VECTOR SURVEILLANCE IN NEW JERSEY

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

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CDC WEEK 39: 25 September to 1 October, 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**	1.20	0.20	11 (12)	5 (6)	1	90.91
Green Bank (Burlington Co.)/25	**Coastal**	1.65	0.08	68 (70)	13 (14)		
Corbin City (Atlantic Co.)/25	**Coastal**	0.81	0.48	270 (282)	19 (20)	1	3.70
Dennisville (Cape May Co.)/50	**Coastal**	1.92	0.04	71	13		
Winslow (Camden Co.)/50	**Inland**	0.57	0.28	974	28	2	2.08
Centerton (Salem Co.)/50	**Inland**	1.69	0.32	273	17		
Turkey Swamp (Monmouth Co.)/50	**Inland**	0.47	0.20	134 (144)	17 (18)	1	7.46
Glassboro (Gloucester Co.)/50	**Inland**	0.57	0.02	107	18	1	9.43

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

Remarks: No new positive EEE pools have been detected during the current week. 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: 1,908 *Cs. melanura* from 130 pools have been tested for EEE, with 4 pools of 25 *Cs. melanura* to be tested. No new positive pools were detected at the traditional resting box sites. Statewide, 4,937 *Cs. melanura* have been tested, with nine positive pools detected (six traditional, three county sites), for an overall *Cs. melanura* MFIR of 1.82, an decrease from 1.96 last week. 17,803 specimens from 23 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	28	404		
Burlington	CO_2	58	1419		
Cape May	CDC, CO_2, GR, RB	184	417		
Cumberland	BGS, CDC, GRA RB	18	98		
Middlesex	**RB**	48	609	3	4.93
Ocean	CO_2, GR, RB	22	48		
Passaic	EVS	1	1		
Sussex	CO_2, GR	7	10		
Union	LT	1	23		
TOTAL		**367**	**3029**	**3**	**0.99**

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.

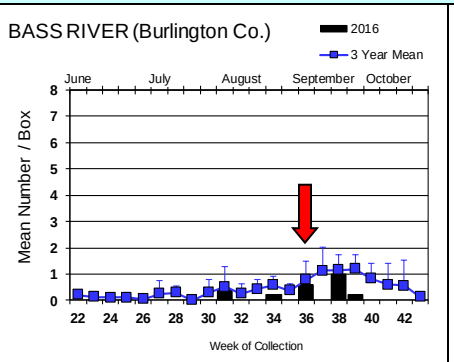
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

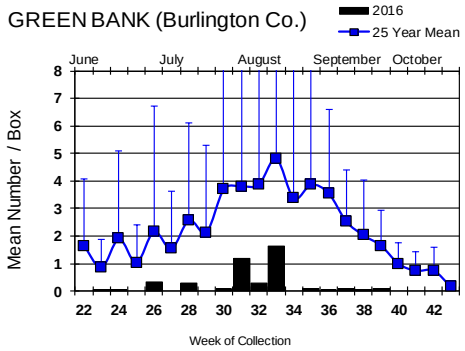
Species other than *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	5	10		
Aedes canadensis canadensis	3	74		
Aedes cantator	25	52		
Aedes japonicus	1	4		
Aedes mitchellae	1	6		
Aedes sollicitans	27	1025		
Aedes taeniorhynchus	4	195		
Aedes trivittatus	2	2		
Aedes vexans	10	75		
Anopheles bradleyi	88	450		
Anopheles crucians	7	121		
Anopheles punctipennis	25	115		
Anopheles quadrimaculatus	5	13		
Anopheles walkeri	1	1		
Coquillettidia perturbans	108	1923		
Culex erraticus	121	922		
Culex pipiens	804	9406	2	0.213
Culex restuans	2	4		
Culex salinarius	327	2991		
Culex sp.	65	395		
Culex territans	1	12		
Orthopodomyia signifera	1	1		
Psorophora columbiae	1	2		
Psorophora ferox	2	4		
State Total	**1636**	**17803**	**2**	**0.112**

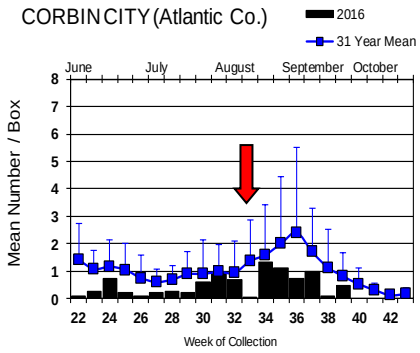
Additional Species: Twenty-three additional species were tested for EEE. First positive pools were detected in *Culex pipiens,* an ornithophilic species, in Cape May, collected on 6 July.

