

VECTOR SURVEILLANCE IN NEW JERSEY

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

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CDC WEEK 40: 30 September to 6 October, 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	0.62	1.60	3 (11)	2 (3)		
Green Bank (Burlington Co.)/25	Coastal	0.96	1.32	339 [‡] (433) [‡]	17 (18)		
Corbin City (Atlantic Co.)/25	Coastal	0.51	0.52	233 [‡] (246) [‡]	17 (18)		
Dennisville (Cape May Co.)/50	Coastal	1.17	0.10	306	19		
Winslow (Camden Co.)/50	Inland	0.36	0.40	2154	51	4	1.857
Centerton (Salem Co.)/50	Inland	1.44	0.62	407	19	2	4.914
Turkey Swamp (Monmouth Co.)/49	Inland	0.28	0.18	520 [‡]	20	1	1.923
Glassboro (Gloucester Co.)/50	Inland	0.27	0.12	172	17		

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

Remarks: No new positive EEE pools were detected this past week. 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. All positive pools are in the enzootic vector, *Culiseta melanura*. Five horses have tested positive for EEE; all were not vaccinated and all were euthanized.

Statewide, 8925 *Cs. melanura* from 514 pools have been tested, with 12 positive pools detected for an overall *Cs. melanura* MFIR of 1.345. 16798 specimens in 1588 pools from 21 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.467.

Traditional Resting Box Sites: 4134 *Cs. melanura* from 160 pools have been tested for EEE (plus three pools totaling 54 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, <u>GR</u> , RB	44	1138	1	0.879
Bergen	RB	8	24		
Burlington	<u>CDCL</u>	58	2588	4	1.546
Cape May	GR, RB	168	430		
Cumberland	BGSCL, RB	16	117		
Gloucester		4	172		
Middlesex	RB	2	21		
Monmouth	OTHER	1	2		
Morris	CDCL	1	1		
Ocean	CDCL, RB	33	166		
Passaic	RB	4	4		
Salem	CDCL	6	53		
Sussex	ABC	8	69		
Warren	CDCL	1	6		
TOTAL		354	4791	5	1.044

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. A total of 5 county-trapped positive pools have been detected, one in Atlantic and four in Burlington County.

Horses and Humans: Five horses have been reported with EEE. The fifth horse is a 12 year old gelding in Gloucester County. Symptom onset was 12 Sep and the unvaccinated horse was euthanized on the 13th Sep. The fourth horse was reported 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 been 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

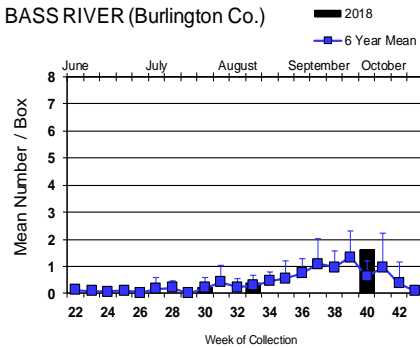
Additional Species: Twenty-one additional species were tested for EEE. No positives were detected.

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	8	39		
<i>Aedes atlanticus</i>	1	7		
<i>Aedes canadensis canadensis</i>	2	14		
<i>Aedes cantator</i>	2	2		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	1	1		
<i>Aedes sollicitans</i>	12	65		
<i>Aedes taeniorhynchus</i>	3	88		
<i>Aedes triseriatus</i>	1	1		
<i>Aedes vexans</i>	6	56		
<i>Anopheles barberi</i>	2	17		
<i>Anopheles bradleyi</i>	59	394		
<i>Anopheles punctipennis</i>	18	68		
<i>Anopheles quadrimaculatus</i>	2	2		
<i>Coquillettidia perturbans</i>	88	1813		
<i>Culex erraticus</i>	126	1330		
<i>Culex pipiens</i>	857	10478		
<i>Culex salinarius</i>	324	1497		
<i>Culex</i> spp.	65	599		
<i>Culiseta inornata</i>	1	10		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	2	7		
<i>Psorophora ferox</i>	6	308		
State Total	1588	16798		

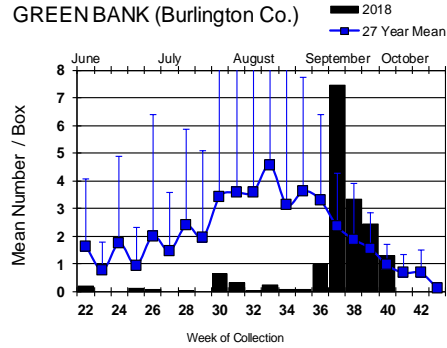
Culiseta melanura Populations

Coastal

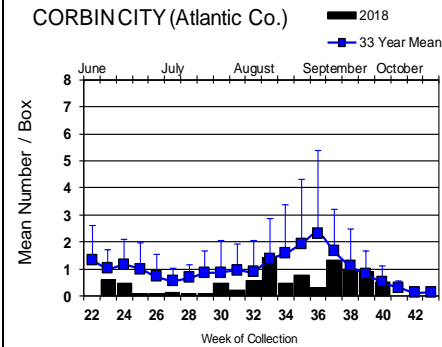
BASS RIVER (Burlington Co.)



