

VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 40: 2 October to 8 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	0.82	0.40	12 (14)	6 (7)	1	83.33
Green Bank (Burlington Co.)/25	Coastal	0.99	1.20	70 (100)	14 (15)		
Corbin City (Atlantic Co.)/25	Coastal	0.53	nd	282	20	1	3.55
Dennisville (Cape May Co.)/50	Coastal	1.23	0.32	87	14		
Winslow (Camden Co.)/50	Inland	0.38	0.30	989	29	2	2.02
Centerton (Salem Co.)/50	Inland	1.49	0.34	290	18		
Turkey Swamp (Monmouth Co.)/50	Inland	0.30	0.18	144 (153)	18 (19)	1	6.94
Glassboro (Gloucester Co.)/50	Inland	0.35	0.00	107	18	1	9.35

*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 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: 1,981 *Cs. melanura* from 137 pools have been tested for EEE, with 3 pools of 41 *Cs. melanura* to be tested. No new positive pools were detected at the traditional resting box sites. Statewide, 5,123 *Cs. melanura* have been tested, with nine positive pools detected (six traditional, three county sites), for an overall *Cs. melanura* MFIR of 1.76, a decrease from 1.82 last week. 18,297 specimens from 23 other species have also been tested, with two positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.47.

		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	31	419		
Burlington	CO ₂	64	1490		
Cape May	CDC, CO ₂ , GR, RB	193	429		
Cumberland	BGS, CDC, GRA RB	20	100		
Middlesex	RB	52	613	3	4.89
Ocean	CO ₂ , GR, RB	25	55		
Passaic	EVS	1	1		
Sussex	CO ₂ , GR	*	12		
Union	LT	1	23		
TOTAL		396	3142	3	0.95

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

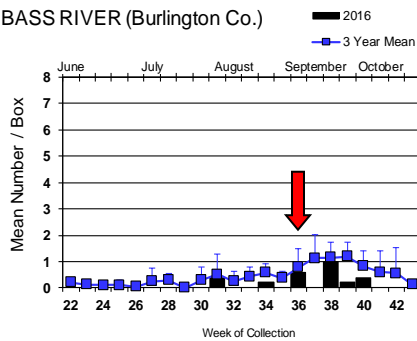
Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	5	10		
<i>Aedes canadensis canadensis</i>	3	74		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	1	4		
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	30	1067		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Aedes trivittatus</i>	2	2		
<i>Aedes vexans</i>	10	75		
<i>Anopheles bradleyi</i>	93	523		
<i>Anopheles crucians</i>	8	122		
<i>Anopheles punctipennis</i>	26	116		
<i>Anopheles quadrimaculatus</i>	6	14		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	109	1957		
<i>Culex erraticus</i>	136	980		
<i>Culex pipiens</i>	841	9583	2	0.209
<i>Culex restuans</i>	3	6		
<i>Culex salinarius</i>	334	3028		
<i>Culex</i> sp.	70	447		
<i>Culex territans</i>	1	12		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	2		
<i>Psorophora ferox</i>	3	20		
State Total	1714	18297	2	0.109

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.

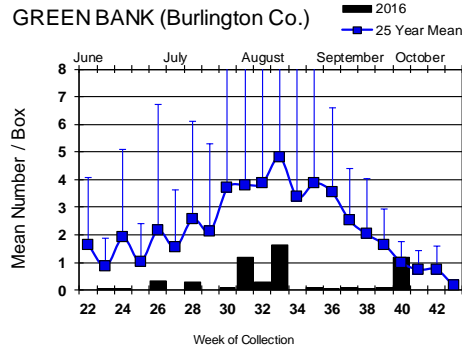
Culiseta melanura Population Graphs

Coastal

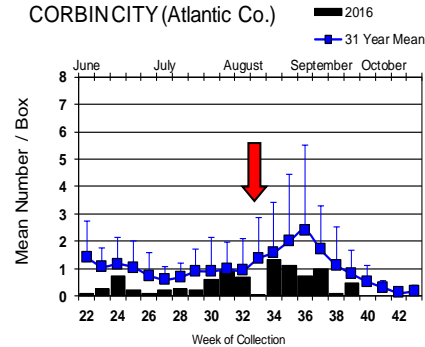
BASS RIVER (Burlington Co.)



