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 36: 2 September to 8 September, 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.

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	0.75	0.00	3	2		
Green Bank (Burlington Co.)/25	Coastal	3.31	0.96	44 (68)	10 (11)		
Corbin City (Atlantic Co.)/25	Coastal	2.33	0.32	140‡ (148)	12 (13)		
Dennisville (Cape May Co.)/50	Coastal	4.95	0.02	290	15		
Winslow (Camden Co.)/50	Inland	2.20	1.84	1931	45	4	2.071
Centerton (Salem Co.)/50	Inland	2.95	0.48	291	15	2	6.873
Turkey Swamp (Monmouth Co.)/50	Inland	1.83	1.44	319 (391)	14 (16)	1	3.135
Glassboro (Gloucester Co.)/50	Inland	0.76	0.12	136	13		

Culiseta melanura and Eastern Equine Encephalitis

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

Remarks: Currently for the 2018 season, there are 11 detections of EEE among submitted mosquito pools, seven at resting box sites (4 at Winslow, 2 at Centerton, 1 at Turkey Swamp) and four from county-set traps, the latest from Atlantic County. All positive pools are in the enzootic vector, *Culiseta melanura*. Three horses have tested positive for EEE; all were not vaccinated and all were euthanized.

Statewide, 6487 *Cs. melanura* from 398 pools have been tested, with 11 positive pools detected for an overall *Cs. melanura* MFIR of 1.696. 13423 specimens in 1188 pools from 17 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.552.

Traditional Resting Box Sites: 3154 *Cs. melanura* from 125 pools have been tested for EEE (plus three pools totaling 104 to be tested) in 2018. No additional positive pools were detected at the traditional resting box sites this past week. A total of 10 positive pools have been detected this season.

	Additional Cs. melanura trapped by counties *traps with positives indicated in BOLD.						
County	Trap types*	Pools	Mosquitoes	Positives	MFIR		
Atlantic	CO2, RB	32	777	1	1.287		
Bergen	RB	7	21				
Burlington	CDCL	42	1816	3	1.652		
Cape May	GR, RB	136	357				
Cumberland	BGSCL, RB	13	74				
Middlesex	RB	2	21	21			
Monmouth	OTHER	1	2				
Morris	CDCL	1	1				
Ocean	CDCL, RB	22	136				
Passaic	RB	4	4				
Salem	CDCL	4	49				
Sussex	ABC	8	69				
Warren	CDCL	1 1	6				
TOTAL		273	3333	4	1.200		

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 Atlantic County, collected 28 August. Three total positive pools have previously been detected, all in Burlington, all caught with a CDC trap and all at different locations. Burlington positive pools were caught on the 6th and 14th of August.

Horses and Humans: A third horse has been reported with EEE 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: Seventeen additional species were tested for EEE. No positives were detected.

Species other than Cs. melanura	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	4	18		
Aedes canadensis canadensis	1	10		
Aedes cantator	2	2		
Aedes infirmatus	1	1		
Aedes sollicitans	9	35		
Aedes taeniorhynchus	3	88		
Aedes vexans	1	6		
Anopheles barberi	1	1		
Anopheles bradleyi	42	323		
Anopheles punctipennis	11	40		
Anopheles quadrimaculatus	1	1		
Coquillettidia perturbans	80	1758		
Culex erraticus	64	557		
Culex pipiens	665	8874		
Culex salinarius	256	1244		
<i>Culex</i> spp.	42	155		
Culiseta inornata	1	10		
Psorophora ferox	4	300		
State Total	1188	13423		

Culiseta melanura Populations



No additional positive pools were detected at the traditional resting box sites this past week.

= 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(6) NJ(3) NY(1) SC(1) VA(2) WI(1) Ontario Canada(10)
- mosquito pools: FL(2) NJ(11) NY(16) RI(4)
- sentinel: FL(140/6 owl emus & 5 emu flocks) DE(3)
- 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 <u>here</u>.

