erraticus</i>	21	161		
	<i>Culex pipiens</i>	42	1938	11	5.676
	<i>Culex restuans</i>	9	157		
	<i>Culex salinarius</i>	7	285		
	<i>Culex spp.</i>	54	2155	2	0.928
	<i>Culiseta melanura</i>	61	751	1	1.332

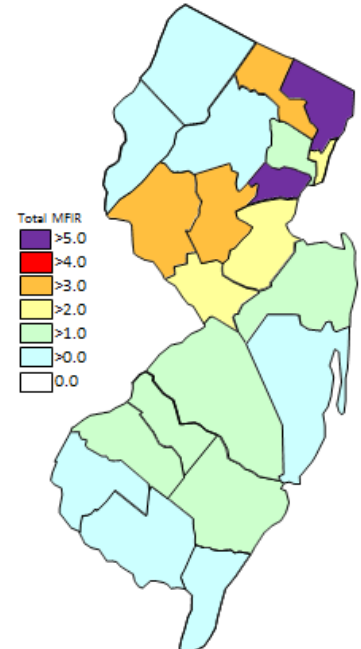
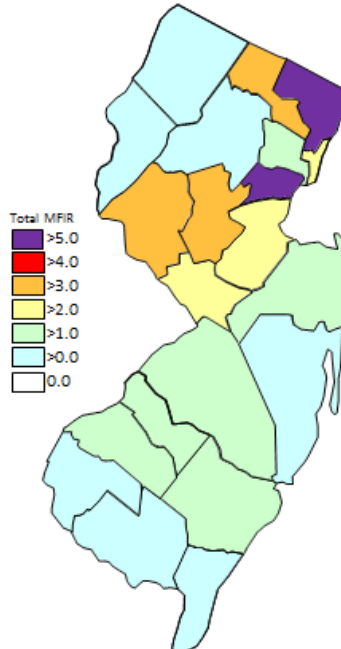
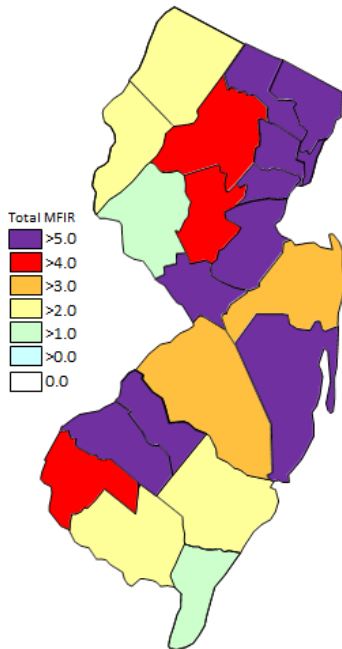
<i>Psorophora columbiae</i>	1	10		
<i>Psorophora ferox</i>	7	86		
Bergen	280	17283	88	5.092
<i>Aedes albopictus</i>	48	406		
<i>Aedes japonicus</i>	11	432		
<i>Culex</i> spp.	221	16445	88	5.351
Burlington	331	8173	9	1.101
<i>Aedes albopictus</i>	22	357		
<i>Aedes atropalpus</i>	3	18		
<i>Aedes canadensis canadensis</i>	4	84		
<i>Aedes japonicus</i>	12	213		
<i>Aedes mitchellae</i>	5	82		
<i>Aedes sollicitans</i>	1	2		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes triseriatus</i>	9	35		
<i>Aedes vexans</i>	2	63		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	11	272		
<i>Anopheles crucians</i>	10	146		
<i>Anopheles punctipennis</i>	3	13		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	8	342	1	2.924
<i>Culex erraticus</i>	7	113		
<i>Culex pipiens</i>	1	2		
<i>Culex salinarius</i>	24	699		
<i>Culex</i> spp.	98	3745	7	1.869
<i>Culex territans</i>	1	12		
<i>Culiseta melanura</i>	103	1731	1	0.578
<i>Uranotaenia sapphirina</i>	1	45		
Camden	244	4936	8	1.621
<i>Aedes albopictus</i>	53	210		
<i>Aedes japonicus</i>	24	82		
<i>Anopheles punctipennis</i>	1	4		
<i>Culex</i> spp.	135	3648	8	2.193
<i>Culiseta melanura</i>	31	992		
Cape May	3876	21219	6	0.283
<i>Aedes albopictus</i>	634	1379		
<i>Aedes atlanticus</i>	13	31		
<i>Aedes atropalpus</i>	28	66		
<i>Aedes canadensis canadensis</i>	13	249		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	246	481		
<i>Aedes sollicitans</i>	5	7		
<i>Aedes taeniorhynchus</i>	5	6		
<i>Aedes triseriatus</i>	183	315		
<i>Aedes vexans</i>	12	17		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles bradleyi</i>	98	358		
<i>Anopheles punctipennis</i>	12	13		
<i>Anopheles quadrimaculatus</i>	144	1134		
<i>Coquillettidia perturbans</i>	27	426		
<i>Culex erraticus</i>	73	148		

