

VECTOR SURVEILLANCE IN NEW JERSEY

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

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 CDC WEEK 40: 1 October to 7 October, 2017



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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	0.74	0.00	44	8		
Green Bank (Burlington Co.)/25	Coastal	1.00	0.00	186	12		
Corbin City (Atlantic Co.)/25	Coastal	0.53	0.00	345	18	1	2.90
Dennisville (Cape May Co.)/50	Coastal	1.20	0.10	154	14		
Winslow (Camden Co.)/50	Inland	0.32	0.26	945	29	1	1.06
Centerton (Salem Co.)/50	Inland	1.46	0.80	831	28	4	4.81
Turkey Swamp (Monmouth Co.)/50	Inland	0.29	0.12	235 (241)	17 (18)	1	4.26
Glassboro (Gloucester Co.)/50	Inland	0.14	0.02	211	18	1	4.74

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

Remarks: A total of seventeen positive EEE pools have been detected, all in *Culiseta melanura*. The latest 2 positive pools were found at a traditional resting box sites as well as one county-set site. A third horse has been reported infected with EEE. NOTE: Despite impending cooler weather, due diligence is required as *Culiseta melanura* is a cold tolerant species and will be active late into the season.

Statewide, 8,020 *Cs. melanura* from 614 pools have been tested, with seventeen positive pools detected for an overall *Cs. melanura* MFIR of 2.120. 13,977 specimens from 21 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.694.

Traditional Resting Box Sites: 2,951 *Cs. melanura* from 144 pools have been tested for EEE, with 6 additional *Cs. melanura* from 1 pool to be tested. One new positive pool of *Cs. melanura* from Winslow (2 Oct) was detected. Seven positive pools were previously detected at the traditional resting box sites.

Additional <i>Cs. melanura</i> trapped by counties					
*traps with positives indicated in BOLD .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	GR, LT , RB	44	939	2	2.13
Burlington	CO ₂ , UVLT	66	1974	3	1.52
Cape May	BGS, GR, RB	190	939	3	3.19
Cumberland	LT, RB	18	203	1	4.93
Gloucester	RB	48	327		
Middlesex	RB	24	350		
Monmouth	CDC	1	1		
Morris	ABC	1	1		
Ocean	GR, LT, RB	22	111		
Passaic	RB	6	6		
Salem	LT	6	36		
Sussex	ABC, BGS, GR, RB	42	168		
Warren	LT	2	14		
TOTAL		470	5069	9	1.78

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. One new positive pool was collected in Atlantic County on 26 September. Previously, eight positive pools were collected from these county-set sites.

Horses and Humans: A third horse has been reported with EEE. This horse, in Cumberland County, had onset of symptoms on 30 September and euthanized the same day. There was no vaccination history. Two horses had earlier been reported with EEE. One horse was a 9 yo mare with date of onset 17 September and no vaccination history for 2017, but reportedly vaccinated two years ago. The first horse case was a 5 yo mare from Cumberland County, with onset date of 23 Aug, euthanized on 28 Aug. There was no vaccination history. Nearly all of the horse cases from previous years include those horses who were either not vaccinated or had incomplete vaccination histories. **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 (see link below).** Other sensitive species are non-native birds, such as Ostriches/Emus and Gallinaceous birds such as pheasants of Eurasian origins.

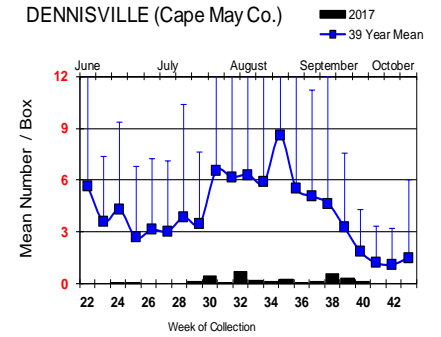
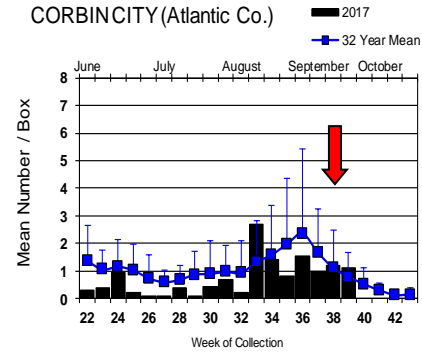
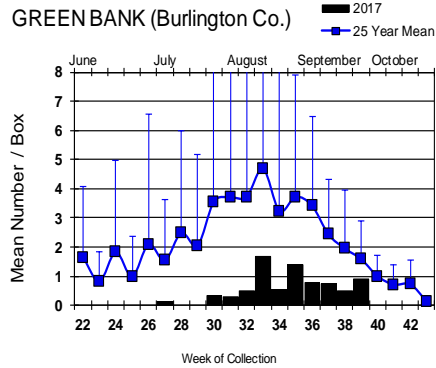
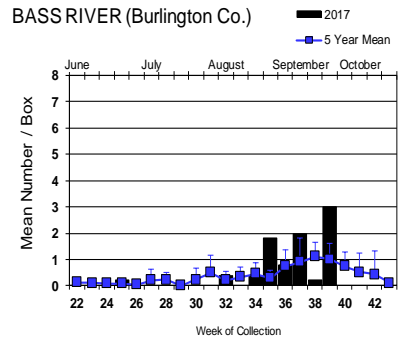
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