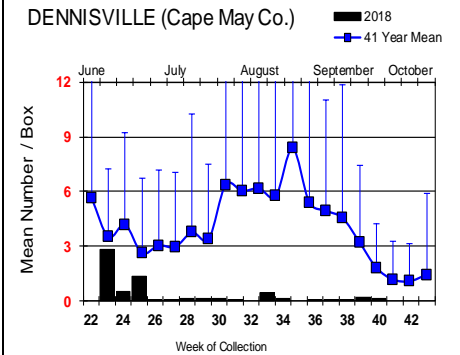
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

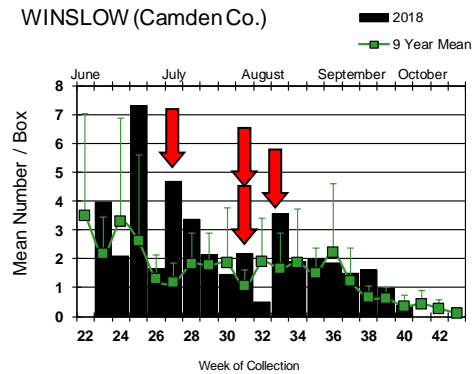


DENNISVILLE (Cape May Co.)

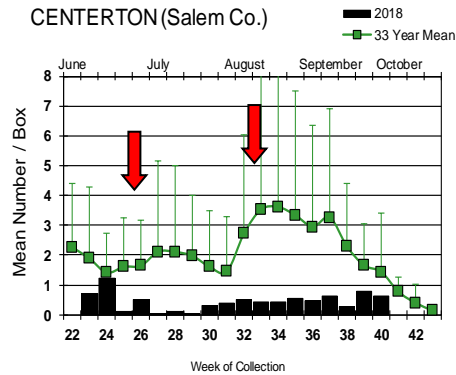


Inland

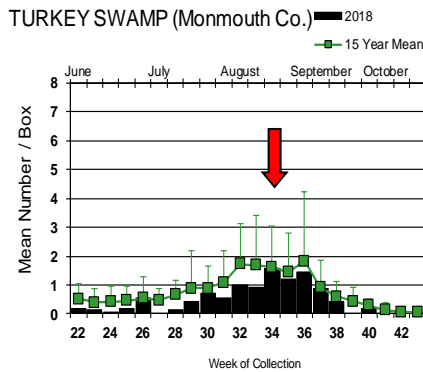
WINSLOW (Camden Co.)



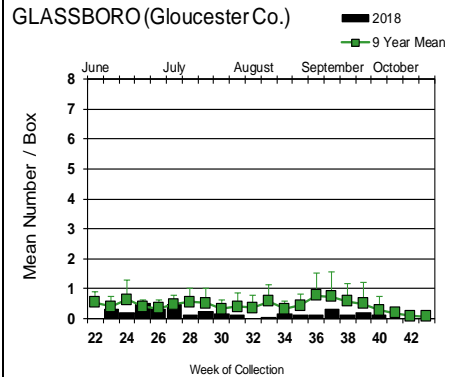
CENTERTON (Salem Co.)





TURKEY SWAMP (Monmouth Co.)



GLASSBORO (Gloucester Co.)



Populations continued to decrease with several weeks to the season remaining.


 = 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) LA(2) NC(7) NJ(5) NY(1) SC(1) VA(2) WI(2) Ontario Canada(10)**
- **mosquito pools: CT(4) FL(2) MA(2) NJ(12) NY(25) LA(1) MA(1) NC(1) RI(1)**
- **sentinel: FL(143/6 owl emus & 5 emu flocks) DE(6)**
- **human: FL(3) GA(1) MI(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					21/25
Alaska					
Arizona	1	81/84	1	4	8/16
Arkansas				2	6
California	445/478	1,802/1,939	122/122	8/10	114/118
Colorado	Present	Present		153	47/78
Connecticut		378/388			6/18
Delaware	27		47	3	5
DC	1	21		1	11
Florida	1	25	306/362	2/3	12/14
Georgia		Present			13/20
Hawaii					
Idaho		39/42		2	11
Illinois	30/34	2,972/2,999		7	79/91
Indiana		598/654		1	17/19
Iowa		77		8	53
Kansas					6/12
Kentucky		Present		9	6
Louisiana	88/94	1036/1047		4	79
Maine		2		1	1
Maryland(+DC)	0	30		3	32/38
Mass.		572/578		1/2	25/37
Michigan	131/154	153/154		2	67/81
Minnesota		Present		Present	5/37
Mississippi		108/111		5	40/42
Missouri	1	3		3/4	12

