

VECTOR SURVEILLANCE IN NEW JERSEY

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

Prepared by Lisa M. Reed, Diana Carle and Dina Fonseca

Center for Vector Biology, Rutgers University

CDC WEEK 37: 9 September to 15 September, 2018



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Culiseta melanura and Eastern Equine Encephalitis

SITE/Boxes	Inland or Coastal	Historic Population Mean	Current Weekly Mean	Total Tested* (Collected)	Total Pools Tested* (Submitted)	EEE Isolation Pools	MFIR
Bass River (Burlington Co.)/5	Coastal	1.08	0.00	3	2		
Green Bank (Burlington Co.)/25	Coastal	2.37	7.44	68 (254)‡	10 (13)		
Corbin City (Atlantic Co.)/25	Coastal	1.66	1.32	144‡ (177)	13 (14)		
Dennisville (Cape May Co.)/50	Coastal	4.53	0.02	291	16		
Winslow (Camden Co.)/50	Inland	1.21	1.50	2006	47	4	1.994
Centerton (Salem Co.)/50	Inland	3.26	0.64	323	16	2	6.192
Turkey Swamp (Monmouth Co.)/50	Inland	0.90	0.86	319 (362)‡	16 (17)	1	2.762
Glassboro (Gloucester Co.)/50	Inland	0.72	0.32	152	14		

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

Remarks: Currently for the 2018 season, there are 12 detections of EEE among submitted mosquito pools, seven at resting box sites (4 at Winslow, 2 at Centerton, 1 at Turkey Swamp) and five from county-set traps, the latest from Burlington County. All positive pools are in the enzootic vector, *Culiseta melanura*. Four horses have tested positive for EEE; all were not vaccinated and all were euthanized.

Statewide, 6756 *Cs. melanura* from 425 pools have been tested, with 12 positive pools detected for an overall *Cs. melanura* MFIR of 1.776. 14143 specimens in 1293 pools from 20 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.574.

Traditional Resting Box Sites: 3344 *Cs. melanura* from 134 pools have been tested for EEE (plus five pools totaling 262 to be tested) in 2018. No additional positive pools were detected at the traditional resting box sites this past week. A total of 7 positive pools have been detected at the traditional resting box sites.

Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in BOLD UNDERLINED .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO2, GR , RB	31	773	1	1.292
Bergen	RB	7	21		
Burlington	CDCL	45	1848	4	2.165
Cape May	GR, RB	150	404		
Cumberland	BGSCL, RB	13	74		
Middlesex	RB	2	21		
Monmouth	OTHER	1	2		
Morris	CDCL	1	1		
Ocean	CDCL, RB	24	140		
Passaic	RB	4	4		
Salem	CDCL	4	49		
Sussex	ABC	8	69		
Warren	CDCL	1	6		
TOTAL		291	3412	5	1.465

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 detected in Burlington County, for a total of 5 county-trapped positive pools.

Horses and Humans: Four horses have been reported with EEE. The fourth horse was reported with EEE in Ocean County. This gelding of unknown age and unknown vaccination history showed symptoms on the 3rd of September and was euthanized on the 4th. A third EEE horse was reported in Ocean County. This seven year old had an unknown vaccination history, but had apparently been purchased 2 months prior. Date of onset and euthanasia was 4 Sept. The second reported horse with EEE was euthanized on 27 Aug in Camden County. This 12 year old gelding had not been vaccinated this year. The first horse case of EEE was reported in a 5 year-old mare in Monmouth County. This horse was reportedly vaccinated last year, but was not current for 2018. She was euthanized on 18 Aug. Last year, there were 6 horses detected with EEE. EEE is nearly always fatal for those horses without a complete vaccination history. Horses in New Jersey that have gone down in the past with EEE have either an incomplete vaccination history or NO vaccination history. **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

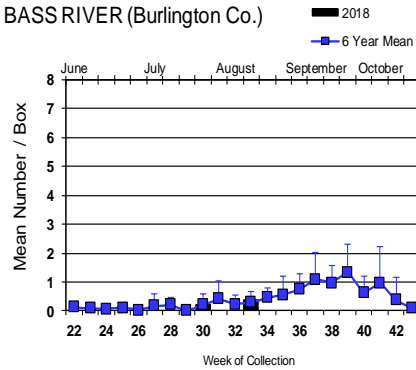
Additional Species: Twenty additional species were tested for EEE. No positives were detected.