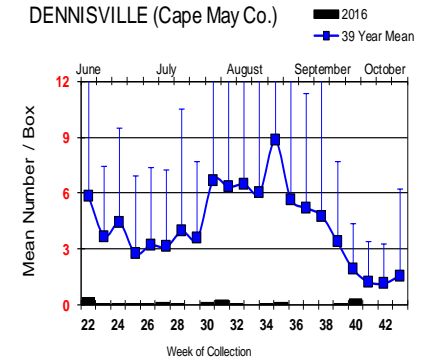
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

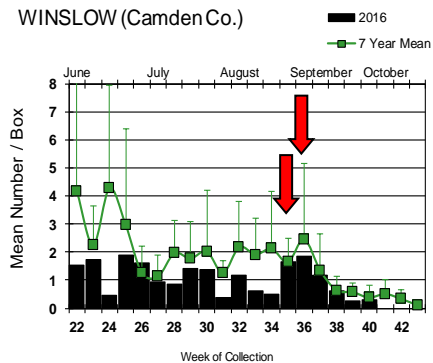


DENNISVILLE (Cape May Co.)

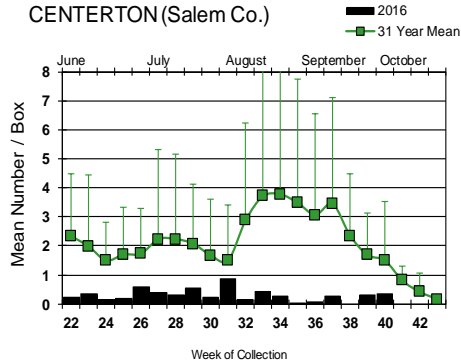


Inland

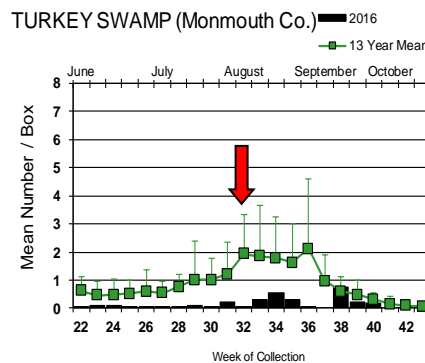
WINSLOW (Camden Co.)



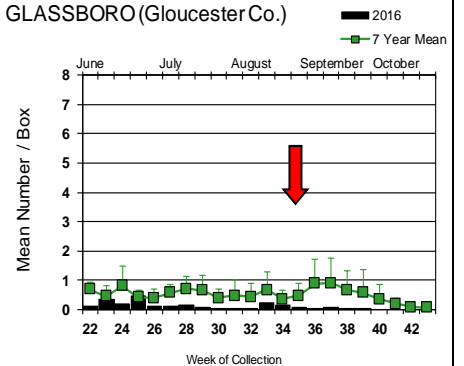
CENTERTON (Salem Co.)



TURKEY SWAMP (Monmouth Co.)



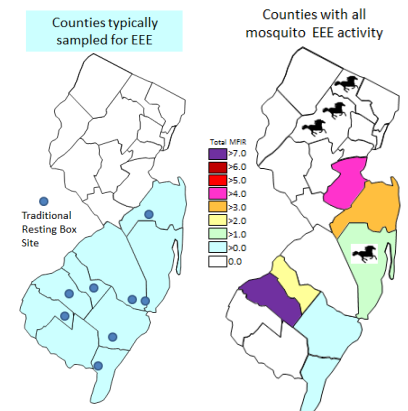
GLASSBORO (Gloucester Co.)



No new detection have occurred at the traditional resting box sites. Abundances at the Green Bank site have increased while most other sites are on the decline.

