

VECTOR SURVEILLANCE IN NEW JERSEY

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

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7 July to 13 July, 2019, CDC Week 28

Data download 11:45 pm 12 July



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. Data is held in JerseySurv, a subset of the CalSurv system.

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	0.17	0.00	4	2		
Green Bank (Burlington Co.)/25	Coastal	2.31	0.32	13 (21)	2 (3)		
Corbin City (Atlantic Co.)/25	Coastal	0.66	nd	43 (51)	4 (5)		
Dennisville (Cape May Co.)/50	Coastal	3.67	0.16	36	5		
Winslow (Camden Co.)/50	Inland	1.98	0.86	108	4		
Centerton (Salem Co.)/50	Inland	2.04	0.26	55	3		
Turkey Swamp (Monmouth Co.)/50	Inland	0.64	0.70	126 (161)	7 (8)	1	7.937
Glassboro (Gloucester Co.)/50	Inland	0.51	0.14	50	3		

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

Remarks: Currently in 2019, there is one detection of EEE virus in a pool of *Culiseta melanura* collected 3 July at Turkey Swamp, Monmouth County. There are no horses or human cases.

Statewide, 2,190 Cs. *melanura* from 191 pools have been tested, with an overall Cs. *melanura* MFIR of 0.457. 51,444 specimens in 2,297 pools from 33 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.019.

Traditional Resting Box Sites: 435 Cs. *melanura* from 30 pools have been tested, with one positive pool detected (see above). An additional 94 Cs. *melanura* in three pools are at labs to be tested.

County	Trap types*	Additional <i>Cs. melanura</i> trapped by counties			
		Pools	Mosquitoes	Positives	MFIR
Atlantic	BGS, CO ₂ , GR, RB	26	629		
Bergen	CO ₂ , RB	2	6		
Burlington	ULVT	12	278		
Cape May	GR, RB	64	171		
Cumberland	AGO, RB	4	47		
Gloucester	RB	9	169		
Middlesex	RB	2	16		
Monmouth	CO ₂ , Other	3	29		
Morris	CO ₂ , RB	11	163		
Ocean	CO ₂ , GR, RB	21	177		
Salem	CO ₂ , RB	5	5		
Sussex	CO ₂	2	65		
TOTAL		161	1755		

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. Last year, half of the EEE detection came from such trappings. No pools have detected EEE to date from these sites.

Horses and Humans: No horse or human cases have been reported. Last year five horses were reported with EEE. All had either an incomplete 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.

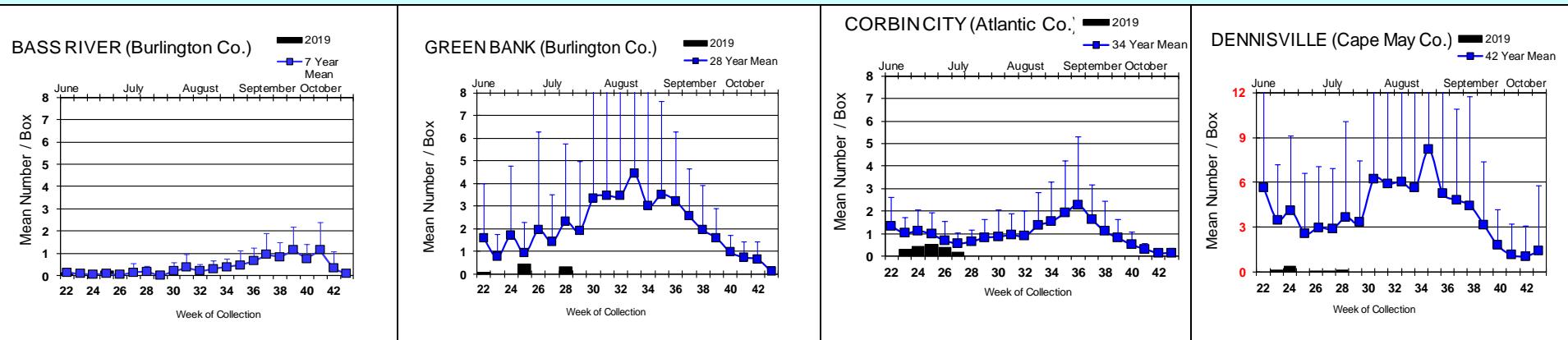
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

Additional Species: 33 additional species were tested for EEE. No positives were detected.