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	7	34		
<i>Aedes canadensis canadensis</i>	1	10		
<i>Aedes cantator</i>	2	2		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	1	1		
<i>Aedes sollicitans</i>	9	35		
<i>Aedes taeniorhynchus</i>	3	88		
<i>Aedes triseriatus</i>	1	1		
<i>Aedes vexans</i>	2	28		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	48	346		
<i>Anopheles punctipennis</i>	13	43		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	82	1761		
<i>Culex erraticus</i>	79	722		
<i>Culex pipiens</i>	710	9260		
<i>Culex salinarius</i>	278	1297		
<i>Culex</i> spp.	47	195		
<i>Culiseta inornata</i>	1	10		
<i>Psorophora columbiae</i>	2	7		
<i>Psorophora ferox</i>	4	300		
State Total	1293	14143		

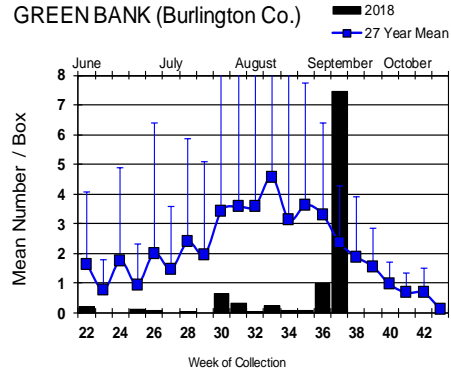
Culiseta melanura Populations

Coastal

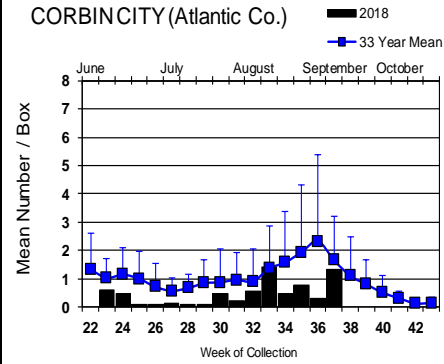
BASS RIVER (Burlington Co.)



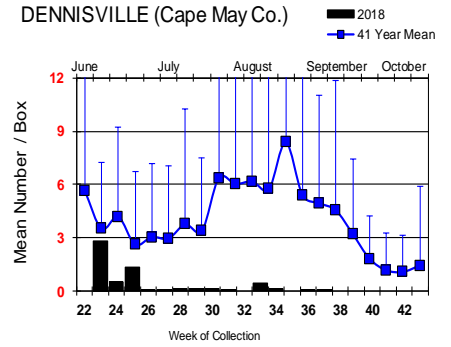
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

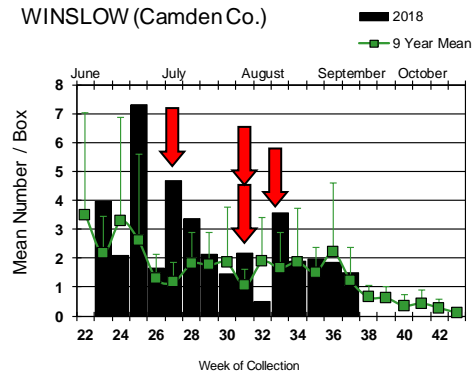


DENNISVILLE (Cape May Co.)

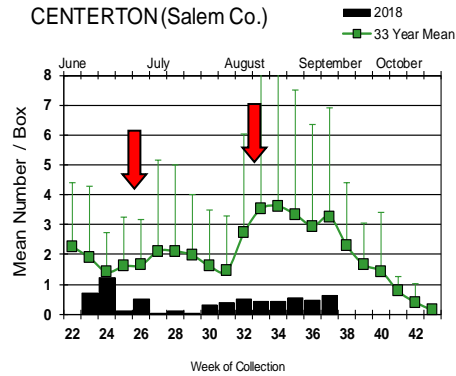


Inland

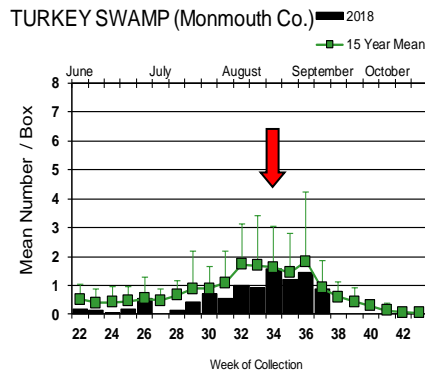
WINSLOW (Camden Co.)



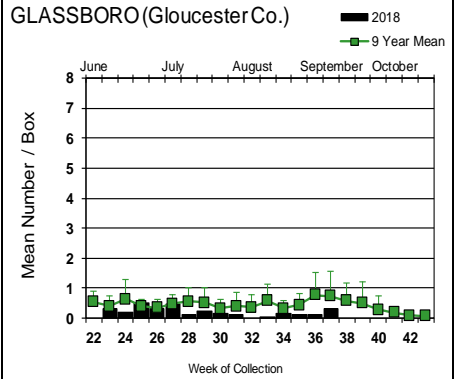
CENTERTON (Salem Co.)





TURKEY SWAMP (Monmouth Co.)



GLASSBORO (Gloucester Co.)



Populations exploded at Green Bank this past week. For the past two decades, Green Bank has been experiencing low population numbers as the canopy at the resting box site has opened up. Occasionally, abundances would soar, but in the 1980's and 1990's, populations were much higher overall, as evidenced by the large error bars in the historical averages.