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(11) MS(7) MI(3) NC(1) NJ(4) NY(1) SC(14) TN(1) TX(3) VA(6) WI(17)
- mosquito pools: CT(1) LA(2) 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	58/62
Arkansas				0	3/4
California	1288/1304	3360/3419	301/314	19/20	276/310
Colorado	17	207		3	107
Connecticut		120/121			1
Delaware					
DC					1
Florida		5	113/133	1	4/6
Georgia		0			1/2
Hawaii					
Idaho	0	34		9	8
Illinois	63/70	2326/2344		1	64/101
Indiana	0	232/248		0	7
Iowa		28/45		12	18/23
Kansas	1	1		1	18/21
Kentucky				4	
Louisiana	42/50	173/184		3/5	26/29
Maine		0			0
Maryland		1			1
Mass.		188/189		0	6/9
Michigan	13	4		2	32/34
Minnesota		6		18/19	24/41
Mississippi		25			26
Missouri		8		2	2

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					5
Nebraska	2	110		1	60
Nevada				6	9/10
New Hampshire		1		0	0
New Jersey		412/426		0	5
New Mexico					2/5
New York		497/538		3	6/10
North Carolina					
North Dakota	8	15		6	70/75
Ohio		452		1	12
Oklahoma		7		2	19/20
Oregon	9	51	0	6	3
Pennsylvania	14/15	1448/1453		4/5	12/13
Rhode Island		1			
South Carolina		6			4
South Dakota		242		2	134/144
Tennessee					4/5
Texas	4	1575/1633	13	21/35	164/181
Utah		243		6	12
Vermont		19			3
Virginia					
Washington	1/2	95		25/27	9
West Virginia				1	
Wisconsin	44/57	8/11		7	2
Wyoming	1	23			1/9