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana		9		40	38
Nebraska	1	118/122		2	163/195
Nevada		Present		2	2/6
New Hampshire	4	16/30			
New Jersey		1,180/1227		1	34/43
New Mexico					3/4
New York		1,422/1,480		6/12	38/56
North Carolina					3
North Dakota	12	102		4/5	167/171
Ohio		3,132/3,220		31/38	34/42
Oklahoma		21traps		5	7
Oregon	1	47			1/2
Pennsylvania	84/95	4,370/4,609		64	40/55
Rhode Island		10			
South Carolina	30			2	4
South Dakota		9counties			140/161
Tennessee	1	679/789			9/10
Texas	6	825/875		2/7	57/66
Utah		175/179		7/9	8/9
Vermont		127/151		1	
Virginia					21/38
Washington		49		2	2
West Virginia		24			
Wisconsin	53/54	83		2/3	7/10
Wyoming	3	11/17		11/15	3/4

* 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 5 October 2018

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	1336	11401	34	2.982
<i>Aedes atlanticus</i>	8	32		
<i>Aedes atropalpus</i>	22	56		
<i>Aedes canadensis canadensis</i>	30	236		
<i>Aedes cantator</i>	7	52		
<i>Aedes cinereus</i>	1	18		
<i>Aedes excrucians</i>	1	2		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes infirmatus</i>	2	2		
<i>Aedes japonicus</i>	676	3924	19	4.842
<i>Aedes sollicitans</i>	20	158		
<i>Aedes sticticus</i>	5	53		
<i>Aedes taeniorhynchus</i>	12	324	1	3.086
<i>Aedes thibaulti</i>	1	10		
<i>Aedes triseriatus</i>	264	669	3	4.484
<i>Aedes trivittatus</i>	19	179	1	5.587
<i>Aedes vexans</i>	138	2294	2	0.872
<i>Anopheles barberi</i>	3	24		
<i>Anopheles bradleyi</i>	67	589		
<i>Anopheles crucians</i>	1	2	1	500.000
<i>Anopheles punctipennis</i>	76	269	1	3.717
<i>Anopheles quadrimaculatus</i>	167	2528	1	0.396
<i>Anopheles walkeri</i>	1	35		
<i>Coquillettidia perturbans</i>	114	2744	3	1.093
<i>Culex erraticus</i>	175	1610	6	3.727
<i>Culex pipiens</i>	950	12276	31	2.525
<i>Culex restuans</i>	589	4353	8	1.838
<i>Culex salinarius</i>	361	3154	2	0.634
<i>Culex</i> spp.	3243	130874	1097	8.382
<i>Culex territans</i>	16	70		
<i>Culiseta inornata</i>	1	10		
<i>Culiseta melanura</i>	516	8963	15	1.674
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	5	64		
<i>Psorophora columbiae</i>	27	219	1	4.566
<i>Psorophora cyanescens</i>	1	14		
<i>Psorophora ferox</i>	53	866		
<i>Psorophora howardii</i>	2	14	1	71.429
<i>Uranotaenia sapphirina</i>	5	25		
Grand Total	8921	188146	1227	6.522

Remarks: To date, 8,921 pools of 188,146 mosquitoes from 39 species have been tested. A total of 1,227 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

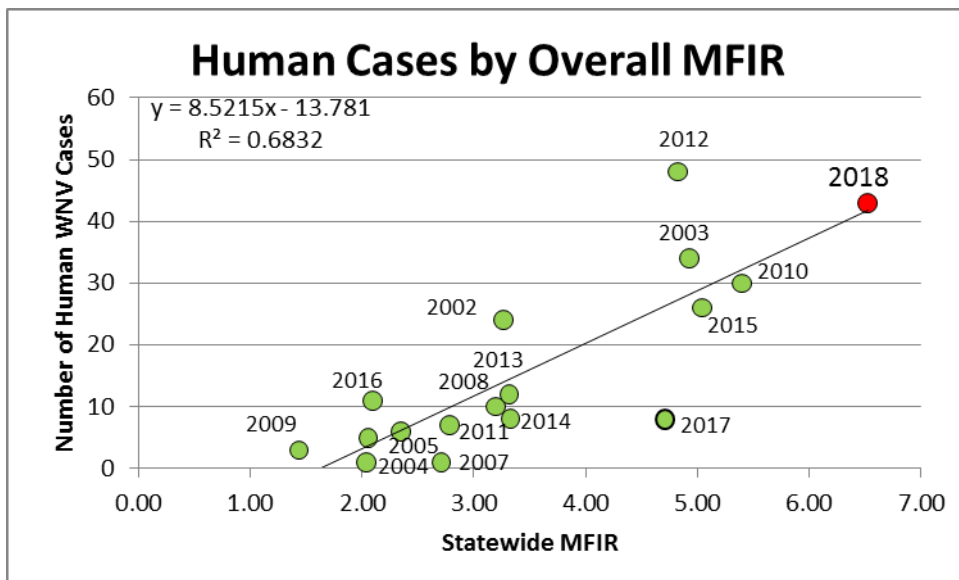
County, in *Culex pipiens*. Last year, the first positive *Culex* Mix pool was detected in Sussex County on 12 June and the first non-*Culex* positive was collected in *Aedes albopictus* on 14 July in Gloucester County. This year, the first non-*Culex* positive species was *Aedes japonicus*, also collected in Gloucester County on 7 JUNE, more than one month earlier. Positive non-*Culex* species continue to include *Aedes albopictus*, *Ae. japonicus*, *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 has increased to 6.522 from last week's 6.459.