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

EEE in US (2018 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: AL(3) FL(51/2 mule & donkey) GA(6) NC(7) NJ(4) NY(1) SC(1) VA(2) WI(1) Ontario Canada(8)
- mosquito pools: FL(2) NJ(12) NY(17) RI(4) NC(1)
- sentinel: FL(141/6 owl emus & 5 emu flocks) DE(6)
- human: FL(3) GA(1)

West Nile Virus Positive Organisms in US, 2018

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					13/18
Alaska					
Arizona		55			7
Arkansas					
California	397/422	1,456/1,606	84/104	6	42/56
Colorado	Present	Present			16
Connecticut		279/334			
Delaware	15/27		28/47	3	2/5
DC	1	14			6
Florida	1	22/25	188/212	1/2	7/8
Georgia		Present			7
Hawaii					
Idaho		39		2	4/9
Illinois	22/24	2,699/2,865		2	34/51
Indiana		429/490			4/9
Iowa		45/70		4	18/30
Kansas					2
Kentucky		Present			1
Louisiana	67/73	948/984		2	60/72
Maine		1			2
Maryland(+DC)	1	23			12
Mass.		499/525		1	9/11
Michigan	83/93	141/145			31/37
Minnesota		Present		Present	4
Mississippi		108			31/32
Missouri	1	3		3	7/10

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana		9		28	22
Nebraska	1	67/109			57/79
Nevada		Present			1
New Hampshire	4	13/16			
New Jersey		848/929		1	9/19
New Mexico					
New York		1,048/1,066		2	11/12
North Carolina					3
North Dakota	12	88		3/4	86/108
Ohio		2,592/2,734		8/15	14/16
Oklahoma		17traps			2
Oregon	1	47			1
Pennsylvania	38	2,140		3	1
Rhode Island		8			
South Carolina					2
South Dakota		9counties			101/124
Tennessee	1	514/545			6
Texas		680/713		1	32/50
Utah		138/154			6/7
Vermont		94/120		1	
Virginia					17
Washington		44/48		1/2	1
West Virginia		24			
Wisconsin	42/44	78/79		1	1/2
Wyoming	2	5/10		6	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 through 14 September 2018

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	1038	8620	31	3.596
<i>Aedes atlanticus</i>	4	9		
<i>Aedes atropalpus</i>	21	55		
<i>Aedes canadensis canadensis</i>	27	227		
<i>Aedes cantator</i>	7	52		
<i>Aedes excrucians</i>	1	2		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes infirmatus</i>	2	2		
<i>Aedes japonicus</i>	572	3442	19	5.520
<i>Aedes sollicitans</i>	17	128		
<i>Aedes sticticus</i>	3	37		
<i>Aedes taeniorhynchus</i>	8	171	1	5.848
<i>Aedes thibaulti</i>	1	10		
<i>Aedes triseriatus</i>	224	574	3	5.226
<i>Aedes trivittatus</i>	15	145	1	6.897
<i>Aedes vexans</i>	102	1693	2	1.181
<i>Anopheles barberi</i>	2	8		
<i>Anopheles bradleyi</i>	53	367		
<i>Anopheles crucians</i>	1	2	1	500.0
<i>Anopheles punctipennis</i>	56	181	1	5.525
<i>Anopheles quadrimaculatus</i>	144	2391	1	0.418
<i>Coquillettidia perturbans</i>	106	2690	3	1.115
<i>Culex erraticus</i>	112	928	6	6.466
<i>Culex pipiens</i>	783	10830	27	2.493
<i>Culex restuans</i>	465	3839	6	1.563
<i>Culex salinarius</i>	310	2846	2	0.703
<i>Culex</i> spp.	2627	107172	811	7.567
<i>Culex territans</i>	14	63		
<i>Culiseta inornata</i>	1	10		
<i>Culiseta melanura</i>	426	6793	12	1.767
<i>Orthopodomyia signifera</i>	2	3		
<i>Psorophora ciliata</i>	3	62		
<i>Psorophora columbiae</i>	20	115	1	8.696
<i>Psorophora cyanescens</i>	1	14		
<i>Psorophora ferox</i>	38	609		
<i>Psorophora howardii</i>	1	2	1	500.0
<i>Uranotaenia sapphirina</i>	3	13		
Grand Total	7213	154126	929	6.028