Additional Species: Twenty-one additional species were tested for EEE. No additional positives were detected. Previously reported *Aedes provocans* was re-assigned to *Anopheles punctipennis*.

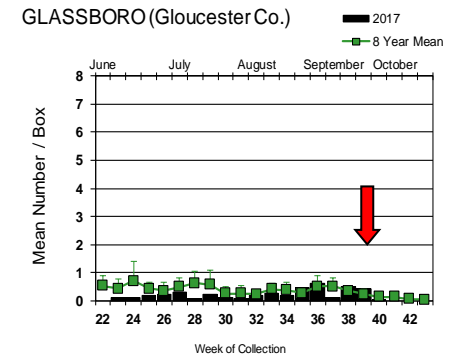
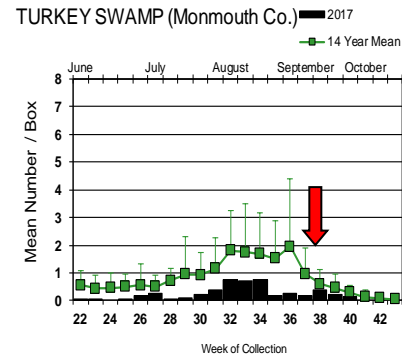
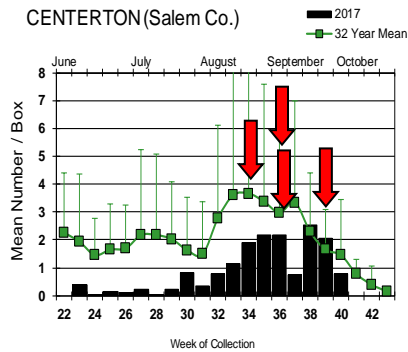
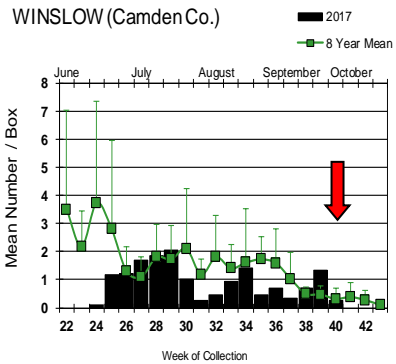
Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1	1		
<i>Aedes canadensis canadensis</i>	16	210		
<i>Aedes cantator</i>	12	28		
<i>Aedes japonicus</i>	2	20		
<i>Aedes mitchellae</i>	2	10		
<i>Aedes sollicitans</i>	8	26		
<i>Aedes taeniorhynchus</i>	2	11		
<i>Aedes triseriatus</i>	1	4		
<i>Aedes vexans</i>	6	150		
<i>Anopheles bradleyi</i>	138	972		
<i>Anopheles crucians</i>	4	129		
<i>Anopheles punctipennis</i>	36	318		
<i>Anopheles quadrimaculatus</i>	20	244		
<i>Coquillettidia perturbans</i>	77	1442		
<i>Culex erraticus</i>	106	1948		
<i>Culex pipiens</i>	735	7007		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	275	1717		
<i>Culex</i> sp.	42	141		
<i>Psorophora columbiae</i>	4	50		
<i>Psorophora cyanescens</i>	1	1		
<i>Psorophora ferox</i>	3	9		
State Total	1492	14439		

Culiseta melanura Population Graphs

Coastal



Inland



One additional pool of EEE positive *Cs. melanura* at the traditional resting box sites was detected at the Winslow site, collected 2 October. Seven previous detections of EEE had occurred at Centerton, Corbin City, Turkey Swamp, and Glassboro. Mosquito populations declined at all sites. Positive pools continue to be in the southern half of the state.

