VECTOR SURVEILLANCE IN NEW JERSEY

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

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CDC WEEK 41: 8 October to 14 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	5	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 eighteen positive EEE pools have been detected, all in *Culiseta melanura*. The latest positive pools were found at a traditional resting box site. A total of three horses 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, 8,275 *Cs. melanura* from 636 pools have been tested, with eighteen positive pools detected for an overall *Cs. melanura* MFIR of 2.175. 14,546 specimens from 21 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.789.

Traditional Resting Box Sites: 3,009 *Cs. melanura* from 149 pools have been tested for EEE, with 41 additional *Cs. melanura* from 4 pools to be tested. One additional positive pool of *Cs. melanura* from Centerton (10 Oct) was detected. Eight positive pools were previously detected at the traditional resting box sites.

	Additional *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD.**				
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Atlantic	GR, **LT**, RB	47	977	2	2.05
Burlington	CO_2, **UVLT**	71	2045	3	1.47
Cape May	BGS, GR, **RB**	190	939	3	3.19
Cumberland	LT, **RB**	19	229	1	4.37
Gloucester	RB	53	372		
Middlesex	RB	26	364		
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	43	171		
Warren	LT	2	14		
TOTAL		**487**	**5266**	**9**	**1.71**

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. No new positives were collected this week. Previously, nine positive pools were collected from these county-set sites.

Horses and Humans: There have been three horses with EEE infections. The last horse reported, in Cumberland County, had onset of symptoms on 30 September and euthanized the same day. There was no vaccination history. The second 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.

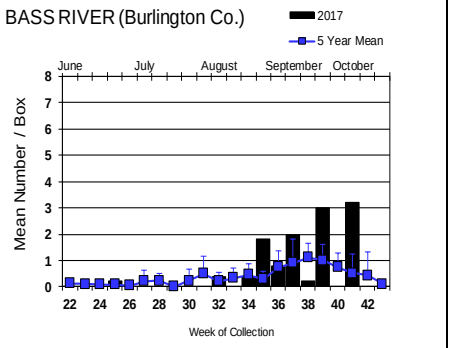
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

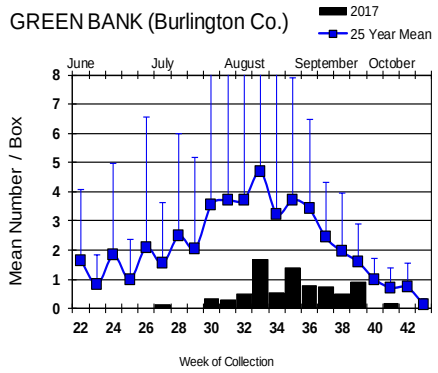
Additional Species: Twenty-one additional species were tested for EEE. No additional positives were detected. Previously reported *Aedes provocans* was re-assigned to *Anopheles punctipennis.*

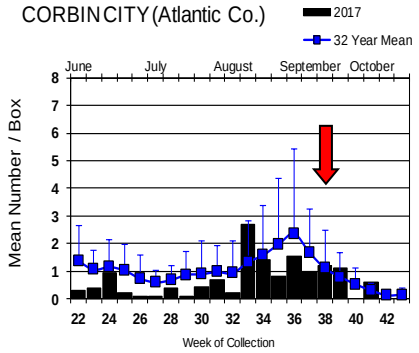
Species other than *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	1	1		
Aedes canadensis canadensis	16	210		
Aedes cantator	12	28		
Aedes japonicus	2	20		
Aedes mitchellae	2	10		
Aedes sollicitans	8	26		
Aedes taeniorhynchus	2	11		
Aedes triseriatus	1	4		
Aedes vexans	6	150		
Anopheles bradleyi	138	972		
Anopheles crucians	5	150		
Anopheles punctipennis	42	358		
Anopheles quadrimaculatus	23	271		
Coquillettidia perturbans	77	1442		
Culex erraticus	111	1965		
Culex pipiens	735	7007		
Culex restuans	1	1		
Culex salinarius	275	1717		
Culex sp.	44	143		
Psorophora columbiae	4	50		
Psorophora cyanescens	1	1		
Psorophora ferox	3	9		
State Total	**1509**	**14546**		

