

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 41: 7 October to 13 October, 2018



This New Jersey Agricultural Experiment Station report is supported by Rutgers University, Hatch funds, funding from the NJ State Mosquito Control Commission and with the participation of the Department of Health, Department of Agriculture and of the 21 county mosquito control agencies of New Jersey.

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	0.97	2.20	3 (21)	3 (5)		
Green Bank (Burlington Co.)/25	Coastal	0.68	1.92	400‡ (480)‡	18 (20)		
Corbin City (Atlantic Co.)/25	Coastal	0.32	nc	246	18		
Dennisville (Cape May Co.)/50	Coastal	1.08	0.30	321	20		
Winslow (Camden Co.)/50	Inland	0.44	0.60	2184	52	4	1.832
Centerton (Salem Co.)/50	Inland	0.77	0.84	449	20	2	4.454
Turkey Swamp (Monmouth Co.)/49	Inland	0.13	0.12	529	21	1	1.890
Glassboro (Gloucester Co.)/50	Inland	0.17	0.10	177	18		

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

Remarks: One new positive EEE pools were detected this past week in Burlington County. Currently for the 2018 season, there are 13 detections of EEE among submitted mosquito pools, seven at resting box sites (4 at Winslow, 2 at Centerton, 1 at Turkey Swamp) and six 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, 9670 *Cs. melanura* from 553 pools have been tested, with 13 positive pools detected for an overall *Cs. melanura* MFIR of 1.345. 17441 specimens in 1684 pools from 23 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.480.

Traditional Resting Box Sites: 4309 *Cs. melanura* from 167 pools have been tested for EEE (plus two pools totaling 59 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	47	1222	1	0.818
Bergen	RB	8	24		
Burlington	CDCL	68	2983	5	1.676
Cape May	GR, RB	180	443		
Cumberland	BGSCL, RB	16	117		
Gloucester		6	223		
Middlesex	RB	2	21		
Monmouth	OTHER	1	2		
Morris	CDCL	1	1		
Ocean	CDCL, RB	37	192		
Passaic	RB	4	4		
Salem	CDCL	6	53		
Sussex	ABC	9	70		
Warren	CDCL	1	6		
TOTAL		386	5361	6	1.119

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. A total of 6 county-trapped positive pools have been detected, one in Atlantic and four in Burlington County. The last came from Burlington County, collected on 27 Sep.

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 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

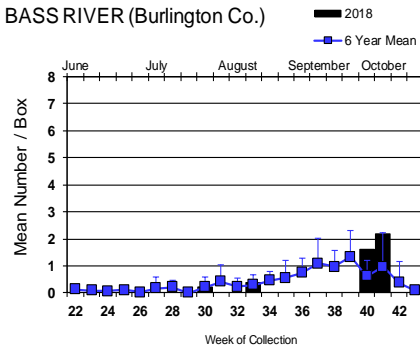
Additional Species: Twenty-three additional species were tested for EEE. No positives were detected.

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes albopictus</i>	10	52		
<i>Aedes atlanticus</i>	3	45		
<i>Aedes canadensis canadensis</i>	2	14		
<i>Aedes cantator</i>	3	3		
<i>Aedes infirmatus</i>	3	6		
<i>Aedes japonicus</i>	2	11		
<i>Aedes mitchellae</i>	1	2		
<i>Aedes sollicitans</i>	14	85		
<i>Aedes taeniorhynchus</i>	3	88		
<i>Aedes triseriatus</i>	2	6		
<i>Aedes vexans</i>	7	99		
<i>Anopheles barberi</i>	2	17		
<i>Anopheles bradleyi</i>	67	425		
<i>Anopheles punctipennis</i>	21	92		
<i>Anopheles quadrimaculatus</i>	3	4		
<i>Coquillettidia perturbans</i>	89	1817		
<i>Culex erraticus</i>	139	1386		
<i>Culex pipiens</i>	899	10753		
<i>Culex salinarius</i>	332	1584		
<i>Culex</i> spp.	69	606		
<i>Culiseta inornata</i>	1	10		
<i>Psorophora ciliata</i>	2	9		
<i>Psorophora columbiae</i>	2	7		
<i>Psorophora ferox</i>	8	320		
State Total	1684	17441		