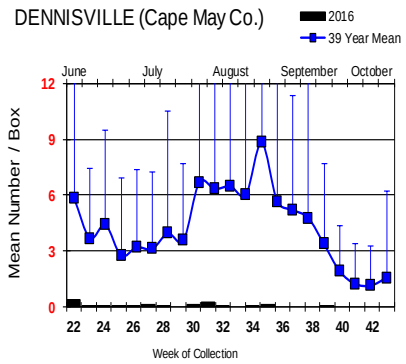
Culiseta melanura Population Graphs

Coastal

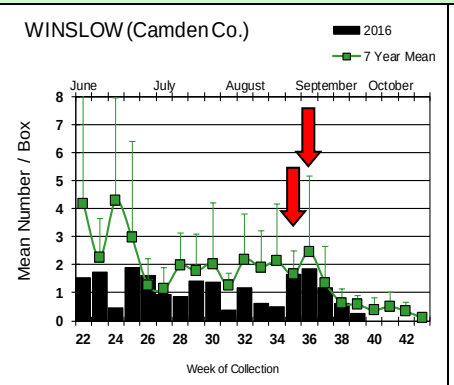


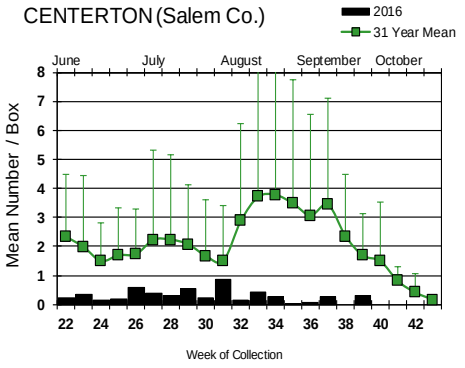


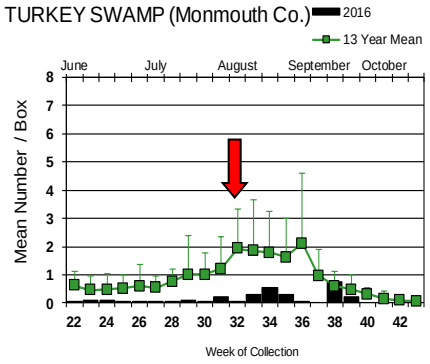


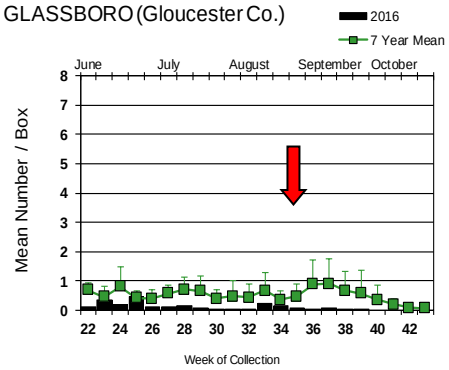


Inland



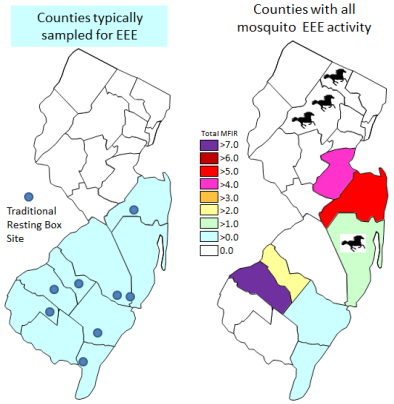






No new detection have occurred at the traditional resting box sites.

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).