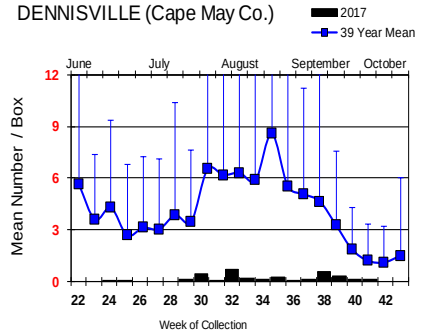
Culiseta melanura Population Graphs

Coastal

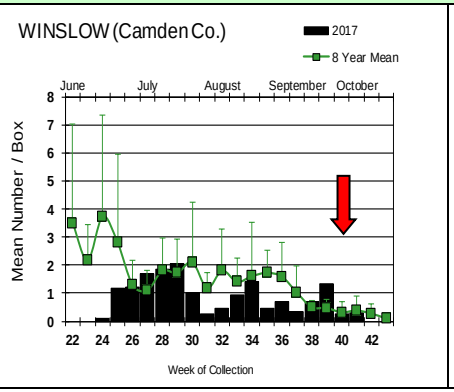


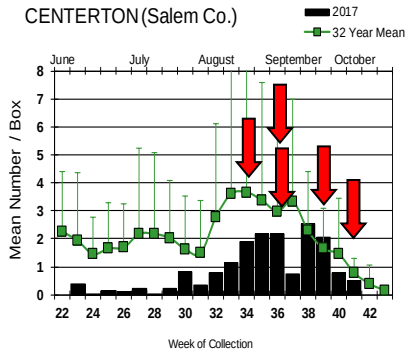


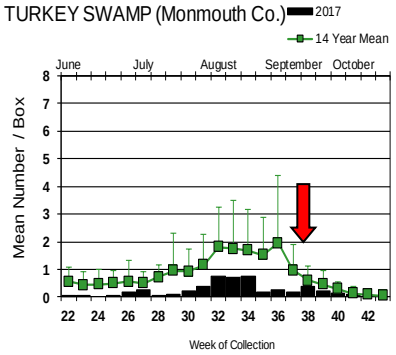


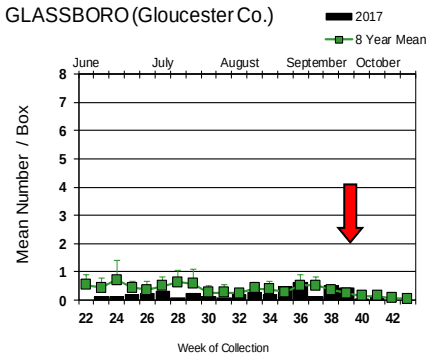


Inland









One additional pool of EEE positive *Cs.* melanura at the traditional resting box sites was detected at the Centerton site, collected 10 October. Eight previous detections of EEE had occurred at Centerton, Corbin City, Turkey Swamp, Winslow and Glassboro. Mosquito populations for the most part declined at the sites, with the exception at Bass River, where another significantly high abundance over historical data was collected. 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(6) NC(1) NJ(3) NY(1) OH(1) SC(8) TX(1) WI(21)
- mosquito pools: MA(1) NJ(17) NY(36) RI(2)
- sentinel: FL(35) 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					37
Alaska					
Arizona	1	245/284		0	76/85
Arkansas				1	14
California	428/449	3182/3234	264/281	17	258
Colorado	5	148		5	53
Connecticut		123			3
Delaware					
DC					1
Florida	1	2	62/87	2/3	1
Georgia		0		1	31/37
Hawaii					
Idaho	3	122		8/11	18/19
Illinois	23/24	1937/1964			4262
Indiana	0	636/641		11	16
Iowa	1	82/85		2	7/10
Kansas		13		0	14/19
Kentucky				14	5/6
Louisiana	43	395/418			39/44
Maine		0		0	0
Maryland					3/4
Mass.		289		0	2
Michigan	148	86		13	35/36
Minnesota					23
Mississippi		254		1	58/60
Missouri		0		3/4	13