<i>Culex pipiens</i>	925	9850	1	0.102
<i>Culex restuans</i>	798	4793	4	0.835
<i>Culex salinarius</i>	293	820		
<i>Culex</i> spp.	51	136		
<i>Culex territans</i>	43	355		
<i>Culiseta melanura</i>	229	554	1	1.805
<i>Orthopodomyia signifera</i>	6	6		
<i>Psorophora columbiae</i>	2	2		
<i>Psorophora ferox</i>	4	9		
<i>Uranotaenia sapphirina</i>	6	11		
Cumberland	323	4773	1	0.210
<i>Aedes albopictus</i>	49	500		
<i>Aedes cantator</i>	1	1		
<i>Aedes japonicus</i>	11	21		
<i>Aedes sollicitans</i>	20	476		
<i>Aedes taeniorhynchus</i>	5	36		
<i>Aedes triseriatus</i>	2	4		
<i>Aedes vexans</i>	55	869	1	1.151
<i>Anopheles bradleyi</i>	5	157		
<i>Anopheles crucians</i>	1	5		
<i>Anopheles punctipennis</i>	11	67		
<i>Anopheles quadrimaculatus</i>	4	19		
<i>Coquillettidia perturbans</i>	8	111		
<i>Culex erraticus</i>	23	233		
<i>Culex pipiens</i>	10	24		
<i>Culex salinarius</i>	38	1548		
<i>Culex</i> spp.	40	421		
<i>Culiseta melanura</i>	21	103		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	12	92		
<i>Psorophora ferox</i>	4	80		
<i>Uranotaenia sapphirina</i>	1	4		
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</i> spp.	141	924	2	2.165
Gloucester	632	27329	50	1.830
<i>Aedes albopictus</i>	192	3917	1	0.255
<i>Aedes japonicus</i>	28	265		
<i>Aedes triseriatus</i>	6	17		
<i>Anopheles punctipennis</i>	7	20		
<i>Culex pipiens</i>	380	23001	49	2.130
<i>Culiseta melanura</i>	19	109		
Hudson	238	10443	28	2.681
<i>Aedes albopictus</i>	50	2229	1	0.449
<i>Culex</i> spp.	188	8214	27	3.287

Hunterdon	295	11614	39	3.358
<i>Aedes albopictus</i>	11	362		
<i>Culex</i> spp.	284	11252	39	3.466
Mercer	542	9204	24	2.608
<i>Aedes albopictus</i>	147	1522		
<i>Aedes japonicus</i>	43	128		
<i>Aedes triseriatus</i>	2	24		
<i>Aedes vexans</i>	3	12		
<i>Culex erraticus</i>	26	89	1	11.236
<i>Culex pipiens</i>	53	942	5	5.308
<i>Culex restuans</i>	137	3867	7	1.810
<i>Culex</i> spp.	131	2620	11	4.198
Middlesex	451	12966	29	2.237
<i>Aedes albopictus</i>	105	893		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex erraticus</i>	3	4		
<i>Culex</i> spp.	287	11451	29	2.533
<i>Culiseta melanura</i>	55	616		
Monmouth	922	10140	16	1.578
<i>Aedes albopictus</i>	534	5918	1	0.169
<i>Aedes atlanticus</i>	3	13		
<i>Aedes canadensis canadensis</i>	21	316		
<i>Aedes cantator</i>	11	194		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	44	132		
<i>Aedes sollicitans</i>	12	72		
<i>Aedes taeniorhynchus</i>	8	75		
<i>Aedes triseriatus</i>	13	22		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	14	34		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles crucians</i>	3	3		
<i>Anopheles punctipennis</i>	49	96		
<i>Anopheles quadrimaculatus</i>	8	8		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	13	47		
<i>Culex restuans</i>	3	6		
<i>Culex salinarius</i>	1	1		
<i>Culex</i> spp.	148	3003	15	4.995
<i>Culiseta melanura</i>	22	157		
<i>Psorophora columbiae</i>	3	7		
<i>Psorophora ferox</i>	5	28		
Morris	467	13645	12	0.879
<i>Aedes albopictus</i>	81	1020		
<i>Aedes japonicus</i>	4	19		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	2	5		
<i>Anopheles punctipennis</i>	6	61		
<i>Anopheles quadrimaculatus</i>	2	8		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	2	20		