= 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(8) MS(7) MI(2) NC(1) NJ(4) NY(1) SC(14) TN(1) TX(2) VA(6) WI(4)
- mosquito pools: CT(1) LA(1) MA(4) NJ(11) NY(5) RI(1)
- sentinel: FL(75) GA(2) TX(26)
- 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	53/58
Arkansas				0	3
California	1276/1288	3249/3360	295/301	19	234/276
Colorado	17	207		3	98/107
Connecticut		106/120			1
Delaware					
DC					1
Florida		5	113	1	4
Georgia		0			1
Hawaii					
Idaho	0	34		9	8
Illinois	61/63	2271/2326		1	30/64
Indiana	0	213/232		0	6/7
Iowa		19/28		9/12	7/18
Kansas	1	0		1	15/18
Kentucky				4	
Louisiana	31/42	168/173		3	26
Maine		0			0
Maryland		1			
Mass.		185/188		0	5/6
Michigan	13	4		2	22/32
Minnesota		6		12/18	24
Mississippi		24/25			22/26
Missouri		8		2	2

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					5
Nebraska	2	90/110		1	52/60
Nevada				6	7/9
New Hampshire		1		0	0
New Jersey		384/412		0	5
New Mexico					2
New York		447/497		3	1
North Carolina					
North Dakota	8	15		4/6	69/70
Ohio		8/452		1	4/12
Oklahoma		7		2	14/19
Oregon	9	51	0	6	3
Pennsylvania	12/14	1352/1448		3/4	7/12
Rhode Island		1			
South Carolina		6			4
South Dakota		242		2	127/134
Tennessee					4/5
Texas	4	1457/1575	2/13	15/21	144/164
Utah		203/243		3/6	8/12
Vermont		17/19			3
