

VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 34: 21 August to 27 August, 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	0.58	0.20	2 (3)	2 (3)		
Green Bank (Burlington Co.)/25	Coastal	3.37	0.00	59	8		
Corbin City (Atlantic Co.)/25	Coastal	1.60	1.32	164 (197)	13 (14)	1	6.10
Dennisville (Cape May Co.)/50	Coastal	8.82	0.06	63	11		
Winslow (Camden Co.)/50	Inland	2.12	0.52	727	20		
Centerton (Salem Co.)/50	Inland	3.77	0.28	238	13		
Turkey Swamp (Monmouth Co.)/50	Inland	1.78	0.54	53 (80)	13 (14)	1	18.87
Glassboro (Gloucester Co.)/50	Inland	0.35	0.14	98	13		

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

Remarks: One new positive EEE pool in *Culiseta melanura* was detected in NJ. Total positive EEE pools detected is 6, with 4 pools of *Cs. melanura* and 2 pools of *Culex pipiens*. Two horse cases have been detected in Morris County (see next page for details).

Traditional Resting Box Sites: 1404 *Cs. melanura* from 94 pools have been tested for EEE, with 3 pools of 61 *Cs. melanura* to be tested. One new positive melanura pool was detected at the Corbin City site, collected 16 Aug. Previous positive pool was from Turkey Swamp, collected 3 Aug. Statewide, 3741 *Cs. melanura* have been tested, with four positive pools detected (two traditional, two county sites), for an overall *Cs. melanura* MFIR of 1.07. 14,355 specimens from 18 other species have also been tested, with two reported positives *Culex pipiens* pools. Overall MFIR for all species statewide is 0.33.

		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	23	354		
Burlington	CO ₂	42	1055		
Cape May	CDC, CO ₂ , GR, RB	110	284		
Cumberland	CDC, RB	13	63		
Middlesex	RB	35	553	2	3.76
Ocean	CO ₂ , GR, RB	11	28		
TOTAL		236	2337	2	0.93

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>	1	6		
<i>Aedes canadensis canadensis</i>	1	19		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	1	4		
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	17	696		
<i>Aedes taeniorhynchus</i>	4	195		
<i>Anopheles bradleyi</i>	63	337		
<i>Anopheles crucians</i>	2	40		
<i>Anopheles punctipennis</i>	12	24		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	85	1585		
<i>Culex erraticus</i>	38	320		
<i>Culex pipiens</i>	626	8258	2	0.242
<i>Culex restuans</i>	1	3		
<i>Culex salinarius</i>	263	2672		
<i>Culex</i> sp.	44	123		
<i>Culex territans</i>	1	12		
<i>Psorophora columbiae</i>	1	2		
State Total	1187	14355	2	0.140

Additional Species: Thirteen 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: Two positive horses have been reported, both from Morris County and less than 5 miles from each other. First horse was a 7 yo mare with symptom onset on 9 Aug, euthanized 13 Aug. Second horse was a 3 yo gelding, symptom onset 23 Aug, euthanized same day. Both horses had either an unknown or no vaccination history and no travel history.

Horse owners are urged to make sure their horses are up to date on their vaccinations.

Other sensitive species are non-native birds, such as Ostriches/Emus and Gallinaceous birds such as pheasants of Eurasian origins.

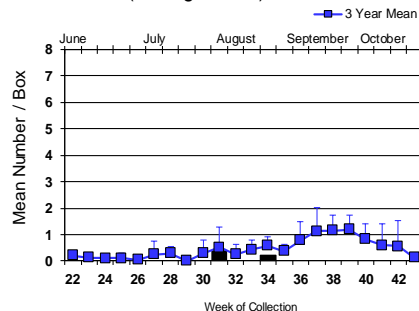
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see:

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

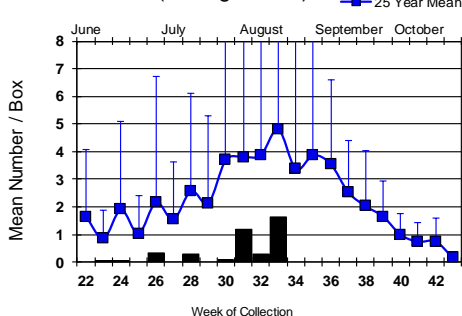
Culiseta melanura Population Graphs

Coastal

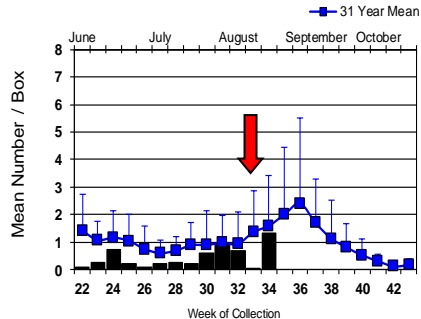
BASS RIVER (Burlington Co.)