<i>Culex</i> spp.	365	12505	12	0.960
<i>Psorophora ferox</i>	2	4		
Ocean	386	4684	1	0.213
<i>Aedes albopictus</i>	139	1738		
<i>Aedes canadensis canadensis</i>	1	70		
<i>Aedes japonicus</i>	28	89		
<i>Aedes triseriatus</i>	13	21		
<i>Aedes vexans</i>	2	2		
<i>Anopheles crucians</i>	3	28		
<i>Anopheles punctipennis</i>	5	7		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	24	462		
<i>Culex erraticus</i>	21	98		
<i>Culex restuans</i>	3	11		
<i>Culex</i> spp.	114	2062	1	0.485
<i>Culiseta melanura</i>	29	62		
<i>Psorophora ferox</i>	3	33		
Passaic	303	7173	23	3.206
<i>Aedes albopictus</i>	15	55		
<i>Aedes japonicus</i>	63	427	2	4.684
<i>Aedes triseriatus</i>	7	11		
<i>Aedes vexans</i>	13	37		
<i>Coquillettidia perturbans</i>	2	5		
<i>Culex</i> spp.	202	6637	21	3.164
<i>Culiseta melanura</i>	1	1		
Salem	343	2521	1	0.397
<i>Aedes albopictus</i>	84	407	1	2.457
<i>Aedes japonicus</i>	15	35		
<i>Aedes triseriatus</i>	25	35		
<i>Anopheles bradleyi</i>	5	30		
<i>Anopheles punctipennis</i>	7	7		
<i>Anopheles quadrimaculatus</i>	21	59		
<i>Coquillettidia perturbans</i>	12	85		
<i>Culex erraticus</i>	48	666		
<i>Culex pipiens</i>	6	6		
<i>Culex restuans</i>	10	11		
<i>Culex</i> spp.	85	877		
<i>Culiseta melanura</i>	20	297		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	3	4		
Somerset	238	3957	14	3.538
<i>Aedes albopictus</i>	19	87		
<i>Aedes japonicus</i>	5	38		
<i>Aedes triseriatus</i>	5	28		
<i>Anopheles punctipennis</i>	3	8		
<i>Culex</i> spp.	206	3796	14	3.688
Sussex	493	10470	7	0.669
<i>Aedes albopictus</i>	22	75		
<i>Aedes canadensis canadensis</i>	1	1		

<i>Aedes japonicus</i>	59	807		
<i>Aedes triseriatus</i>	5	72		
<i>Aedes trivittatus</i>	1	33		
<i>Aedes vexans</i>	8	70		
<i>Anopheles punctipennis</i>	1	44		
<i>Coquillettidia perturbans</i>	18	904		
<i>Culex erraticus</i>	15	28		
<i>Culex pipiens</i>	52	165	1	6.061
<i>Culex restuans</i>	9	25		
<i>Culex salinarius</i>	9	199		
<i>Culex</i> spp.	281	8032	5	0.623
<i>Culiseta melanura</i>	12	15	1	66.667
Union	227	12416	74	5.960
<i>Aedes albopictus</i>	56	1961	1	0.510
<i>Culex erraticus</i>	9	111		
<i>Culex</i> spp.	159	10275	73	7.105
<i>Culiseta melanura</i>	3	69		
Warren	229	10369	2	0.193
<i>Aedes japonicus</i>	1	2		
<i>Culex</i> spp.	228	10367	2	0.193
Grand Total	11436	213598	448	2.097



Cumulative WNV activity in 2015. WNV activity to 1 November 2016. WNV activity last week, 2016.