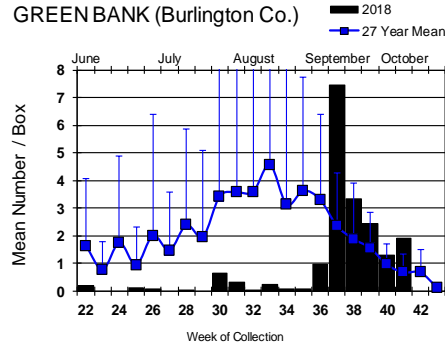
Culiseta melanura Populations

Coastal

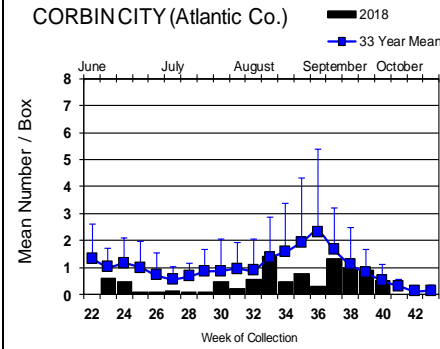
BASS RIVER (Burlington Co.)



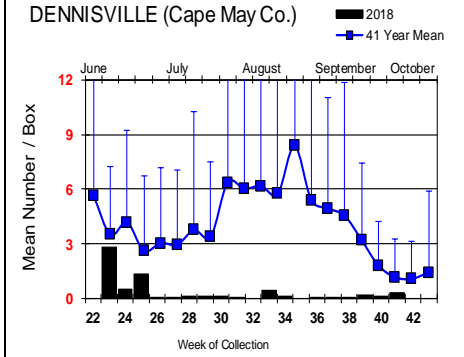
GREEN BANK (Burlington Co.)



CORBINCITY (Atlantic Co.)

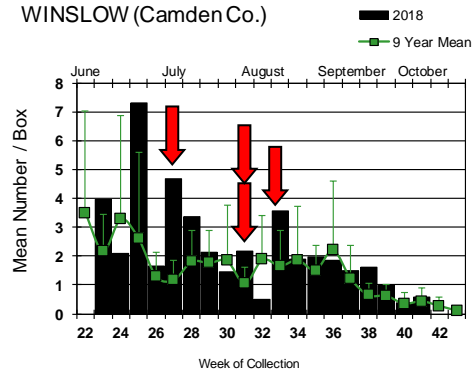


DENNISVILLE (Cape May Co.)

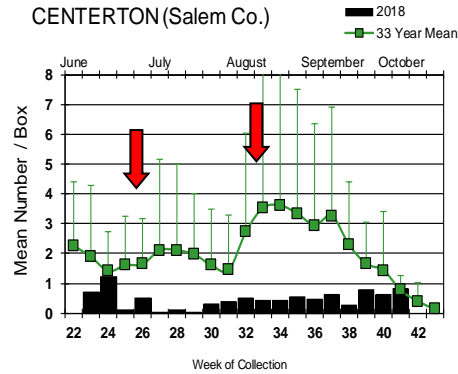


Inland

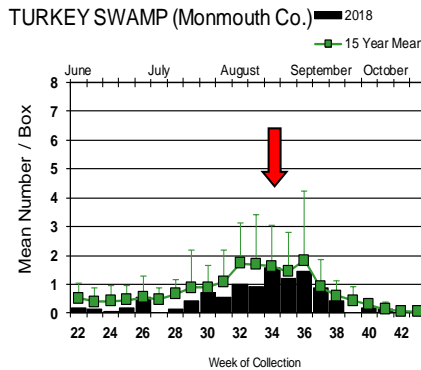
WINSLOW (Camden Co.)



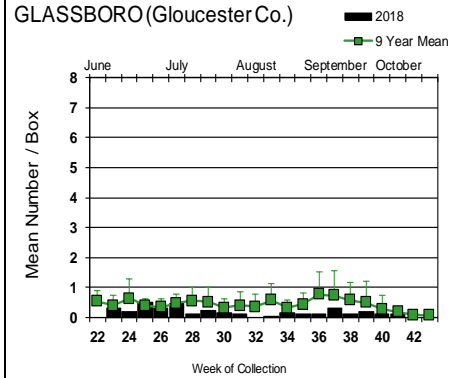
CENTERTON (Salem Co.)





TURKEY SWAMP (Monmouth Co.)



GLASSBORO (Gloucester Co.)



Populations increased at Bass River and Green Bank, eastern coastal sites. We have seen this pattern in the past, with western populations growing first, then declining and eastern population increasing later in the season.