***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:

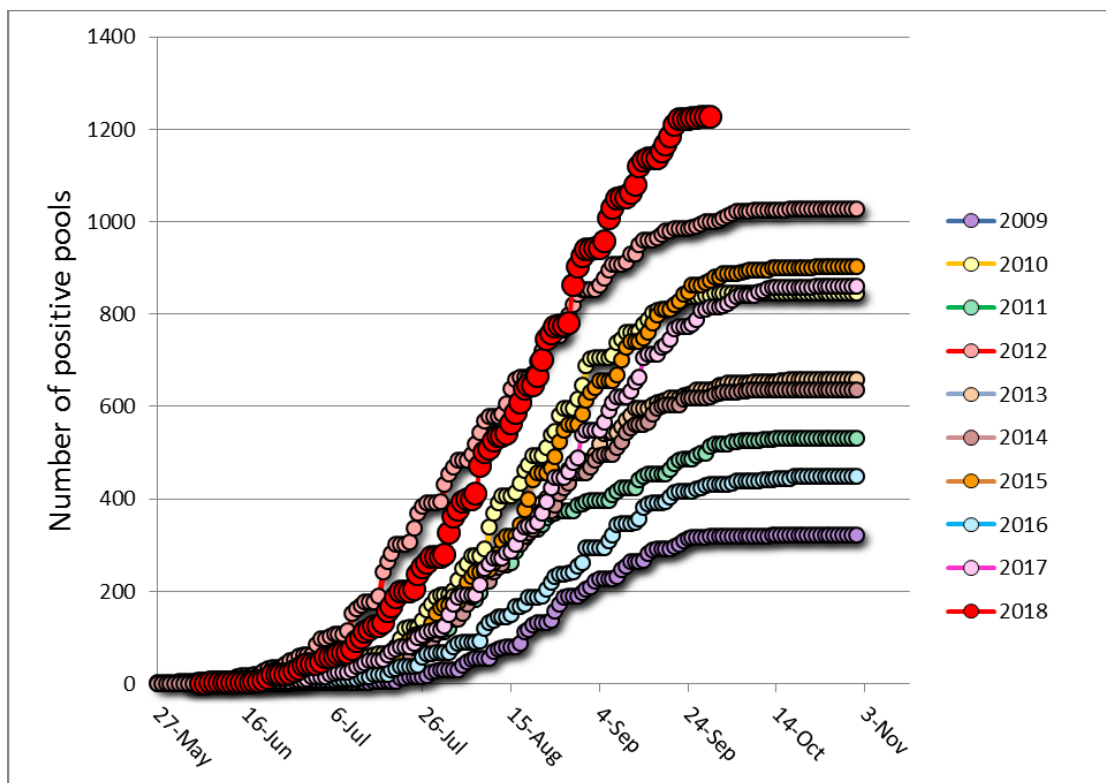
Currently 43 human cases of WNV have been detected in the following counties: Bergen 7, Burlington 3, Camden 3, Cape May 2, Cumberland 1, Essex 1, Hudson 3, Hunterdon 2, Mercer 1 Middlesex 3, Monmouth 2, Morris 4, Ocean 2, Passaic 2, Somerset 3, Union 1, and Warren 3.

The graph to the right shows the relationship between statewide overall endpoint MFIR and human cases since the beginning of the outbreak. This week, the estimate for 2018 has risen to just above the trend line.



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 currently has surpassed 2012 in activity.