Saint Louis Encephalitis (SLE) to 1 November 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		108	3906		
	<i>Aedes mitchellae</i>	3	56		
	<i>Anopheles barberi</i>	1	1		
	<i>Anopheles crucians</i>	1	11		
	<i>Culex erraticus</i>	4	91		
	<i>Culex pipiens</i>	1	2		
	<i>Culex</i> spp.	98	3745		
Cape May		975	9989		
	<i>Culex pipiens</i>	925	9856		
	<i>Culex</i> spp.	50	133		
Grand Total		1083	13895		

La Crosse Encephalitis (LAC) to 1 November 2016.

New Jersey will be primarily testing for LAC this year only when adjacent states show human activity (Cape May tests mosquitoes in the Cape May lab independently). New Jersey has had 3 cases of this encephalitic disease since 1964 (see CDC's LAC [website](#)). The mortality is low but like other encephalitides, LAC can have both personal (lasting neurological sequelae) and economic impacts. LAC is a bunyavirus with a transmission cycle involving mosquitoes such as *Aedes triseriatus* and small mammals such as squirrels and chipmunks. LAC can not only infect *Aedes albopictus* but transovarial transmission was also demonstrated.

(Tesh and Gubler 1975 Laboratory studies of transovarial transmission of La Crosse and other arboviruses by *Aedes albopictus* and *Culex fatigans*. American Journal of Tropical Medicine and Hygiene 24(5):876-880).

Currently, there are no reported positive pools of LAC for 2016. There are no human cases reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		44	608		
	<i>Aedes albopictus</i>	18	329		
	<i>Aedes atropalpus</i>	3	18		
	<i>Aedes japonicus</i>	12	213		
	<i>Aedes mitchellae</i>	1	11		
	<i>Aedes triseriatus</i>	9	35		
	<i>Anopheles crucians</i>	1	2		
Grand Total		44	608		

Dengue (DENV) to 1 November 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		64	540	64	540	64	540	64	540		
	<i>Aedes albopictus</i>	64	540	64	540	64	540	64	540		
Bergen		48	406	48	406	48	406	48	406		
	<i>Aedes albopictus</i>	48	406	48	406	48	406	48	406		
Burlington		4	28	4	28	4	28	4	28		
	<i>Aedes albopictus</i>	4	28	4	28	4	28	4	28		
Camden		53	210	53	210	53	210	53	210		
	<i>Aedes albopictus</i>	53	210	53	210	53	210	53	210		
Cumberland		49	500	49	500	49	500	49	500		
	<i>Aedes albopictus</i>	49	500	49	500	49	500	49	500		
Essex		116	599	116	599	116	599	116	599		
	<i>Aedes albopictus</i>	116	599	116	599	116	599	116	599		
Gloucester		176	3718	176	3718	176	3718	176	3718		
	<i>Aedes albopictus</i>	176	3718	176	3718	176	3718	176	3718		
Hudson		50	2229	50	2229	50	2229	50	2229		
	<i>Aedes albopictus</i>	50	2229	50	2229	50	2229	50	2229		
Hunterdon		11	362	11	362	11	362	11	362		
	<i>Aedes albopictus</i>	11	362	11	362	11	362	11	362		
Mercer		147	1522	147	1522	147	1522	147	1522		
	<i>Aedes albopictus</i>	147	1522	147	1522	147	1522	147	1522		
Middlesex		107	913	107	913	107	913	107	913		
	<i>Aedes albopictus</i>	105	893	105	893	105	893	105	893		
	<i>Culex</i> spp.	1	19	1	19	1	19	1	19		
	<i>Culiseta melanura</i>	1	1	1	1	1	1	1	1		
Monmouth		442	5367	442	5367	442	5367	442	5367		
	<i>Aedes albopictus</i>	442	5367	442	5367	442	5367	442	5367		
Morris		79	1019	79	1019	79	1019	79	1019		
	<i>Aedes albopictus</i>	77	1016	77	1016	77	1016	77	1016		
	<i>Culex</i> spp.	2	3	2	3	2	3	2	3		
Ocean		48	478	48	478	48	478	48	478		
	<i>Aedes albopictus</i>	48	478	48	478	48	478	48	478		
Passaic		6	15	6	15	6	15	6	15		
	<i>Aedes albopictus</i>	6	15	6	15	6	15	6	15		
Salem		84	407	84	407	84	407	84	407		
	<i>Aedes albopictus</i>	84	407	84	407	84	407	84	407		

Somerset		15	71	15	71	15	71	15	71		
	<i>Aedes albopictus</i>	15	71	15	71	15	71	15	71		
Sussex		22	75	22	75	22	75	22	75		
	<i>Aedes albopictus</i>	22	75	22	75	22	75	22	75		
Union		49	1828	49	1828	49	1828	49	1828		
	<i>Aedes albopictus</i>	49	1828	49	1828	49	1828	49	1828		
Grand Total		1570	20287	1570	20287	1570	20287	1570	20287		

Chikungunya (CHIK) to 1 November 2016.