 = 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(6) NC(7) NJ(5) NY(1) SC(1) VA(2) WI(2) Ontario Canada(10)
- mosquito pools: CT(5) FL(2) LA(1) MA(2) NC(1) NH(3) NJ(13) NY(25) RI(4)
- 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					24
Alaska					
Arizona	1	81/84	1	4	11
Arkansas				2	6/7
California	469/483	1,889/1,947	139/150	8/10	114/132
Colorado	Present	Present		5	73/82
Connecticut		388/391			15
Delaware	27		47	3	5
DC	1	21		1/2	14
Florida	1	25	362	3	14
Georgia		Present			20
Hawaii					
Idaho		39		2/4	12/13
Illinois	34	2,995/3,003		7/11	91/103
Indiana		646/654		1	17/22
Iowa		96/100		13	70/77
Kansas					11
Kentucky		Present		1	9
Louisiana	94/98	1047/1055		4	79/85
Maine		2/4		1	2/3
Maryland(+DC)	1	30		3/6	38/39
Mass.		572/579		2/3	29/42
Michigan	154/165	154		2	82/84
Minnesota		Present		Present	37
Mississippi		111			42
Missouri	1	3		4/5	12/13

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana		9		42	43
Nebraska	1	121/122			195/212
Nevada		Present			6
New Hampshire	4	30			
New Jersey		1,227/1299		1	43/50
New Mexico					4
New York		1,442/1,480		9/12	48/56
North Carolina					3
North Dakota	12	102		4	173/184
Ohio		3,220/3,262		31/38	42/44
Oklahoma		21traps		1	10
Oregon	1	47			1
Pennsylvania	95/106	4,609/4,680		64/70	55/72
Rhode Island		10			
South Carolina					4/5
South Dakota		9counties			161
Tennessee	1	789/850			9/10
Texas	6	875/922		7/8	66/76
Utah		179/180		9	9/10
Vermont		151		1	
Virginia					21/35
Washington		49		2	2
West Virginia		24			
Wisconsin	54	83		3	8/11
Wyoming	3	17		14/15	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 12 October 2018

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	1503	12921	34	2.631
<i>Aedes atlanticus</i>	22	94		
<i>Aedes atropalpus</i>	24	59		
<i>Aedes canadensis canadensis</i>	32	242		
<i>Aedes cantator</i>	9	111		
<i>Aedes cinereus</i>	1	18		
<i>Aedes excrucians</i>	1	2		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes infirmatus</i>	4	7		
<i>Aedes japonicus</i>	745	4237	19	4.484
<i>Aedes mitchellae</i>	1	2		
<i>Aedes sollicitans</i>	27	336		
<i>Aedes sticticus</i>	5	53		
<i>Aedes taeniorhynchus</i>	17	378	1	2.646
<i>Aedes thibaulti</i>	1	10		
<i>Aedes triseriatus</i>	277	707	3	4.243
<i>Aedes trivittatus</i>	24	228	1	4.386
<i>Aedes vexans</i>	195	3800	2	0.526
<i>Anopheles barberi</i>	3	24		
<i>Anopheles bradleyi</i>	79	771		
<i>Anopheles crucians</i>	1	2	1	500.000
<i>Anopheles punctipennis</i>	84	300	1	3.333
<i>Anopheles quadrimaculatus</i>	173	2568	1	0.389
<i>Anopheles walkeri</i>	1	35		
<i>Coquillettidia perturbans</i>	116	2750	3	1.091
<i>Culex erraticus</i>	190	1670	6	3.593
<i>Culex pipiens</i>	999	12615	32	2.537
<i>Culex restuans</i>	632	4531	9	1.986
<i>Culex salinarius</i>	382	3616	1	0.277
<i>Culex</i> spp.	3531	139677	1168	8.362
<i>Culex territans</i>	16	70		
<i>Culiseta inornata</i>	1	10		
<i>Culiseta melanura</i>	556	9709	15	1.545
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	7	73		
<i>Psorophora columbiae</i>	30	236	1	4.237
<i>Psorophora cyanescens</i>	2	19		
<i>Psorophora ferox</i>	67	1006		
<i>Psorophora howardii</i>	2	14	1	71.429
<i>Uranotaenia sapphirina</i>	7	28		
Grand Total	9773	202954	1299	6.400