Virginia					
Washington	1	95		25	9
West Virginia				1	
Wisconsin	44	8		6/7	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 2 October 2016

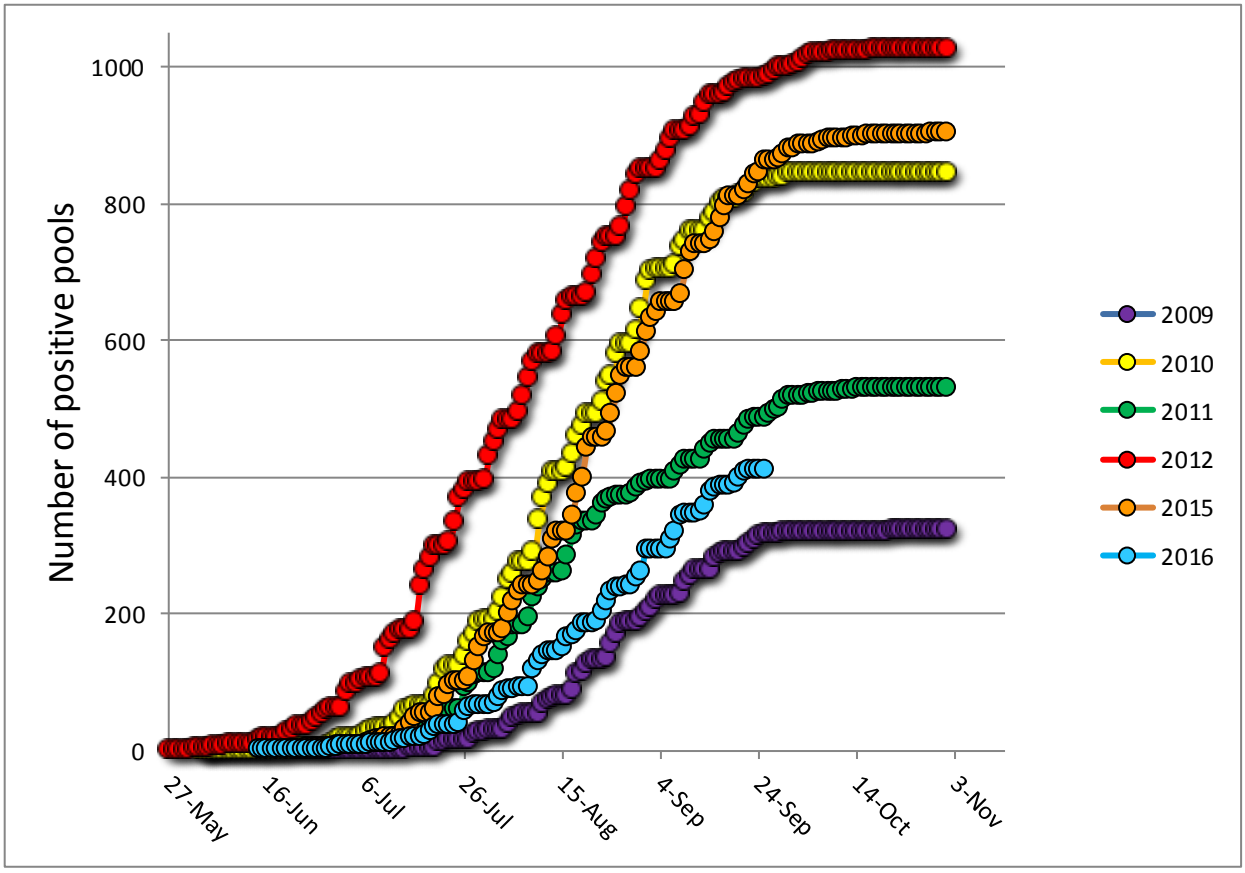
Species	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	2027	21918	5	0.228
Aedes atlanticus	16	44		
Aedes atropalpus	29	81		
Aedes canadensis canadensis	37	707		
Aedes cantator	36	246		
Aedes grossbecki	1	1		
Aedes japonicus	502	2884	2	0.693
Aedes mitchellae	1	6		
Aedes sollicitans	35	1195		
Aedes sticticus	1	6		
Aedes taeniorhynchus	26	687		
Aedes triseriatus	254	566		
Aedes trivittatus	4	36		
Aedes vexans	101	1164	1	0.859
Anopheles atropos	1	1		
Anopheles barberi	2	2		
Anopheles bradleyi	103	775		
Anopheles crucians	10	128		
Anopheles punctipennis	87	329		
Anopheles quadrimaculatus	155	1208		
Anopheles walkeri	1	1		
Coquillettidia perturbans	127	2850	1	0.351
Culex erraticus	160	1271		
Culex pipiens	1187	29530	53	1.795
Culex restuans	799	8317	9	1.082
Culex salinarius	341	3341		
Culex spp.	3067	113654	339	2.983
Culex territans	42	365		
Culiseta melanura	499	4910	2	0.407
Orthopodomyia signifera	5	5		
Psorophora ciliata	1	1		
Psorophora columbiae	18	108		
Psorophora ferox	19	137		
Uranotaenia sapphirina	2	6		
Grand Total	**9696**	**196480**	**412**	**2.097**