New Jersey will be selectively testing for CHIK this year. Chikungunya is similar in symptoms to Dengue, a “breakbone” fever and has a low mortality rate. But this virus has had recent worldwide activity, and in the past year has come to the Western Hemisphere. As with Dengue, transmission can occur when a mosquito bites an infected human, then bites an uninfected human who subsequently becomes ill. CHIK is an alphavirus with *Aedes* mosquitoes as potential vectors. In New Jersey, *Aedes albopictus* is the mosquito of interest.

No pools have tested positive in 2016. Currently, New Jersey has 6 imported human case of Chikungunya.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		64	540		
	<i>Aedes albopictus</i>	64	540		
Bergen		48	406		
	<i>Aedes albopictus</i>	48	406		
Burlington		4	28		
	<i>Aedes albopictus</i>	4	28		
Camden		53	210		
	<i>Aedes albopictus</i>	53	210		
Cape May		630	1373		
	<i>Aedes albopictus</i>	630	1373		
Cumberland		49	500		
	<i>Aedes albopictus</i>	49	500		
Essex		116	599		
	<i>Aedes albopictus</i>	116	599		
Gloucester		176	3718		
	<i>Aedes albopictus</i>	176	3718		
Hudson		50	2229		
	<i>Aedes albopictus</i>	50	2229		
Hunterdon		11	362		
	<i>Aedes albopictus</i>	11	362		
Mercer		147	1522		
	<i>Aedes albopictus</i>	147	1522		
Middlesex		107	913		
	<i>Aedes albopictus</i>	105	893		
	<i>Culex</i> spp.	1	19		
	<i>Culiseta melanura</i>	1	1		
Monmouth		442	5367		
	<i>Aedes albopictus</i>	442	5367		
Morris		79	1019		
	<i>Aedes albopictus</i>	77	1016		

	<i>Culex</i> spp.	2	3		
Ocean		48	478		
	<i>Aedes albopictus</i>	48	478		
Passaic		6	15		
	<i>Aedes albopictus</i>	6	15		
Salem		84	407		
	<i>Aedes albopictus</i>	84	407		
Somerset		15	71		
	<i>Aedes albopictus</i>	15	71		
Sussex		22	75		
	<i>Aedes albopictus</i>	22	75		
Union		49	1828		
	<i>Aedes albopictus</i>	49	1828		
Grand Total		2200	21660		

Zika (ZIKV) to 1 November 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 167 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		51	383		
	<i>Aedes albopictus</i>	51	383		
Bergen		33	334		
	<i>Aedes albopictus</i>	33	334		
Burlington		4	28		
	<i>Aedes albopictus</i>	4	28		
Camden		37	144		
	<i>Aedes albopictus</i>	37	144		
Cape May		630	1373		
	<i>Aedes albopictus</i>	630	1373		
Cumberland		43	413		
	<i>Aedes albopictus</i>	43	413		
Essex		77	434		
	<i>Aedes albopictus</i>	77	434		
Gloucester		176	3718		
	<i>Aedes albopictus</i>	176	3718		
Hudson		32	1806		
	<i>Aedes albopictus</i>	32	1806		
Hunterdon		11	362		
	<i>Aedes albopictus</i>	11	362		
Mercer		325	3651		
	<i>Aedes albopictus</i>	325	3651		
Middlesex		73	695		
	<i>Aedes albopictus</i>	72	676		
	<i>Culex</i> spp.	1	19		
Monmouth		272	3793		

	<i>Aedes albopictus</i>	272	3793		
Morris		64	964		
	<i>Aedes albopictus</i>	64	964		
Ocean		48	478		
	<i>Aedes albopictus</i>	48	478		
Passaic		4	12		
	<i>Aedes albopictus</i>	4	12		
Salem		50	281		
	<i>Aedes albopictus</i>	50	281		
Somerset		15	71		
	<i>Aedes albopictus</i>	15	71		
Sussex		22	75		
	<i>Aedes albopictus</i>	22	75		
Union		49	1828		
	<i>Aedes albopictus</i>	49	1828		
Grand Total		2016	20843		