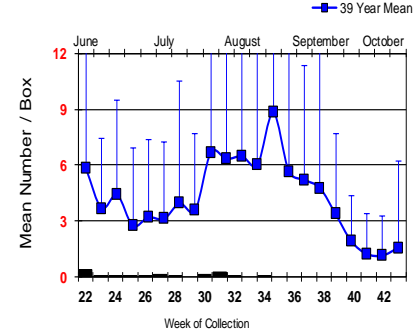
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

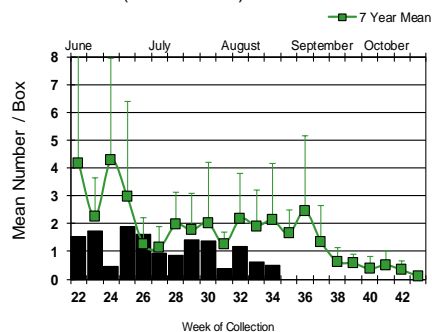


DENNISVILLE (Cape May Co.)

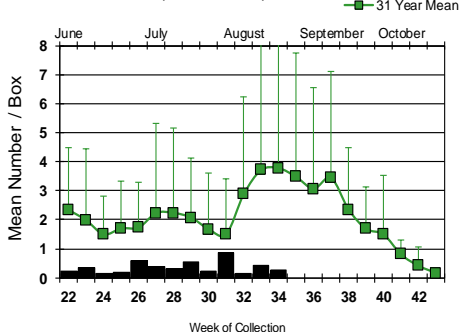


Inland

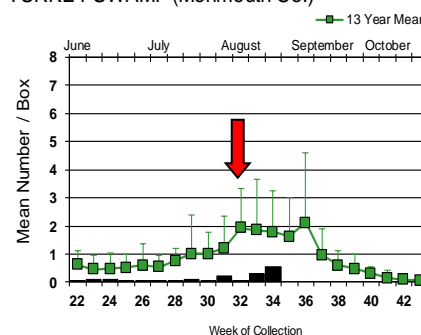
WINSLOW (Camden Co.)



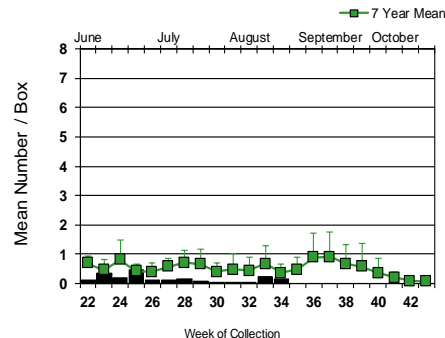
CENTERTON (Salem Co.)



TURKEY SWAMP (Monmouth Co.)




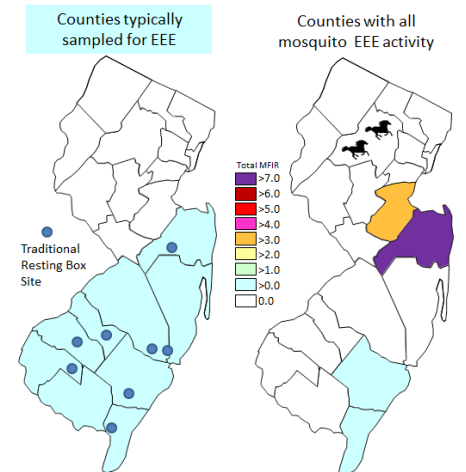
GLASSBORO (Gloucester Co.)



Population numbers of *Culiseta melanura* continue to appear low at most resting box sites, although the Corbin City site appears to have numbers approaching historical trends. This is also the site with the most recent positive pool.

Maps to right: Note that Middlesex County (in orange, far right) and Morris County (with two 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.