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana					8/10
Nebraska	1	81		1	52
Nevada					49
New Hampshire		7		0	0
New Jersey		807/826		2	4/5
New Mexico					25/26
New York		1196/1213		11/15	32/37
North Carolina					2
North Dakota	11	16		1	61
Ohio		2178		10	21/22
Oklahoma					28/30
Oregon		91		5/6	5/6
Pennsylvania	42	3199		13	12
Rhode Island		3		0	1
South Carolina	9/13	42/104		4	7/10
South Dakota	2	55			67/69
Tennessee					16/19
Texas	3	958/980		9	100/105
Utah		433		27/30	49/52
Vermont					1
Virginia				1	8/9
Washington	4	34		9	5/6
West Virginia					1
Wisconsin	84	37		19	11/14
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 13 October 2017

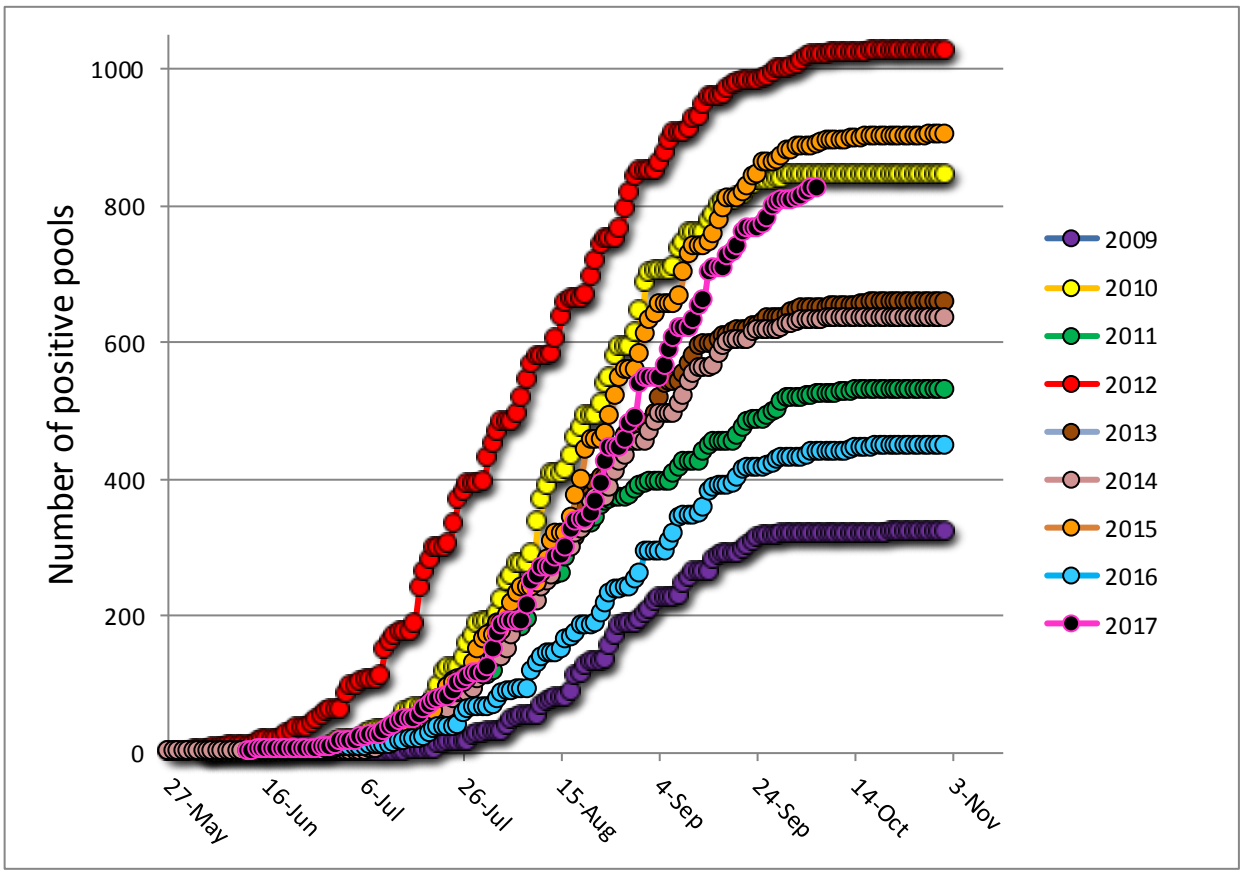
Species	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	1491	17279	14	0.810
Aedes atlanticus	17	48		
Aedes atropalpus	28	113		
Aedes canadensis canadensis	60	609		
Aedes cantator	30	242		
Aedes cinereus	1	54		
Aedes grossbecki	2	4		
Aedes japonicus	453	1922	5	2.601
Aedes mitchellae	2	10		
Aedes sollicitans	31	664		
Aedes stimulans	1	10		
Aedes taeniorhynchus	15	97		
Aedes triseriatus	296	811		
Aedes trivittatus	8	156		
Aedes vexans	114	1078		
Anopheles barberi	3	3		
Anopheles bradleyi	154	1369		
Anopheles crucians	9	229	1	4.367
Anopheles earlei	1	1		
Anopheles punctipennis	103	553		
Anopheles quadrimaculatus	179	1203		
Coquillettidia perturbans	93	1559		
Culex erraticus	133	2083		
Culex pipiens	909	10610	31	2.922
Culex restuans	723	3695	10	2.706
Culex salinarius	300	2367	2	0.845
Culex spp.	2921	114114	748	6.555
Culex territans	49	132		
Culiseta inornata	1	1		
Culiseta melanura	641	8290	14	1.689
Orthopodomyia signifera	7	7		
Psorophora ciliata	4	8		
Psorophora columbiae	30	143	1	6.993
Psorophora cyanescens	1	1		
Psorophora ferox	20	293		
Uranotaenia sapphirina	4	38		
Grand Total	**8834**	**169796**	**826**	**4.865**

