VECTOR SURVEILLANCE IN NEW JERSEY

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

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CDC WEEK 39: 23 September to 29 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**	1.33	0.00	3	2		
Green Bank (Burlington Co.)/25	**Coastal**	1.56	2.44	339‡ (400)‡	15 (17)		
Corbin City (Atlantic Co.)/25	**Coastal**	0.81	0.92	210‡ (233)‡	16 (17)		
Dennisville (Cape May Co.)/50	**Coastal**	1.83	0.18	301	18		
Winslow (Camden Co.)/50	**Inland**	0.62	0.96	2134	50	4	1.874
Centerton (Salem Co.)/50	**Inland**	1.66	0.80	376	18	2	5.319
Turkey Swamp (Monmouth Co.)/49	**Inland**	0.43	NC	499‡	19	1	2.004
Glassboro (Gloucester Co.)/50	**Inland**	0.49	0.18	166	16		

*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, 8568 *Cs. melanura* from 493 pools have been tested, with 12 positive pools detected for an overall *Cs. melanura* MFIR of 1.401. 15670 specimens in 1449 pools from 20 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.495.

Traditional Resting Box Sites: 4028 *Cs. melanura* from 154 pools have been tested for EEE (plus two pools totaling 84 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 *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD UNDERLINED.**				
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Atlantic	CO2,**GR**, RB	42	1072	1	0.933
Bergen	RB	7	21		
Burlington	**CDCL**	58	2588	4	1.546
Cape May	GR, RB	162	424		
Cumberland	BGSCL, RB	16	117		
Middlesex	RB	2	21		
Monmouth	OTHER	1	2		
Morris	CDCL	1	1		
Ocean	CDCL, RB	33	166		
Passaic	RB	4	4		
Salem	CDCL	4	49		
Sussex	ABC	8	69		
Warren	CDCL	1	6		
TOTAL		**339**	**4540**	**5**	**1.101**

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.

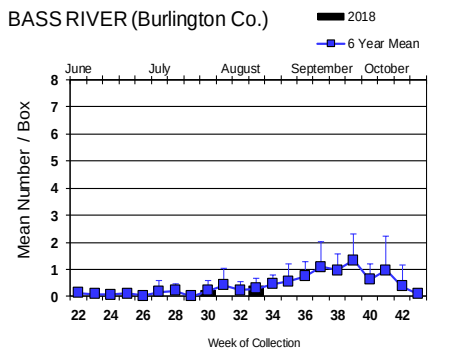
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

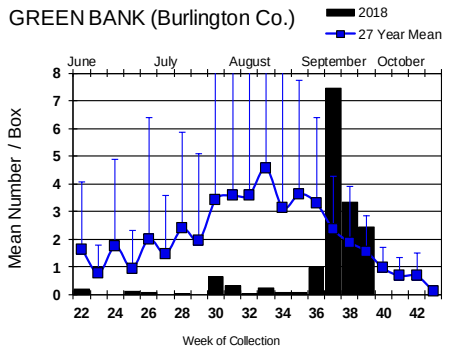
Additional Species: Twenty additional species were tested for EEE. No positives were detected.

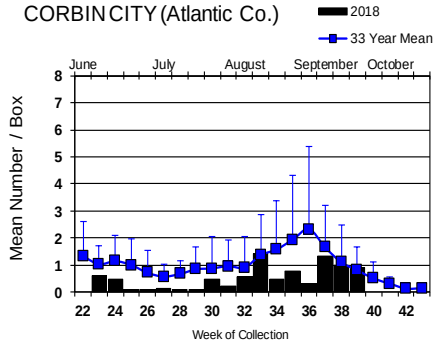
Species other than *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	3	26		
Aedes atlanticus	1	7		
Aedes canadensis canadensis	1	10		
Aedes cantator	2	2		
Aedes infirmatus	1	1		
Aedes japonicus	1	1		
Aedes sollicitans	10	63		
Aedes taeniorhynchus	3	88		
Aedes triseriatus	1	1		
Aedes vexans	3	32		
Anopheles barberi	1	1		
Anopheles bradleyi	53	382		
Anopheles punctipennis	14	47		
Anopheles quadrimaculatus	1	1		
Coquillettidia perturbans	85	1776		
Culex erraticus	109	1106		
Culex pipiens	795	10121		
Culex salinarius	306	1473		
Culex spp.	52	215		
Culiseta inornata	1	10		
Psorophora columbiae	2	7		
Psorophora ferox	4	300		
State Total	**1449**	**15670**		