Remarks: To date, 9,696 pools of 196,480 mosquitoes from 33 species have been tested, with 412 positive pools detected. New positives were mostly 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: *Note* Last week a potential blood donor was reported as part of the total number of human cases. We do not consider blood donors as we do not know when they became infected. A total of five human cases have been detected. Currently, case count is Camden (1), 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 2 October 2016

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**280**	**7774**	**12**	**1.544**
	Aedes albopictus	52	505		
	Aedes japonicus	4	18		
	Aedes sollicitans	14	871		
	Aedes sticticus	1	6		
	Aedes taeniorhynchus	8	390		
	Aedes vexans	10	332		
	Anopheles bradleyi	6	146		
	Anopheles punctipennis	2	18		
	Anopheles quadrimaculatus	2	34		
	Coquillettidia perturbans	23	526		
	Culex erraticus	16	140		
	Culex pipiens	31	1653	9	5.445
	Culex restuans	3	52		
	Culex salinarius	6	220		
	Culex spp.	50	2108	2	0.949
	Culiseta melanura	47	674	1	1.484

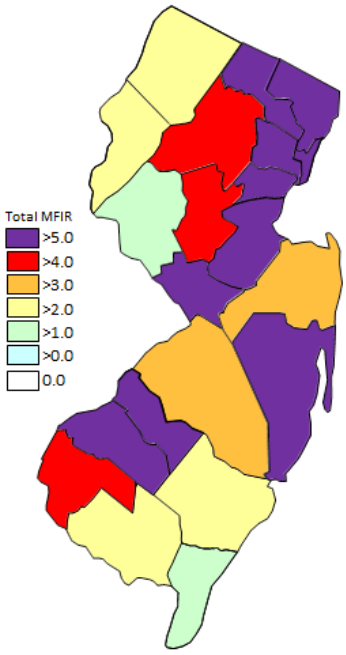
	Psorophora columbiae	1	10		
	Psorophora ferox	4	71		
Bergen		**269**	**16762**	**88**	**5.250**
	Aedes albopictus	47	398		
	Aedes japonicus	9	419		
	Culex spp.	213	15945	88	5.519
Burlington		**211**	**6802**	**8**	**1.176**
	Aedes albopictus	11	267		
	Aedes atropalpus	3	18		
	Aedes canadensis canadensis	3	74		
	Aedes japonicus	9	203		
	Aedes mitchellae	1	6		
	Aedes taeniorhynchus	4	195		
	Aedes triseriatus	9	35		
	Anopheles barberi	1	1		
	Anopheles bradleyi	4	114		
	Anopheles crucians	5	94		
	Anopheles punctipennis	1	11		
	Anopheles quadrimaculatus	1	3		
	Coquillettidia perturbans	5	303	1	3.300
	Culex erraticus	5	110		
	Culex salinarius	17	613		
	Culex spp.	77	3404	7	2.056
	Culex territans	1	12		
	Culiseta melanura	54	1339		
Camden		**217**	**4728**	**7**	**1.481**
	Aedes albopictus	44	181		
	Aedes japonicus	24	82		
	Anopheles punctipennis	1	4		
	Culex spp.	120	3487	7	2.007
	Culiseta melanura	28	974		
Cape May		**3275**	**19706**	**4**	**0.203**
	Aedes albopictus	488	1025		
	Aedes atlanticus	13	31		
	Aedes atropalpus	26	63		
	Aedes canadensis canadensis	13	249		
	Aedes cantator	25	52		
	Aedes japonicus	216	420		
	Aedes sollicitans	4	6		
	Aedes taeniorhynchus	4	5		
	Aedes triseriatus	170	302		
	Aedes vexans	12	17		
	Anopheles atropos	1	1		
	Anopheles bradleyi	84	336		
	Anopheles punctipennis	10	11		
	Anopheles quadrimaculatus	124	1097		
	Coquillettidia perturbans	27	426		
	Culex erraticus	31	85		
	Culex pipiens	804	9400	1	0.106
	Culex restuans	650	4386	2	0.456
	Culex salinarius	277	804		
	Culex spp.	47	129		

	Culex territans	41	353		
	Culiseta melanura	197	488	1	2.049
	Orthopodomyia signifera	3	3		
	Psorophora columbiae	2	2		
	Psorophora ferox	4	9		
	Uranotaenia sapphirina	2	6		
Cumberland		**252**	**4114**	**1**	**0.243**
	Aedes albopictus	33	392		
	Aedes cantator	1	1		
	Aedes japonicus	10	19		
	Aedes sollicitans	12	307		
	Aedes taeniorhynchus	3	26		
	Aedes triseriatus	2	4		
	Aedes vexans	41	660	1	1.515
	Anopheles bradleyi	5	157		
	Anopheles crucians	1	5		
	Anopheles punctipennis	8	61		
	Anopheles quadrimaculatus	3	18		
	Coquillettidia perturbans	8	111		
	Culex erraticus	22	227		
	Culex pipiens	3	10		
	Culex salinarius	32	1505		
	Culex spp.	35	406		
	Culiseta melanura	18	98		
	Orthopodomyia signifera	1	1		
	Psorophora ciliata	1	1		
	Psorophora columbiae	12	92		
	Psorophora ferox	1	13		
Essex		**268**	**1541**	**2**	**1.298**
	Aedes albopictus	116	599		
	Aedes japonicus	7	14		
	Aedes triseriatus	2	2		
	Anopheles punctipennis	1	1		
	Anopheles quadrimaculatus	1	1		
	Culex spp.	141	924	2	2.165
Gloucester		**515**	**21759**	**39**	**1.792**
	Aedes albopictus	176	3873	1	0.258
	Aedes japonicus	24	254		
	Aedes triseriatus	5	15		
	Anopheles punctipennis	6	16		
	Culex pipiens	286	17494	38	2.172
	Culiseta melanura	18	107		
Hudson		**211**	**9776**	**25**	**2.557**
	Aedes albopictus	49	2194	1	0.456
	Culex spp.	162	7582	24	3.165
Hunterdon		**230**	**10437**	**35**	**3.353**
	Aedes albopictus	6	234		
	Culex spp.	224	10203	35	3.430
Mercer		**449**	**8737**	**20**	**2.289**