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

EEE in US (2017 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: FL(5/1 deer) GA(5) LA(2) MI(3) NC(1) NJ(3) OH(1) SC(8) TX(1) WI(14)
- mosquito pools: MA(1) NJ(15) NY(31) RI(2)
- sentinel: FL(34) TX(6)
- human: FL(1)

West Nile Virus Positive Organisms in US, 2017

West Nile in US (2017 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					28/37
Alaska					
Arizona	1	245		0	76
Arkansas				1	14
California	428	3116/3182	235/264	13/17	211/258
Colorado	5	142/148		5	42/53
Connecticut		121/123			1/3
Delaware					
DC					1
Florida	1	2	45/62	2	1
Georgia		0		1	30/31
Hawaii					
Idaho	3	122		8	18
Illinois	23	1916/1937			39/42
Indiana	0	636		11	16
Iowa	1	67/82		2	6/7
Kansas		13		0	10/14
Kentucky				12/13	4/5
Louisiana	43	395			39
Maine		0		0	0
Maryland					2/3
Mass.		289		0	2
Michigan	148	86		9/13	34/35
Minnesota					22/23
Mississippi		248/254		1	55/58
Missouri		0		3	8/13

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					7/8
Nebraska	1	80/81		0	45/52
Nevada					43/49
New Hampshire		7		0	0
New Jersey		758/807		1/2	4
New Mexico					24/25
New York		1172/1196		5/11	27/32
North Carolina					2
North Dakota	11	16		1	58/61
Ohio		1945/2178		5/10	20/21
Oklahoma					23/28
Oregon		91		5	5
Pennsylvania	42	3105/3199		7/13	12
Rhode Island		3		0	1
South Carolina	9	42			7/10
South Dakota	2	55			61/67
Tennessee					15/16
Texas		936/958		8/9	91/100
Utah		433		11/27	42/49
Vermont					1
Virginia				1	8
Washington	4	34		9	3/5
West Virginia					1
Wisconsin	83/84	37		19	11
Wyoming				1	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 6 October 2017