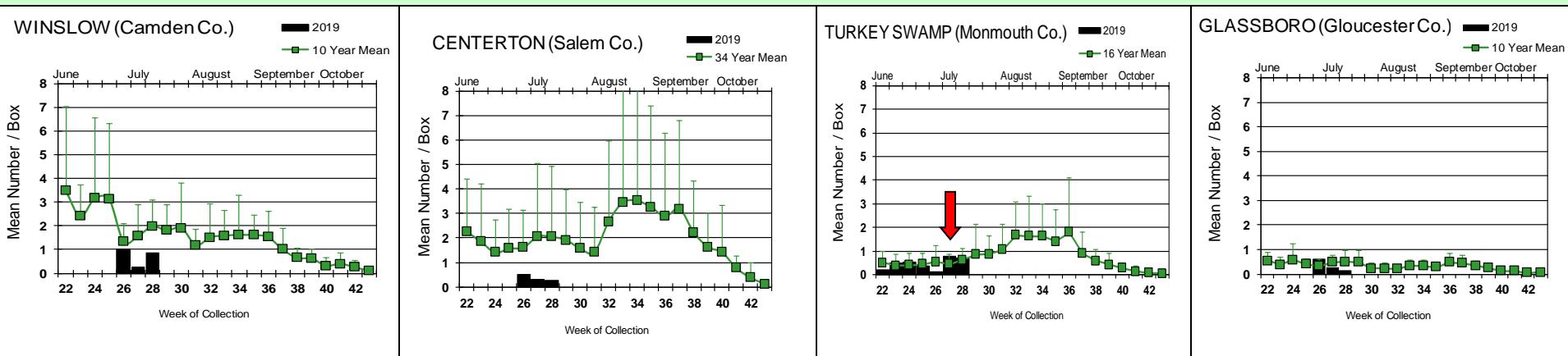
Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	13	258		
<i>Aedes albopictus</i>	169	778		
<i>Aedes atlanticus</i>	3	39		
<i>Aedes aurifer</i>	1	12		
<i>Aedes canadensis canadensis</i>	76	1407		
<i>Aedes cantator</i>	15	289		
<i>Aedes grossbecki</i>	5	12		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	250	1638		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes provocans</i>	2	8		
<i>Aedes sollicitans</i>	1	53		
<i>Aedes sticticus</i>	3	93		
<i>Aedes stimulans</i>	2	10		
<i>Aedes taeniorhynchus</i>	1	9		
<i>Aedes thibaulti</i>	2	27		
<i>Aedes triseriatus</i>	48	145		
<i>Aedes trivittatus</i>	12	188		
<i>Aedes vexans</i>	26	227		
<i>Anopheles bradleyi</i>	27	128		
<i>Anopheles crucians</i>	2	62		
<i>Anopheles punctipennis</i>	24	122		
<i>Anopheles quadrimaculatus</i>	40	381		
<i>Coquillettidia perturbans</i>	75	1762		
<i>Culex Mix</i>	973	40331		
<i>Culex erraticus</i>	13	19		
<i>Culex pipiens</i>	153	1717		
<i>Culex restuans</i>	213	718		
<i>Culex salinarius</i>	110	670		
<i>Culex territans</i>	13	26		
<i>Orthopodomyia signifera</i>	3	3		
<i>Psorophora columbiae</i>	3	21		
<i>Psorophora ferox</i>	16	288		
<i>Psorophora howardii</i>	1	1		
State Total	2297	51444		

Culiseta melanura Populations

Coastal



Inland



Culiseta melanura populations at most traditional resting box sites continue to be well below historical values. Only the Turkey Swamp site had *Cs. melanura* collections higher than historical values, and during week 27, a positive EEE pool from *Cs. melanura* was detected there. It should be noted that *Cs. melanura* collected in light traps suggest that population abundances are higher than is indicated by resting box numbers.

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

EEE in US (2019 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: 23 (FL) 1 (GA)
- mosquito pools: 1 (NJ)
- sentinel: 61 (+1 emu 1 BAEA, FL)
- human:

West Nile Virus Positive Organisms in US, 2019

West Nile in US (2019 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					
Alaska					
Arizona	0	183	0	1	27
Arkansas					
California	13/18	351/471	0	0	1
Colorado					
Connecticut		0		0	0
Delaware					
Florida			15/18	1	
Georgia					
Hawaii					
Idaho	0	2/5		0	0
Illinois	2	62/82		0	0
Indiana	0	2/5		0	0
Iowa				2	
Kansas					0
Kentucky					
Louisiana					
Maine					
Maryland(+DC)					
Mass.		1		0	0
Michigan	1	3			0
Minnesota					
Mississippi		1		5	1
Missouri		0		0	0

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska	0	0		0	0
Nevada					
New Hampshire					
New Jersey		1/4		0	1
New Mexico					0
New York		0		0	0
North Carolina					
North Dakota	0	0		0	1
Ohio		2/7		0	0
Oklahoma					
Oregon	0	0	0	0	0
Pennsylvania					
Rhode Island		0			
South Carolina					
South Dakota		0			1
Tennessee					
Texas		23/32			
Utah					
Vermont					
Virginia					
Washington	0	1/2		0	0
West Virginia					
Wisconsin	0	3		0	0
Wyoming	0	1		0	1

* Can include other species (e.g., dogs, cows) reported positive.

Protocol: New Jersey Department of Health (NJDH Public Health Environmental and Agricultural Laboratories, PHEAL) and the Cape May County Department of Mosquito Control tests mosquito pools using RT-PCR Taqman techniques.