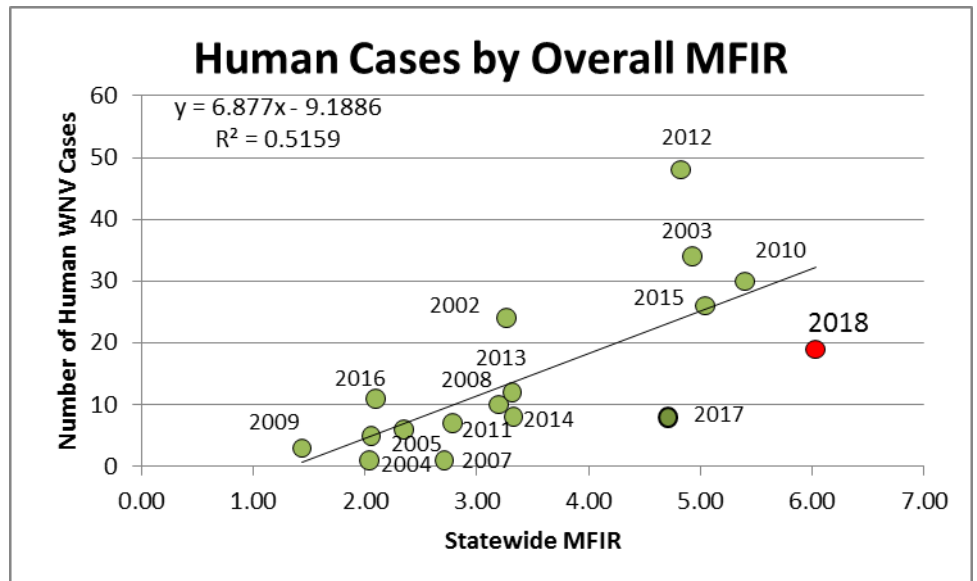
Remarks: To date, 7213 pools of 154,126 mosquitoes from 37 species have been tested. A total of 929 positive WNV pools have been detected throughout the state. The bulk of new positives continue to be in the enzootic vector(s) *Culex* spp. First positive WNV pool detected has been revised from 7 June 2018 in Warren County to 5 June in Gloucester County, in *Culex pipiens*. Last year, the first positive *Culex* Mix pool was detected in Sussex County on 12 June and the first non-*Culex* positive was collected in *Aedes albopictus* on 14 July in Gloucester County. This year, the first non-*Culex*

positive species was *Aedes japonicus*, also collected in Gloucester County on 7 JUNE, more than one month earlier. Positive non-*Culex* species also include *Aedes albopictus*, *Ae. taeniorhynchus*, *Ae. triseriatus*, *Ae. trivittatus*, *Ae. vexans*, *Anopheles crucians*, *An. punctipennis*, *An. quadrimaculatus*, *Coquillettidia perturbans*, *Culex erraticus*, *Culiseta melanura*, *Psorophora columbiae* and *Ps. howardii*. The statewide MFIR rate for all mosquitoes is 6.028.

***NOTE* - Additional WNV pools have been reported to the counties, but are not yet in the database. This report should be considered up for revision as necessary.**

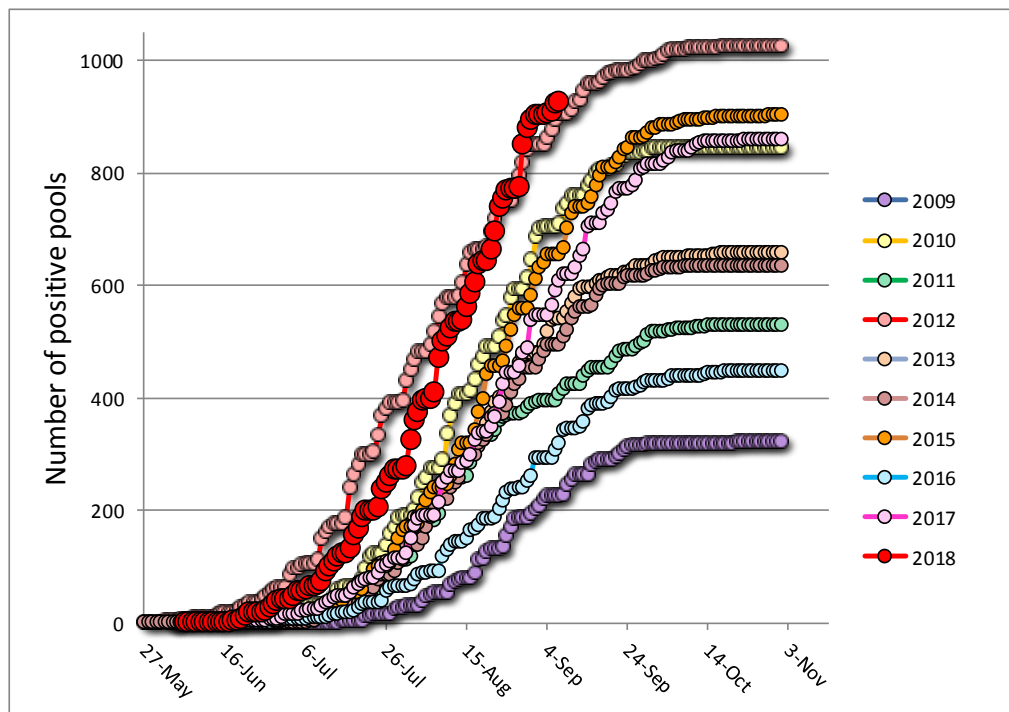
Humans, Horses and Wild Birds:

Currently nineteen human cases of WNV have been detected in the following counties: Bergen 4, Burlington 1, Camden 1, Cape May 1, Essex 1, Hudson 1, Hunterdon 2, Middlesex 2, Morris 1, Ocean 1, Passaic 1, Somerset 1, Union 1, and Warren 1. Despite the significant increase in human cases, the relationship between overall MFIR values and human cases (graph to right) suggest we can reasonably expect more cases.