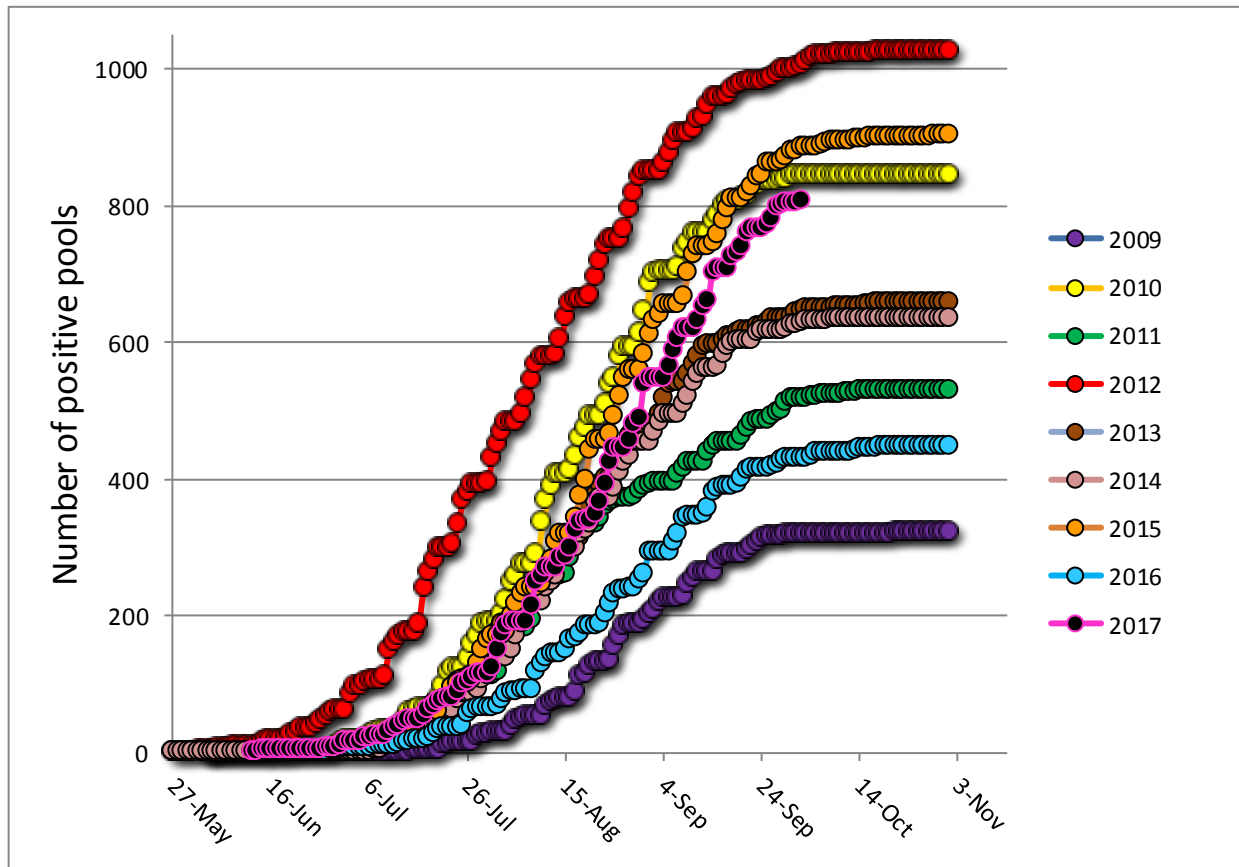
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	1430	16321	13	0.797
<i>Aedes atlanticus</i>	17	48		
<i>Aedes atropalpus</i>	28	113		
<i>Aedes canadensis canadensis</i>	60	609		
<i>Aedes cantator</i>	30	242		
<i>Aedes cinereus</i>	1	54		
<i>Aedes grossbecki</i>	2	4		
<i>Aedes japonicus</i>	425	1803	5	2.773
<i>Aedes mitchellae</i>	2	10		
<i>Aedes sollicitans</i>	31	664		
<i>Aedes stimulans</i>	1	10		
<i>Aedes taeniorhynchus</i>	15	97		
<i>Aedes triseriatus</i>	290	793		
<i>Aedes trivittatus</i>	8	156		
<i>Aedes vexans</i>	112	1072		
<i>Anopheles barberi</i>	3	3		
<i>Anopheles bradleyi</i>	154	1369		
<i>Anopheles crucians</i>	8	208	1	4.808
<i>Anopheles earlei</i>	1	1		
<i>Anopheles punctipennis</i>	92	505		
<i>Anopheles quadrimaculatus</i>	174	1165		
<i>Coquillettidia perturbans</i>	93	1559		
<i>Culex erraticus</i>	127	2065		
<i>Culex pipiens</i>	893	10490	29	2.765
<i>Culex restuans</i>	722	3694	10	2.707
<i>Culex salinarius</i>	300	2367	2	0.845
<i>Culex</i> spp.	2792	110985	733	6.604
<i>Culex territans</i>	49	132		
<i>Culiseta inornata</i>	1	1		
<i>Culiseta melanura</i>	618	8032	13	1.619
<i>Orthopodomyia signifera</i>	7	7		
<i>Psorophora ciliata</i>	4	8		
<i>Psorophora columbiae</i>	30	143	1	6.993
<i>Psorophora cyanescens</i>	1	1		
<i>Psorophora ferox</i>	20	293		
<i>Uranotaenia sapphirina</i>	4	38		
Grand Total	8545	165062	807	4.889

Remarks: To date, 8,545 pools of 165,062 mosquitoes from 35 species have been tested. 807 positive pools have been detected. Most continue to be in the enzootic vector, *Culex* (Mix, *pipiens* or *restuans*). Overall MFIR for New Jersey is at 4.889, up from 4.805 of last week. Activity level is approaching 2010 levels (see graph below). First positive *Culex* Mix pool was detected in Sussex County on 12 June. Last year, the first positive pool of *Culex* Mix was collected on 14 June in Monmouth County.

Humans, Horses and Wild Birds: Four human cases of WNV have been detected: Atlantic (1), Mercer (2) and Monmouth(1). (A previous case in Atlantic County has been re-assigned to a different state as the person developed

symptoms a day after arriving in NJ.) A second WNV horse has been detected. This horse, from Salem County, had an onset of symptoms date 29 September. There was no vaccination history, but the horse is, at this date, still alive. The first presumptive horse case was in Gloucester County, a 1 yo colt with symptom onset date of 24 September. An initial dose of 3 vaccinations was reported. This horse too is still reported alive at this date. Last year, human cases were first reported in CDC week 20, but under unusual circumstances. First typical case occurred in CDC week 27. For further information, see <http://www.nj.gov/health/cd/statistics/arboviral-stats/>.