Mosquito Species Submitted and Tested for West Nile Virus through 12 July 2019

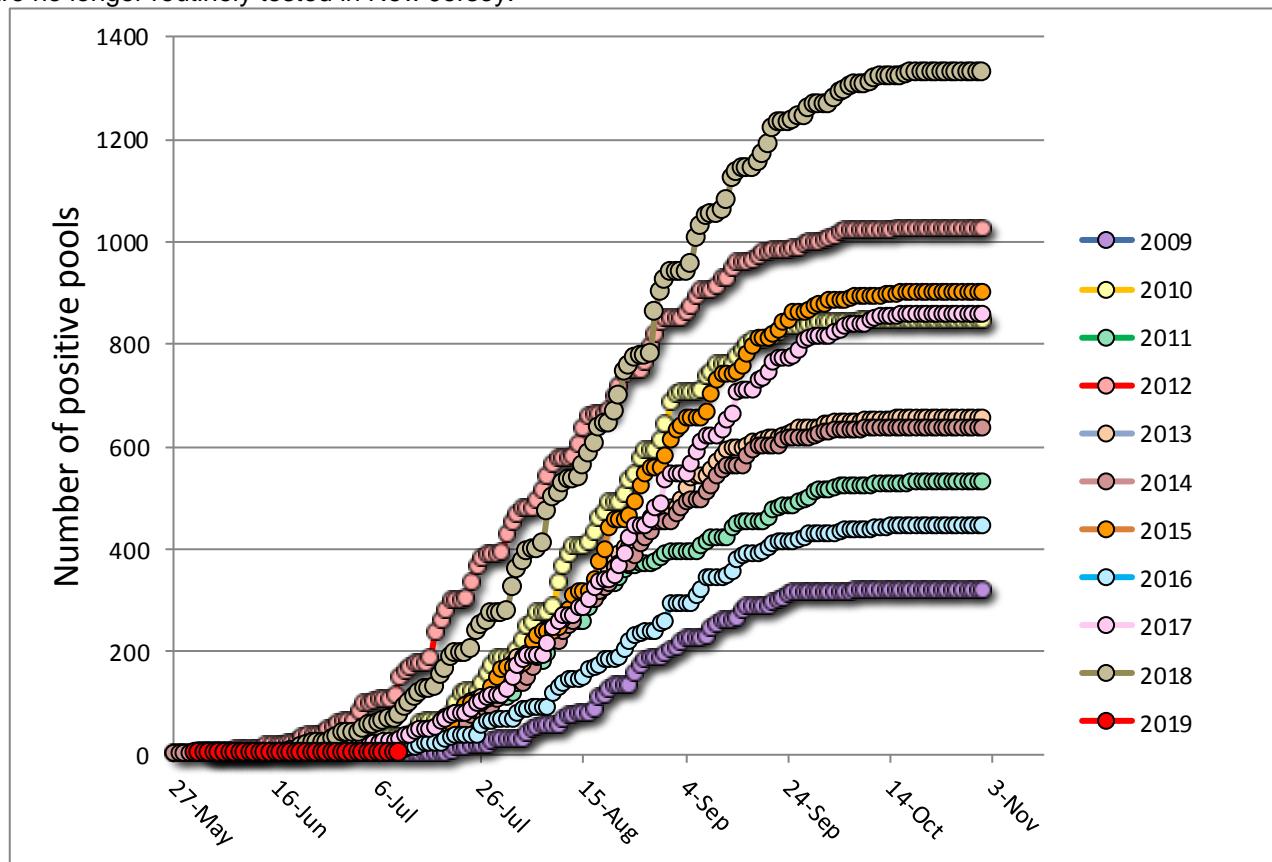
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	13	258		
<i>Aedes albopictus</i>	278	1015		
<i>Aedes atlanticus</i>	3	39		
<i>Aedes aurifer</i>	1	12		
<i>Aedes canadensis canadensis</i>	76	1407		
<i>Aedes cantator</i>	15	289	1	3.460
<i>Aedes grossbecki</i>	5	12		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	256	1786		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes provocans</i>	2	8		
<i>Aedes sollicitans</i>	1	53		
<i>Aedes sticticus</i>	3	93		
<i>Aedes stimulans</i>	2	10		
<i>Aedes taeniorhynchus</i>	1	9		
<i>Aedes thibaulti</i>	2	27		
<i>Aedes triseriatus</i>	178	546	1	1.832
<i>Aedes trivittatus</i>	12	188		
<i>Aedes vexans</i>	26	227		
<i>Anopheles bradleyi</i>	27	128		
<i>Anopheles crucians</i>	2	62		
<i>Anopheles punctipennis</i>	25	123		
<i>Anopheles quadrimaculatus</i>	40	381		
<i>Coquillettidia perturbans</i>	79	1975		
<i>Culex</i> spp.	973	40331	2	0.050
<i>Culex erraticus</i>	13	19		
<i>Culex pipiens</i>	154	1718		
<i>Culex restuans</i>	216	721		
<i>Culex salinarius</i>	110	670		
<i>Culex territans</i>	13	26		
<i>Culiseta melanura</i>	191	2190		
<i>Orthopodomyia signifera</i>	3	3		
<i>Psorophora columbiae</i>	3	21		
<i>Psorophora ferox</i>	16	288		
<i>Psorophora howardii</i>	1	1		
Grand Total	2742	54638	4	0.073

Remarks: To date, 2,742 pools of 54,638 mosquitoes from 34 species have been tested. A total of 4 positive WNV pools have been detected throughout the state, from a pool of *Aedes triseriatus*, collected on 31 May, 2019 in Passaic County. This pool was also co-infected with LAC (see table below). Also positive was a pool of *Aedes cantator*, collected 2 July in Ocean County and two pools of *Culex*, collected in 2 July (Burlington County) and 10 July (Burlington County). Last year was a year of significant activity, with over 1300 positive pools detected. Date of first detection in 2018 was 5 June in *Culex pipiens* from Gloucester County. Last year's patterns also included an increase in activity in the northwestern side of the state. Currently, the statewide MFIR rate for all mosquitoes is 0.073.

Humans, Horses and Wild Birds: There has been one human case of West Nile virus from Hunterdon County reported, with an onset date of 21 June. This represents the earliest typical case reported in New Jersey. (A few years ago, there was one case reported in May from a long-term hospitalized patient making date of infection difficult to determine.) For more information, see NJ arboviral reports from the Department of Health: <https://www.nj.gov/health/cd/statistics/arboviral-stats/>. Last year we have over 60 cases reported, the highest to date.

Currently, there are no reported horse cases for WNV. Last year only one WNV horse case has been reported, occurring in Burlington County. This seemed rather unusual, given all the other indicators of high virus activity. 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 10 years, inclusive of the most active (2018) and least active (2009) years. The red series represents this year, starting with the first positive pool.

WNV Results by County through 12 July 2019.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		123	4085		
	<i>Aedes albopictus</i>	16	77		
	<i>Aedes cantator</i>	2	112		
	<i>Aedes japonicus</i>	2	33		
	<i>Aedes sollicitans</i>	1	53		
	<i>Aedes vexans</i>	4	97		
	<i>Anopheles bradleyi</i>	3	38		
	<i>Anopheles crucians</i>	1	6		
	<i>Anopheles punctipennis</i>	1	45		
	<i>Coquillettidia perturbans</i>	14	471		
	<i>Culex</i> spp.	41	2249		
	<i>Culex erraticus</i>	3	3		
	<i>Culex pipiens</i>	1	75		
	<i>Culex restuans</i>	1	3		
	<i>Culex territans</i>	1	1		