	Birds	Mosquito Pools	Sentinels	Horses	Humans		Birds	Mosquito Pools	Sentinels	Horses	Humans
Alabama					7/ <mark>13</mark>	Montana		8/ <mark>9</mark>		17/ <mark>28</mark>	19/ <mark>22</mark>
Alaska						Nebraska	1	47/ <mark>67</mark>			36/ <mark>57</mark>
Arizona		55			5/ <mark>7</mark>	Nevada		Present			1
Arkansas						New Hampshire	4	12/ <mark>13</mark>			
California	363/ <mark>397</mark>	1,296/1,456	76 <mark>/84</mark>	6	31/ <mark>42</mark>	New Jersey		730/ <mark>848</mark>			6/ <mark>9</mark>
Colorado	Present	Present			6/16	New Mexico					
Connecticut		227/ <mark>279</mark>				New York		897/1, <mark>048</mark>		1/ <mark>2</mark>	7/11
Delaware	15		28		2	North Carolina					1/ <mark>3</mark>
DC	1	14			6	North Dakota	12	71/ <mark>88</mark>		3/4	74/ <mark>86</mark>
Elorido	1	20/22	165/188	1	6/7	Ohio		2,333/ <mark>2,592</mark>		3/ <mark>8</mark>	8/ <mark>14</mark>
Fiolida	•	Brocont	103/100	•	4/7	Oklahoma		15traps			1/ <mark>2</mark>
Georgia		Fresent			4//	Oregon	1	28/ <mark>47</mark>			1
Hawaii						Pennsylvania	38	2,140		3	1
Idaho		39		2	2/4	Rhode Island		8			
Illinois	18/ <mark>22</mark>	2,516/ <mark>2,699</mark>		1/ <mark>2</mark>	22/ <mark>34</mark>	South Carolina					2
Indiana		378/ <mark>429</mark>			4	South Dakota		9counties			77/101
Iowa		45		3/ <mark>4</mark>	13/ <mark>18</mark>	Tennessee		514			3/ <mark>6</mark>
Kansas					2	Texas		612/ <mark>680</mark>		1	22/ <mark>32</mark>
Kentucky		Present			1	Utah		108/138			4/ <mark>6</mark>
Louisiana	67	829/ <mark>948</mark>		2	53/ <mark>60</mark>	Vermont		84/ <mark>94</mark>			
Maine		1			1/2	Virginia					3/17
Maryland(+DC)	1	23			12	Washington		44		1	
Mass.		363/ <mark>499</mark>		1/2	4/ <mark>9</mark>	West Virginia		18/ <mark>24</mark>			
Michigan	69/ <mark>83</mark>	109/141			16/ <mark>31</mark>	Wisconsin	36/ <mark>42</mark>	64/ <mark>78</mark>		1	1
Minnesota		Present		Present	4	Wyoming		5			
Mississippi		92/108			30 <mark>/31</mark>						
Missouri	1	3		2/ <mark>3</mark>	2/7						

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.

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	1	11		
Aedes albopictus	913	6969	27	3.874
Aedes atlanticus	1	1		
Aedes atropalpus	19	52		
Aedes canadensis canadensis	27	227		
Aedes cantator	7	52		
Aedes excrucians	1	2		
Aedes grossbecki	2	10		
Aedes infirmatus	2	2		
Aedes japonicus	540	3355	17	5.067
Aedes sollicitans	17	128		
Aedes sticticus	3	37		
Aedes taeniorhynchus	8	171	1	5.848
Aedes thibaulti	1	10		
Aedes triseriatus	207	530	3	5.660
Aedes trivittatus	15	145	1	6.897
Aedes vexans	88	1479	2	1.352
Anopheles barberi	2	8		
Anopheles bradleyi	47	344		
Anopheles punctipennis	52	169	1	5.917
Anopheles quadrimaculatus	139	2343	1	0.427
Coquillettidia perturbans	103	2686	2	0.745
Culex erraticus	88	700	4	5.714
Culex pipiens	735	10359	26	2.510
Culex restuans	434	3743	6	1.603
Culex salinarius	288	2793	2	0.716
Culex spp.	2479	101612	744	7.322
Culex territans	14	63		
Culiseta inornata	1	10		
Culiseta melanura	399	6524	9	1.380
Orthopodomyia signifera	2	3		
Psorophora ciliata	2	61		
Psorophora columbiae	17	102	1	9.804
Psorophora cyanescens	1	14		
Psorophora ferox	36	593		
Psorophora howardii	1	2	1	500.000
Uranotaenia sapphirina	2	11		
Grand Total	6695	145325	848	5.835

Mosquito Species Submitted and Tested for West Nile Virus through 7 September 2018

Remarks: To date, 6695 pools of 145,325 mosquitoes from 36 species have been tested. A total of 848 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 include Aedes albopictus, Ae. taeniorhynchus, Ae. triseriatus, Ae. trivittatus, Ae. vexans, Anopheles punctipennis, An. quadrimaculatus, Coquillettidia perturbans, Culex erraticus, Culiseta melanura, Psorophora columbiae and Ps. howardii. The statewide MFIR rate for all mosquitoes is 5.835.