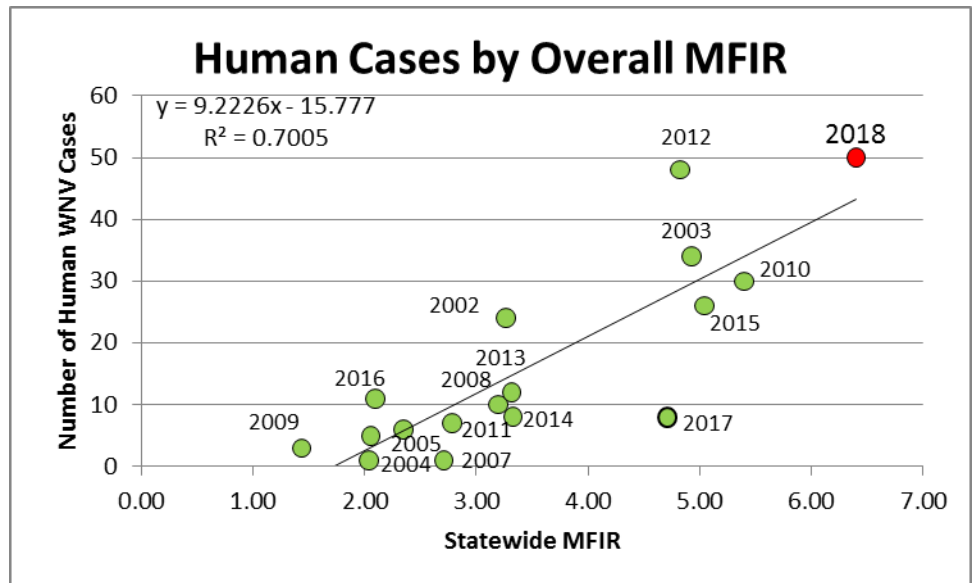
Remarks: To date, 9,773 pools of 202,954 mosquitoes from 40 species have been tested. A total of 1,299 positive WNV pools have been detected throughout the state. The bulk of new positives continue to be in the enzootic vector(s) *Culex* spp. First positive WNV pool detected has been revised from 7 June 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 finally decreased to 6.400 from last week's 6.522.

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:

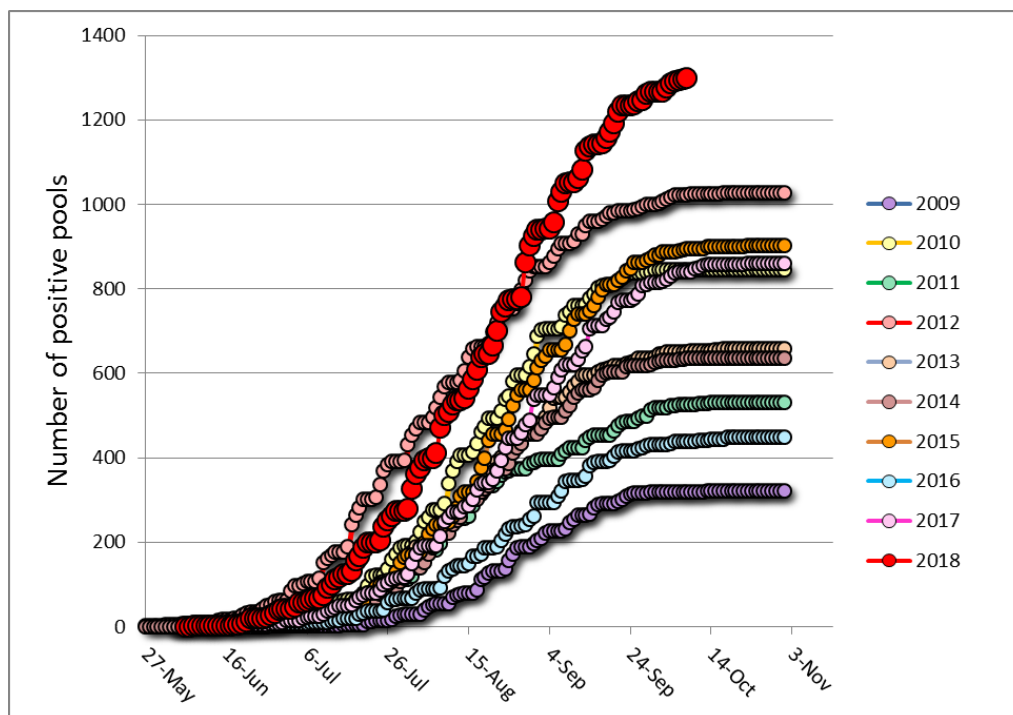
Currently 50 human cases of WNV have been detected in the following counties: Atlantic 1, Bergen 7, Burlington 3, Camden 3, Cape May 2, Cumberland 2, Essex 1, Gloucester 1, Hudson 4, Hunterdon 3, Mercer 1 Middlesex 4, Monmouth 2, Morris 4, Ocean 2, Passaic 3, Somerset 3, Union 1, and Warren 3.

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 continued to rise above the trend line, consistent with higher than normal activity.



One 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 well surpassed other recent years in activity.