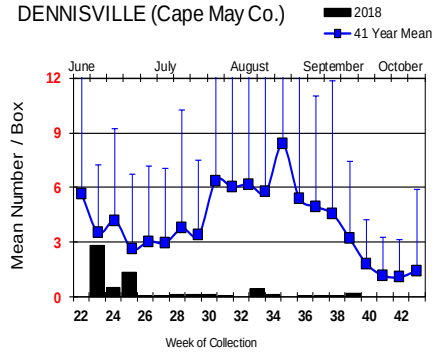
Culiseta melanura Populations

Coastal

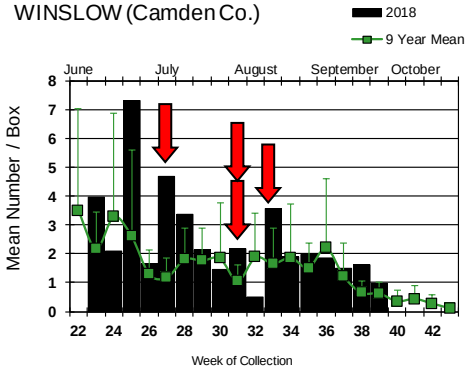


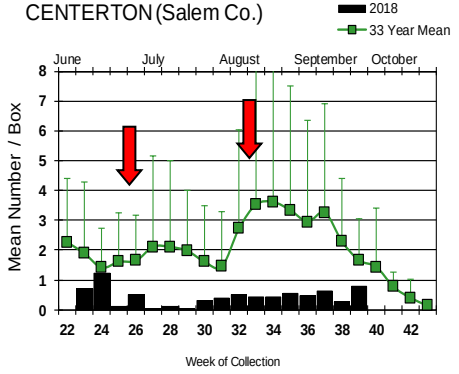


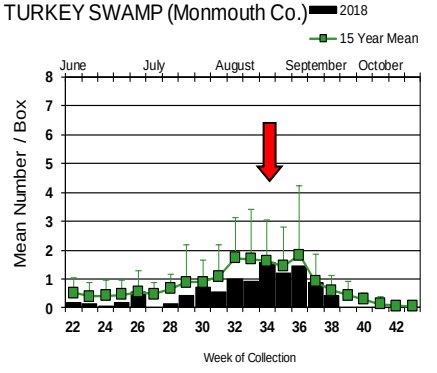


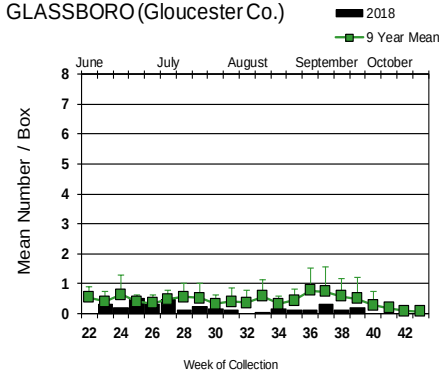


Inland









Populations continued to be above the recent historical trend at Green Bank, but are decreasing. Abundances at other resting box sites are also decreasing, from either low previous numbers or from around historical averages. Note: *Culiseta melanura* is a cold weather mosquito and can be on the wing later than other species, perhaps accounting for horse cases that sometimes occur late in the season (November). Due diligence is required.

= 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(1) FL(2) NJ(12) NY(22) LA(1) MA(1) NC(1) RI(4)**
- **sentinel: FL(142/6 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
Alaska					
Arizona		55/81			7/8
Arkansas					6
California	430/445	1,606/1,802	112/122	7/8	79/114
Colorado	Present	Present			47
Connecticut		362/378			6
Delaware	27		47	3	5
DC	1	21		1	10/11
Florida	1	25	212/306	2/4	8/12
Georgia		Present			7/13
Hawaii					
Idaho		39		2	9/11
Illinois	30	2,922/2,972		7	63/79
Indiana		490/598			9/17
Iowa		77		6/8	39/53
Kansas					6
Kentucky		Present			6
Louisiana	86/88	1012/1036		4	79
Maine		1/2		1	2
Maryland(+DC)	1	30		3	26/32
Mass.		572/579		1	14/25
Michigan	129/131	150/153			54/67
Minnesota		Present		Present	5
Mississippi		108			37/40
Missouri	1	3		3	12