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 nine human cases of WNV have been detected; the latest three detected in Bergen, Cape May, and Hunterdon counties, in addition to the six previous cases in Bergen, Essex, Hudson, Hunterdon, Ocean and Somerset counties, one each. No horse cases of WNV have been reported. In 2017, eight human cases of WNV were detected and two horse cases were detected. 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.

		eag			
County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		183	4883	22	4.505
	Aedes albopictus	34	814	1	1.229
	Aedes canadensis canadensis	3	54		
	Aedes japonicus	6	64		
	Aedes sollicitans	2	57		
	Aedes sticticus	1	35		
	Aedes taeniorhynchus	3	121		
	Aedes vexans	11	134	1	7.463
	Anopheles bradleyi	2	15		
	Coquillettidia perturbans	11	306	1	3.268
	Culex erraticus	8	91	1	10.989
	Culex pipiens	17	706	6	8.499

WNV Results by County through 7 September 2018.

	Culex restuans Culex salinarius Culex spp. Culiseta melanura Psorophora ferox	1 1 30 44 9	23 24 1071 917 451	10 2	9.337 2.181
Bergen		212	13749	103	7.491
	Aedes albopictus	10	191		
	Aedes japonicus	5	20	1	50.000
	Coquillettidia perturbans	4	50		
	Culex spp.	185	13465	101	7.501
	Culiseta melanura	7	21		500.000
	Psoropnora nowardii	1	2	1	500.000
Burlington		177	5756	25	4.343
J	Aedes albopictus	14	159		
	Aedes canadensis canadensis	1	10		
	Aedes infirmatus	1	1		
	Aedes japonicus	9	138	1	7.246
	Aedes taeniorhynchus	1	42		
	Aedes triseriatus	2	7		
	Aedes vexans	1	6		
	Anopheles bradleyi	2	76 107		
	Coquiliettidia perturbans	2 1	127		
	Culex enalicus Culex niniens	4	1		
	Culex salinarius	7	207		
	Culex spp.	79	3044	20	6.570
	Culiseta melanura	53	1863	4	2.147
Camden		159	5237	29	5.538
	Aedes albopictus	24	74	3	40.541
	Aedes exclucións	24	∠ 120	1	7 752
	Aedes triseriatus	24 1	2	I	1.152
	Anopheles punctipennis	2	3		
	Culex spp.	61	3094	25	8.080
	Culiseta melanura	45	1931	-	
	Psorophora ferox	1	2		
Cana May		0454	40040		0.001
	Aedes albonictus	2451 ⊿13	1 6848 805	14	0.831
	Aedes atropalpus	19	52		
	Aedes canadensis canadensis	7	11		
	Aedes cantator	2	2		
	Aedes infirmatus	1	1		
	Aedes japonicus	210	475		
	Aedes sollicitans	7	7		
	Aedes sticticus		1		
	Aedes taeniorhynchus		1		
	Aedes triseriatus	110	212		
	AEUES VEXAIIS	13	21		
	Anonheles bradlovi	10	2/7		
	Anopheles bradleyi Anopheles punctinennis	40 6	247 8		
	Anopheles bradleyi Anopheles punctipennis Anopheles quadrimaculatus	40 6 120	247 8 2074		