* 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 8 October 2016

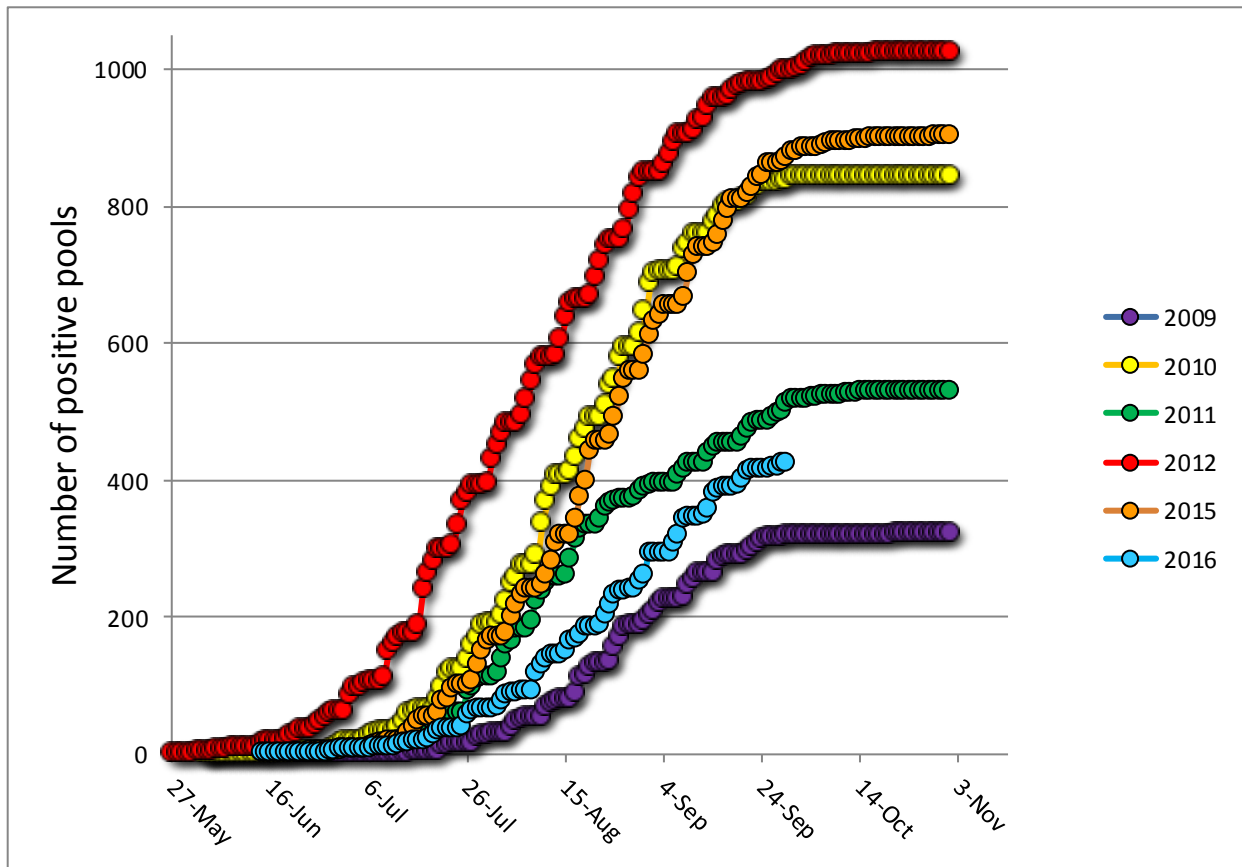
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	2148	22538	5	0.222
<i>Aedes atlanticus</i>	16	44		
<i>Aedes atropalpus</i>	29	81		
<i>Aedes canadensis canadensis</i>	38	709		
<i>Aedes cantator</i>	36	246		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	520	2955	2	0.677
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	39	1242		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	28	697		
<i>Aedes triseriatus</i>	268	582		
<i>Aedes trivittatus</i>	4	36		
<i>Aedes vexans</i>	106	1171	1	0.854
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	109	856		
<i>Anopheles crucians</i>	11	129		
<i>Anopheles punctipennis</i>	93	336		
<i>Anopheles quadrimaculatus</i>	169	1244		
<i>Anopheles walkeri</i>	1	1		
<i>Coquillettidia perturbans</i>	128	2884	1	0.347
<i>Culex erraticus</i>	184	1380		
<i>Culex pipiens</i>	1281	31893	58	1.819
<i>Culex restuans</i>	839	8442	9	1.066
<i>Culex salinarius</i>	348	3378		
<i>Culex</i> spp.	3171	115731	347	2.998
<i>Culex territans</i>	43	366		
<i>Culiseta melanura</i>	535	5096	3	0.589
<i>Orthopodomyia signifera</i>	7	7		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	19	112		
<i>Psorophora ferox</i>	21	154		
<i>Uranotaenia sapphirina</i>	3	7		
Grand Total	10201	202334	426	2.105