WNV Results by County through 12 October 2018.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		285	7041	23	3.267
	<i>Aedes albopictus</i>	51	1029	1	0.972
	<i>Aedes atlanticus</i>	1	13		
	<i>Aedes canadensis canadensis</i>	4	57		
	<i>Aedes japonicus</i>	7	67		
	<i>Aedes sollicitans</i>	5	105		
	<i>Aedes sticticus</i>	1	35		
	<i>Aedes taeniorhynchus</i>	5	271		
	<i>Aedes triseriatus</i>	1	2		
	<i>Aedes vexans</i>	18	318	1	3.145
	<i>Anopheles bradleyi</i>	5	173		
	<i>Coquillettidia perturbans</i>	13	320	1	3.125
	<i>Culex erraticus</i>	21	224	1	4.464
	<i>Culex pipiens</i>	21	758	6	7.916
	<i>Culex restuans</i>	1	23		
	<i>Culex salinarius</i>	1	24		
	<i>Culex</i> spp.	50	1488	11	7.392
	<i>Culiseta melanura</i>	65	1468	2	1.362
	<i>Psorophora ciliata</i>	1	1		
	<i>Psorophora columbiae</i>	1	1		
	<i>Psorophora ferox</i>	13	664		
Bergen		377	21853	156	7.139
	<i>Aedes albopictus</i>	37	854	1	1.171
	<i>Aedes japonicus</i>	5	20	1	50.00
	<i>Aedes sollicitans</i>	3	146		
	<i>Aedes trivittatus</i>	1	13		
	<i>Aedes vexans</i>	17	807		
	<i>Anopheles bradleyi</i>	1	4		
	<i>Coquillettidia perturbans</i>	4	50		
	<i>Culex salinarius</i>	9	270		
	<i>Culex</i> spp.	290	19587	153	7.811
	<i>Culiseta melanura</i>	8	24		
	<i>Psorophora ferox</i>	1	76		
	<i>Psorophora howardii</i>	1	2	1	500.00
Burlington		277	8646	33	3.817
	<i>Aedes albopictus</i>	24	396		
	<i>Aedes atlanticus</i>	3	45		
	<i>Aedes canadensis canadensis</i>	1	10		
	<i>Aedes infirmatus</i>	3	6		
	<i>Aedes japonicus</i>	15	159	2	12.579
	<i>Aedes mitchellae</i>	1	2		
	<i>Aedes taeniorhynchus</i>	1	42		
	<i>Aedes triseriatus</i>	4	27		
	<i>Aedes vexans</i>	10	369		
	<i>Anopheles bradleyi</i>	3	101		
	<i>Anopheles quadrimaculatus</i>	1	3		
	<i>Coquillettidia perturbans</i>	2	127		