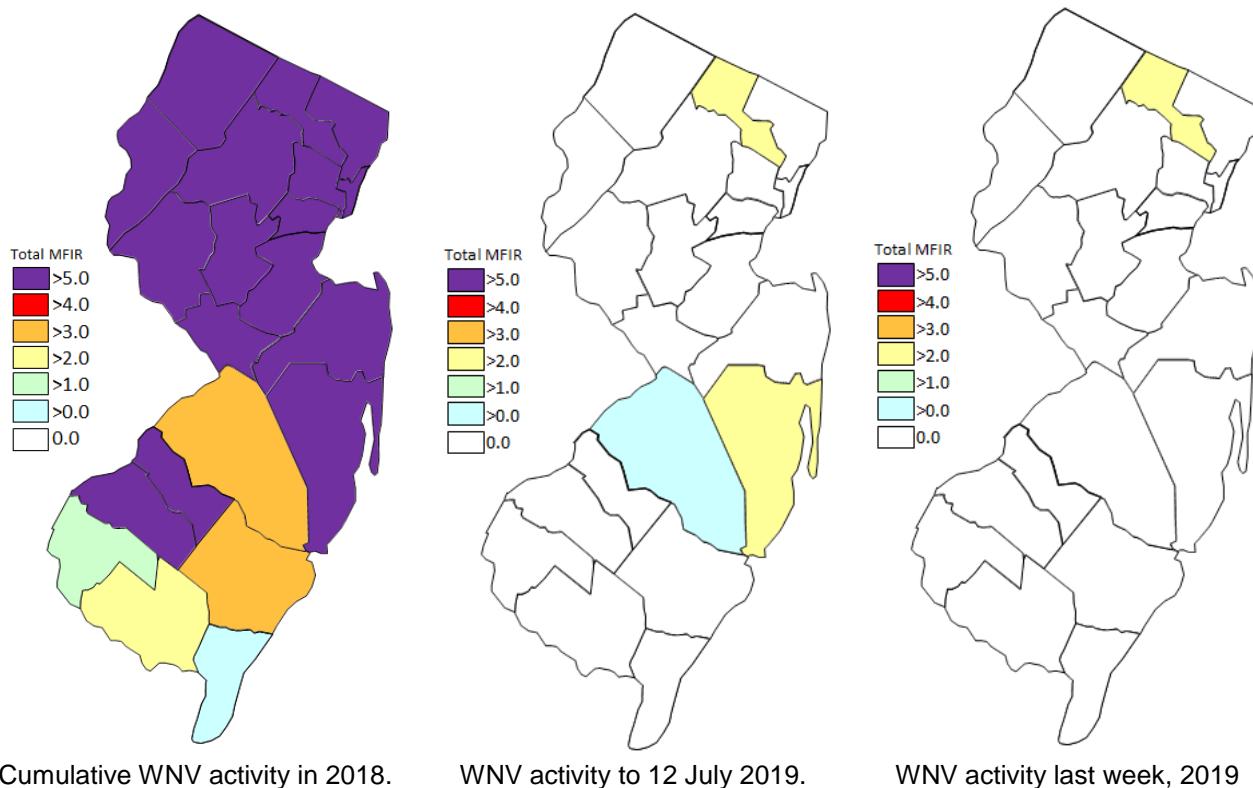
<i>Culiseta melanura</i>	30	672		
<i>Psorophora ferox</i>	2	150		
Bergen	93	4657		
<i>Aedes albopictus</i>	3	32		
<i>Aedes canadensis canadensis</i>	4	28		
<i>Aedes cantator</i>	2	105		
<i>Aedes japonicus</i>	10	253		
<i>Aedes thibaulti</i>	2	27		
<i>Aedes triseriatus</i>	3	27		
<i>Aedes trivittatus</i>	1	6		
<i>Coquillettidia perturbans</i>	3	37		
<i>Culex</i> spp.	59	3989		
<i>Culex salinarius</i>	3	141		
<i>Culiseta melanura</i>	2	6		
<i>Psorophora ferox</i>	1	6		
Burlington	118	5531	2	0.362
<i>Aedes albopictus</i>	4	46		
<i>Aedes atlanticus</i>	2	38		
<i>Aedes canadensis canadensis</i>	5	184		
<i>Aedes cantator</i>	1	28		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	6	162		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sticticus</i>	1	9		
<i>Aedes taeniorhynchus</i>	1	9		
<i>Aedes triseriatus</i>	3	8		
<i>Aedes vexans</i>	1	30		
<i>Anopheles bradleyi</i>	1	27		
<i>Anopheles crucians</i>	1	56		
<i>Coquillettidia perturbans</i>	5	375		
<i>Culex</i> spp.	61	4009	2	0.499
<i>Culex salinarius</i>	7	229		
<i>Culiseta melanura</i>	16	295		
<i>Psorophora ferox</i>	1	24		
Camden	6	113		
<i>Aedes japonicus</i>	1	1		
<i>Culex</i> spp.	1	4		
<i>Culiseta melanura</i>	4	108		
Cape May	962	3635		
<i>Aedes albopictus</i>	136	259		
<i>Aedes canadensis canadensis</i>	11	15		
<i>Aedes cantator</i>	4	4		
<i>Aedes japonicus</i>	99	216		
<i>Aedes triseriatus</i>	93	151		
<i>Aedes vexans</i>	5	5		
<i>Anopheles bradleyi</i>	22	62		
<i>Anopheles punctipennis</i>	5	5		
<i>Anopheles quadrimaculatus</i>	32	348		
<i>Coquillettidia perturbans</i>	13	18		
<i>Culex</i> spp.	9	27		
<i>Culex erraticus</i>	6	12		
<i>Culex pipiens</i>	148	1507		