	Culex erraticus Culex pipiens Culex restuans Culex salinarius Culex spp. Culex territans Culiseta melanura Orthopodomyia signifera Psorophora columbiae Psorophora ferox Uranotaenia sapphirina	21 665 349 246 33 14 151 2 5 4 2	252 8874 1801 1027 109 63 647 3 10 6 11	14	1.578
umberland		183	1833	9	4.910
	Aedes albopictus Aedes japonicus Aedes sollicitans Aedes sticticus Aedes triseriatus Aedes trivittatus Aedes vexans Anopheles punctipennis Anopheles quadrimaculatus	44 12 1 1 8 1 17 9 11	629 47 3 1 16 8 262 41 252	2	3.180
	Coquillettidia perturbans Culex erraticus Culex pipiens Culex restuans Culex salinarius	3 12 4 1 3	3 99 39 1 10	2	20.202
	Culex spp. Culiseta melanura Psorophora columbiae Psorophora ferox	31 13 6 6	259 74 67 22	3 2	11.583 27.027
Essex		122	573	12	20.942
	Aedes albopictus Aedes japonicus Aedes trivittatus	33 18 12 2	92 29 15	3 1	103.448 66.667
	Anopheles quadrimaculatus Culex spp.	1 56	1 433	1 7	1000.000 16.166
Gloucester		312	9184	72	7.840
	Aedes albopictus Aedes japonicus Aedes triseriatus Aedes vexans Anopheles barberi	71 59 11 1 1	589 752 61 24 7	5 9	8.489 11.968
	Anopheles punctipennis Anopheles quadrimaculatus	6 1	30 3	1	33.333
	Culex pipiens Culex spp. Culiseta melanura Psorophora ferox	18 130 13 1	317 7200 136 65	5 52	15.773 7.222
		-			
Hudson		145	7235	49	6.773

Hunterdon		264	12563	89	7.084
	Culex spp.	264	12563	89	7.084
		20 T	.2000	00	1.007
Mercer		211	4440	39	8.784
	Aedes albopictus	36	343	3	8.746
	Aedes canadensis canadensis	1	6	-	
	Aedes iaponicus	53	262	1	3.817
	Aedes triseriatus	2	7	-	
	Aedes vexans	12	121	1	8 264
	Coquillettidia perturbans	1	3	•	0.201
		5	59	1	16 949
	Culex restuans	37	1100	6	5 455
	Culey spp	64	2539	27	10 634
	ould spp.	04	2000	21	10.004
Middlesex		191	5661	48	8.479
	Aedes albopictus	5	59		
	Aedes japonicus	1	64		
	Anopheles punctipennis	1	1		
	Coquillettidia perturbans	3	9		
	Culex spp.	180	5518	48	8,699
	Culiseta inornata	1	10	10	0.000
		•	10		
Monmouth		358	7435	43	5.783
	Aedes albopictus	77	1668	4	2.398
	Aedes canadensis canadensis	12	102		
	Aedes cantator	5	50		
	Aedes grossbecki	2	10		
	Aedes japonicus	16	46		
	Aedes sollicitans	5	37		
	Aedes taeniorhvnchus	2	3		
	Aedes triseriatus	11	82		
	Aedes trivittatus	6	55		
	Aedes vexans	11	50		
	Anopheles barberi	1	1		
	Anopheles bradlevi	1	1		
	Anopheles punctipennis	22	78		
	Anopheles quadrimaculatus	1	1		
	Coquillettidia perturbans	3	4		
	Culex erraticus	4	6	1	166 667
	Culex salinarius	7	243	•	100.007
	Culex spn	141	4630	37	7 991
	Culiseta melanura	17	323	07	7.001
	Psoronhora columbiae	2	10	1	100 000
	Psorophora ferox	12	35	1	100.000
		12	00		
Morris		324	12684	110	8.672
	Aedes albopictus	6	39		
	Aedes japonicus	3	34		
	Coquillettidia perturbans	6	300		
	Culex spp	308	12310	110	8.936
	Culiseta melanura	1	1	-	
Ocean		226	1735	17	9.798
	Aedes albopictus	67	567	4	7.055
	Aedes japonicus	27	72		