Remarks: To date, 8,834 pools of 169,796 mosquitoes from 35 species have been tested. 826 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 4.865, down from 4.889 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: Five human cases of WNV have been detected: Atlantic (1), Mercer (2) Gloucester (1) 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.) Previously, two horse cases have been detected. The second 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 13 October 2017.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**230**	**5690**	**5**	**0.879**
	Aedes albopictus	34	578		
	Aedes canadensis canadensis	1	3		
	Aedes japonicus	4	119		
	Aedes sollicitans	6	318		
	Aedes taeniorhynchus	3	71		
	Aedes triseriatus	2	14		
	Aedes vexans	6	274		
	Anopheles bradleyi	10	359		
	Coquillettidia perturbans	14	468		

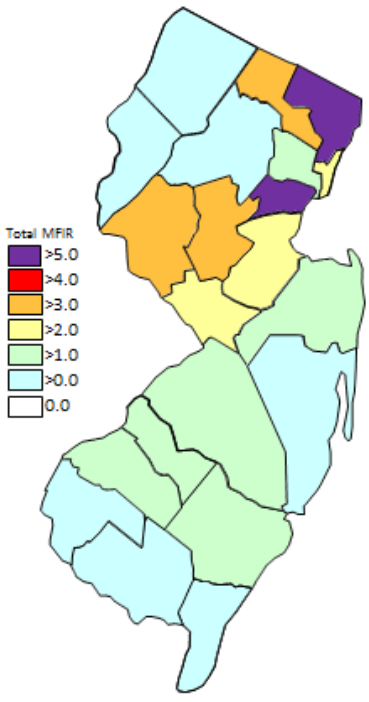
	Culex erraticus	15	258		
	Culex pipiens	28	890	1	1.124
	Culex salinarius	6	73		
	Culex spp.	32	858	3	3.497
	Culiseta melanura	65	1322	1	0.756
	Psorophora columbiae	1	1		
	Psorophora ferox	3	84		
Bergen		**230**	**10961**	**122**	**11.130**
	Aedes albopictus	4	129		
	Aedes japonicus	11	97		
	Culex spp.	215	10735	122	11.365
Burlington		**286**	**8143**	**26**	**3.193**
	Aedes albopictus	14	227		
	Aedes canadensis canadensis	11	198		
	Aedes cantator	3	19		
	Aedes japonicus	11	126		
	Aedes mitchellae	2	10		
	Aedes taeniorhynchus	2	11		
	Aedes triseriatus	5	41		
	Aedes vexans	5	149		
	Anopheles bradleyi	7	248		
	Anopheles crucians	5	150		
	Anopheles quadrimaculatus	2	2		
	Coquillettidia perturbans	2	124		
	Culex erraticus	6	230		
	Culex salinarius	18	760		
	Culex spp.	100	3570	22	6.162
	Culiseta melanura	91	2275	4	1.758
	Orthopodomyia signifera	1	1		
	Psorophora columbiae	1	2		
Camden		**200**	**6298**	**38**	**6.034**
	Aedes albopictus	31	185	4	21.622
	Aedes japonicus	23	86	1	11.628
	Aedes triseriatus	1	1		
	Anopheles punctipennis	1	1		
	Culex spp.	113	5061	31	6.125
	Culiseta melanura	31	964	2	2.075
Cape May		**3458**	**17317**	**21**	**1.213**
	Aedes albopictus	647	2213		
	Aedes atlanticus	17	48		
	Aedes atropalpus	27	103		
	Aedes canadensis canadensis	23	33		
	Aedes cantator	9	9		
	Aedes japonicus	207	481		
	Aedes sollicitans	6	6		
	Aedes taeniorhynchus	4	6		
	Aedes triseriatus	206	365		
	Aedes vexans	42	121		
	Anopheles bradleyi	132	669		
	Anopheles punctipennis	12	17		
	Anopheles quadrimaculatus	125	803		
	Coquillettidia perturbans	17	22		