Remarks: To date, 10,201 pools of 202,334 mosquitoes from 33 species have been tested, with 426 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: 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, with numbers trending between low (2009) and moderate (2011) activity.



WNV Results by County through 8 October 2016

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		297	7877	12	1.523
	<i>Aedes albopictus</i>	57	516		
	<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>	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>	19	155		
	<i>Culex pipiens</i>	35	1691	9	5.322
	<i>Culex restuans</i>	3	52		
	<i>Culex salinarius</i>	6	220		
	<i>Culex spp.</i>	51	2120	2	0.943
	<i>Culiseta melanura</i>	51	701	1	1.427
	<i>Psorophora columbiae</i>	1	10		
	<i>Psorophora ferox</i>	4	71		

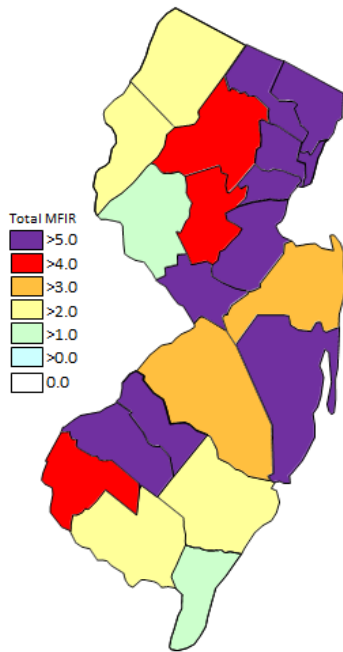
Bergen	274	17072	88	5.155
<i>Aedes albopictus</i>	47	398		
<i>Aedes japonicus</i>	10	429		
<i>Culex</i> spp.	217	16245	88	5.417
Burlington	230	7149	8	1.119
<i>Aedes albopictus</i>	13	276		
<i>Aedes atropalpus</i>	3	18		
<i>Aedes canadensis canadensis</i>	3	74		
<i>Aedes japonicus</i>	9	203		
<i>Aedes 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>	5	181		
<i>Anopheles crucians</i>	5	94		
<i>Anopheles punctipennis</i>	1	11		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	6	337	1	2.967
<i>Culex erraticus</i>	5	110		
<i>Culex salinarius</i>	19	644		
<i>Culex</i> spp.	84	3539	7	1.978
<i>Culex territans</i>	1	12		
<i>Culiseta melanura</i>	60	1410		
Camden	226	4804	7	1.457
<i>Aedes albopictus</i>	48	189		
<i>Aedes japonicus</i>	24	82		
<i>Anopheles punctipennis</i>	1	4		
<i>Culex</i> spp.	124	3540	7	1.977
<i>Culiseta melanura</i>	29	989		
Cape May	3443	20200	4	0.198
<i>Aedes albopictus</i>	525	1128		
<i>Aedes atlanticus</i>	13	31		
<i>Aedes atropalpus</i>	26	63		
<i>Aedes canadensis canadensis</i>	13	249		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	223	438		
<i>Aedes sollicitans</i>	5	7		
<i>Aedes taeniorhynchus</i>	5	6		
<i>Aedes triseriatus</i>	179	311		
<i>Aedes vexans</i>	12	17		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles bradleyi</i>	88	342		
<i>Anopheles punctipennis</i>	11	12		
<i>Anopheles quadrimaculatus</i>	134	1117		
<i>Coquillettidia perturbans</i>	27	426		
<i>Culex erraticus</i>	39	99		
<i>Culex pipiens</i>	841	9577	1	0.104
<i>Culex restuans</i>	683	4491	2	0.445
<i>Culex salinarius</i>	281	808		
<i>Culex</i> spp.	49	132		
<i>Culex territans</i>	42	354		
<i>Culiseta melanura</i>	207	516	1	1.938

<i>Orthopodomyia signifera</i>	5	5		
<i>Psorophora columbiae</i>	2	2		
<i>Psorophora ferox</i>	4	9		
<i>Uranotaenia sapphirina</i>	3	7		
Cumberland	274	4203	1	0.238
<i>Aedes albopictus</i>	38	408		
<i>Aedes cantator</i>	1	1		
<i>Aedes japonicus</i>	10	19		
<i>Aedes sollicitans</i>	14	348		
<i>Aedes taeniorhynchus</i>	4	35		
<i>Aedes triseriatus</i>	2	4		
<i>Aedes vexans</i>	44	664	1	1.506
<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>	8	111		
<i>Culex erraticus</i>	22	227		
<i>Culex pipiens</i>	9	19		
<i>Culex salinarius</i>	33	1507		
<i>Culex spp.</i>	37	412		
<i>Culiseta melanura</i>	20	100		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	12	92		
<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	555	23876	44	1.843
<i>Aedes albopictus</i>	176	3873	1	0.258
<i>Aedes japonicus</i>	25	256		
<i>Aedes triseriatus</i>	6	17		
<i>Anopheles punctipennis</i>	6	16		
<i>Culex pipiens</i>	324	19607	43	2.193
<i>Culiseta melanura</i>	18	107		
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	245	10915	39	3.573
<i>Aedes albopictus</i>	6	234		
<i>Culex spp.</i>	239	10681	39	3.651
Mercer	489	9032	21	2.325
<i>Aedes albopictus</i>	139	1504		
<i>Aedes japonicus</i>	33	116		