The first WNV horse case has been reported, occurring in Burlington County. The 10 year old mare is currently being treated. 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 previous 9 years, inclusive of the most active (2012) and least active (2009) years. The red series represents this year and is on track for very high activity, appearing to surpass 2012.

WNV Results by County through 14 September 2018.

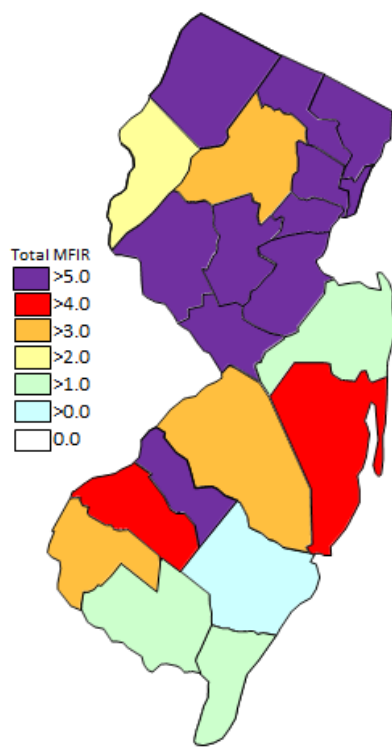
County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		183	4883	22	4.505
	<i>Aedes albopictus</i>	34	814	1	1.229
	<i>Aedes canadensis canadensis</i>	3	54		
	<i>Aedes japonicus</i>	6	64		
	<i>Aedes sollicitans</i>	2	57		
	<i>Aedes sticticus</i>	1	35		
	<i>Aedes taeniorhynchus</i>	3	121		
	<i>Aedes vexans</i>	11	134	1	7.463
	<i>Anopheles bradleyi</i>	2	15		
	<i>Coquillettidia perturbans</i>	11	306	1	3.268
	<i>Culex erraticus</i>	8	91	1	10.989
	<i>Culex pipiens</i>	17	706	6	8.499
	<i>Culex restuans</i>	1	23		
	<i>Culex salinarius</i>	1	24		
	<i>Culex</i> spp.	30	1071	10	9.337
	<i>Culiseta melanura</i>	44	917	2	2.181
	<i>Psorophora ferox</i>	9	451		
Bergen		229	14692	110	7.487
	<i>Aedes albopictus</i>	17	438		
	<i>Aedes japonicus</i>	5	20	1	50.000
	<i>Coquillettidia perturbans</i>	4	50		
	<i>Culex</i> spp.	195	14161	108	7.627
	<i>Culiseta melanura</i>	7	21		
	<i>Psorophora howardii</i>	1	2	1	500.000
Burlington		193	6105	31	5.078
	<i>Aedes albopictus</i>	15	163		
	<i>Aedes canadensis canadensis</i>	1	10		
	<i>Aedes infirmatus</i>	1	1		
	<i>Aedes japonicus</i>	11	146	2	13.699
	<i>Aedes taeniorhynchus</i>	1	42		
	<i>Aedes triseriatus</i>	2	7		
	<i>Aedes vexans</i>	2	28		
	<i>Anopheles bradleyi</i>	2	76		
	<i>Coquillettidia perturbans</i>	2	127		
	<i>Culex erraticus</i>	6	141		
	<i>Culex pipiens</i>	1	1		
	<i>Culex salinarius</i>	7	207		
	<i>Culex</i> spp.	84	3253	23	7.070
	<i>Culiseta melanura</i>	57	1897	6	3.163
Camden		161	5312	29	5.459
	<i>Aedes albopictus</i>	24	74	3	40.541
	<i>Aedes excrucians</i>	1	2		
	<i>Aedes japonicus</i>	24	129	1	7.752
	<i>Aedes triseriatus</i>	1	2		
	<i>Anopheles punctipennis</i>	2	3		
	<i>Culex</i> spp.	61	3094	25	8.080
	<i>Culiseta melanura</i>	47	2006		
	<i>Psorophora ferox</i>	1	2		