	Culex erraticus	61	1228		
	Culex pipiens	737	7034	14	1.990
	Culex restuans	627	2080	4	1.923
	Culex salinarius	252	712	2	2.809
	Culex spp.	30	62		
	Culex territans	49	132		
	Culiseta melanura	206	1099	1	0.910
	Orthopodomyia signifera	5	5		
	Psorophora columbiae	8	9		
	Psorophora ferox	5	22		
	Uranotaenia sapphirina	4	38		
Cumberland		**203**	**2614**	**3**	**1.148**
	Aedes albopictus	31	440		
	Aedes canadensis canadensis	2	3		
	Aedes japonicus	9	39		
	Aedes sollicitans	2	20		
	Aedes triseriatus	1	2		
	Aedes vexans	23	363		
	Anopheles bradleyi	1	75		
	Anopheles punctipennis	3	25		
	Anopheles quadrimaculatus	13	75		
	Coquillettidia perturbans	11	105		
	Culex erraticus	5	22		
	Culex salinarius	6	246		
	Culex spp.	63	786	3	3.817
	Culiseta melanura	19	229		
	Psorophora columbiae	9	80		
	Psorophora ferox	5	104		
Essex		**170**	**1054**	**6**	**5.693**
	Aedes albopictus	77	327		
	Aedes japonicus	11	16		
	Culex spp.	82	711	6	8.439
Gloucester		**485**	**19649**	**95**	**4.835**
	Aedes albopictus	87	2276	2	0.879
	Aedes atropalpus	1	10		
	Aedes japonicus	20	197		
	Aedes triseriatus	5	38		
	Aedes vexans	1	1		
	Anopheles crucians	1	75	1	13.333
	Anopheles punctipennis	31	312		
	Anopheles quadrimaculatus	18	254		
	Coquillettidia perturbans	3	8		
	Culex pipiens	26	1167	7	5.998
	Culex spp.	217	14646	85	5.804
	Culiseta melanura	72	588		
	Psorophora ferox	3	77		
Hudson		**188**	**7503**	**68**	**9.063**
	Culex spp.	188	7503	68	9.063
Hunterdon		**281**	**12364**	**88**	**7.117**
	Culex erraticus	3	54		