Birds are no longer routinely tested in New Jersey.



Above is a graph showing cumulative number of positive pools for the last 9 years, inclusive of the most active (2012) and least active (2009) years. As the season peaks, the cumulative increase for 2017 is showing a definite increase in activity (black markers with pink borders). It will be a race to the end of the season to see if 2017 hits the activity level of 2010.

WNV Results by County through 6 October 2017.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		217	5526	5	0.905
	<i>Aedes albopictus</i>	30	497		
	<i>Aedes canadensis canadensis</i>	1	3		
	<i>Aedes japonicus</i>	4	119		
	<i>Aedes sollicitans</i>	6	318		
	<i>Aedes taeniorhynchus</i>	3	71		
	<i>Aedes triseriatus</i>	2	14		
	<i>Aedes vexans</i>	6	274		
	<i>Anopheles bradleyi</i>	10	359		
	<i>Coquillettidia perturbans</i>	14	468		

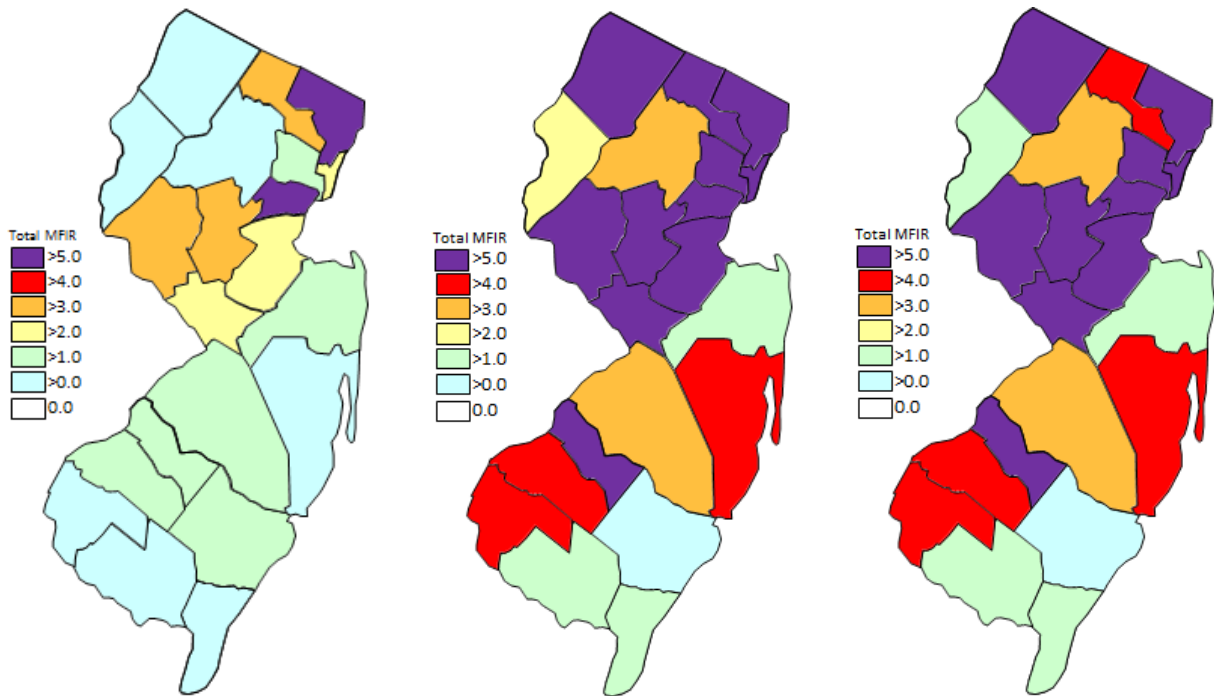
<i>Culex erraticus</i>	13	249		
<i>Culex pipiens</i>	28	890	1	1.124
<i>Culex salinarius</i>	6	73		
<i>Culex</i> spp.	28	822	3	3.650
<i>Culiseta melanura</i>	62	1284	1	0.779
<i>Psorophora columbiae</i>	1	1		
<i>Psorophora ferox</i>	3	84		
Bergen	215	10254	113	11.020
<i>Aedes albopictus</i>	4	129		
<i>Aedes japonicus</i>	10	90		
<i>Culex</i> spp.	201	10035	113	11.261
Burlington	270	7934	26	3.277
<i>Aedes albopictus</i>	14	227		
<i>Aedes canadensis canadensis</i>	11	198		
<i>Aedes cantator</i>	3	19		
<i>Aedes japonicus</i>	6	97		
<i>Aedes mitchellae</i>	2	10		
<i>Aedes taeniorhynchus</i>	2	11		
<i>Aedes triseriatus</i>	5	41		
<i>Aedes vexans</i>	5	149		
<i>Anopheles bradleyi</i>	7	248		
<i>Anopheles crucians</i>	4	129		
<i>Anopheles quadrimaculatus</i>	2	2		
<i>Coquillettidia perturbans</i>	2	124		
<i>Culex erraticus</i>	6	230		
<i>Culex salinarius</i>	18	760		
<i>Culex</i> spp.	95	3482	22	6.318
<i>Culiseta melanura</i>	86	2204	4	1.815
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	2		
Camden	183	6147	37	6.019
<i>Aedes albopictus</i>	28	170	4	23.529
<i>Aedes japonicus</i>	20	79	1	12.658
<i>Culex</i> spp.	106	4953	30	6.057
<i>Culiseta melanura</i>	29	945	2	2.116
Cape May	3457	17312	21	1.213
<i>Aedes albopictus</i>	647	2213		
<i>Aedes atlanticus</i>	17	48		
<i>Aedes atropalpus</i>	27	103		
<i>Aedes canadensis canadensis</i>	23	33		
<i>Aedes cantator</i>	9	9		
<i>Aedes japonicus</i>	207	481		
<i>Aedes sollicitans</i>	6	6		
<i>Aedes taeniorhynchus</i>	4	6		
<i>Aedes triseriatus</i>	206	365		
<i>Aedes vexans</i>	42	121		
<i>Anopheles bradleyi</i>	132	669		
<i>Anopheles punctipennis</i>	12	17		
<i>Anopheles quadrimaculatus</i>	125	803		
<i>Coquillettidia perturbans</i>	17	22		
<i>Culex erraticus</i>	61	1228		
<i>Culex pipiens</i>	737	7034	14	1.990