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana		9		38/40	34/38
Nebraska	1	116/118			150/163
Nevada		Present			2
New Hampshire	4	16			
New Jersey		1,075/1180		1	25/34
New Mexico					3
New York		1,261/1,422		4/6	24/38
North Carolina					3
North Dakota	12	102		4	148/167
Ohio		2,923/3,132		17/31	23/34
Oklahoma		21traps			7
Oregon	1	47			1
Pennsylvania	38/84	2,140/4,370		3/64	1/40
Rhode Island		10			
South Carolina					4
South Dakota		9counties			140
Tennessee	1	546/679			8/9
Texas	6	776/825		2	45/57
Utah		174/175		7	8
Vermont		120/127		1	
Virginia					21
Washington		49		2	2
West Virginia		24			
Wisconsin	52/53	83		2	6/7
Wyoming	3	11		11	3

* 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 28 September 2018

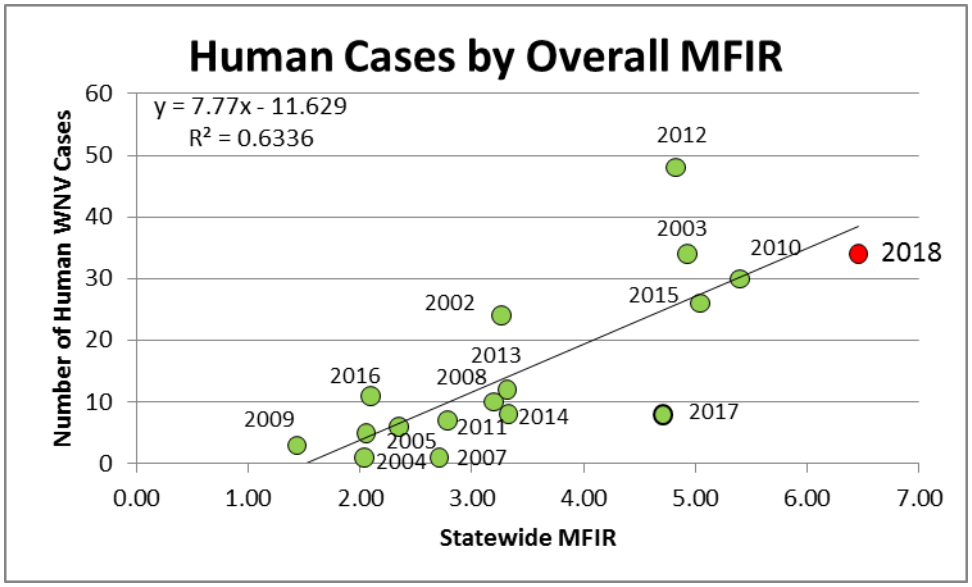
Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	1	11		
Aedes albopictus	1237	10732	33	3.075
Aedes atlanticus	6	29		
Aedes atropalpus	22	56		
Aedes canadensis canadensis	29	232		
Aedes cantator	7	52		
Aedes cinereus	1	18		
Aedes excrucians	1	2		
Aedes grossbecki	2	10		
Aedes infirmatus	2	2		
Aedes japonicus	642	3875	19	4.903
Aedes sollicitans	18	156		
Aedes sticticus	5	53		
Aedes taeniorhynchus	12	324	1	3.086
Aedes thibaulti	1	10		
Aedes triseriatus	248	642	3	4.673
Aedes trivittatus	17	177	1	5.650
Aedes vexans	121	2010	2	0.995
Anopheles barberi	2	8		
Anopheles bradleyi	60	553		
Anopheles crucians	1	2	1	500.00
Anopheles punctipennis	69	228	1	4.386
Anopheles quadrimaculatus	155	2480	1	0.403
Anopheles walkeri	1	35		
Coquillettidia perturbans	111	2707	3	1.108
Culex erraticus	152	1339	6	4.481
Culex pipiens	884	11898	31	2.605
Culex restuans	535	4216	7	1.660
Culex salinarius	341	3109	2	0.643
Culex spp.	3136	128165	1053	8.216
Culex territans	14	63		
Culiseta inornata	1	10		
Culiseta melanura	494	8605	14	1.627
Orthopodomyia signifera	2	3		
Psorophora ciliata	4	63		
Psorophora columbiae	23	162	1	6.173
Psorophora cyanescens	1	14		
Psorophora ferox	44	629		
Psorophora howardii	1	2	1	500.00
Uranotaenia sapphirina	3	13		
Grand Total	**8406**	**182695**	**1180**	**6.459**

Remarks: To date, 8406 pools of 182,695 mosquitoes from 39 species have been tested. A total of 1180 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. 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 is 6.459.