<i>Culex restuans</i>	206	513		
<i>Culex salinarius</i>	89	258		
<i>Culex territans</i>	12	25		
<i>Culiseta melanura</i>	69	207		
<i>Orthopodomyia signifera</i>	3	3		
Cumberland	42	405		
<i>Aedes albopictus</i>	3	16		
<i>Aedes canadensis canadensis</i>	2	51		
<i>Aedes japonicus</i>	1	10		
<i>Aedes trivittatus</i>	2	6		
<i>Aedes vexans</i>	7	38		
<i>Anopheles punctipennis</i>	4	32		
<i>Anopheles quadrimaculatus</i>	3	13		
<i>Coquillettidia perturbans</i>	3	6		
<i>Culex</i> spp.	11	184		
<i>Culiseta melanura</i>	4	47		
<i>Psorophora ferox</i>	2	2		
Essex	46	237		
<i>Aedes albopictus</i>	4	9		
<i>Aedes canadensis canadensis</i>	2	14		
<i>Aedes grossbecki</i>	5	12		
<i>Aedes japonicus</i>	5	8		
<i>Aedes triseriatus</i>	4	10		
<i>Aedes trivittatus</i>	6	116		
<i>Aedes vexans</i>	1	1		
<i>Culex</i> spp.	19	67		
Gloucester	102	3459		
<i>Aedes albopictus</i>	15	128		
<i>Aedes japonicus</i>	16	293		
<i>Aedes triseriatus</i>	3	23		
<i>Culex</i> spp.	52	2661		
<i>Culex pipiens</i>	3	60		
<i>Culiseta melanura</i>	12	219		
<i>Psorophora ferox</i>	1	75		
Hudson	65	2874		
<i>Aedes albopictus</i>	5	61		
<i>Aedes triseriatus</i>	8	14		
<i>Culex</i> spp.	52	2799		
Hunterdon	69	3001		
<i>Aedes albopictus</i>	1	6		
<i>Aedes triseriatus</i>	4	21		
<i>Aedes trivittatus</i>	1	50		
<i>Aedes vexans</i>	1	7		
<i>Anopheles punctipennis</i>	1	3		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex</i> spp.	58	2900		
<i>Psorophora ferox</i>	1	11		
<i>Psorophora howardii</i>	1	1		
Mercer	123	1793		

<i>Aedes albopictus</i>	14	94		
<i>Aedes japonicus</i>	32	164		
<i>Aedes triseriatus</i>	9	35		
<i>Aedes vexans</i>	1	12		
<i>Culex</i> spp.	67	1488		
Middlesex	59	494		
<i>Aedes albopictus</i>	1	3		
<i>Aedes japonicus</i>	7	109		
<i>Aedes triseriatus</i>	5	20		
<i>Coquillettidia perturbans</i>	1	18		
<i>Culex</i> spp.	43	328		
<i>Culiseta melanura</i>	2	16		
Monmouth	158	1857		
<i>Aedes albopictus</i>	29	132		
<i>Aedes atlanticus</i>	1	1		
<i>Aedes canadensis canadensis</i>	15	396		
<i>Aedes cantator</i>	3	27		
<i>Aedes japonicus</i>	6	12		
<i>Aedes triseriatus</i>	8	133		
<i>Aedes trivittatus</i>	1	4		
<i>Aedes vexans</i>	6	37		
<i>Anopheles punctipennis</i>	9	23		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	6	17		
<i>Culex</i> spp.	48	868		
<i>Culex erraticus</i>	1	1		
<i>Culex restuans</i>	2	2		
<i>Culex salinarius</i>	4	15		
<i>Culiseta melanura</i>	10	155		
<i>Psorophora columbiiae</i>	2	20		
<i>Psorophora ferox</i>	6	13		
Morris	135	5231		
<i>Aedes canadensis canadensis</i>	13	435		
<i>Aedes japonicus</i>	5	16		
<i>Aedes triseriatus</i>	2	7		
<i>Coquillettidia perturbans</i>	12	656		
<i>Culex</i> spp.	92	3954		
<i>Culiseta melanura</i>	11	163		
Ocean	108	827	1	1.209
<i>Aedes albopictus</i>	19	56		
<i>Aedes canadensis canadensis</i>	6	19		
<i>Aedes cantator</i>	3	13	1	76.923
<i>Aedes japonicus</i>	8	22		
<i>Aedes triseriatus</i>	2	4		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles punctipennis</i>	2	3		
<i>Coquillettidia perturbans</i>	6	24		
<i>Culex</i> spp.	31	478		
<i>Culex erraticus</i>	2	2		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	5	23		
<i>Culiseta melanura</i>	21	177		

<i>Psorophora ferox</i>	1	4		
Passaic	83	667	1	1.499
<i>Aedes albopictus</i>	1	1		
<i>Aedes canadensis canadensis</i>	3	13		
<i>Aedes japonicus</i>	22	166		
<i>Aedes triseriatus</i>	10	20	1	50.00
<i>Aedes trivittatus</i>	1	6		
<i>Coquillettidia perturbans</i>	2	10		
<i>Culex</i> spp.	41	440		
<i>Culex restuans</i>	2	8		
<i>Psorophora ferox</i>	1	3		
Salem	126	1664		
<i>Aedes albopictus</i>	25	77		
<i>Aedes japonicus</i>	17	61		
<i>Aedes triseriatus</i>	13	18		
<i>Anopheles punctipennis</i>	3	12		
<i>Anopheles quadrimaculatus</i>	4	19		
<i>Coquillettidia perturbans</i>	9	128		
<i>Culex</i> spp.	41	1281		
<i>Culex erraticus</i>	1	1		
<i>Culex pipiens</i>	1	1		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	2	4		
<i>Culiseta melanura</i>	8	60		
<i>Psorophora columbiae</i>	1	1		
Somerset	67	2173		
<i>Aedes albopictus</i>	1	7		
<i>Aedes canadensis canadensis</i>	1	3		
<i>Aedes japonicus</i>	8	86		
<i>Aedes triseriatus</i>	2	4		
<i>Culex</i> spp.	55	2073		
Sussex	99	3281		
<i>Aedes abserratus</i>	13	258		
<i>Aedes aurifer</i>	1	12		
<i>Aedes canadensis canadensis</i>	14	249		
<i>Aedes provocans</i>	2	8		
<i>Aedes sticticus</i>	2	84		
<i>Aedes stimulans</i>	2	10		
<i>Aedes triseriatus</i>	8	47		
<i>Culex</i> spp.	51	2280		
<i>Culex pipiens</i>	1	75		
<i>Culex restuans</i>	3	193		
<i>Culiseta melanura</i>	2	65		
Union	46	2671		
<i>Aedes albopictus</i>	1	11		
<i>Aedes japonicus</i>	2	25		
<i>Aedes triseriatus</i>	1	4		
<i>Coquillettidia perturbans</i>	4	213		
<i>Culex</i> spp.	38	2418		

Warren		112	5983		
Aedes japonicus		9	149		
Culex spp.		103	5834		
Grand Total		2742	54638	4	0.073



Beginning in 2019, viruses are tested as a panel, and so there may be results for species not normally associated with that virus. We have also begun testing for Jamestown Canyon virus.