WNV Results by County through 5 October 2018.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		259	6745	23	3.410
	<i>Aedes albopictus</i>	48	1008	1	0.992
	<i>Aedes atlanticus</i>	1	13		
	<i>Aedes canadensis canadensis</i>	3	54		
	<i>Aedes japonicus</i>	6	64		
	<i>Aedes sollicitans</i>	4	86		
	<i>Aedes sticticus</i>	1	35		
	<i>Aedes taeniorhynchus</i>	5	271		
	<i>Aedes vexans</i>	17	316	1	3.165
	<i>Anopheles bradleyi</i>	4	165		
	<i>Coquillettidia perturbans</i>	13	320	1	3.125
	<i>Culex erraticus</i>	17	207	1	4.831
	<i>Culex pipiens</i>	20	728	6	8.242
	<i>Culex restuans</i>	1	23		
	<i>Culex salinarius</i>	1	24		
	<i>Culex</i> spp.	45	1398	11	7.868
	<i>Culiseta melanura</i>	61	1371	2	1.459
	<i>Psorophora ferox</i>	12	662		
Bergen		291	18092	136	7.517
	<i>Aedes albopictus</i>	28	743	1	1.346
	<i>Aedes japonicus</i>	5	20	1	50.00
	<i>Coquillettidia perturbans</i>	4	50		
	<i>Culex</i> spp.	245	17253	133	7.709
	<i>Culiseta melanura</i>	8	24		
	<i>Psorophora howardii</i>	1	2	1	500.00
Burlington		240	7476	32	4.280
	<i>Aedes albopictus</i>	18	172		
	<i>Aedes atlanticus</i>	1	7		
	<i>Aedes canadensis canadensis</i>	1	10		
	<i>Aedes infirmatus</i>	1	1		
	<i>Aedes japonicus</i>	14	153	2	13.072
	<i>Aedes taeniorhynchus</i>	1	42		
	<i>Aedes triseriatus</i>	2	7		
	<i>Aedes vexans</i>	5	72		
	<i>Anopheles bradleyi</i>	3	101		
	<i>Anopheles quadrimaculatus</i>	1	3		
	<i>Coquillettidia perturbans</i>	2	127		
	<i>Culex erraticus</i>	7	142		
	<i>Culex pipiens</i>	6	6		
	<i>Culex salinarius</i>	9	323		
	<i>Culex</i> spp.	91	3365	24	7.132
	<i>Culiseta melanura</i>	75	2930	6	2.048
	<i>Psorophora columbiae</i>	2	14		
	<i>Psorophora ferox</i>	1	1		
Camden		188	6249	39	6.241
	<i>Aedes albopictus</i>	27	83	3	36.145
	<i>Aedes excrucians</i>	1	2		

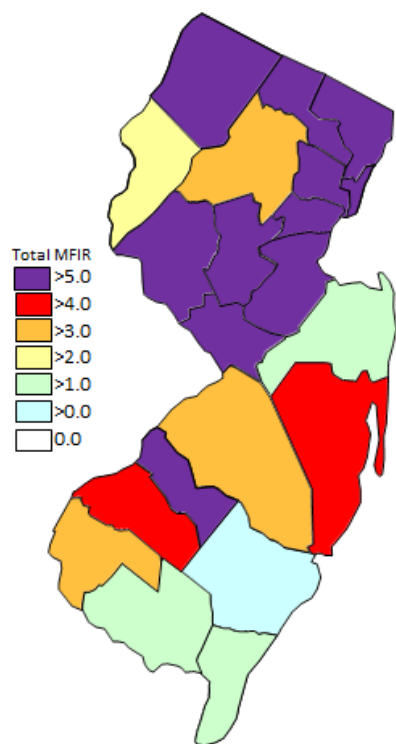
<i>Aedes japonicus</i>	28	137	1	7.299
<i>Aedes triseriatus</i>	1	2		
<i>Anopheles punctipennis</i>	2	3		
<i>Culex</i> spp.	77	3866	33	8.536
<i>Culiseta melanura</i>	51	2154	2	0.929
<i>Psorophora ferox</i>	1	2		
Cape May	3208	20024	18	0.899
<i>Aedes albopictus</i>	582	1252		
<i>Aedes atlanticus</i>	3	5		
<i>Aedes atropalpus</i>	22	56		
<i>Aedes canadensis canadensis</i>	7	11		
<i>Aedes cantator</i>	2	2		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	244	525		
<i>Aedes sollicitans</i>	7	7		
<i>Aedes sticticus</i>	1	1		
<i>Aedes taeniorhynchus</i>	2	2		
<i>Aedes triseriatus</i>	130	240		
<i>Aedes vexans</i>	20	36		
<i>Anopheles barberi</i>	1	16		
<i>Anopheles bradleyi</i>	56	293		
<i>Anopheles punctipennis</i>	8	16		
<i>Anopheles quadrimaculatus</i>	135	2185		
<i>Coquillettidia perturbans</i>	10	33		
<i>Culex erraticus</i>	47	345		
<i>Culex pipiens</i>	857	10478	16	1.527
<i>Culex restuans</i>	496	2360	2	0.847
<i>Culex salinarius</i>	312	1164		
<i>Culex</i> spp.	42	140		
<i>Culex territans</i>	16	70		
<i>Culiseta melanura</i>	187	736		
<i>Orthopodomyia signifera</i>	2	3		
<i>Psorophora columbiae</i>	6	11		
<i>Psorophora ferox</i>	7	11		
<i>Uranotaenia sapphirina</i>	5	25		
Cumberland	252	2986	10	3.349
<i>Aedes albopictus</i>	59	895	3	3.352
<i>Aedes japonicus</i>	12	47		
<i>Aedes sollicitans</i>	2	4		
<i>Aedes sticticus</i>	1	1		
<i>Aedes triseriatus</i>	8	16		
<i>Aedes trivittatus</i>	2	9		
<i>Aedes vexans</i>	26	379		
<i>Anopheles bradleyi</i>	1	24		
<i>Anopheles punctipennis</i>	12	56		
<i>Anopheles quadrimaculatus</i>	15	308		
<i>Coquillettidia perturbans</i>	5	5		
<i>Culex erraticus</i>	25	549	2	3.643
<i>Culex pipiens</i>	7	43		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	5	31		
<i>Culex</i> spp.	41	394	3	7.614
<i>Culiseta melanura</i>	16	117	2	17.094
<i>Psorophora columbiae</i>	8	85		