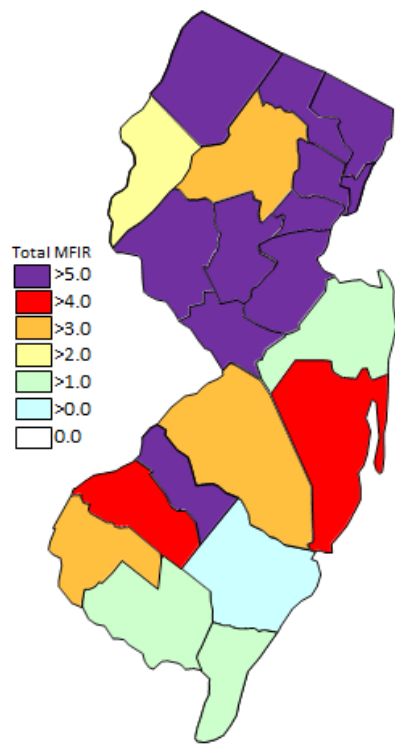
<i>Culex erraticus</i>	8	143		
<i>Culex pipiens</i>	6	6		
<i>Culex salinarius</i>	10	398		
<i>Culex</i> spp.	95	3403	25	7.346
<i>Culiseta melanura</i>	86	3386	6	1.772
<i>Psorophora ciliata</i>	1	8		
<i>Psorophora columbiae</i>	2	14		
<i>Psorophora ferox</i>	1	1		
Camden	197	6354	39	6.138
<i>Aedes albopictus</i>	30	87	3	34.483
<i>Aedes excrucians</i>	1	2		
<i>Aedes japonicus</i>	28	137	1	7.299
<i>Aedes triseriatus</i>	2	4		
<i>Anopheles punctipennis</i>	2	3		
<i>Culex</i> spp.	81	3935	33	8.386
<i>Culiseta melanura</i>	52	2184	2	0.916
<i>Psorophora ferox</i>	1	2		
Cape May	3427	20692	20	0.967
<i>Aedes albopictus</i>	634	1338		
<i>Aedes atlanticus</i>	15	29		
<i>Aedes atropalpus</i>	24	59		
<i>Aedes canadensis canadensis</i>	7	11		
<i>Aedes cantator</i>	3	3		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	257	542		
<i>Aedes sollicitans</i>	8	8		
<i>Aedes sticticus</i>	1	1		
<i>Aedes taeniorhynchus</i>	4	4		
<i>Aedes triseriatus</i>	135	246		
<i>Aedes vexans</i>	26	44		
<i>Anopheles barberi</i>	1	16		
<i>Anopheles bradleyi</i>	64	324		
<i>Anopheles punctipennis</i>	8	16		
<i>Anopheles quadrimaculatus</i>	140	2221		
<i>Coquillettidia perturbans</i>	10	33		
<i>Culex erraticus</i>	54	380		
<i>Culex pipiens</i>	899	10753	17	1.581
<i>Culex restuans</i>	531	2450	3	1.224
<i>Culex salinarius</i>	319	1176		
<i>Culex</i> spp.	46	147		
<i>Culex territans</i>	16	70		
<i>Culiseta melanura</i>	200	764		
<i>Orthopodomyia signifera</i>	2	3		
<i>Psorophora columbiae</i>	6	11		
<i>Psorophora ferox</i>	9	14		
<i>Uranotaenia sapphirina</i>	7	28		
Cumberland	253	2994	10	3.340
<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>	27	387		
	<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 spp.</i>	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 spp.</i>	68	646	9	13.932
Gloucester		534	14059	114	8.109
	<i>Aedes albopictus</i>	120	882	6	6.803
	<i>Aedes canadensis canadensis</i>	1	4		
	<i>Aedes japonicus</i>	89	919	9	9.793
	<i>Aedes triseriatus</i>	15	71		
	<i>Aedes vexans</i>	8	64		
	<i>Anopheles barberi</i>	1	7		
	<i>Anopheles punctipennis</i>	15	78	1	12.821
	<i>Anopheles quadrimaculatus</i>	3	5		
	<i>Coquillettidia perturbans</i>	4	9		
	<i>Culex pipiens</i>	28	394	5	12.690
	<i>Culex restuans</i>	1	3		
	<i>Culex spp.</i>	217	11122	93	8.362
	<i>Culiseta melanura</i>	24	400		
	<i>Psorophora ciliata</i>	1	1		
	<i>Psorophora columbiae</i>	1	8		
	<i>Psorophora ferox</i>	6	92		
Hudson		207	9441	67	7.097
	<i>Aedes albopictus</i>	6	74		
	<i>Culex spp.</i>	201	9367	67	7.153
Hunterdon		364	16477	152	9.225
	<i>Culex spp.</i>	364	16477	152	9.225
Mercer		320	5720	43	7.517
	<i>Aedes albopictus</i>	77	867	3	3.460
	<i>Aedes canadensis canadensis</i>	1	6		
	<i>Aedes japonicus</i>	71	310	1	3.226
	<i>Aedes triseriatus</i>	2	7		
	<i>Aedes vexans</i>	22	311	1	3.215
	<i>Coquillettidia perturbans</i>	2	37	1	27.027
	<i>Culex erraticus</i>	3	13		