	<i>Culex restuans</i>	627	2080	4	1.923
	<i>Culex salinarius</i>	252	712	2	2.809
	<i>Culex</i> spp.	30	62		
	<i>Culex territans</i>	49	132		
	<i>Culiseta melanura</i>	205	1094	1	0.914
	<i>Orthopodomyia signifera</i>	5	5		
	<i>Psorophora columbiae</i>	8	9		
	<i>Psorophora ferox</i>	5	22		
	<i>Uranotaenia sapphirina</i>	4	38		
Cumberland		188	2450	3	1.224
	<i>Aedes albopictus</i>	27	361		
	<i>Aedes canadensis canadensis</i>	2	3		
	<i>Aedes japonicus</i>	8	36		
	<i>Aedes sollicitans</i>	2	20		
	<i>Aedes triseriatus</i>	1	2		
	<i>Aedes vexans</i>	21	357		
	<i>Anopheles bradleyi</i>	1	75		
	<i>Anopheles punctipennis</i>	3	25		
	<i>Anopheles quadrimaculatus</i>	11	64		
	<i>Coquillettidia perturbans</i>	11	105		
	<i>Culex erraticus</i>	4	20		
	<i>Culex salinarius</i>	6	246		
	<i>Culex</i> spp.	59	749	3	4.005
	<i>Culiseta melanura</i>	18	203		
	<i>Psorophora columbiae</i>	9	80		
	<i>Psorophora ferox</i>	5	104		
Essex		170	1054	6	5.693
	<i>Aedes albopictus</i>	77	327		
	<i>Aedes japonicus</i>	11	16		
	<i>Culex</i> spp.	82	711	6	8.439
Gloucester		448	18744	92	4.908
	<i>Aedes albopictus</i>	82	2170	2	0.922
	<i>Aedes atropalpus</i>	1	10		
	<i>Aedes japonicus</i>	17	175		
	<i>Aedes triseriatus</i>	5	38		
	<i>Aedes vexans</i>	1	1		
	<i>Anopheles crucians</i>	1	75	1	13.333
	<i>Anopheles punctipennis</i>	26	273		
	<i>Anopheles quadrimaculatus</i>	16	230		
	<i>Coquillettidia perturbans</i>	3	8		
	<i>Culex pipiens</i>	22	1124	5	4.448
	<i>Culex</i> spp.	205	14025	84	5.989
	<i>Culiseta melanura</i>	66	538		
	<i>Psorophora ferox</i>	3	77		
Hudson		185	7460	68	9.115
	<i>Culex</i> spp.	185	7460	68	9.115
Hunterdon		266	12054	86	7.135
	<i>Culex erraticus</i>	3	54		
	<i>Culex</i> spp.	263	12000	86	7.167