Cape May	2664	17709	14	0.791
<i>Aedes albopictus</i>	466	1006		
<i>Aedes atlanticus</i>	2	3		
<i>Aedes atropalpus</i>	21	55		
<i>Aedes canadensis canadensis</i>	7	11		
<i>Aedes cantator</i>	2	2		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	220	492		
<i>Aedes sollicitans</i>	7	7		
<i>Aedes sticticus</i>	1	1		
<i>Aedes taeniorhynchus</i>	1	1		
<i>Aedes triseriatus</i>	118	226		
<i>Aedes vexans</i>	16	30		
<i>Anopheles bradleyi</i>	46	270		
<i>Anopheles punctipennis</i>	7	15		
<i>Anopheles quadrimaculatus</i>	124	2121		
<i>Coquillettidia perturbans</i>	10	33		
<i>Culex erraticus</i>	30	303		
<i>Culex pipiens</i>	710	9260	14	1.512
<i>Culex restuans</i>	378	1886		
<i>Culex salinarius</i>	268	1080		
<i>Culex spp.</i>	35	116		
<i>Culex territans</i>	14	63		
<i>Culiseta melanura</i>	166	695		
<i>Orthopodomyia signifera</i>	2	3		
<i>Psorophora columbiae</i>	5	10		
<i>Psorophora ferox</i>	4	6		
<i>Uranotaenia sapphirina</i>	3	13		
Cumberland	195	1977	10	5.058
<i>Aedes albopictus</i>	47	646	3	4.644
<i>Aedes japonicus</i>	12	47		
<i>Aedes sollicitans</i>	1	3		
<i>Aedes sticticus</i>	1	1		
<i>Aedes triseriatus</i>	8	16		
<i>Aedes trivittatus</i>	1	8		
<i>Aedes vexans</i>	19	277		
<i>Anopheles punctipennis</i>	10	43		
<i>Anopheles quadrimaculatus</i>	11	252		
<i>Coquillettidia perturbans</i>	3	3		
<i>Culex erraticus</i>	14	124	2	16.129
<i>Culex pipiens</i>	4	39		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	3	10		
<i>Culex spp.</i>	35	344	3	8.721
<i>Culiseta melanura</i>	13	74	2	27.027
<i>Psorophora columbiae</i>	6	67		
<i>Psorophora ferox</i>	6	22		
Essex	122	573	12	20.942
<i>Aedes albopictus</i>	33	92		
<i>Aedes japonicus</i>	18	29	3	103.448
<i>Aedes trivittatus</i>	12	15	1	66.667
<i>Aedes vexans</i>	2	3		
<i>Anopheles quadrimaculatus</i>	1	1	1	1000.000
<i>Culex spp.</i>	56	433	7	16.166

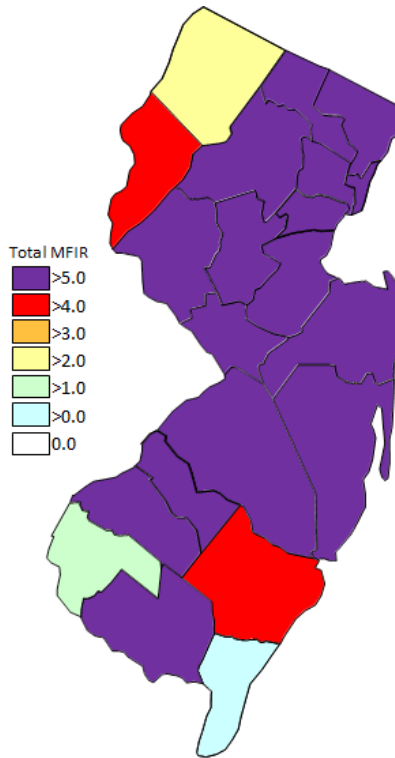
Gloucester	314	9204	72	7.823
<i>Aedes albopictus</i>	71	589	5	8.489
<i>Aedes japonicus</i>	59	752	9	11.968
<i>Aedes triseriatus</i>	11	61		
<i>Aedes vexans</i>	1	24		
<i>Anopheles barberi</i>	1	7		
<i>Anopheles punctipennis</i>	6	30	1	33.333
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Culex pipiens</i>	18	317	5	15.773
<i>Culex</i> spp.	131	7204	52	7.218
<i>Culiseta melanura</i>	14	152		
<i>Psorophora ferox</i>	1	65		
Hudson	155	7561	54	7.142
<i>Culex</i> spp.	155	7561	54	7.142
Hunterdon	264	12563	89	7.084
<i>Culex</i> spp.	264	12563	89	7.084
Mercer	249	4848	42	8.663
<i>Aedes albopictus</i>	49	473	3	6.342
<i>Aedes canadensis canadensis</i>	1	6		0.000
<i>Aedes japonicus</i>	61	287	1	3.484
<i>Aedes triseriatus</i>	2	7		
<i>Aedes vexans</i>	15	157	1	6.369
<i>Coquillettidia perturbans</i>	1	3	1	333.333
<i>Culex erraticus</i>	1	6		
<i>Culex pipiens</i>	5	59	1	16.949
<i>Culex restuans</i>	37	1100	6	5.455
<i>Culex</i> spp.	77	2750	29	10.545
Middlesex	191	5661	48	8.479
<i>Aedes albopictus</i>	5	59		
<i>Aedes japonicus</i>	1	64		
<i>Anopheles punctipennis</i>	1	1		
<i>Coquillettidia perturbans</i>	3	9		
<i>Culex</i> spp.	180	5518	48	8.699
<i>Culiseta inornata</i>	1	10		
Monmouth	396	8038	51	6.345
<i>Aedes albopictus</i>	85	1865	5	2.681
<i>Aedes atlanticus</i>	1	5		
<i>Aedes canadensis canadensis</i>	12	102		
<i>Aedes cantator</i>	5	50		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes japonicus</i>	17	47		
<i>Aedes sollicitans</i>	5	37		
<i>Aedes taeniorhynchus</i>	2	3		
<i>Aedes triseriatus</i>	14	102		
<i>Aedes trivittatus</i>	6	55		
<i>Aedes vexans</i>	14	79		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles punctipennis</i>	1	2	1	500.000