 = 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(2) FL(19) GA(5) LA(6) MS(3) NC(1) NJ(2) SC(14) TN(1) TX(1) VA(6)
- mosquito pools: LA(1) NJ(6) MA(4) RI(1)
- sentinel: FL(60) 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					4/5
Alaska					
Arizona	1	61/63	0	0	34/35
Arkansas				0	1
California	1007/1081	2562/2780	161/213	8/9	46/78
Colorado	10	103		1	17/49
Connecticut		42/54			0
Delaware					
DC					
Florida		2	57	1	2
Georgia		0			0
Hawaii					
Idaho	0	21/26		3/4	1/2
Illinois	15/20	1389/1756		1	5
Indiana	0	86/114		0	1
Iowa		2		1	2
Kansas	1	0		1	6/7
Kentucky				2	
Louisiana	13	145		1	14
Maine		0			0
Maryland		1			
Mass.		90/118		0	1
Michigan	13	4		1	2
Minnesota		6		7	2
Mississippi		22			9/15
Missouri		8		1	0

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					
Nebraska	2	47/54		1	16/21
Nevada				2	1
New Hampshire		0		0	0
New Jersey		135/190		0	2
New Mexico					1
New York		195/239		1	0
North Carolina					
North Dakota	6	15		2	21/26
Ohio		8		0	4
Oklahoma		7		1/2	4/6
Oregon	2/6	18/32	0	1	0
Pennsylvania	5	534/766			2/5
Rhode Island		1			
South Carolina					
South Dakota		118/139			53/64
Tennessee					1/2
Texas	1	1017/1164	2	7	48/69
Utah		92/140		2	2/3
Vermont		2/10			2
Virginia					
Washington	1	68/79		1/10	2/3
West Virginia					
Wisconsin	14	6		1	1/2