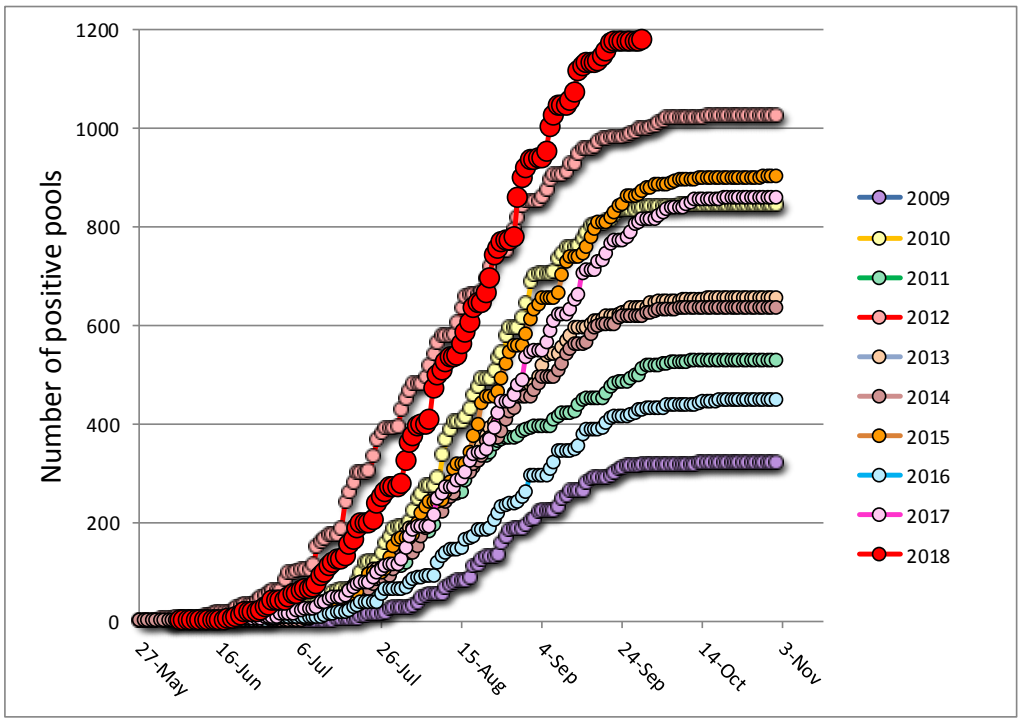
***NOTE* - A*dditional* WNV pools have been reported to the counties, but are not yet in the database. This report should be considered up for revision as necessary.**

Humans, Horses and Wild Birds: Currently 34 human cases of WNV have been detected in the following counties: Bergen 6, Burlington 3, Camden 3, Cape May 1, Essex 1, Hudson 3, Hunterdon 2, Mercer 1 Middlesex 2, Monmouth 2, Morris 2, Ocean 1, Passaic 2, Somerset 2, Union 1, and Warren 2. The graph to the right shows the relationship between statewide overall MFIR and human cases since the beginning of the outbreak. This week, the estimate for 2018 continues to rise toward the trend line. It is also extending further to the right as MFIR continues to increase.