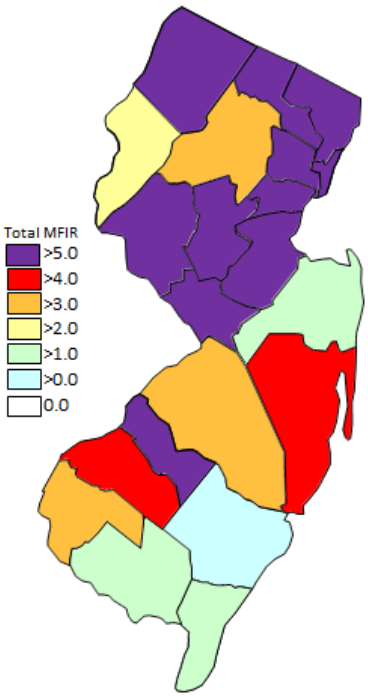
	Culex spp.	278	12310	88	7.149
Mercer		**280**	**3740**	**22**	**5.882**
	Aedes albopictus	33	343		
	Aedes japonicus	53	176	2	11.364
	Culex pipiens	28	298	1	3.356
	Culex restuans	57	949	2	2.107
	Culex spp.	109	1974	17	8.612
Middlesex		**225**	**7915**	**56**	**7.075**
	Aedes albopictus	2	37	1	27.027
	Culex spp.	197	7514	51	6.787
	Culiseta melanura	26	364	4	10.989
Monmouth		**623**	**10487**	**14**	**1.335**
	Aedes albopictus	265	7155		
	Aedes canadensis canadensis	23	372		
	Aedes cantator	17	176		
	Aedes grossbecki	2	4		
	Aedes japonicus	29	103		
	Aedes sollicitans	15	317		
	Aedes taeniorhynchus	6	9		
	Aedes triseriatus	17	60		
	Aedes trivittatus	2	2		
	Aedes vexans	29	70		
	Anopheles barberi	3	3		
	Anopheles bradleyi	2	13		
	Anopheles crucians	3	4		
	Anopheles earlei	1	1		
	Anopheles punctipennis	49	125		
	Anopheles quadrimaculatus	11	44		
	Coquillettidia perturbans	8	18		
	Culex erraticus	12	39		
	Culex restuans	1	1		
	Culex salinarius	2	14		
	Culex spp.	89	1663	14	8.419
	Culiseta inornata	1	1		
	Culiseta melanura	21	248		
	Orthopodomyia signifera	1	1		
	Psorophora ciliata	3	3		
	Psorophora columbiae	8	37		
	Psorophora cyanescens	1	1		
	Psorophora ferox	2	3		
Morris		**315**	**8418**	**29**	**3.445**
	Aedes albopictus	60	209	1	4.785
	Coquillettidia perturbans	12	429		
	Culex spp.	242	7779	28	3.599
	Culiseta melanura	1	1		
Ocean		**235**	**3341**	**14**	**4.190**
	Aedes albopictus	90	1780	2	1.124
	Aedes japonicus	11	51		
	Aedes triseriatus	4	12		
	Anopheles punctipennis	1	1		

	Coquillettidia perturbans	5	103		
	Culex erraticus	8	104		
	Culex restuans	1	1		
	Culex spp.	92	1173	12	10.230
	Culiseta melanura	23	116		
Passaic		**145**	**1252**	**7**	**5.591**
	Aedes albopictus	9	58		
	Aedes japonicus	24	150		
	Aedes triseriatus	3	11		
	Coquillettidia perturbans	8	12		
	Culex erraticus	2	4		
	Culex pipiens	67	806	5	6.203
	Culex restuans	14	90	1	11.111
	Culex spp.	12	115	1	8.696
	Culiseta melanura	6	6		
Salem		**219**	**2528**	**10**	**3.956**
	Aedes albopictus	48	243	1	4.115
	Aedes japonicus	12	29	1	34.483
	Aedes sollicitans	2	3		
	Aedes triseriatus	15	37		
	Aedes vexans	5	10		
	Anopheles bradleyi	2	5		
	Anopheles quadrimaculatus	9	22		
	Coquillettidia perturbans	6	66		
	Culex erraticus	21	144		
	Culex pipiens	7	8	1	125.000
	Culex restuans	4	6		
	Culex salinarius	2	3		
	Culex spp.	47	1043	4	3.835
	Culiseta melanura	35	893	2	2.240
	Psorophora columbiae	3	14	1	71.429
	Psorophora ferox	1	2		
Somerset		**227**	**5794**	**36**	**6.213**
	Aedes albopictus	10	55		
	Aedes japonicus	10	57		
	Aedes triseriatus	4	13		
	Anopheles punctipennis	4	22		
	Culex spp.	199	5647	36	6.375
Sussex		**292**	**6494**	**37**	**5.698**
	Aedes albopictus	9	18		
	Aedes japonicus	3	57		
	Aedes triseriatus	29	200		
	Anopheles punctipennis	1	40		
	Coquillettidia perturbans	5	90		
	Culex pipiens	16	407	2	4.914
	Culex restuans	19	568	3	5.282
	Culex salinarius	14	559		
	Culex spp.	153	4384	32	7.299
	Culiseta melanura	43	171		
Union		**230**	**14373**	**98**	**6.818**