<i>Psorophora ferox</i>	6	22		
Essex	164	870	14	16.092
<i>Aedes albopictus</i>	43	127		
<i>Aedes japonicus</i>	28	54	3	55.556
<i>Aedes trivittatus</i>	19	36	1	27.778
<i>Aedes vexans</i>	3	4		
<i>Anopheles quadrimaculatus</i>	3	3	1	333.333
<i>Culex</i> spp.	68	646	9	13.932
Gloucester	457	11789	106	8.991
<i>Aedes albopictus</i>	102	736	6	8.152
<i>Aedes canadensis canadensis</i>	1	4		
<i>Aedes japonicus</i>	72	801	9	11.236
<i>Aedes triseriatus</i>	15	71		
<i>Aedes vexans</i>	5	53		
<i>Anopheles barberi</i>	1	7		
<i>Anopheles punctipennis</i>	12	54	1	18.519
<i>Anopheles quadrimaculatus</i>	3	3		
<i>Coquillettidia perturbans</i>	2	3		
<i>Culex pipiens</i>	23	361	5	13.850
<i>Culex restuans</i>	1	3		
<i>Culex</i> spp.	194	9267	85	9.172
<i>Culiseta melanura</i>	21	344		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	1	8		
<i>Psorophora ferox</i>	3	73		
Hudson	191	9203	67	7.280
<i>Culex</i> spp.	191	9203	67	7.280
Hunterdon	324	15456	137	8.864
<i>Culex</i> spp.	324	15456	137	8.864
Mercer	303	5564	43	7.728
<i>Aedes albopictus</i>	73	842	3	3.563
<i>Aedes canadensis canadensis</i>	1	6		
<i>Aedes japonicus</i>	68	305	1	3.279
<i>Aedes triseriatus</i>	2	7		
<i>Aedes vexans</i>	19	257	1	3.891
<i>Coquillettidia perturbans</i>	2	37	1	27.027
<i>Culex erraticus</i>	2	10		
<i>Culex pipiens</i>	5	59	1	16.949
<i>Culex restuans</i>	38	1105	6	5.430
<i>Culex</i> spp.	92	2935	30	10.221
<i>Culiseta melanura</i>	1	1		
Middlesex	218	6346	56	8.824
<i>Aedes albopictus</i>	7	81		
<i>Aedes japonicus</i>	1	64		
<i>Anopheles punctipennis</i>	1	1		
<i>Coquillettidia perturbans</i>	3	9		
<i>Culex</i> spp.	205	6181	56	9.060
<i>Culiseta inornata</i>	1	10		