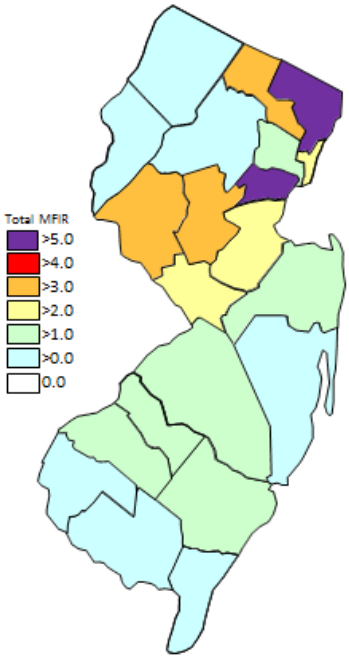
	Aedes albopictus	119	1389		
	Aedes japonicus	30	112		
	Aedes triseriatus	2	24		
	Aedes vexans	3	12		
	Culex erraticus	14	48		
	Culex pipiens	51	939	5	5.325
	Culex restuans	132	3846	7	1.820
	Culex spp.	98	2367	8	3.380
Middlesex		**396**	**12726**	**28**	**2.200**
	Aedes albopictus	89	798		
	Coquillettidia perturbans	1	2		
	Culex erraticus	3	4		
	Culex spp.	254	11312	28	2.475
	Culiseta melanura	49	610		
Monmouth		**758**	**9058**	**16**	**1.766**
	Aedes albopictus	439	5112	1	0.196
	Aedes atlanticus	3	13		
	Aedes canadensis canadensis	20	314		
	Aedes cantator	10	193		
	Aedes grossbecki	1	1		
	Aedes japonicus	38	117		
	Aedes sollicitans	5	11		
	Aedes taeniorhynchus	7	71		
	Aedes triseriatus	12	21		
	Aedes trivittatus	1	1		
	Aedes vexans	11	30		
	Anopheles barberi	1	1		
	Anopheles crucians	2	2		
	Anopheles punctipennis	40	86		
	Anopheles quadrimaculatus	7	7		
	Coquillettidia perturbans	4	5		
	Culex erraticus	7	18		
	Culex restuans	2	4		
	Culex spp.	124	2886	15	5.198
	Culiseta melanura	18	135		
	Psorophora columbiae	2	3		
	Psorophora ferox	4	27		
Morris		**416**	**13222**	**10**	**0.756**
	Aedes albopictus	70	987		
	Aedes trivittatus	2	2		
	Aedes vexans	2	5		
	Anopheles punctipennis	6	61		
	Anopheles quadrimaculatus	2	8		
	Anopheles walkeri	1	1		
	Coquillettidia perturbans	2	20		
	Culex spp.	329	12134	10	0.824
	Psorophora ferox	2	4		
Ocean		**355**	**4412**	**1**	**0.227**
	Aedes albopictus	118	1511		
	Aedes canadensis canadensis	1	70		
	Aedes japonicus	28	89		
	Aedes triseriatus	13	21		

	Aedes vexans	1	1		
	Anopheles crucians	2	27		
	Anopheles punctipennis	4	5		
	Coquillettidia perturbans	25	463		
	Culex erraticus	16	78		
	Culex restuans	1	2		
	Culex spp.	103	2004	1	0.499
	Culiseta melanura	42	132		
	Psorophora ferox	1	9		
Passaic		**287**	**7010**	**22**	**3.138**
	Aedes albopictus	13	53		
	Aedes japonicus	62	423	2	4.728
	Aedes triseriatus	7	11		
	Aedes vexans	13	37		
	Coquillettidia perturbans	2	5		
	Culex spp.	189	6480	20	3.086
	Culiseta melanura	1	1		
Salem		**283**	**1896**	**1**	**0.527**
	Aedes albopictus	71	329	1	3.040
	Aedes japonicus	15	35		
	Aedes triseriatus	23	33		
	Anopheles bradleyi	4	22		
	Anopheles punctipennis	6	6		
	Anopheles quadrimaculatus	15	40		
	Coquillettidia perturbans	12	85		
	Culex erraticus	35	441		
	Culex pipiens	4	4		
	Culex restuans	7	8		
	Culex spp.	69	614		
	Culiseta melanura	17	273		
	Orthopodomyia signifera	1	1		
	Psorophora columbiae	1	1		
	Psorophora ferox	3	4		
Somerset		**219**	**3885**	**14**	**3.604**
	Aedes albopictus	19	87		
	Aedes japonicus	4	35		
	Aedes triseriatus	4	26		
	Anopheles punctipennis	1	5		
	Culex spp.	191	3732	14	3.751
Sussex		**367**	**9907**	**5**	**0.505**
	Aedes albopictus	15	58		
	Aedes japonicus	22	644		
	Aedes triseriatus	5	72		
	Aedes trivittatus	1	33		
	Aedes vexans	8	70		
	Anopheles punctipennis	1	44		
	Coquillettidia perturbans	18	904		
	Culex erraticus	2	9		
	Culex pipiens	8	30		
	Culex restuans	4	19		
	Culex salinarius	9	199		
	Culex spp.	267	7815	5	0.640