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 27 August 2016

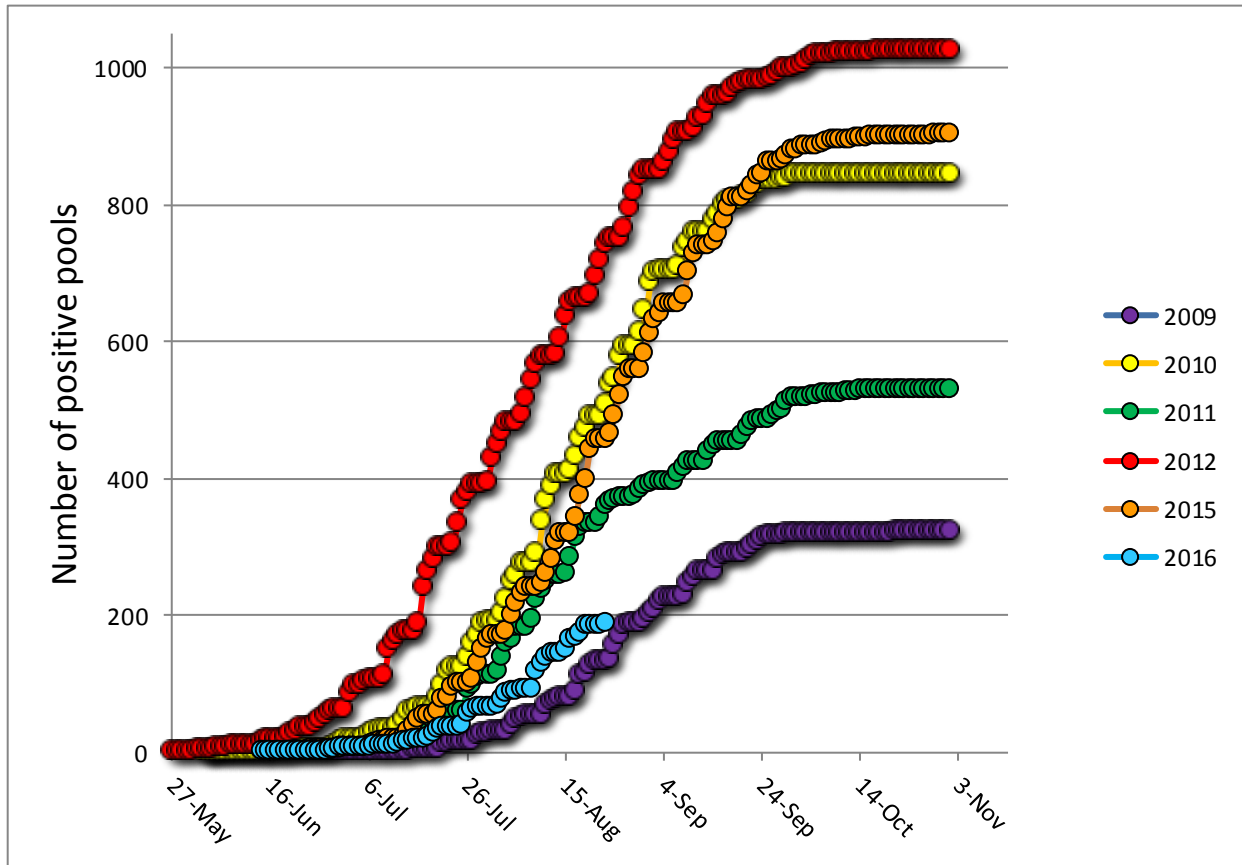
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1177	10863	4	0.368
<i>Aedes atlanticus</i>	6	8		
<i>Aedes atropalpus</i>	22	69		
<i>Aedes canadensis canadensis</i>	34	650		
<i>Aedes cantator</i>	36	246		
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	421	2311	2	0.865
<i>Aedes mitchellae</i>	1	6		
<i>Aedes sollicitans</i>	24	815		
<i>Aedes sticticus</i>	1	6		
<i>Aedes taeniorhynchus</i>	20	570		
<i>Aedes triseriatus</i>	190	381		
<i>Aedes trivittatus</i>	2	34		
<i>Aedes vexans</i>	62	705		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles barberi</i>	2	2		
<i>Anopheles bradleyi</i>	72	563		
<i>Anopheles crucians</i>	4	46		
<i>Anopheles punctipennis</i>	51	164		
<i>Anopheles quadrimaculatus</i>	109	1004		
<i>Coquillettidia perturbans</i>	104	2512	1	0.398
<i>Culex erraticus</i>	59	517		
<i>Culex pipiens</i>	877	22086	25	1.132
<i>Culex restuans</i>	673	7605	3	0.394
<i>Culex salinarius</i>	274	2917		
<i>Culex spp.</i>	2170	85164	155	1.820
<i>Culex territans</i>	34	319		
<i>Culiseta melanura</i>	329	3667		
<i>Orthopodomyia signifera</i>	3	3		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	14	80		
<i>Psorophora ferox</i>	13	116		
<i>Uranotaenia sapphirina</i>	2	6		
Grand Total	6789	143438	190	1.325