	Aedes triseriatus Aedes vexans Anopheles punctipennis	21 1 2	58 2 2	2	34.483
	Anopheles quadrimaculatus Coquillettidia perturbans Culex erraticus	2 20 7	5 166 9	1	6.024
	Culex salinarius Culex spp. Culiseta melanura Psorophora ferox	2 54 22 1	3 714 136 1	10	14.006
Passaic		158	1315	7	5.323
	Aedes abserratus Aedes albopictus Aedes japonicus Aedes thibaulti Aedes triseriatus Coquillettidia perturbans	1 16 35 1 3 5	11 76 234 10 10 40		
	Culex erraticus Culex pipiens Culex restuans Culex spp. Culiseta melanura Psorophora cyanescens	10 11 9 62 4 1	17 202 95 602 4 14	7	11.628
Salem		273	5898	5	0.848
	Aedes albopictus Aedes atlanticus Aedes canadensis canadensis Aedes japonicus Aedes sollicitans Aedes taeniorhynchus Aedes triseriatus Aedes triseriatus Aedes trivittatus Aedes vexans Anopheles bradleyi Anopheles punctipennis	38 1 25 2 1 20 2 2 2 2 2	188 1 146 24 4 27 3 79 5 2	1	250.000
	Anopheles quadrimaculatus Coquillettidia perturbans Culex erraticus Culex pipiens Culex restuans Culex salinarius Culex spp. Culiseta melanura Psorophora ciliate Psorophora columbiae Psorophora ferox	3 19 22 8 2 11 87 19 1 3 2	7 549 151 10 13 759 3566 340 6 6 11	1 2 1	1.318 0.561 2.941
Somerset		199	6985	58	8.304
	Aedes albopictus Aedes canadensis canadensis Aedes japonicus Aedes triseriatus Anopheles punctipennis Culex spp.	1 1 11 2 2 182	2 12 142 4 4 6821	58	8.503

Sussex		211	6494	7	1.078
	Aedes albopictus	1	3		
	Aedes canadensis canadensis	1	31		
	Aedes japonicus	2	56		
	Aedes triseriatus	3	27		
	Aedes vexans	8	525		
	Coquillettidia perturbans	15	1008		
	Culex pipiens	6	151		
	Culex restuans	35	710		
	Culex salinarius	11	520	1	1.923
	<i>Culex</i> spp.	121	3394	6	1.768
	Culiseta melanura	8	69		
Union		68	3592	45	12.528
	Aedes albopictus	11	324	4	12.346
	Culex spp	57	3268	41	12.546
Warren		267	11221	45	4.010
	Aedes albopictus	12	257	1	3.891
	Aedes japonicus	24	645	1	1.550
	Aedes triseriatus	1	2		
	Aedes trivittatus	6	79	1	12.658
	Aedes vexans	9	246		
	Coquillettidia perturbans	2	89		
	<i>Culex</i> spp.	209	9777	42	4.296
	Culiseta melanura	2	62		
	Psorophora ciliata	1	55		
	Psorophora columbiae	1	9		
Grand Total		6694	145321	848	5.835



Saint Louis Encephalitis (SLE) to 7 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		34	1876		
	<i>Culex</i> spp	34	1876		
Cape May		697	8981		
	Culex pipiens	665	8874		
	Culex spp.	32	107		
Grand Total		731	10857		

La Crosse Encephalitis (LAC) to 7 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).

County	Species			Positives	MFIR
Burlington		12	197		
_	Aedes albopictus	4	73		
	Aedes japonicus	6	117		
	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		22	237		

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

Dengue (DENV) to 7 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	DI	ENV1	DE	NV2	DE	NV3	D	ENV4	Pos.	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Atlantic		34	814	34	814	34	814	34	814		
	Aedes albopictus	34	814	34	814	34	814	34	814		
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		39	431	39	431	39	431	39	431		
	Aedes albopictus	39	431	39	431	39	431	39	431		

Sussex		1	3	1	3	1	3	1	3	
	Aedes albopictus	1	3	1	3	1	3	1	3	
Grand Total		84	1294	84	1294	84	1294	84	1294	

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

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		34	814		
	Aedes albopictus	34	814		
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		39	431		
	Aedes albopictus	39	431		
Sussex		1	3		
	Aedes albopictus	1	3		
Grand Total		84	1294		

Zika (ZIKV) to 7 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		
	Aedes albopictus	34	814		
Bergen		1	14		
	Aedes albopictus	1	14		
Cape May		396	850		
	Aedes albopictus	396	850		
Gloucester		7	20		
	Aedes albopictus	5	18		

	Aedes japonicus	2	2	
Middlesex		2	12	
	Aedes albopictus	2	12	
Ocean		39	431	
	Aedes albopictus	39	431	
Sussex		1	3	
	Aedes albopictus	1	3	
Grand Total		480	2144	