<i>Anopheles crucians</i>	24	81		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	3	4		
<i>Culex erraticus</i>	7	30	2	66.667
<i>Culex salinarius</i>	7	243		
<i>Culex</i> spp.	150	4868	42	8.628
<i>Culiseta melanura</i>	19	383		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	4	17	1	58.824
<i>Psorophora ferox</i>	14	51		
Morris	324	12684	110	8.672
<i>Aedes albopictus</i>	6	39		
<i>Aedes japonicus</i>	3	34		
<i>Coquillettidia perturbans</i>	6	300		
<i>Culex</i> spp	308	12310	110	8.936
<i>Culiseta melanura</i>	1	1		
Ocean	248	1947	22	11.299
<i>Aedes albopictus</i>	74	628	5	7.962
<i>Aedes japonicus</i>	29	74		
<i>Aedes triseriatus</i>	23	61	2	32.787
<i>Aedes vexans</i>	1	2		
<i>Anopheles punctipennis</i>	2	2		
<i>Anopheles quadrimaculatus</i>	3	6		
<i>Coquillettidia perturbans</i>	21	168	1	5.952
<i>Culex erraticus</i>	7	9		
<i>Culex salinarius</i>	2	3		
<i>Culex</i> spp.	61	853	13	15.240
<i>Culiseta melanura</i>	24	140	1	7.143
<i>Psorophora ferox</i>	1	1		
Passaic	177	1627	13	7.990
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	17	82		
<i>Aedes japonicus</i>	38	260	1	3.846
<i>Aedes thibaulti</i>	1	10		
<i>Aedes triseriatus</i>	4	14		
<i>Aedes vexans</i>	1	34		
<i>Coquillettidia perturbans</i>	5	40		
<i>Culex erraticus</i>	10	17		
<i>Culex pipiens</i>	11	202		
<i>Culex restuans</i>	9	95		
<i>Culex</i> spp.	75	844	12	14.218
<i>Culiseta melanura</i>	4	4		
<i>Psorophora cyanescens</i>	1	14		
Salem	325	6832	7	1.025
<i>Aedes albopictus</i>	59	830		
<i>Aedes atlanticus</i>	1	1		
<i>Aedes canadensis canadensis</i>	1	1		
<i>Aedes japonicus</i>	31	154		
<i>Aedes sollicitans</i>	2	24		
<i>Aedes taeniorhynchus</i>	1	4	1	250.000
<i>Aedes triseriatus</i>	22	29		
<i>Aedes trivittatus</i>	2	3		

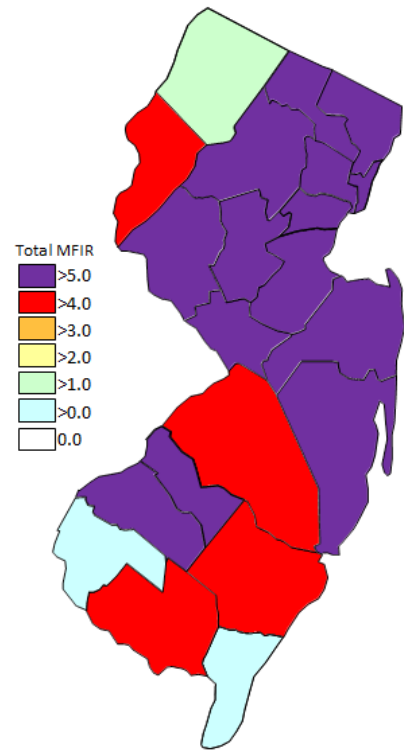
	<i>Aedes vexans</i>	2	79		
	<i>Anopheles bradleyi</i>	2	5		
	<i>Anopheles punctipennis</i>	2	2		
	<i>Anopheles quadrimaculatus</i>	3	7		
	<i>Coquillettidia perturbans</i>	20	550		
	<i>Culex erraticus</i>	29	207	1	4.831
	<i>Culex pipiens</i>	9	11		
	<i>Culex restuans</i>	3	14		
	<i>Culex salinarius</i>	11	759	1	1.318
	<i>Culex spp.</i>	99	3757	3	0.799
	<i>Culiseta melanura</i>	20	372	1	2.688
	<i>Psorophora ciliate</i>	1	6		
	<i>Psorophora columbiae</i>	3	6		
	<i>Psorophora ferox</i>	2	11		
Somerset		214	7645	70	9.156
	<i>Aedes albopictus</i>	1	2		
	<i>Aedes canadensis canadensis</i>	1	12		
	<i>Aedes japonicus</i>	11	142		
	<i>Aedes triseriatus</i>	3	5		
	<i>Anopheles punctipennis</i>	2	4		
	<i>Culex spp.</i>	196	7480	70	9.358
Sussex		231	7039	16	2.273
	<i>Aedes albopictus</i>	1	3		
	<i>Aedes canadensis canadensis</i>	1	31		
	<i>Aedes japonicus</i>	2	56		
	<i>Aedes triseriatus</i>	3	27		
	<i>Aedes vexans</i>	9	600		
	<i>Coquillettidia perturbans</i>	15	1008		
	<i>Culex pipiens</i>	8	235	1	4.255
	<i>Culex restuans</i>	36	720		
	<i>Culex salinarius</i>	11	520	1	1.923
	<i>Culex spp.</i>	137	3770	14	3.714
	<i>Culiseta melanura</i>	8	69		
Union		111	6005	61	10.158
	<i>Aedes albopictus</i>	22	560	5	8.929
	<i>Culex spp.</i>	89	5445	56	10.285
Warren		267	11221	45	4.010
	<i>Aedes albopictus</i>	12	257	1	3.891
	<i>Aedes japonicus</i>	24	645	1	1.550
	<i>Aedes triseriatus</i>	1	2		
	<i>Aedes trivittatus</i>	6	79	1	12.658
	<i>Aedes vexans</i>	9	246		
	<i>Coquillettidia perturbans</i>	2	89		
	<i>Culex spp.</i>	209	9777	42	4.296
	<i>Culiseta melanura</i>	2	62		
	<i>Psorophora ciliata</i>	1	55		
	<i>Psorophora columbiae</i>	1	9		
Grand Total		7213	154126	929	6.028