Remarks: To date, 6,789 pools of 143,438 mosquitoes from 32 species have been tested, with 190 positive pools detected. Most new positives were detected in *Culex pipiens* or *Culex Mix* pools. A *Coquillettidia perturbans* pool from Burlington County was collected on 22 Aug. 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: Two human cases have been detected; one most recently from Monmouth County, with an onset date of 2 Aug. Currently, case count is Camden (1) and Monmouth (1). The human case from Camden County had an onset date of early July. 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 27 August 2016

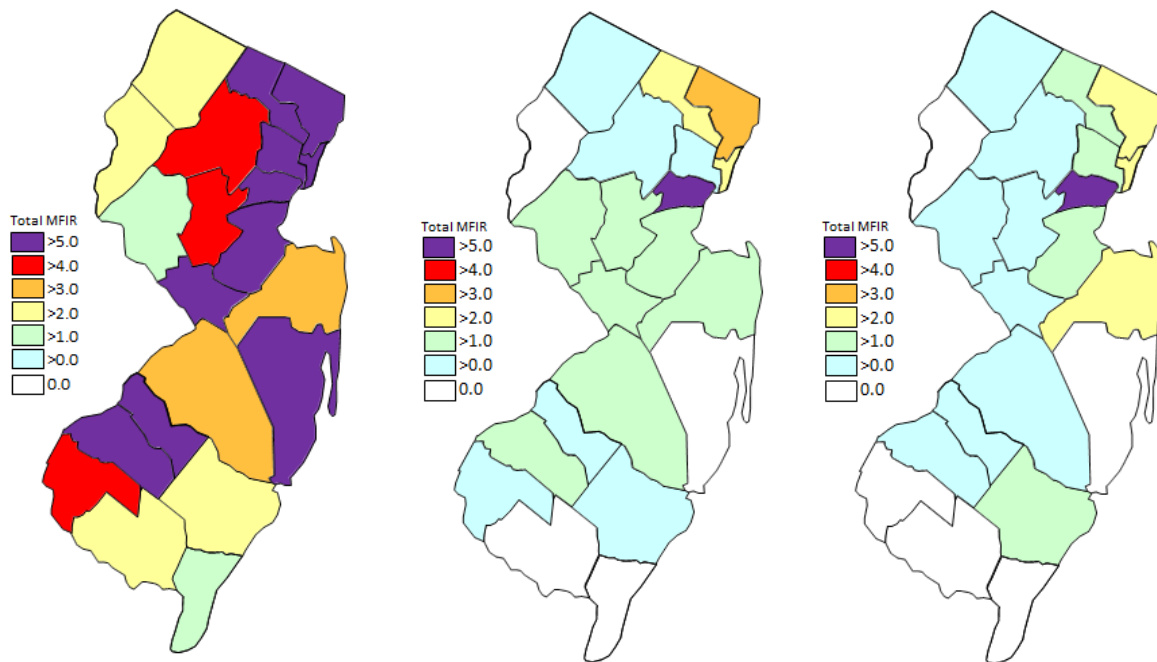
County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		173	5049	5	0.990
	<i>Aedes albopictus</i>	25	280		
	<i>Aedes japonicus</i>	3	15		
	<i>Aedes sollicitans</i>	9	585		
	<i>Aedes sticticus</i>	1	6		
	<i>Aedes taeniorhynchus</i>	5	277		
	<i>Aedes vexans</i>	6	203		
	<i>Anopheles bradleyi</i>	4	97		
	<i>Anopheles quadrimaculatus</i>	1	4		
	<i>Coquillettidia perturbans</i>	21	517		
	<i>Culex erraticus</i>	8	82		
	<i>Culex pipiens</i>	17	943	5	5.302
	<i>Culex restuans</i>	3	52		
	<i>Culex salinarius</i>	4	123		
	<i>Culex</i> spp.	25	1276		
	<i>Culiseta melanura</i>	37	518		
	<i>Psorophora ferox</i>	4	71		
Bergen		175	11102	39	3.513
	<i>Aedes albopictus</i>	30	267		
	<i>Aedes japonicus</i>	4	260		
	<i>Culex</i> spp.	141	10575	39	3.688

Burlington	160	5365	6	1.118
<i>Aedes albopictus</i>	6	86		
<i>Aedes atropalpus</i>	3	18		
<i>Aedes canadensis canadensis</i>	1	19		
<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>	3	176	1	5.682
<i>Culex erraticus</i>	4	52		
<i>Culex salinarius</i>	13	463		
<i>Culex</i> spp.	65	3062	5	1.633
<i>Culex territans</i>	1	12		
<i>Culiseta melanura</i>	38	975		
Camden	165	3940	3	0.761
<i>Aedes albopictus</i>	30	118		
<i>Aedes japonicus</i>	22	80		
<i>Culex</i> spp.	93	3015	3	0.995
<i>Culiseta melanura</i>	20	727		
Cape May	2453	16938		
<i>Aedes albopictus</i>	262	438		
<i>Aedes atlanticus</i>	5	6		
<i>Aedes atropalpus</i>	19	51		
<i>Aedes canadensis canadensis</i>	13	249		
<i>Aedes cantator</i>	25	52		
<i>Aedes japonicus</i>	194	382		
<i>Aedes sollicitans</i>	2	4		
<i>Aedes taeniorhynchus</i>	2	2		
<i>Aedes triseriatus</i>	128	222		
<i>Aedes vexans</i>	9	12		
<i>Anopheles atropos</i>	1	1		
<i>Anopheles bradleyi</i>	61	279		
<i>Anopheles punctipennis</i>	10	11		
<i>Anopheles quadrimaculatus</i>	94	964		
<i>Coquillettidia perturbans</i>	27	426		
<i>Culex erraticus</i>	11	23		
<i>Culex pipiens</i>	627	8259		
<i>Culex restuans</i>	545	4066		
<i>Culex salinarius</i>	219	720		
<i>Culex</i> spp.	36	99		
<i>Culex territans</i>	33	307		
<i>Culiseta melanura</i>	121	347		
<i>Orthopodomyia signifera</i>	2	2		
<i>Psorophora columbiae</i>	2	2		
<i>Psorophora ferox</i>	3	8		
<i>Uranotaenia sapphirina</i>	2	6		
Cumberland	158	3126		
<i>Aedes albopictus</i>	12	217		
<i>Aedes cantator</i>	1	1		