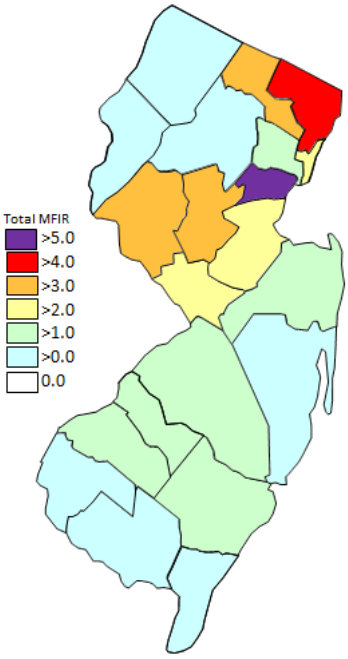
	Culiseta melanura	7	10		
Union		**215**	**11911**	**72**	**6.045**
	Aedes albopictus	52	1926	1	0.519
	Culex erraticus	9	111		
	Culex spp.	151	9805	71	7.241
	Culiseta melanura	3	69		
Warren		**223**	**10317**	**2**	**0.194**
	Culex spp.	223	10317	2	0.194
Grand Total		**9696**	**196480**	**412**	**2.097**



Cumulative WNV activity in 2015.



WNV activity to 2 October 2016.



WNV activity last week, 2016.

Saint Louis Encephalitis (SLE) to 2 October 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		**82**	**3496**		
	Anopheles barberi	1	1		
	Culex erraticus	4	91		
	Culex spp.	77	3404		
Cape May		**850**	**9532**		
	Culex pipiens	804	9406		
	Culex spp.	46	126		
Grand Total		**932**	**13028**		

La Crosse Encephalitis (LAC) to 2 October 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		**32**	**523**		
	Aedes albopictus	11	267		
	Aedes atropalpus	3	18		
	Aedes japonicus	9	203		
	Aedes triseriatus	9	35		
Grand Total		**32**	**523**		

Dengue (DENV) to 2 October 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**		
	Aedes albopictus	52	505	52	505	52	505	52	505		
Bergen		**47**	**398**	**47**	**398**	**47**	**398**	**47**	**398**		
	Aedes albopictus	47	398	47	398	47	398	47	398		
Camden		**44**	**181**	**44**	**181**	**44**	**181**	**44**	**181**		
	Aedes albopictus	44	181	44	181	44	181	44	181		
Cumberland		**33**	**392**	**33**	**392**	**33**	**392**	**33**	**392**		
	Aedes albopictus	33	392	33	392	33	392	33	392		
Essex		**116**	**599**	**116**	**599**	**116**	**599**	**116**	**599**		
	Aedes albopictus	116	599	116	599	116	599	116	599		
Gloucester		**160**	**3674**	**160**	**3674**	**160**	**3674**	**160**	**3674**		
	Aedes albopictus	160	3674	160	3674	160	3674	160	3674		
Hudson		**49**	**2194**	**49**	**2194**	**49**	**2194**	**49**	**2194**		
	Aedes albopictus	49	2194	49	2194	49	2194	49	2194		
Hunterdon		**6**	**234**	**6**	**234**	**6**	**234**	**6**	**234**		
	Aedes albopictus	6	234	6	234	6	234	6	234		
Mercer		**119**	**1389**	**119**	**1389**	**119**	**1389**	**119**	**1389**		
	Aedes albopictus	119	1389	119	1389	119	1389	119	1389		
Middlesex		**91**	**818**	**91**	**818**	**91**	**818**	**91**	**818**		
	Aedes albopictus	89	798	89	798	89	798	89	798		
	Culex spp.	1	19	1	19	1	19	1	19		
	Culiseta melanura	1	1	1	1	1	1	1	1		
Monmouth		**367**	**4673**	**367**	**4673**	**367**	**4673**	**367**	**4673**		
	Aedes albopictus	367	4673	367	4673	367	4673	367	4673		
Morris		**68**	**986**	**68**	**986**	**68**	**986**	**68**	**986**		
	Aedes albopictus	66	983	66	983	66	983	66	983		
	Culex spp.	2	3	2	3	2	3	2	3		
Ocean		**27**	**251**	**27**	**251**	**27**	**251**	**27**	**251**		
	Aedes albopictus	27	251	27	251	27	251	27	251		
Passaic		**4**	**13**	**4**	**13**	**4**	**13**	**4**	**13**		
	Aedes albopictus	4	13	4	13	4	13	4	13		
Salem		**71**	**329**	**71**	**329**	**71**	**329**	**71**	**329**		
	Aedes albopictus	71	329	71	329	71	329	71	329		
Somerset		**15**	**71**	**15**	**71**	**15**	**71**	**15**	**71**		
	Aedes albopictus	15	71	15	71	15	71	15	71		
Sussex		**15**	**58**	**15**	**58**	**15**	**58**	**15**	**58**		
	Aedes albopictus	15	58	15	58	15	58	15	58		
Union		**45**	**1793**	**45**	**1793**	**45**	**1793**	**45**	**1793**		
	Aedes albopictus	45	1793	45	1793	45	1793	45	1793		
Grand Total		**1329**	**18558**	**1329**	**18558**	**1329**	**18558**	**1329**	**18558**		