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 28 September 2018.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**240**	**6226**	**23**	**3.694**
	Aedes albopictus	44	903	1	1.107
	Aedes atlanticus	1	13		
	Aedes canadensis canadensis	3	54		
	Aedes japonicus	6	64		
	Aedes sollicitans	3	85		
	Aedes sticticus	1	35		
	Aedes taeniorhynchus	5	271		
	Aedes vexans	16	305	1	3.279
	Anopheles bradleyi	4	165		
	Coquillettidia perturbans	13	320	1	3.125
	Culex erraticus	14	195	1	5.128
	Culex pipiens	18	709	6	8.463
	Culex restuans	1	23		
	Culex salinarius	1	24		
	Culex spp.	43	1327	11	8.289
	Culiseta melanura	58	1282	2	1.560
	Psorophora ferox	9	451		
Bergen		**270**	**17003**	**128**	**7.528**
	Aedes albopictus	26	711	1	1.406
	Aedes japonicus	5	20	1	50.000
	Coquillettidia perturbans	4	50		
	Culex spp.	227	16199	125	7.717
	Culiseta melanura	7	21		
	Psorophora howardii	1	2	1	500.00
Burlington		**240**	**7476**	**32**	**4.280**
	Aedes albopictus	18	172		
	Aedes atlanticus	1	7		
	Aedes canadensis canadensis	1	10		
	Aedes infirmatus	1	1		
	Aedes japonicus	14	153	2	13.072
	Aedes taeniorhynchus	1	42		
	Aedes triseriatus	2	7		
	Aedes vexans	5	72		
	Anopheles bradleyi	3	101		
	Anopheles quadrimaculatus	1	3		
	Coquillettidia perturbans	2	127		
	Culex erraticus	7	142		
	Culex pipiens	6	6		
	Culex salinarius	9	323		
	Culex spp.	91	3365	24	7.132
	Culiseta melanura	75	2930	6	2.048
	Psorophora columbiae	2	14		
	Psorophora ferox	1	1		
Camden		**184**	**6198**	**38**	**6.131**
	Aedes albopictus	27	83	3	36.145

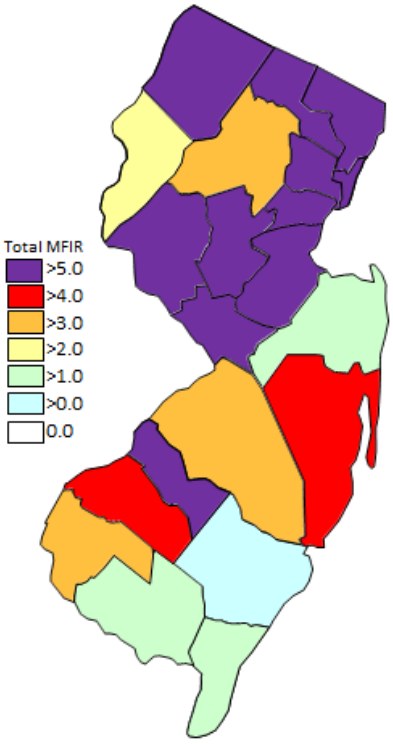
	Aedes excrucians	1	2		
	Aedes japonicus	27	136	1	7.353
	Aedes triseriatus	1	2		
	Anopheles punctipennis	2	3		
	Culex spp.	75	3836	32	8.342
	Culiseta melanura	50	2134	2	0.937
	Psorophora ferox	1	2		
Cape May		**2955**	**19248**	**17**	**0.883**
	Aedes albopictus	528	1150		
	Aedes atlanticus	2	3		
	Aedes atropalpus	22	56		
	Aedes canadensis canadensis	7	11		
	Aedes cantator	2	2		
	Aedes infirmatus	1	1		
	Aedes japonicus	229	505		
	Aedes sollicitans	7	7		
	Aedes sticticus	1	1		
	Aedes taeniorhynchus	2	2		
	Aedes triseriatus	122	231		
	Aedes vexans	17	33		
	Anopheles bradleyi	50	281		
	Anopheles punctipennis	8	16		
	Anopheles quadrimaculatus	129	2148		
	Coquillettidia perturbans	10	33		
	Culex erraticus	38	321		
	Culex pipiens	795	10121	16	1.581
	Culex restuans	444	2233	1	0.448
	Culex salinarius	294	1140		
	Culex spp.	39	133		
	Culex territans	14	63		
	Culiseta melanura	180	725		
	Orthopodomyia signifera	2	3		
	Psorophora columbiae	5	10		
	Psorophora ferox	4	6		
	Uranotaenia sapphirina	3	13		
Cumberland		**233**	**2664**	**10**	**3.754**
	Aedes albopictus	59	895	3	3.352
	Aedes japonicus	12	47		
	Aedes sollicitans	1	3		
	Aedes sticticus	1	1		
	Aedes triseriatus	8	16		
	Aedes trivittatus	1	8		
	Aedes vexans	21	321		
	Anopheles punctipennis	11	46		
	Anopheles quadrimaculatus	14	307		
	Coquillettidia perturbans	4	4		
	Culex erraticus	21	362	2	5.525
	Culex pipiens	6	41		
	Culex restuans	1	1		
	Culex salinarius	3	10		
	Culex spp.	41	394	3	7.614
	Culiseta melanura	16	117	2	17.094
	Psorophora columbiae	7	69		
	Psorophora ferox	6	22		