Mercer		255	3572	22	6.159
	<i>Aedes albopictus</i>	23	225		
	<i>Aedes japonicus</i>	47	159	2	12.579
	<i>Culex pipiens</i>	22	273	1	3.663
	<i>Culex restuans</i>	57	949	2	2.107
	<i>Culex spp.</i>	106	1966	17	8.647
Middlesex		213	7685	55	7.157
	<i>Aedes albopictus</i>	1	20	1	50.000
	<i>Culex spp.</i>	188	7315	51	6.972
	<i>Culiseta melanura</i>	24	350	3	8.571
Monmouth	<i>*Previous Cx. salinarius = Culex Mix.</i>	591	10059	14	1.392
	<i>Aedes albopictus</i>	250	6782		
	<i>Aedes canadensis canadensis</i>	23	372		
	<i>Aedes cantator</i>	17	176		
	<i>Aedes grossbecki</i>	2	4		
	<i>Aedes japonicus</i>	27	99		
	<i>Aedes sollicitans</i>	15	317		
	<i>Aedes taeniorhynchus</i>	6	9		
	<i>Aedes triseriatus</i>	16	58		
	<i>Aedes trivittatus</i>	2	2		
	<i>Aedes vexans</i>	29	70		
	<i>Anopheles barberi</i>	3	3		
	<i>Anopheles bradleyi</i>	2	13		
	<i>Anopheles crucians</i>	3	4		
	<i>Anopheles earlei</i>	1	1		
	<i>Anopheles punctipennis</i>	45	118		
	<i>Anopheles quadrimaculatus</i>	10	41		
	<i>Coquillettidia perturbans</i>	8	18		
	<i>Culex erraticus</i>	11	36		
	<i>Culex restuans</i>	1	1		
	<i>Culex salinarius</i>	2	14		
	<i>Culex spp.</i>	82	1633	14	8.573
	<i>Culiseta inornata</i>	1	1		
	<i>Culiseta melanura</i>	20	242		
	<i>Orthopodomyia signifera</i>	1	1		
	<i>Psorophora ciliata</i>	3	3		
	<i>Psorophora columbiae</i>	8	37		
	<i>Psorophora cyanescens</i>	1	1		
	<i>Psorophora ferox</i>	2	3		
Morris		295	8260	29	3.511
	<i>Aedes albopictus</i>	52	189	1	5.291
	<i>Coquillettidia perturbans</i>	12	429		
	<i>Culex spp.</i>	230	7641	28	3.664
	<i>Culiseta melanura</i>	1	1		
Ocean		221	3244	14	4.316
	<i>Aedes albopictus</i>	84	1703	2	1.174
	<i>Aedes japonicus</i>	9	47		
	<i>Aedes triseriatus</i>	4	12		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Coquillettidia perturbans</i>	5	103		
	<i>Culex erraticus</i>	7	101		