Cumulative WNV activity in 2017.



WNV activity to 14 September 2018.



WNV activity last week, 2018

Saint Louis Encephalitis (SLE) to 14 September 2018.

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 2018. No human cases have been reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		36	1987		
	<i>Culex</i> spp	36	1987		
Cape May		744	9374		
	<i>Culex pipiens</i>	710	9260		
	<i>Culex</i> spp.	34	114		
Grand Total		780	11361		

La Crosse Encephalitis (LAC) to 14 September 2018.

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 LAC have been tested yet for 2018. No human cases have been reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		12	197		
	<i>Aedes albopictus</i>	4	73		
	<i>Aedes japonicus</i>	6	117		
	<i>Aedes triseriatus</i>	2	7		
Ocean		4	9		
	<i>Aedes albopictus</i>	2	3		
	<i>Aedes japonicus</i>	1	1		
	<i>Aedes triseriatus</i>	1	5		
Salem		3	4		
	<i>Aedes triseriatus</i>	3	4		
Sussex		3	27		
	<i>Aedes triseriatus</i>	3	27		
Grand Total		22	237		

Dengue (DENV) to 14 September 2018.

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 been tested yet in 2018. There are currently 6 travel-related human cases in NJ.

County	Species	DENV1		DENV2		DENV3		DENV4		Pos.	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Atlantic		34	814	34	814	34	814	34	814		
	<i>Aedes albopictus</i>	34	814	34	814	34	814	34	814		
Bergen		1	14	1	14	1	14	1	14		
	<i>Aedes albopictus</i>	1	14	1	14	1	14	1	14		
Gloucester		7	20	7	20	7	20	7	20		
	<i>Aedes albopictus</i>	5	18	5	18	5	18	5	18		
	<i>Aedes japonicus</i>	2	2	2	2	2	2	2	2		
Middlesex		2	12	2	12	2	12	2	12		

	<i>Aedes albopictus</i>	2	12	2	12	2	12	2	12		
Ocean		44	485	44	485	44	485	44	485		
	<i>Aedes albopictus</i>	44	485	44	485	44	485	44	485		
Sussex		1	3	1	3	1	3	1	3		
	<i>Aedes albopictus</i>	1	3	1	3	1	3	1	3		
Grand Total		89	1348	89	1348	89	1348	89	1348		

Chikungunya (CHIK) to 14 September 2018.

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 been tested yet in 2018. There are currently 6 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		34	814		
	<i>Aedes albopictus</i>	34	814		
Bergen		1	14		
	<i>Aedes albopictus</i>	1	14		
Gloucester		7	20		
	<i>Aedes albopictus</i>	5	18		
	<i>Aedes japonicus</i>	2	2		
Middlesex		2	12		
	<i>Aedes albopictus</i>	2	12		
Ocean		44	485		
	<i>Aedes albopictus</i>	44	485		
Sussex		1	3		
	<i>Aedes albopictus</i>	1	3		
Grand Total		89	1348		

Zika (ZIKV) to 14 September 2018.

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 2018. There are currently 7 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		34	814		
	<i>Aedes albopictus</i>	34	814		
Bergen		1	14		
	<i>Aedes albopictus</i>	1	14		
Cape May		448	959		

	<i>Aedes albopictus</i>	448	959		
Gloucester		7	20		
	<i>Aedes albopictus</i>	5	18		
	<i>Aedes japonicus</i>	2	2		
Middlesex		2	12		
	<i>Aedes albopictus</i>	2	12		
Ocean		44	485		
	<i>Aedes albopictus</i>	44	485		
Sussex		1	3		
	<i>Aedes albopictus</i>	1	3		
Grand Total		537	2307		