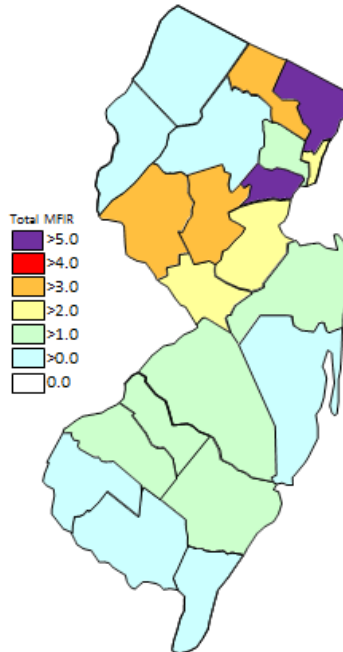
<i>Aedes triseriatus</i>	2	24		
<i>Aedes vexans</i>	3	12		
<i>Culex erraticus</i>	16	57		
<i>Culex pipiens</i>	51	939	5	5.325
<i>Culex restuans</i>	135	3861	7	1.813
<i>Culex</i> spp.	110	2519	9	3.573
Middlesex	410	12801	28	2.187
<i>Aedes albopictus</i>	90	817		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex erraticus</i>	3	4		
<i>Culex</i> spp.	263	11364	28	2.464
<i>Culiseta melanura</i>	53	614		
Monmouth	808	9444	16	1.694
<i>Aedes albopictus</i>	469	5386	1	0.186
<i>Aedes atlanticus</i>	3	13		
<i>Aedes canadensis canadensis</i>	21	316		
<i>Aedes cantator</i>	10	193		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	39	122		
<i>Aedes sollicitans</i>	6	16		
<i>Aedes taeniorhynchus</i>	7	71		
<i>Aedes triseriatus</i>	13	22		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	13	33		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles crucians</i>	2	2		
<i>Anopheles punctipennis</i>	42	88		
<i>Anopheles quadrimaculatus</i>	8	8		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	8	33		
<i>Culex restuans</i>	3	6		
<i>Culex</i> spp.	130	2947	15	5.090
<i>Culiseta melanura</i>	19	145		
<i>Psorophora columbiae</i>	3	7		
<i>Psorophora ferox</i>	5	28		
Morris	416	13222	10	0.756
<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.	329	12134	10	0.824
<i>Psorophora ferox</i>	2	4		
Ocean	374	4481	1	0.223
<i>Aedes albopictus</i>	123	1526		
<i>Aedes canadensis canadensis</i>	1	70		
<i>Aedes japonicus</i>	28	89		
<i>Aedes triseriatus</i>	13	21		
<i>Aedes vexans</i>	1	1		
<i>Anopheles crucians</i>	3	28		

<i>Anopheles punctipennis</i>	5	6		
<i>Coquillettidia perturbans</i>	25	463		
<i>Culex erraticus</i>	18	91		
<i>Culex restuans</i>	1	2		
<i>Culex</i> spp.	107	2017	1	0.496
<i>Culiseta melanura</i>	47	142		
<i>Psorophora ferox</i>	2	25		
Passaic	297	7116	23	3.232
<i>Aedes albopictus</i>	14	54		
<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.	197	6581	21	3.191
<i>Culiseta melanura</i>	1	1		
Salem	307	2009	1	0.498
<i>Aedes albopictus</i>	74	336	1	2.976
<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>	18	55		
<i>Coquillettidia perturbans</i>	12	85		
<i>Culex erraticus</i>	42	483		
<i>Culex pipiens</i>	4	4		
<i>Culex restuans</i>	10	11		
<i>Culex</i> spp.	72	632		
<i>Culiseta melanura</i>	18	290		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	3	4		
Somerset	227	3917	14	3.574
<i>Aedes albopictus</i>	19	87		
<i>Aedes japonicus</i>	4	35		
<i>Aedes triseriatus</i>	5	28		
<i>Anopheles punctipennis</i>	2	7		
<i>Culex</i> spp.	197	3760	14	3.723
Sussex	394	10114	6	0.593
<i>Aedes albopictus</i>	19	65		
<i>Aedes japonicus</i>	25	670		
<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>	3	10		
<i>Culex pipiens</i>	17	56		
<i>Culex restuans</i>	4	19		
<i>Culex salinarius</i>	9	199		
<i>Culex</i> spp.	275	7960	5	0.628
<i>Culiseta melanura</i>	9	12	1	83.333