Chikungunya (CHIK) to 2 October 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**		
	Aedes albopictus	52	505		
Bergen		**47**	**398**		
	Aedes albopictus	47	398		
Camden		**44**	**181**		
	Aedes albopictus	44	181		
Cape May		**488**	**1025**		
	Aedes albopictus	488	1025		
Cumberland		**33**	**392**		
	Aedes albopictus	33	392		
Essex		**116**	**599**		
	Aedes albopictus	116	599		
Gloucester		**160**	**3674**		
	Aedes albopictus	160	3674		
Hudson		**49**	**2194**		
	Aedes albopictus	49	2194		
Hunterdon		**6**	**234**		
	Aedes albopictus	6	234		
Mercer		**119**	**1389**		
	Aedes albopictus	119	1389		
Middlesex		**91**	**818**		
	Aedes albopictus	89	798		
	Culex spp.	1	19		
	Culiseta melanura	1	1		
Monmouth		**367**	**4673**		
	Aedes albopictus	367	4673		
Morris		**68**	**986**		
	Aedes albopictus	66	983		
	Culex spp.	2	3		
Ocean		**27**	**251**		
	Aedes albopictus	27	251		
Passaic		**4**	**13**		
	Aedes albopictus	4	13		
Salem		**71**	**329**		
	Aedes albopictus	71	329		
Somerset		**15**	**71**		
	Aedes albopictus	15	71		
Sussex		**15**	**58**		
	Aedes albopictus	15	58		

Union		**45**	**1793**		
	Aedes albopictus	45	1793		
Grand Total		**1817**	**19583**		

Zika (ZIKV) to 2 October 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 146 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**39**	**348**		
	Aedes albopictus	39	348		
Bergen		**32**	**326**		
	Aedes albopictus	32	326		
Camden		**28**	**115**		
	Aedes albopictus	28	115		
Cape May		**488**	**1025**		
	Aedes albopictus	488	1025		
Cumberland		**27**	**305**		
	Aedes albopictus	27	305		
Essex		**77**	**434**		
	Aedes albopictus	77	434		
Gloucester		**160**	**3674**		
	Aedes albopictus	160	3674		
Hudson		**31**	**1771**		
	Aedes albopictus	31	1771		
Hunterdon		**6**	**234**		
	Aedes albopictus	6	234		
Mercer		**248**	**3197**		
	Aedes albopictus	248	3197		
Middlesex		**57**	**600**		
	Aedes albopictus	56	581		
	Culex spp.	1	19		
Monmouth		**197**	**3099**		
	Aedes albopictus	197	3099		
Morris		**53**	**931**		
	Aedes albopictus	53	931		
Ocean		**27**	**251**		
	Aedes albopictus	27	251		
Passaic		**2**	**10**		
	Aedes albopictus	2	10		
Salem		**37**	**203**		
	Aedes albopictus	37	203		
Somerset		**15**	**71**		
	Aedes albopictus	15	71		
Sussex		**15**	**58**		
	Aedes albopictus	15	58		

Union		**45**	**1793**		
	Aedes albopictus	45	1793		
Grand Total		**1584**	**18445**		