Essex		**140**	**760**	**12**	**15.789**
	Aedes albopictus	38	117		
	Aedes japonicus	21	36	3	83.333
	Aedes trivittatus	14	21	1	47.619
	Aedes vexans	2	3		
	Anopheles quadrimaculatus	2	2	1	500.000
	Culex spp.	63	581	7	12.048
Gloucester		**386**	**11156**	**92**	**8.247**
	Aedes albopictus	87	723	6	8.299
	Aedes japonicus	66	801	9	11.236
	Aedes triseriatus	15	71		
	Aedes vexans	2	29		
	Anopheles barberi	1	7		
	Anopheles punctipennis	9	36	1	27.778
	Anopheles quadrimaculatus	1	3		
	Coquillettidia perturbans	1	1		
	Culex pipiens	22	361	5	13.850
	Culex restuans	1	3		
	Culex spp.	164	8890	71	7.987
	Culiseta melanura	16	166		
	Psorophora ferox	1	65		
Hudson		**184**	**9050**	**66**	**7.293**
	Culex spp.	184	9050	66	7.293
Hunterdon		**324**	**15456**	**137**	**8.864**
	Culex spp.	324	15456	137	8.864
Mercer		**284**	**5397**	**43**	**7.967**
	Aedes albopictus	66	820	3	3.659
	Aedes canadensis canadensis	1	6		
	Aedes japonicus	65	297	1	3.367
	Aedes triseriatus	2	7		
	Aedes vexans	17	170	1	5.882
	Coquillettidia perturbans	1	3	1	333.333
	Culex erraticus	1	6		
	Culex pipiens	5	59	1	16.949
	Culex restuans	37	1100	6	5.455
	Culex spp.	89	2929	30	10.242
Middlesex		**212**	**6286**	**55**	**8.750**
	Aedes albopictus	7	81		
	Aedes japonicus	1	64		
	Anopheles punctipennis	1	1		
	Coquillettidia perturbans	3	9		
	Culex spp.	199	6121	55	8.985
	Culiseta inornata	1	10		
Monmouth		**453**	**9272**	**56**	**6.040**
	Aedes albopictus	97	2262	5	2.210
	Aedes atlanticus	1	5		
	Aedes canadensis canadensis	14	107		
	Aedes cantator	5	50		

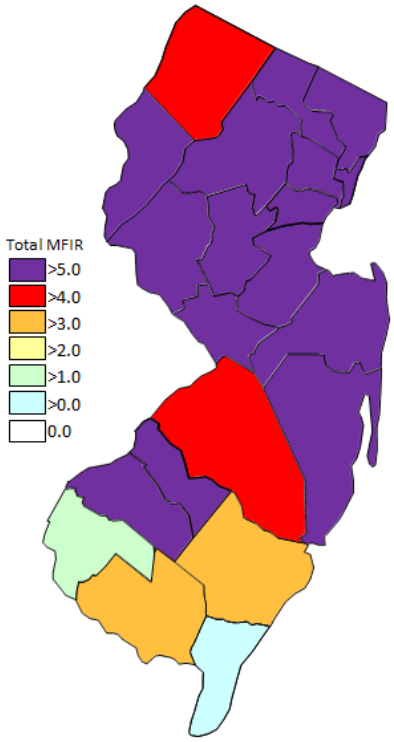
	Aedes grossbecki	2	10		
	Aedes japonicus	21	67		
	Aedes sollicitans	5	37		
	Aedes taeniorhynchus	3	5		
	Aedes triseriatus	17	132		
	Aedes trivittatus	6	55		
	Aedes vexans	16	84		
	Anopheles barberi	1	1		
	Anopheles bradleyi	1	1		
	Anopheles crucians	1	2	1	500.000
	Anopheles punctipennis	28	90		
	Anopheles quadrimaculatus	1	1		
	Coquillettidia perturbans	4	5		
	Culex erraticus	10	36	2	55.556
	Culex salinarius	8	254		
	Culex spp.	170	5495	47	8.553
	Culiseta melanura	22	503		
	Psorophora ciliata	1	1		
	Psorophora columbiae	4	17	1	58.824
	Psorophora ferox	15	52		
Morris		**399**	**15677**	**157**	**10.015**
	Aedes albopictus	6	39		
	Aedes japonicus	10	110		
	Coquillettidia perturbans	6	300		
	Culex spp	376	15227	157	10.311
	Culiseta melanura	1	1		
Ocean		**318**	**2558**	**26**	**10.164**
	Aedes albopictus	92	742	5	6.739
	Aedes japonicus	39	95		
	Aedes triseriatus	28	69	2	28.986
	Aedes vexans	1	2		
	Anopheles punctipennis	2	2		
	Anopheles quadrimaculatus	3	6		
	Coquillettidia perturbans	21	168	1	5.952
	Culex erraticus	14	29		
	Culex salinarius	2	3		
	Culex spp.	80	1270	17	13.386
	Culiseta melanura	33	166	1	6.024
	Psorophora ferox	3	6		
Passaic		**205**	**1871**	**16**	**8.552**
	Aedes abserratus	1	11		
	Aedes albopictus	22	104		
	Aedes japonicus	47	314	1	3.185
	Aedes thibaulti	1	10		
	Aedes triseriatus	4	14		
	Aedes vexans	1	34		
	Coquillettidia perturbans	5	40		
	Culex erraticus	11	20		
	Culex pipiens	11	202		
	Culex restuans	9	95		
	Culex spp.	88	1009	15	14.866
	Culiseta melanura	4	4		
	Psorophora cyanescens	1	14		