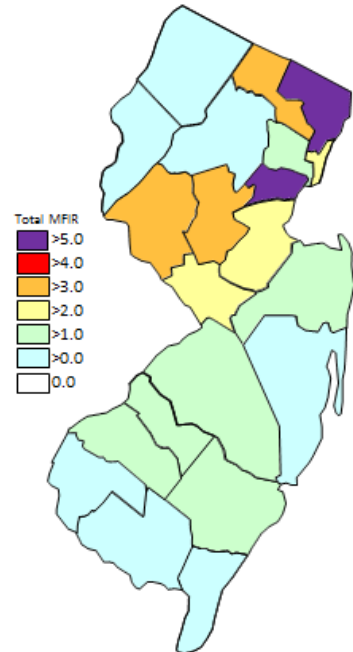
Union		227	12416	74	5.960
	<i>Aedes albopictus</i>	56	1961	1	0.510
	<i>Culex erraticus</i>	9	111		
	<i>Culex</i> spp.	159	10275	73	7.105
	<i>Culiseta melanura</i>	3	69		
Warren		229	10369	2	0.193
	<i>Aedes japonicus</i>	1	2		
	<i>Culex</i> spp.	228	10367	2	0.193
Grand Total		10201	202334	426	2.105



Cumulative WNV activity in 2015.



WNV activity to 8 October 2016.



WNV activity last week, 2016.

Saint Louis Encephalitis (SLE) to 8 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		89	3631		
	<i>Anopheles barberi</i>	1	1		
	<i>Culex erraticus</i>	4	91		
	<i>Culex</i> spp.	84	3539		
Cape May		889	9712		
	<i>Culex pipiens</i>	841	9583		
	<i>Culex</i> spp.	48	129		
Grand Total		978	13343		

La Crosse Encephalitis (LAC) to 8 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	Pools	Mosquitoes	Positives	MFIR
Burlington		33	531		
	<i>Aedes albopictus</i>	12	275		
	<i>Aedes atropalpus</i>	3	18		
	<i>Aedes japonicus</i>	9	203		
	<i>Aedes triseriatus</i>	9	35		
Grand Total		33	531		

Dengue (DENV) to 8 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		57	516	57	516	57	516	57	516		
	<i>Aedes albopictus</i>	57	516	57	516	57	516	57	516		
Bergen		47	398	47	398	47	398	47	398		
	<i>Aedes albopictus</i>	47	398	47	398	47	398	47	398		
Burlington		1	1	1	1	1	1	1	1		
	<i>Aedes albopictus</i>	1	1	1	1	1	1	1	1		
Camden		48	189	48	189	48	189	48	189		
	<i>Aedes albopictus</i>	48	189	48	189	48	189	48	189		
Cumberland		38	408	38	408	38	408	38	408		
	<i>Aedes albopictus</i>	38	408	38	408	38	408	38	408		
Essex		116	599	116	599	116	599	116	599		
	<i>Aedes albopictus</i>	116	599	116	599	116	599	116	599		
Gloucester		160	3674	160	3674	160	3674	160	3674		
	<i>Aedes albopictus</i>	160	3674	160	3674	160	3674	160	3674		
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		139	1504	139	1504	139	1504	139	1504		
	<i>Aedes albopictus</i>	139	1504	139	1504	139	1504	139	1504		
Middlesex		92	837	92	837	92	837	92	837		
	<i>Aedes albopictus</i>	90	817	90	817	90	817	90	817		
	<i>Culex spp.</i>	1	19	1	19	1	19	1	19		
	<i>Culiseta melanura</i>	1	1	1	1	1	1	1	1		
Monmouth		393	4930	393	4930	393	4930	393	4930		
	<i>Aedes albopictus</i>	393	4930	393	4930	393	4930	393	4930		
Morris		68	986	68	986	68	986	68	986		
	<i>Aedes albopictus</i>	66	983	66	983	66	983	66	983		
	<i>Culex spp.</i>	2	3	2	3	2	3	2	3		
Ocean		32	266	32	266	32	266	32	266		
	<i>Aedes albopictus</i>	32	266	32	266	32	266	32	266		
Passaic		5	14	5	14	5	14	5	14		
	<i>Aedes albopictus</i>	5	14	5	14	5	14	5	14		
Salem		74	336	74	336	74	336	74	336		
	<i>Aedes albopictus</i>	74	336	74	336	74	336	74	336		
Somerset		15	71	15	71	15	71	15	71		
	<i>Aedes albopictus</i>	15	71	15	71	15	71	15	71		
Sussex		19	65	19	65	19	65	19	65		
	<i>Aedes albopictus</i>	19	65	19	65	19	65	19	65		
Union		49	1828	49	1828	49	1828	49	1828		
	<i>Aedes albopictus</i>	49	1828	49	1828	49	1828	49	1828		
Grand Total		1408	19050	1408	19050	1408	19050	1408	19050		