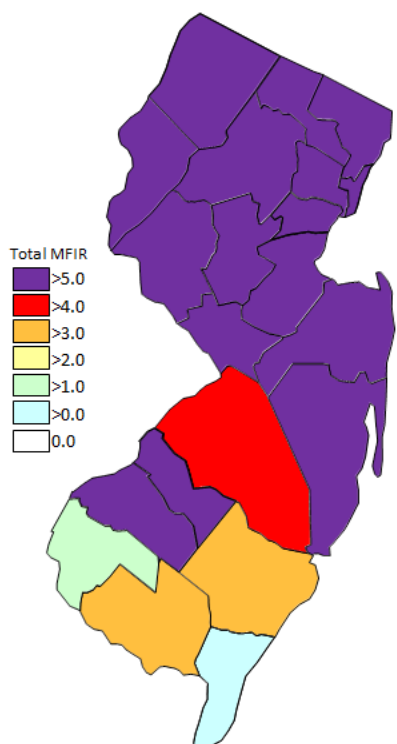
Monmouth	483	10075	62	6.154
<i>Aedes albopictus</i>	106	2637	6	2.275
<i>Aedes atlanticus</i>	1	5		
<i>Aedes canadensis canadensis</i>	14	107		
<i>Aedes cantator</i>	5	50		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes japonicus</i>	22	68		
<i>Aedes sollicitans</i>	5	37		
<i>Aedes taeniorhynchus</i>	3	5		
<i>Aedes triseriatus</i>	18	133		
<i>Aedes trivittatus</i>	6	55		
<i>Aedes vexans</i>	16	84		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles crucians</i>	1	2	1	500.000
<i>Anopheles punctipennis</i>	30	96		
<i>Anopheles quadrimaculatus</i>	2	2		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	12	51	2	39.216
<i>Culex salinarius</i>	8	254		
<i>Culex</i> spp.	181	5837	51	8.737
<i>Culiseta melanura</i>	23	524	1	1.908
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	5	57	1	17.544
<i>Psorophora ferox</i>	15	52		
Morris	399	15677	157	10.015
<i>Aedes albopictus</i>	6	39		
<i>Aedes japonicus</i>	10	110		
<i>Coquillettidia perturbans</i>	6	300		
<i>Culex</i> spp	376	15227	157	10.311
<i>Culiseta melanura</i>	1	1		
Ocean	318	2558	26	10.164
<i>Aedes albopictus</i>	92	742	5	6.739
<i>Aedes japonicus</i>	39	95		
<i>Aedes triseriatus</i>	28	69	2	28.986
<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>	14	29		
<i>Culex salinarius</i>	2	3		
<i>Culex</i> spp.	80	1270	17	13.386
<i>Culiseta melanura</i>	33	166	1	6.024
<i>Psorophora ferox</i>	3	6		
Passaic	205	1871	16	8.552
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	22	104		
<i>Aedes japonicus</i>	47	314	1	3.185
<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>	11	20		
<i>Culex pipiens</i>	11	202		
<i>Culex restuans</i>	9	95		
<i>Culex</i> spp.	88	1009	15	14.866
<i>Culiseta melanura</i>	4	4		
<i>Psorophora cyaneescens</i>	1	14		
Salem	387	7355	9	1.224
<i>Aedes albopictus</i>	71	901		
<i>Aedes atlanticus</i>	2	2		
<i>Aedes canadensis canadensis</i>	1	1		
<i>Aedes japonicus</i>	34	157		
<i>Aedes sollicitans</i>	2	24		
<i>Aedes taeniorhynchus</i>	1	4	1	250.000
<i>Aedes triseriatus</i>	29	37		
<i>Aedes trivittatus</i>	3	4		
<i>Aedes vexans</i>	4	179		
<i>Anopheles bradleyi</i>	2	5		
<i>Anopheles punctipennis</i>	4	10		
<i>Anopheles quadrimaculatus</i>	4	15		
<i>Coquillettidia perturbans</i>	20	550		
<i>Culex erraticus</i>	40	257	1	3.891
<i>Culex pipiens</i>	11	14		
<i>Culex restuans</i>	5	16		
<i>Culex salinarius</i>	12	760	1	1.316
<i>Culex</i> spp.	109	3911	5	1.278
<i>Culiseta melanura</i>	25	460	1	2.174
<i>Psorophora ciliate</i>	1	6		
<i>Psorophora columbiae</i>	3	6		
<i>Psorophora ferox</i>	3	24		
<i>Psorophora howardii</i>	1	12		
Somerset	244	8323	79	9.492
<i>Aedes albopictus</i>	1	2		
<i>Aedes canadensis canadensis</i>	1	12		
<i>Aedes japonicus</i>	12	150		
<i>Aedes triseriatus</i>	4	8		
<i>Anopheles punctipennis</i>	3	5		
<i>Culex</i> spp.	222	8145	79	9.699
Sussex	291	9235	51	5.522
<i>Aedes albopictus</i>	2	4		
<i>Aedes canadensis canadensis</i>	1	31		
<i>Aedes japonicus</i>	3	126		
<i>Aedes triseriatus</i>	3	27		
<i>Aedes vexans</i>	9	600		
<i>Coquillettidia perturbans</i>	15	1008		
<i>Culex pipiens</i>	10	385	3	7.792
<i>Culex restuans</i>	38	750		
<i>Culex salinarius</i>	12	595	1	1.681
<i>Culex</i> spp.	190	5640	47	8.333
<i>Culiseta melanura</i>	8	69		
Union	156	8898	75	8.429
<i>Aedes albopictus</i>	27	633	5	7.899
<i>Culex</i> spp.	129	8265	70	8.469