Saint Louis Encephalitis (SLE) to 12 July 2019.

New Jersey will be primarily testing for SLE as part of a panel of arboviruses. SLE has had previous activity in New Jersey, most notably in 1964 and 1975, the latter outbreak 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 2019. No human cases have been reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		123	4085		
	<i>Aedes albopictus</i>	16	77		
	<i>Aedes cantator</i>	2	112		
	<i>Aedes japonicus</i>	2	33		
	<i>Aedes sollicitans</i>	1	53		
	<i>Aedes vexans</i>	4	97		
	<i>Anopheles bradleyi</i>	3	38		
	<i>Anopheles crucians</i>	1	6		
	<i>Anopheles punctipennis</i>	1	45		
	<i>Coquillettidia perturbans</i>	14	471		
	<i>Culex</i> spp.	41	2249		

<i>Culex erraticus</i>	3	3		
<i>Culex pipiens</i>	1	75		
<i>Culex restuans</i>	1	3		
<i>Culex territans</i>	1	1		
<i>Culiseta melanura</i>	30	672		
<i>Psorophora ferox</i>	2	150		
Bergen	93	4657		
<i>Aedes albopictus</i>	3	32		
<i>Aedes canadensis canadensis</i>	4	28		
<i>Aedes cantator</i>	2	105		
<i>Aedes japonicus</i>	10	253		
<i>Aedes thibaulti</i>	2	27		
<i>Aedes triseriatus</i>	3	27		
<i>Aedes trivittatus</i>	1	6		
<i>Coquillettidia perturbans</i>	3	37		
<i>Culex</i> spp.	59	3989		
<i>Culex salinarius</i>	3	141		
<i>Culiseta melanura</i>	2	6		
<i>Psorophora ferox</i>	1	6		
Burlington	109	5343		
<i>Aedes albopictus</i>	1	3		
<i>Aedes atlanticus</i>	2	38		
<i>Aedes canadensis canadensis</i>	5	184		
<i>Aedes cantator</i>	1	28		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	3	25		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sticticus</i>	1	9		
<i>Aedes taeniorhynchus</i>	1	9		
<i>Aedes vexans</i>	1	30		
<i>Anopheles bradleyi</i>	1	27		
<i>Anopheles crucians</i>	1	56		
<i>Coquillettidia perturbans</i>	5	375		
<i>Culex</i> spp.	61	4009		
<i>Culex salinarius</i>	7	229		
<i>Culiseta melanura</i>	16	295		
<i>Psorophora ferox</i>	1	24		
Camden	6	113		
<i>Aedes japonicus</i>	1	1		
<i>Culex</i> spp.	1	4		
<i>Culiseta melanura</i>	4	108		
Cape May	770	3308		
<i>Aedes albopictus</i>	30	65		
<i>Aedes canadensis canadensis</i>	11	15		
<i>Aedes cantator</i>	4	4		
<i>Aedes japonicus</i>	96	205		
<i>Aedes triseriatus</i>	15	34		
<i>Aedes vexans</i>	5	5		
<i>Anopheles bradleyi</i>	22	62		
<i>Anopheles punctipennis</i>	4	4		
<i>Anopheles quadrimaculatus</i>	32	348		
<i>Coquillettidia perturbans</i>	13	18		

<i>Culex</i> spp.	9	27		
<i>Culex erraticus</i>	6	12		
<i>Culex pipiens</i>	147	1506		
<i>Culex restuans</i>	203	510		
<i>Culex salinarius</i>	89	258		
<i>Culex territans</i>	12	25		
<i>Culiseta melanura</i>	69	207		
<i>Orthopodomyia signifera</i>	3	3		
Cumberland	42	405		
<i>Aedes albopictus</i>	3	16		
<i>Aedes canadensis canadensis</i>	2	51		
<i>Aedes japonicus</i>	1	10		
<i>Aedes trivittatus</i>	2	6		
<i>Aedes vexans</i>	7	38		
<i>Anopheles punctipennis</i>	4	32		
<i>Anopheles quadrimaculatus</i>	3	13		
<i>Coquillettidia perturbans</i>	3	6		
<i>Culex</i> spp.	11	184		
<i>Culiseta melanura</i>	4	47		
<i>Psorophora ferox</i>	2	2		
Essex	46	237		
<i>Aedes albopictus</i>	4	9		
<i>Aedes canadensis canadensis</i>	2	14		
<i>Aedes grossbecki</i>	5	12		
<i>Aedes japonicus</i>	5	8		
<i>Aedes triseriatus</i>	4	10		
<i>Aedes trivittatus</i>	6	116		
<i>Aedes vexans</i>	1	1		
<i>Culex</i> spp.	19	67		
Gloucester	102	3459		
<i>Aedes albopictus</i>	15	128		
<i>Aedes japonicus</i>	16	293		
<i>Aedes triseriatus</i>	3	23		
<i>Culex</i> spp.	52	2661		
<i>Culex pipiens</i>	3	60		
<i>Culiseta melanura</i>	12	219		
<i>Psorophora ferox</i>	1	75		
Hudson	59	2864		
<i>Aedes albopictus</i>	5	61		
<i>Aedes triseriatus</i>	2	4		
<i>Culex</i> spp.	52	2799		
Hunterdon	66	2983		
<i>Aedes albopictus</i>	1	6		
<i>Aedes triseriatus</i>	1	3		
<i>Aedes trivittatus</i>	1	50		
<i>Aedes vexans</i>	1	7		
<i>Anopheles punctipennis</i>	1	3		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex</i> spp.	58	2900		
<i>Psorophora ferox</i>	1	11		