Chikungunya (CHIK) to 8 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		57	516		
	<i>Aedes albopictus</i>	57	516		
Bergen		47	398		
	<i>Aedes albopictus</i>	47	398		
Burlington		1	1		
	<i>Aedes albopictus</i>	1	1		
Camden		48	189		
	<i>Aedes albopictus</i>	48	189		
Cape May		524	1127		
	<i>Aedes albopictus</i>	524	1127		
Cumberland		38	408		
	<i>Aedes albopictus</i>	38	408		
Essex		116	599		
	<i>Aedes albopictus</i>	116	599		
Gloucester		160	3674		
	<i>Aedes albopictus</i>	160	3674		
Hudson		49	2194		
	<i>Aedes albopictus</i>	49	2194		
Hunterdon		6	234		
	<i>Aedes albopictus</i>	6	234		
Mercer		139	1504		
	<i>Aedes albopictus</i>	139	1504		
Middlesex		92	837		
	<i>Aedes albopictus</i>	90	817		
	<i>Culex</i> spp.	1	19		
	<i>Culiseta melanura</i>	1	1		
Monmouth		393	4930		
	<i>Aedes albopictus</i>	393	4930		
Morris		68	986		
	<i>Aedes albopictus</i>	66	983		
	<i>Culex</i> spp.	2	3		
Ocean		32	266		
	<i>Aedes albopictus</i>	32	266		
Passaic		5	14		
	<i>Aedes albopictus</i>	5	14		
Salem		74	336		
	<i>Aedes albopictus</i>	74	336		
Somerset		15	71		

	<i>Aedes albopictus</i>	15	71		
Sussex		19	65		
	<i>Aedes albopictus</i>	19	65		
Union		49	1828		
	<i>Aedes albopictus</i>	49	1828		
Grand Total		1932	20177		

Zika (ZIKV) to 8 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 149 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		44	359		
	<i>Aedes albopictus</i>	44	359		
Bergen		32	326		
	<i>Aedes albopictus</i>	32	326		
Burlington		1	1		
	<i>Aedes albopictus</i>	1	1		
Camden		32	123		
	<i>Aedes albopictus</i>	32	123		
Cape May		524	1127		
	<i>Aedes albopictus</i>	524	1127		
Cumberland		32	321		
	<i>Aedes albopictus</i>	32	321		
Essex		77	434		
	<i>Aedes albopictus</i>	77	434		
Gloucester		160	3674		
	<i>Aedes albopictus</i>	160	3674		
Hudson		31	1771		
	<i>Aedes albopictus</i>	31	1771		
Hunterdon		6	234		
	<i>Aedes albopictus</i>	6	234		
Mercer		286	3402		
	<i>Aedes albopictus</i>	286	3402		
Middlesex		58	619		
	<i>Aedes albopictus</i>	57	600		
	<i>Culex</i> spp.	1	19		
Monmouth		223	3356		
	<i>Aedes albopictus</i>	223	3356		
Morris		53	931		
	<i>Aedes albopictus</i>	53	931		
Ocean		32	266		
	<i>Aedes albopictus</i>	32	266		
Passaic		3	11		
	<i>Aedes albopictus</i>	3	11		
Salem		40	210		

	<i>Aedes albopictus</i>	40	210		
Somerset		15	71		
	<i>Aedes albopictus</i>	15	71		
Sussex		19	65		
	<i>Aedes albopictus</i>	19	65		
Union		49	1828		
	<i>Aedes albopictus</i>	49	1828		
Grand Total		1717	19129		