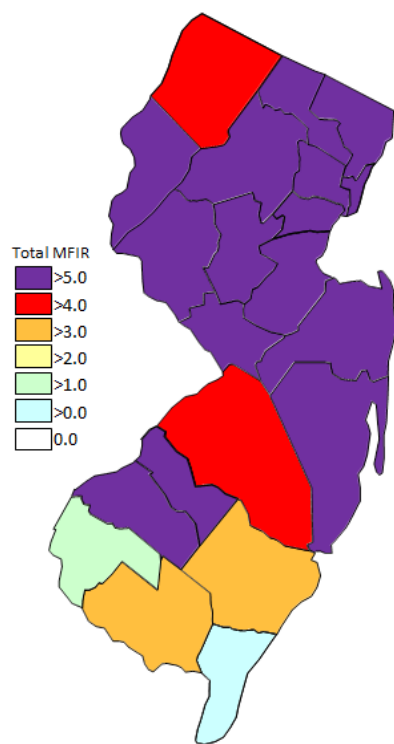
Warren	343	13354	69	5.167
<i>Aedes albopictus</i>	22	400	1	2.500
<i>Aedes cinereus</i>	1	18		
<i>Aedes japonicus</i>	31	734	1	1.362
<i>Aedes sticticus</i>	2	16		
<i>Aedes triseriatus</i>	1	2		
<i>Aedes trivittatus</i>	8	111	1	9.009
<i>Aedes vexans</i>	12	278		
<i>Anopheles punctipennis</i>	2	26		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Anopheles walkeri</i>	1	35		
<i>Coquilleltidia perturbans</i>	2	89		
<i>Culex</i> spp.	253	11466	66	5.756
<i>Culiseta melanura</i>	2	62		
<i>Psorophora ciliata</i>	2	56		
<i>Psorophora columbiae</i>	2	46		
Grand Total	8921	188146	1227	6.522



Cumulative WNV activity in 2017.



WNV activity to 5 October 2018.



WNV activity last week, 2018

Saint Louis Encephalitis (SLE) to 5 October 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		898	10616		
	<i>Culex pipiens</i>	857	10478		
	<i>Culex</i> spp.	41	138		
Grand Total		934	12603		

La Crosse Encephalitis (LAC) to 5 October 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		14	206		
	<i>Aedes albopictus</i>	5	79		
	<i>Aedes japonicus</i>	7	120		
	<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		24	246		

Dengue (DENV) to 5 October 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 13 travel-related human cases in NJ.

County	Species	DENV1		DENV2		DENV3		DENV4		Pos.	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Atlantic		48	48	48	48	48	48	48	48		
	<i>Aedes albopictus</i>	48	48	48	48	48	48	48	48		
Bergen		1	1	1	1	1	1	1	1		
	<i>Aedes albopictus</i>	1	1	1	1	1	1	1	1		
Gloucester		7	7	7	7	7	7	7	7		
	<i>Aedes albopictus</i>	5	5	5	5	5	5	5	5		
	<i>Aedes japonicus</i>	2	2	2	2	2	2	2	2		
Middlesex		2	2	2	2	2	2	2	2		
	<i>Aedes albopictus</i>	2	2	2	2	2	2	2	2		
Monmouth		1	1	1	1	1	1	1	1		
	<i>Aedes albopictus</i>	1	1	1	1	1	1	1	1		
Ocean		58	58	58	58	58	58	58	58		
	<i>Aedes albopictus</i>	58	58	58	58	58	58	58	58		
Sussex		2	2	2	2	2	2	2	2		
	<i>Aedes albopictus</i>	2	2	2	2	2	2	2	2		
Grand Total		119	119	119	119	119	119	119	119		

Chikungunya (CHIK) to 5 October 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 7 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		48	1008		
	<i>Aedes albopictus</i>	48	1008		
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		
Monmouth		1	48		
	<i>Aedes albopictus</i>	1	48		
Ocean		58	589		
	<i>Aedes albopictus</i>	58	589		
Somerset		1	1		
	<i>Aedes albopictus</i>	1	1		
Sussex		2	4		
	<i>Aedes albopictus</i>	2	4		
Grand Total		120	1696		

Zika (ZIKV) to 5 October 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		48	1008		
	<i>Aedes albopictus</i>	48	1008		
Bergen		1	14		
	<i>Aedes albopictus</i>	1	14		
Cape May		568	1213		
	<i>Aedes albopictus</i>	568	1213		
Gloucester		7	20		
	<i>Aedes albopictus</i>	5	18		
	<i>Aedes japonicus</i>	2	2		
Middlesex		2	12		
	<i>Aedes albopictus</i>	2	12		
Monmouth		1	48		
	<i>Aedes albopictus</i>	1	48		
Ocean		58	589		
	<i>Aedes albopictus</i>	58	589		
Somerset		1	1		
	<i>Anopheles punctipennis</i>	1	1		
Sussex		2	4		
	<i>Aedes albopictus</i>	2	4		
Grand Total		688	2909		