<i>Psorophora howardii</i>	1	1		
Mercer	114	1758		
<i>Aedes albopictus</i>	14	94		
<i>Aedes japonicus</i>	32	164		
<i>Aedes vexans</i>	1	12		
<i>Culex</i> spp.	67	1488		
Middlesex	55	479		
<i>Aedes albopictus</i>	1	3		
<i>Aedes japonicus</i>	7	109		
<i>Aedes triseriatus</i>	1	5		
<i>Coquillettidia perturbans</i>	1	18		
<i>Culex</i> spp.	43	328		
<i>Culiseta melanura</i>	2	16		
Monmouth	151	1726		
<i>Aedes albopictus</i>	29	132		
<i>Aedes atlanticus</i>	1	1		
<i>Aedes canadensis canadensis</i>	15	396		
<i>Aedes cantator</i>	3	27		
<i>Aedes japonicus</i>	6	12		
<i>Aedes triseriatus</i>	1	2		
<i>Aedes trivittatus</i>	1	4		
<i>Aedes vexans</i>	6	37		
<i>Anopheles punctipennis</i>	9	23		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	6	17		
<i>Culex</i> spp.	48	868		
<i>Culex erraticus</i>	1	1		
<i>Culex restuans</i>	2	2		
<i>Culex salinarius</i>	4	15		
<i>Culiseta melanura</i>	10	155		
<i>Psorophora columbiae</i>	2	20		
<i>Psorophora ferox</i>	6	13		
Morris	135	5231		
<i>Aedes canadensis canadensis</i>	13	435		
<i>Aedes japonicus</i>	5	16		
<i>Aedes triseriatus</i>	2	7		
<i>Coquillettidia perturbans</i>	12	656		
<i>Culex</i> spp.	92	3954		
<i>Culiseta melanura</i>	11	163		
Ocean	108	827		
<i>Aedes albopictus</i>	19	56		
<i>Aedes canadensis canadensis</i>	6	19		
<i>Aedes cantator</i>	3	13		
<i>Aedes japonicus</i>	8	22		
<i>Aedes triseriatus</i>	2	4		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles punctipennis</i>	2	3		
<i>Coquillettidia perturbans</i>	6	24		
<i>Culex</i> spp.	31	478		
<i>Culex erraticus</i>	2	2		

<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	5	23		
<i>Culiseta melanura</i>	21	177		
<i>Psorophora ferox</i>	1	4		
Passaic	83	667		
<i>Aedes albopictus</i>	1	1		
<i>Aedes canadensis canadensis</i>	3	13		
<i>Aedes japonicus</i>	22	166		
<i>Aedes triseriatus</i>	10	20		
<i>Aedes trivittatus</i>	1	6		
<i>Coquillettidia perturbans</i>	2	10		
<i>Culex</i> spp.	41	440		
<i>Culex restuans</i>	2	8		
<i>Psorophora ferox</i>	1	3		
Salem	115	1648		
<i>Aedes albopictus</i>	25	77		
<i>Aedes japonicus</i>	17	61		
<i>Aedes triseriatus</i>	2	2		
<i>Anopheles punctipennis</i>	3	12		
<i>Anopheles quadrimaculatus</i>	4	19		
<i>Coquillettidia perturbans</i>	9	128		
<i>Culex</i> spp.	41	1281		
<i>Culex erraticus</i>	1	1		
<i>Culex pipiens</i>	1	1		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	2	4		
<i>Culiseta melanura</i>	8	60		
<i>Psorophora columbiae</i>	1	1		
Somerset	67	2173		
<i>Aedes albopictus</i>	1	7		
<i>Aedes canadensis canadensis</i>	1	3		
<i>Aedes japonicus</i>	8	86		
<i>Aedes triseriatus</i>	2	4		
<i>Culex</i> spp.	55	2073		
Sussex	91	3234		
<i>Aedes abserratus</i>	13	258		
<i>Aedes aurifer</i>	1	12		
<i>Aedes canadensis canadensis</i>	14	249		
<i>Aedes provocans</i>	2	8		
<i>Aedes sticticus</i>	2	84		
<i>Aedes stimulans</i>	2	10		
<i>Culex</i> spp.	51	2280		
<i>Culex pipiens</i>	1	75		
<i>Culex restuans</i>	3	193		
<i>Culiseta melanura</i>	2	65		
Union	41	2454		
<i>Aedes albopictus</i>	1	11		
<i>Aedes japonicus</i>	2	25		
<i>Culex</i> spp.	38	2418		

Warren	112	5983		
<i>Aedes japonicus</i>	9	149		
<i>Culex</i> spp.	103	5834		
Grand Total	2488	53634		

La Crosse Encephalitis (LAC) to 12 July 2019.

New Jersey will be testing for LAC as part of a panel. New Jersey has had 3 cases of this encephalitic disease since 1964. 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).

One pool of *Aedes triseriatus* has been detected infected with LAC, collected 31 May in Passaic County. This pool was also reported co-infected with WNV. No human cases have been reported.