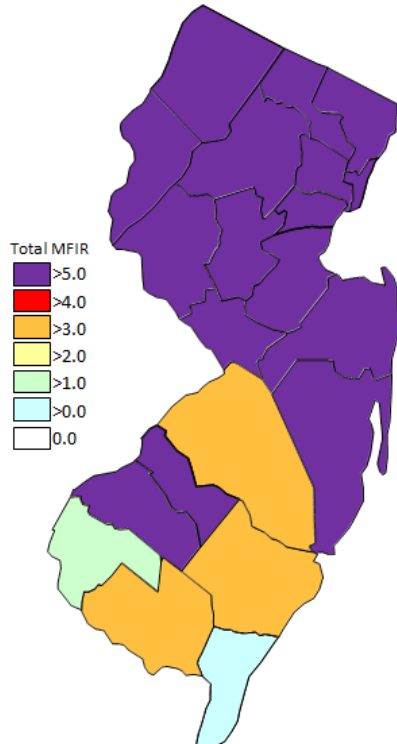
<i>Culex pipiens</i>	6	60	1	16.667
<i>Culex restuans</i>	43	1173	6	5.115
<i>Culex</i> spp.	92	2935	30	10.221
<i>Culiseta melanura</i>	1	1		
Middlesex	237	6551	56	8.548
<i>Aedes albopictus</i>	12	114		
<i>Aedes japonicus</i>	1	64		
<i>Aedes vexans</i>	3	105		
<i>Anopheles punctipennis</i>	1	1		
<i>Coquillettidia perturbans</i>	3	9		
<i>Culex</i> spp.	216	6248	56	8.963
<i>Culiseta inornata</i>	1	10		
Monmouth	533	10750	63	5.860
<i>Aedes albopictus</i>	118	2946	6	2.037
<i>Aedes atlanticus</i>	1	5		
<i>Aedes canadensis canadensis</i>	15	110		
<i>Aedes cantator</i>	5	50		
<i>Aedes grossbecki</i>	2	10		
<i>Aedes japonicus</i>	24	77		
<i>Aedes sollicitans</i>	5	37		
<i>Aedes taeniorhynchus</i>	4	7		
<i>Aedes triseriatus</i>	19	134		
<i>Aedes trivittatus</i>	7	56		
<i>Aedes vexans</i>	24	125		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles crucians</i>	1	2	1	500.00
<i>Anopheles punctipennis</i>	34	100		
<i>Anopheles quadrimaculatus</i>	3	4		
<i>Coquillettidia perturbans</i>	4	5		
<i>Culex erraticus</i>	12	51	2	39.216
<i>Culex salinarius</i>	9	263		
<i>Culex</i> spp.	196	6119	52	8.498
<i>Culiseta melanura</i>	24	533	1	1.876
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	6	58	1	17.241
<i>Psorophora ferox</i>	16	54		
Morris	448	16768	165	9.840
<i>Aedes albopictus</i>	15	93		
<i>Aedes japonicus</i>	15	136		
<i>Aedes sollicitans</i>	1	1		
<i>Aedes vexans</i>	4	119		
<i>Coquillettidia perturbans</i>	6	300		
<i>Culex</i> spp.	403	16086	165	10.257
<i>Culiseta melanura</i>	1	1		
<i>Psorophora ferox</i>	3	32		
Ocean	359	3180	26	8.176
<i>Aedes albopictus</i>	104	881	5	5.675
<i>Aedes cantator</i>	1	58		
<i>Aedes japonicus</i>	42	100		
<i>Aedes taeniorhynchus</i>	2	50		

<i>Aedes triseriatus</i>	29	72	2	27.778
<i>Aedes vexans</i>	5	50		
<i>Anopheles bradleyi</i>	2	139		
<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>	15	32		
<i>Culex salinarius</i>	4	86		
<i>Culex</i> spp.	88	1334	17	12.744
<i>Culiseta melanura</i>	37	192	1	5.208
<i>Psorophora ferox</i>	4	10		
Passaic	233	2016	16	7.937
<i>Aedes abserratus</i>	1	11		
<i>Aedes albopictus</i>	30	143		
<i>Aedes japonicus</i>	54	344	1	2.907
<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.	100	1080	15	13.889
<i>Culiseta melanura</i>	4	4		
<i>Psorophora cyanescens</i>	2	19		
Salem	400	7437	9	1.210
<i>Aedes albopictus</i>	74	915		
<i>Aedes atlanticus</i>	2	2		
<i>Aedes canadensis canadensis</i>	1	1		
<i>Aedes japonicus</i>	35	159		
<i>Aedes sollicitans</i>	2	24		
<i>Aedes taeniorhynchus</i>	1	4	1	250.000
<i>Aedes triseriatus</i>	30	40		
<i>Aedes trivittatus</i>	3	4		
<i>Aedes vexans</i>	5	182		
<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>	41	258	1	3.876
<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.	112	3920	5	1.276
<i>Culiseta melanura</i>	26	502	1	1.992
<i>Psorophora ciliate</i>	1	6		
<i>Psorophora columbiae</i>	4	13		
<i>Psorophora ferox</i>	4	25		
<i>Psorophora howardii</i>	1	12		
Somerset	274	8614	82	9.519
<i>Aedes albopictus</i>	5	17		
<i>Aedes canadensis canadensis</i>	1	12		
<i>Aedes japonicus</i>	15	159		