Salem		**365**	**7106**	**9**	**1.267**
	Aedes albopictus	69	892		
	Aedes atlanticus	1	1		
	Aedes canadensis canadensis	1	1		
	Aedes japonicus	33	156		
	Aedes sollicitans	2	24		
	Aedes taeniorhynchus	1	4	1	250.000
	Aedes triseriatus	27	35		
	Aedes trivittatus	2	3		
	Aedes vexans	2	79		
	Anopheles bradleyi	2	5		
	Anopheles punctipennis	3	3		
	Anopheles quadrimaculatus	3	7		
	Coquillettidia perturbans	20	550		
	Culex erraticus	36	228	1	4.386
	Culex pipiens	11	14		
	Culex restuans	5	16		
	Culex salinarius	12	760	1	1.316
	Culex spp.	107	3880	5	1.289
	Culiseta melanura	22	425	1	2.353
	Psorophora ciliate	1	6		
	Psorophora columbiae	3	6		
	Psorophora ferox	2	11		
Somerset		**244**	**8323**	**79**	**9.492**
	Aedes albopictus	1	2		
	Aedes canadensis canadensis	1	12		
	Aedes japonicus	12	150		
	Aedes triseriatus	4	8		
	Anopheles punctipennis	3	5		
	Culex spp.	222	8145	79	9.699
Sussex		**271**	**8716**	**40**	**4.589**
	Aedes albopictus	1	3		
	Aedes canadensis canadensis	1	31		
	Aedes japonicus	3	126		
	Aedes triseriatus	3	27		
	Aedes vexans	9	600		
	Coquillettidia perturbans	15	1008		
	Culex pipiens	10	385	3	7.792
	Culex restuans	37	745		
	Culex salinarius	12	595	1	1.681
	Culex spp.	172	5127	36	7.022
	Culiseta melanura	8	69		
Union		**156**	**8898**	**75**	**8.429**
	Aedes albopictus	27	633	5	7.899
	Culex spp	129	8265	70	8.469
Warren		**343**	**13354**	**69**	**5.167**
	Aedes albopictus	22	400	1	2.500
	Aedes cinereus	1	18		
	Aedes japonicus	31	734	1	1.362
	Aedes sticticus	2	16		