<i>Aedes japonicus</i>	8	13		
<i>Aedes sollicitans</i>	8	215		
<i>Aedes taeniorhynchus</i>	3	26		
<i>Aedes triseriatus</i>	2	4		
<i>Aedes vexans</i>	27	428		
<i>Anopheles bradleyi</i>	4	122		
<i>Anopheles crucians</i>	1	5		
<i>Anopheles punctipennis</i>	6	45		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Coquillettidia perturbans</i>	7	110		
<i>Culex erraticus</i>	7	116		
<i>Culex pipiens</i>	2	9		
<i>Culex salinarius</i>	30	1420		
<i>Culex</i> spp.	14	240		
<i>Culiseta melanura</i>	13	63		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	9	74		
<i>Psorophora ferox</i>	1	13		
Essex	182	1123	1	0.890
<i>Aedes albopictus</i>	72	353		
<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</i> spp.	101	758	1	1.319
Gloucester	335	14550	20	1.375
<i>Aedes albopictus</i>	98	1975	1	0.506
<i>Aedes japonicus</i>	17	218		
<i>Aedes triseriatus</i>	3	10		
<i>Anopheles punctipennis</i>	2	10		
<i>Culex pipiens</i>	202	12239	19	1.552
<i>Culiseta melanura</i>	13	98		
Hudson	158	7523	16	2.127
<i>Aedes albopictus</i>	27	908	1	1.101
<i>Culex</i> spp.	131	6615	15	2.268
Hunterdon	149	6744	7	1.038
<i>Culex</i> spp.	149	6744	7	1.038
Mercer	288	6370	7	1.099
<i>Aedes albopictus</i>	58	594		
<i>Aedes japonicus</i>	21	97		
<i>Aedes triseriatus</i>	2	24		
<i>Aedes vexans</i>	1	3		
<i>Culex erraticus</i>	1	2		
<i>Culex pipiens</i>	28	635	1	1.575
<i>Culex restuans</i>	117	3476	3	0.863
<i>Culex</i> spp.	60	1539	3	1.949
Middlesex	283	10047	12	1.194
<i>Aedes albopictus</i>	59	478		

	<i>Coquillettidia perturbans</i>	1	2		
	<i>Culex erraticus</i>	1	1		
	<i>Culex</i> spp.	184	9012	12	1.332
	<i>Culiseta melanura</i>	38	554		
Monmouth		532	6107	12	1.965
	<i>Aedes albopictus</i>	304	3034	1	0.330
	<i>Aedes atlanticus</i>	1	2		
	<i>Aedes canadensis canadensis</i>	19	312		
	<i>Aedes cantator</i>	10	193		
	<i>Aedes grossbecki</i>	1	1		
	<i>Aedes japonicus</i>	27	63		
	<i>Aedes sollicitans</i>	5	11		
	<i>Aedes taeniorhynchus</i>	6	70		
	<i>Aedes triseriatus</i>	6	13		
	<i>Aedes trivittatus</i>	1	1		
	<i>Aedes vexans</i>	5	21		
	<i>Anopheles barberi</i>	1	1		
	<i>Anopheles crucians</i>	1	1		
	<i>Anopheles punctipennis</i>	25	47		
	<i>Anopheles quadrimaculatus</i>	3	3		
	<i>Coquillettidia perturbans</i>	4	5		
	<i>Culex erraticus</i>	4	15		
	<i>Culex restuans</i>	1	3		
	<i>Culex</i> spp.	90	2234	11	4.924
	<i>Culiseta melanura</i>	14	54		
	<i>Psorophora columbiae</i>	2	3		
	<i>Psorophora ferox</i>	2	20		
Morris		259	9489	2	0.211
	<i>Aedes albopictus</i>	34	475		
	<i>Culex</i> spp.	225	9014	2	0.222
Ocean		233	3559		
	<i>Aedes albopictus</i>	71	1046		
	<i>Aedes canadensis canadensis</i>	1	70		
	<i>Aedes japonicus</i>	25	84		
	<i>Aedes triseriatus</i>	9	16		
	<i>Aedes vexans</i>	1	1		
	<i>Anopheles punctipennis</i>	2	2		
	<i>Coquillettidia perturbans</i>	19	337		
	<i>Culex erraticus</i>	4	37		
	<i>Culex restuans</i>	1	2		
	<i>Culex</i> spp.	78	1871		
	<i>Culiseta melanura</i>	22	93		
Passaic		233	5758	12	2.084
	<i>Aedes albopictus</i>	10	40		
	<i>Aedes japonicus</i>	57	381	2	5.249
	<i>Aedes triseriatus</i>	7	11		
	<i>Aedes vexans</i>	13	37		
	<i>Culex</i> spp.	146	5289	10	1.891
Salem		215	1432	1	0.698
	<i>Aedes albopictus</i>	53	228	1	4.386