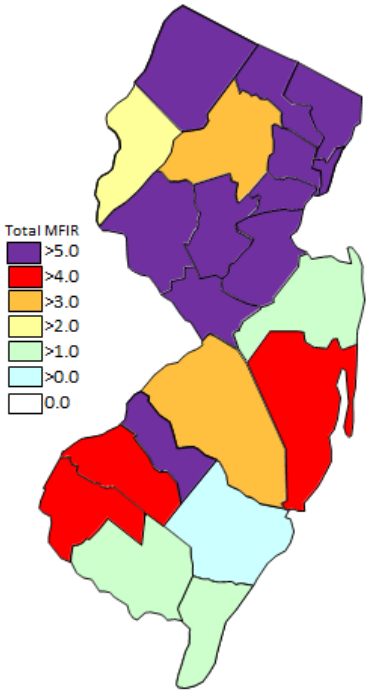
	Aedes albopictus	37	977	3	3.071
	Culex spp.	193	13396	95	7.092
Warren		**312**	**13861**	**31**	**2.236**
	Aedes albopictus	3	29		
	Aedes cantator	1	38		
	Aedes cinereus	1	54		
	Aedes japonicus	15	138	1	7.246
	Aedes stimulans	1	10		
	Aedes triseriatus	4	17		
	Aedes trivittatus	6	154		
	Aedes vexans	3	90		
	Anopheles punctipennis	1	10		
	Anopheles quadrimaculatis	1	3		
	Coquillettidia perturbans	2	114		
	Culex spp.	270	13184	30	2.275
	Culiseta melanura	2	14		
	Psorophora ciliata	1	5		
	Psorophora ferox	1	1		
Grand Total		**8834**	**169796**	**826**	**4.865**



Cumulative WNV activity in 2016.



WNV activity to 13 October 2017.



WNV activity last week, 2017

Saint Louis Encephalitis (SLE) to 13 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**		
	Culex spp.	20	1042		
Cape May		**765**	**7069**		
	Culex pipiens	735	7007		
	Culex spp.	30	62		
Grand Total		**785**	**8111**		

La Crosse Encephalitis (LAC) to 13 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**		
	Aedes albopictus	8	171		
	Aedes japonicus	4	92		
	Aedes triseriatus	5	41		
Cape May		**41**	**94**		
	Aedes triseriatus	41	94		
Sussex		**29**	**200**		
	Aedes triseriatus	29	200		
Grand Total		**87**	**598**		

Dengue (DENV) to 13 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		**13**	**156**	**13**	**156**	**13**	**156**	**13**	**156**		
	Aedes albopictus	13	156	13	156	13	156	13	156		
Middlesex		**1**	**20**	**1**	**20**	**1**	**20**	**1**	**20**		
	Aedes albopictus	1	20	1	20	1	20	1	20		
Grand Total		**14**	**176**	**14**	**176**	**14**	**176**	**14**	**176**		

Chikungunya (CHIK) to 13 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 6 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Cape May		**434**	**1184**		
	Aedes albopictus	434	1184		
Mercer		**13**	**156**		
	Aedes albopictus	13	156		
Middlesex		**1**	**20**		
	Aedes albopictus	1	20		
Grand Total		**448**	**1360**		

Zika (ZIKV) to 13 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**		
	Aedes albopictus	643	2195		
Mercer		**13**	**156**		
	Aedes albopictus	13	156		
Middlesex		**1**	**20**		
	Aedes albopictus	1	20		
Grand Total		**657**	**2371**		