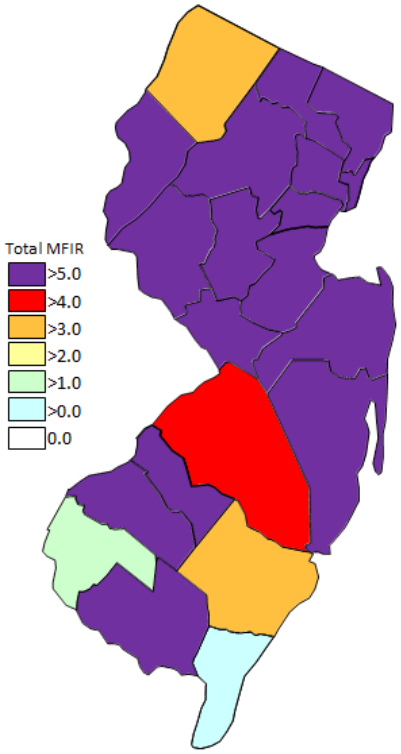
Aedes triseriatus	1	2		
Aedes trivittatus	8	111	1	9.009
Aedes vexans	12	278		
Anopheles punctipennis	2	26		
Anopheles quadrimaculatus	1	3		
Anopheles walkeri	1	35		
Coquillettidia perturbans	2	89		
Culex spp.	253	11466	66	5.756
Culiseta melanura	2	62		
Psorophora ciliata	2	56		
Psorophora columbiae	2	46		
Grand Total	**8406**	**182695**	**1180**	**6.459**



Cumulative WNV activity in 2017.



WNV activity to 28 September 2018.



WNV activity last week, 2018

Saint Louis Encephalitis (SLE) to 28 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**		
	Culex spp	36	1987		
Cape May		**833**	**10252**		
	Culex pipiens	795	10121		
	Culex spp.	38	131		
Grand Total		**869**	**12239**		

La Crosse Encephalitis (LAC) to 28 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		**14**	**206**		
	Aedes albopictus	5	79		
	Aedes japonicus	7	120		
	Aedes triseriatus	2	7		
Ocean		**4**	**9**		
	Aedes albopictus	2	3		
	Aedes japonicus	1	1		
	Aedes triseriatus	1	5		
Salem		**3**	**4**		
	Aedes triseriatus	3	4		
Sussex		**3**	**27**		
	Aedes triseriatus	3	27		
Grand Total		**24**	**246**		

Dengue (DENV) to 28 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		**44**	**903**	**44**	**903**	**44**	**903**	**44**	**903**		
	Aedes albopictus	44	903	44	903	44	903	44	903		
Bergen		**1**	**14**	**1**	**14**	**1**	**14**	**1**	**14**		
	Aedes albopictus	1	14	1	14	1	14	1	14		
Gloucester		**7**	**20**	**7**	**20**	**7**	**20**	**7**	**20**		
	Aedes albopictus	5	18	5	18	5	18	5	18		
	Aedes japonicus	2	2	2	2	2	2	2	2		
Middlesex		**2**	**12**	**2**	**12**	**2**	**12**	**2**	**12**		
	Aedes albopictus	2	12	2	12	2	12	2	12		
Ocean		**58**	**589**	**58**	**589**	**58**	**589**	**58**	**589**		
	Aedes albopictus	58	589	58	589	58	589	58	589		
Sussex		**1**	**3**	**1**	**3**	**1**	**3**	**1**	**3**		
	Aedes albopictus	1	3	1	3	1	3	1	3		
Grand Total		**113**	**1541**	**113**	**1541**	**113**	**1541**	**113**	**1541**		

Chikungunya (CHIK) to 28 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		**44**	**903**		
	Aedes albopictus	44	903		
Bergen		**1**	**14**		
	Aedes albopictus	1	14		
Gloucester		**7**	**20**		
	Aedes albopictus	5	18		
	Aedes japonicus	2	2		
Middlesex		**2**	**12**		
	Aedes albopictus	2	12		
Ocean		**58**	**589**		
	Aedes albopictus	58	589		
Somerset		**1**	**1**		
	Aedes albopictus	1	1		
Sussex		**1**	**3**		
	Aedes albopictus	1	3		
Grand Total		**114**	**1542**		

Zika (ZIKV) to 28 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		**44**	**903**		
	Aedes albopictus	44	903		
Bergen		**1**	**14**		
	Aedes albopictus	1	14		
Cape May		**514**	**1111**		
	Aedes albopictus	514	1111		
Gloucester		**7**	**20**		
	Aedes albopictus	5	18		
	Aedes japonicus	2	2		
Middlesex		**2**	**12**		
	Aedes albopictus	2	12		
Ocean		**58**	**589**		
	Aedes albopictus	58	589		
Somerset		**1**	**1**		
	Anopheles punctipennis	1	1		
Sussex		**1**	**3**		
	Aedes albopictus	1	3		
Grand Total		**628**	**2653**		