<i>Culex</i> spp.	88	1161	12	10.336
<i>Culiseta melanura</i>	23	116		
Passaic	145	1252	7	5.591
<i>Aedes albopictus</i>	9	58		
<i>Aedes japonicus</i>	24	150		
<i>Aedes triseriatus</i>	3	11		
<i>Coquillettidia perturbans</i>	8	12		
<i>Culex erraticus</i>	2	4		
<i>Culex pipiens</i>	67	806	5	6.203
<i>Culex restuans</i>	14	90	1	11.111
<i>Culex</i> spp.	12	115	1	8.696
<i>Culiseta melanura</i>	6	6		
Salem	212	2494	10	4.010
<i>Aedes albopictus</i>	46	239	1	4.184
<i>Aedes japonicus</i>	10	27	1	37.037
<i>Aedes sollicitans</i>	2	3		
<i>Aedes triseriatus</i>	15	37		
<i>Aedes vexans</i>	5	10		
<i>Anopheles bradleyi</i>	2	5		
<i>Anopheles quadrimaculatus</i>	9	22		
<i>Coquillettidia perturbans</i>	6	66		
<i>Culex erraticus</i>	20	143		
<i>Culex pipiens</i>	6	7	1	142.857
<i>Culex restuans</i>	4	6		
<i>Culex salinarius</i>	2	3		
<i>Culex</i> spp.	47	1043	4	3.835
<i>Culiseta melanura</i>	34	867	2	2.307
<i>Psorophora columbiae</i>	3	14	1	71.429
<i>Psorophora ferox</i>	1	2		
Somerset	218	5732	36	6.281
<i>Aedes albopictus</i>	9	49		
<i>Aedes japonicus</i>	10	57		
<i>Aedes triseriatus</i>	4	13		
<i>Anopheles punctipennis</i>	3	21		
<i>Culex</i> spp.	192	5592	36	6.438
Sussex	277	6271	35	5.581
<i>Aedes albopictus</i>	9	18		
<i>Aedes japonicus</i>	3	57		
<i>Aedes triseriatus</i>	27	187		
<i>Anopheles punctipennis</i>	1	40		
<i>Coquillettidia perturbans</i>	5	90		
<i>Culex pipiens</i>	11	356	2	5.618
<i>Culex restuans</i>	19	568	3	5.282
<i>Culex salinarius</i>	14	559		
<i>Culex</i> spp.	146	4228	30	7.096
<i>Culiseta melanura</i>	42	168		
Union	219	13758	97	7.050
<i>Aedes albopictus</i>	36	919	2	2.176
<i>Culex</i> spp.	183	12839	95	7.399

Warren	300	13800	31	2.246
<i>Aedes albopictus</i>	2	25		
<i>Aedes cantator</i>	1	38		
<i>Aedes cinereus</i>	1	54		
<i>Aedes japonicus</i>	12	114	1	8.772
<i>Aedes stimulans</i>	1	10		
<i>Aedes triseriatus</i>	2	15		
<i>Aedes trivittatus</i>	6	154		
<i>Aedes vexans</i>	3	90		
<i>Anopheles punctipennis</i>	1	10		
<i>Anopheles quadrimaculatis</i>	1	3		
<i>Coquillettidia perturbans</i>	2	114		
<i>Culex</i> spp.	264	13153	30	2.281
<i>Culiseta melanura</i>	2	14		
<i>Psorophora ciliata</i>	1	5		
<i>Psorophora ferox</i>	1	1		
Grand Total	8545	165062	807	4.889



Cumulative WNV activity in 2016. WNV activity to 6 October 2017. WNV activity last week, 2017

Saint Louis Encephalitis (SLE) to 6 October 2017.

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.

No pools of SLE have tested positive for 2017. No human cases have been reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		20	1042		

	<i>Culex</i> spp.	20	1042		
Cape May		765	7069		
	<i>Culex pipiens</i>	735	7007		
	<i>Culex</i> spp.	30	62		
Grand Total		785	8111		

La Crosse Encephalitis (LAC) to 6 October 2017.

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).

No pools of SLE have tested positive for 2017. No human cases have been reported.

County	Species	Positives		MFIR
Burlington		17	304	
	<i>Aedes albopictus</i>	8	171	
	<i>Aedes japonicus</i>	4	92	
	<i>Aedes triseriatus</i>	5	41	
Cape May		41	94	
	<i>Aedes triseriatus</i>	41	94	
Sussex		27	187	
	<i>Aedes triseriatus</i>	27	187	
Grand Total		85	585	

Dengue (DENV) to 6 October 2017.

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 of Dengue have tested positive in 2017. There are 6 travel-related human cases in NJ.

County	Species	DENV1		DENV2		DENV3		DENV4		Pos.	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Mercer		8	87	8	87	8	87	8	87		
	<i>Aedes albopictus</i>	8	87	8	87	8	87	8	87		
Grand Total		8	87	8	87	8	87	8	87		

Chikungunya (CHIK) to 6 October 2017.

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 of CHIK have tested positive in 2017. There are 8 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Cape May		434	1184		
	<i>Aedes albopictus</i>	434	1184		
Mercer		8	87		
	<i>Aedes albopictus</i>	8	87		
Middlesex		1	20		
	<i>Aedes albopictus</i>	1	20		
Grand Total		443	1291		

Zika (ZIKV) to 6 October 2017.

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 2017. There are 25 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Cape May		643	2195		
	<i>Aedes albopictus</i>	643	2195		
Mercer		8	87		
	<i>Aedes albopictus</i>	8	87		
Middlesex		1	20		
	<i>Aedes albopictus</i>	1	20		
Grand Total		652	2302		