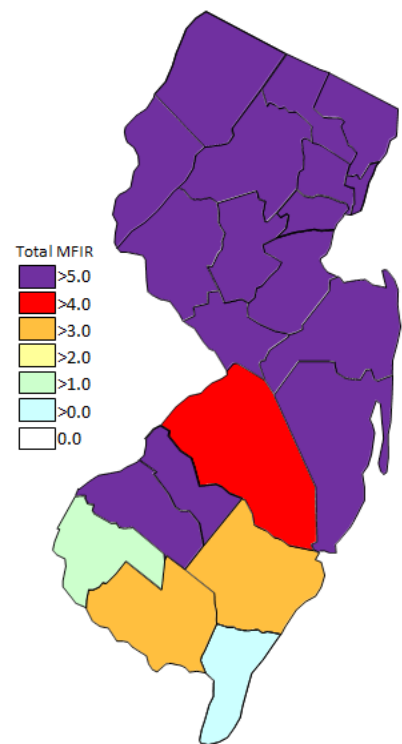
<i>Aedes triseriatus</i>	5	9		
<i>Aedes trivittatus</i>	2	2		
<i>Anopheles punctipennis</i>	3	5		
<i>Culex</i> spp.	242	8409	82	9.751
<i>Psorophora ferox</i>	1	1		
Sussex	310	9361	53	5.662
<i>Aedes albopictus</i>	2	4		
<i>Aedes canadensis canadensis</i>	1	31		
<i>Aedes japonicus</i>	4	136		
<i>Aedes 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>	41	770		
<i>Culex salinarius</i>	11	520		
<i>Culex</i> spp.	205	5810	50	8.606
<i>Culiseta melanura</i>	9	70		
Union	177	9717	78	8.027
<i>Aedes albopictus</i>	35	801	5	6.242
<i>Aedes sollicitans</i>	1	11		
<i>Culex salinarius</i>	2	88		
<i>Culex</i> spp.	139	8817	73	8.279
Warren	397	14413	80	5.551
<i>Aedes albopictus</i>	27	458	1	2.183
<i>Aedes cinereus</i>	1	18		
<i>Aedes japonicus</i>	43	807	1	1.239
<i>Aedes sticticus</i>	2	16		
<i>Aedes triseriatus</i>	1	2		
<i>Aedes trivittatus</i>	9	144	1	6.944
<i>Aedes vexans</i>	13	281		
<i>Anopheles punctipennis</i>	3	29		
<i>Anopheles quadrimaculatus</i>	1	3		
<i>Anopheles walkeri</i>	1	35		
<i>Coquillettidia perturbans</i>	2	89		
<i>Culex</i> spp.	285	12353	77	6.233
<i>Culiseta melanura</i>	3	63		
<i>Psorophora ciliata</i>	2	56		
<i>Psorophora columbiae</i>	2	46		
Grand Total	9773	202954	1299	6.400



Cumulative WNV activity in 2017.



WNV activity to 12 October 2018.



WNV activity last week, 2018

Saint Louis Encephalitis (SLE) to 12 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		944	10898		
	<i>Culex pipiens</i>	899	10753		
	<i>Culex</i> spp.	45	145		
Grand Total		980	12885		

La Crosse Encephalitis (LAC) to 12 October 2018.

Middlesex		2	12	2	12	2	12	2	12		
	<i>Aedes albopictus</i>	2	12	2	12	2	12	2	12		
Monmouth		2	67	2	67	2	67	2	67		
	<i>Aedes albopictus</i>	2	67	2	67	2	67	2	67		
Morris		1	12	1	12	1	12	1	12		
	<i>Aedes albopictus</i>	1	12	1	12	1	12	1	12		
Ocean		67	709	67	709	67	709	67	709		
	<i>Aedes albopictus</i>	67	709	67	709	67	709	67	709		
Sussex		2	4	2	4	2	4	2	4		
	<i>Aedes albopictus</i>	2	4	2	4	2	4	2	4		
Grand Total		133	1867	133	1867	133	1867	133	1867		

Chikungunya (CHIK) to 12 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		51	1029		
	<i>Aedes albopictus</i>	51	1029		
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		2	67		
	<i>Aedes albopictus</i>	2	67		
Ocean		67	709		
	<i>Aedes albopictus</i>	67	709		
Somerset		1	1		
	<i>Aedes albopictus</i>	1	1		
Sussex		2	4		
	<i>Aedes albopictus</i>	2	4		
Grand Total		133	1856		

Zika (ZIKV) to 12 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		51	1029		
	<i>Aedes albopictus</i>	51	1029		
Bergen		1	14		
	<i>Aedes albopictus</i>	1	14		
Cape May		619	1298		
	<i>Aedes albopictus</i>	619	1298		
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		2	67		
	<i>Aedes albopictus</i>	2	67		
Ocean		67	709		
	<i>Aedes albopictus</i>	67	709		
Somerset		1	1		
	<i>Anopheles punctipennis</i>	1	1		
Sussex		2	4		
	<i>Aedes albopictus</i>	2	4		
Grand Total		752	3154		