	<i>Aedes japonicus</i>	13	33		
	<i>Aedes triseriatus</i>	21	31		
	<i>Anopheles bradleyi</i>	1	7		
	<i>Anopheles punctipennis</i>	4	4		
	<i>Anopheles quadrimaculatus</i>	9	29		
	<i>Coquillettidia perturbans</i>	10	83		
	<i>Culex erraticus</i>	19	189		
	<i>Culex pipiens</i>	1	1		
	<i>Culex restuans</i>	6	6		
	<i>Culex spp.</i>	61	578		
	<i>Culiseta melanura</i>	13	238		
	<i>Psorophora columbiae</i>	1	1		
	<i>Psorophora ferox</i>	3	4		
Somerset		139	2957	3	1.015
	<i>Aedes albopictus</i>	7	31		
	<i>Aedes japonicus</i>	4	35		
	<i>Aedes triseriatus</i>	1	4		
	<i>Culex spp.</i>	127	2887	3	1.039
Sussex		237	8009	3	0.375
	<i>Aedes albopictus</i>	3	4		
	<i>Aedes japonicus</i>	13	468		
	<i>Aedes triseriatus</i>	1	16		
	<i>Aedes trivittatus</i>	1	33		
	<i>Anopheles punctipennis</i>	1	44		
	<i>Coquillettidia perturbans</i>	12	856		
	<i>Culex salinarius</i>	8	191		
	<i>Culex spp.</i>	198	6397	3	0.469
Union		111	6313	41	6.495
	<i>Aedes albopictus</i>	16	291		
	<i>Culex spp.</i>	95	6022	41	6.808
Warren		151	7937		
	<i>Culex spp.</i>	151	7937		
Grand Total		6789	143438	190	1.325



Cumulative WNV activity in 2015. WNV activity to 27 August 2016. WNV activity last week, 2016.

Saint Louis Encephalitis (SLE) to 27 August 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		69	3096		
	<i>Anopheles barberi</i>	1	1		
	<i>Culex erraticus</i>	3	33		
	<i>Culex</i> spp.	65	3062		
Cape May		662	8357		
	<i>Culex pipiens</i>	626	8258		
	<i>Culex</i> spp.	36	99		
Grand Total		731	11453		

La Crosse Encephalitis (LAC) to 27 August 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		25	306		
	<i>Aedes albopictus</i>	6	86		
	<i>Aedes atropalpus</i>	3	18		
	<i>Aedes japonicus</i>	8	174		
	<i>Aedes triseriatus</i>	8	28		
Grand Total		25	306		

Dengue (DENV) to 27 August 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 34 imported human cases of Dengue.

County	Species	DENV1		DENV2		DENV3		DENV4		Positives	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Atlantic		25	280	25	280	25	280	25	280		
	<i>Aedes albopictus</i>	25	280	25	280	25	280	25	280		
Bergen		30	267	30	267	30	267	30	267		
	<i>Aedes albopictus</i>	30	267	30	267	30	267	30	267		
Camden		30	118	30	118	30	118	30	118		
	<i>Aedes albopictus</i>	30	118	30	118	30	118	30	118		
Cumberland		12	217	12	217	12	217	12	217		
	<i>Aedes albopictus</i>	12	217	12	217	12	217	12	217		
Essex		72	353	72	353	72	353	72	353		
	<i>Aedes albopictus</i>	72	353	72	353	72	353	72	353		
Gloucester		82	1776	82	1776	82	1776	82	1776		
	<i>Aedes albopictus</i>	82	1776	82	1776	82	1776	82	1776		
Hudson		27	908	27	908	27	908	27	908		
	<i>Aedes albopictus</i>	27	908	27	908	27	908	27	908		
Mercer		58	594	58	594	58	594	58	594		
	<i>Aedes albopictus</i>	58	594	58	594	58	594	58	594		
Middlesex		60	479	60	479	60	479	60	479		
	<i>Aedes albopictus</i>	59	478	59	478	59	478	59	478		
	<i>Culiseta melanura</i>	1	1	1	1	1	1	1	1		
Monmouth		257	2846	257	2846	257	2846	257	2846		
	<i>Aedes albopictus</i>	257	2846	257	2846	257	2846	257	2846		
Morris		36	478	36	478	36	478	36	478		
	<i>Aedes albopictus</i>	34	475	34	475	34	475	34	475		
	<i>Culex</i> spp.	2	3	2	3	2	3	2	3		

Passaic		2	3	2	3	2	3	2	3		
	<i>Aedes albopictus</i>	2	3	2	3	2	3	2	3		
Salem		53	228	53	228	53	228	53	228		
	<i>Aedes albopictus</i>	53	228	53	228	53	228	53	228		
Somerset		3	15	3	15	3	15	3	15		
	<i>Aedes albopictus</i>	3	15	3	15	3	15	3	15		
Sussex		3	4	3	4	3	4	3	4		
	<i>Aedes albopictus</i>	3	4	3	4	3	4	3	4		
Union		9	158	9	158	9	158	9	158		
	<i>Aedes albopictus</i>	9	158	9	158	9	158	9	158		
Grand Total		759	8724	759	8724	759	8724	759	8724		

Chikungunya (CHIK) to 27 August 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 2 imported human case of Chikungunya.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		25	280		
	<i>Aedes albopictus</i>	25	280		
Bergen		30	267		
	<i>Aedes albopictus</i>	30	267		
Camden		30	118		
	<i>Aedes albopictus</i>	30	118		
Cape May		262	438		
	<i>Aedes albopictus</i>	262	438		
Cumberland		12	217		
	<i>Aedes albopictus</i>	12	217		
Essex		72	353		
	<i>Aedes albopictus</i>	72	353		
Gloucester		82	1776		
	<i>Aedes albopictus</i>	82	1776		
Hudson		27	908		
	<i>Aedes albopictus</i>	27	908		
Mercer		58	594		
	<i>Aedes albopictus</i>	58	594		
Middlesex		60	479		
	<i>Aedes albopictus</i>	59	478		
	<i>Culiseta melanura</i>	1	1		
Monmouth		257	2846		
	<i>Aedes albopictus</i>	257	2846		
Morris		36	478		
	<i>Aedes albopictus</i>	34	475		
	<i>Culex</i> spp.	2	3		
Passaic		2	3		
	<i>Aedes albopictus</i>	2	3		

Salem		53	228		
	<i>Aedes albopictus</i>	53	228		
Somerset		3	15		
	<i>Aedes albopictus</i>	3	15		
Sussex		3	4		
	<i>Aedes albopictus</i>	3	4		
Union		9	158		
	<i>Aedes albopictus</i>	9	158		
Grand Total		1021	9162		

Zika (ZIKV) to 27 August 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 102 imported human cases of Zika.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		12	123		
	<i>Aedes albopictus</i>	12	123		
Bergen		15	195		
	<i>Aedes albopictus</i>	15	195		
Camden		14	52		
	<i>Aedes albopictus</i>	14	52		
Cape May		262	438		
	<i>Aedes albopictus</i>	262	438		
Cumberland		6	130		
	<i>Aedes albopictus</i>	6	130		
Essex		33	188		
	<i>Aedes albopictus</i>	33	188		
Gloucester		82	1776		
	<i>Aedes albopictus</i>	82	1776		
Hudson		9	485		
	<i>Aedes albopictus</i>	9	485		
Mercer		107	1475		
	<i>Aedes albopictus</i>	107	1475		
Middlesex		26	261		
	<i>Aedes albopictus</i>	26	261		
Monmouth		87	1272		
	<i>Aedes albopictus</i>	87	1272		
Morris		21	423		
	<i>Aedes albopictus</i>	21	423		
Salem		19	102		
	<i>Aedes albopictus</i>	19	102		
Somerset		3	15		
	<i>Aedes albopictus</i>	3	15		
Sussex		3	4		
	<i>Aedes albopictus</i>	3	4		
Union		9	158		

	<i>Aedes albopictus</i>	9	158		
Grand Total		708	7097		