County	Species	Pools	Mosquitoes	Positives	MFIR
Bergen		10	205		
	<i>Aedes albopictus</i>	1	18		
	<i>Aedes canadensis canadensis</i>	1	3		
	<i>Aedes japonicus</i>	5	157		
	<i>Aedes triseriatus</i>	3	27		
Burlington		9	188		
	<i>Aedes albopictus</i>	3	43		
	<i>Aedes japonicus</i>	3	137		
	<i>Aedes triseriatus</i>	3	8		
Cape May		94	152		
	<i>Aedes japonicus</i>	3	11		
	<i>Aedes triseriatus</i>	88	138		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Culex restuans</i>	2	2		
Essex		1	3		
	<i>Aedes triseriatus</i>	1	3		
Hudson		68	14		
	<i>Aedes triseriatus</i>	8	14		
Hunterdon		3	18		
	<i>Aedes triseriatus</i>	3	18		
Mercer		9	35		
	<i>Aedes triseriatus</i>	9	35		
Middlesex		4	15		
	<i>Aedes triseriatus</i>	4	15		
Monmouth		7	131		
	<i>Aedes triseriatus</i>	7	131		
Passaic		11	29	1	34.483
	<i>Aedes canadensis canadensis</i>	1	8		
	<i>Aedes triseriatus</i>	9	19	1	52.632
	<i>Coquillettidia perturbans</i>	1	2		
Salem		11	16		

	<i>Aedes triseriatus</i>	11	16		
Sussex		8	47		
	<i>Aedes triseriatus</i>	8	47		
Union		5	217		
	<i>Aedes triseriatus</i>	1	4		
	<i>Coquillettidia perturbans</i>	4	213		
Grand Total		180	1070	1	0.935

Dengue (DENV) to 12 July 2019.

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.

Negative pools are reported without reference to the 4 serotypes. Positive pools will refer to the serotypes.

No pools of Dengue have been found positive in 2019. There are currently 10 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		16	77		
	<i>Aedes albopictus</i>	16	77		
Middlesex		1	3		
	<i>Aedes albopictus</i>	1	3		
Grand Total		17	80		

Chikungunya (CHIK) to 12 July 2019.

Mosquitoes will be tested for CHIK as part of a panel. 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 found positive in 2019. There are currently 3 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		16	77		
	<i>Aedes albopictus</i>	16	77		
Cape May		130	246		
	<i>Aedes albopictus</i>	127	243		
	<i>Aedes triseriatus</i>	1	1		
	<i>Culex pipiens</i>	1	1		
	<i>Culex restuans</i>	1	1		
Middlesex		1	3		
	<i>Aedes albopictus</i>	1	3		
Grand Total		147	326		

Zika (ZIKV) to 12 July 2019.

Mosquitoes will be tested for ZIKV as part of a panel. 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 of ZIKV have tested positive in 2019. There are currently 4 travel-related human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		16	77		
	<i>Aedes albopictus</i>	16	77		
Cape May		130	246		
	<i>Aedes albopictus</i>	127	243		
	<i>Aedes triseriatus</i>	1	1		
	<i>Culex pipiens</i>	1	1		
	<i>Culex restuans</i>	1	1		
Middlesex		1	3		
	<i>Aedes albopictus</i>	1	3		
Grand Total		147	326		

Jamestown Canyon (JCV) to 12 July 2019.

New Jersey will begin testing for JCV this year. Jamestown Canyon is a native arboviral threat with fever and meningitis or meningoencephalitis consequences. JCV is an orthobunyavirus with a number of potential mosquito vectors, including *Aedes*, *Coquillettidia*, and *Culex* species.

Three pools of positive mosquitoes have been detected. One pool of *Aedes abserratus* in Sussex County (collected 5 June), one pool of *Aedes cantator* collected in Bergen County (collected 22 June) and one pool of *Anopheles crucians* in Burlington County (collected 2 July) have been found positive in 2019. Ae. *abserratus* is a deer-feeding species that has been found positive in Connecticut and implicated as a potential vector (Theodore G. Andreadis, John F. Anderson, Philip M. Armstrong, and Andrew J. Main. Vector-Borne and Zoonotic Diseases. Apr 2008.

<http://doi.org/10.1089/vbz.2007.0169>). Ae. *cantator* tends to feed on human-associated species and likely plays little if any role in the transmission of JCV. An. *crucians* obtains bloodmeals from a few birds, but mostly small to medium-sized mammals (Edman, J. D. 1971. Host-feeding patterns of Florida mosquitoes. I. *Aedes*, *Anopheles*, *Coquillettidia*, *Mansonia*, and *Psorophora*. J. Med. Entomol. 8: 687-95.) There are currently 0 human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		123	4085		
	<i>Aedes albopictus</i>	16	77		
	<i>Aedes cantator</i>	2	112		
	<i>Aedes japonicus</i>	2	33		
	<i>Aedes sollicitans</i>	1	53		
	<i>Aedes vexans</i>	4	97		
	<i>Anopheles bradleyi</i>	3	38		
	<i>Anopheles crucians</i>	1	6		
	<i>Anopheles punctipennis</i>	1	45		
	<i>Coquillettidia perturbans</i>	14	471		

<i>Culex</i> spp.	41	2249		
<i>Culex erraticus</i>	3	3		
<i>Culex pipiens</i>	1	75		
<i>Culex restuans</i>	1	3		
<i>Culex territans</i>	1	1		
<i>Culiseta melanura</i>	30	672		
<i>Psorophora ferox</i>	2	150		
Bergen	93	4657	1	0.215
<i>Aedes albopictus</i>	3	32		
<i>Aedes canadensis canadensis</i>	4	28		
<i>Aedes cantator</i>	2	105	1	9.524
<i>Aedes japonicus</i>	10	253		
<i>Aedes thibaulti</i>	2	27		
<i>Aedes triseriatus</i>	3	27		
<i>Aedes trivittatus</i>	1	6		
<i>Coquillettidia perturbans</i>	3	37		
<i>Culex</i> spp.	59	3989		
<i>Culex salinarius</i>	3	141		
<i>Culiseta melanura</i>	2	6		
<i>Psorophora ferox</i>	1	6		
Burlington	109	5343	1	0.187
<i>Aedes albopictus</i>	1	3		
<i>Aedes atlanticus</i>	2	38		
<i>Aedes canadensis canadensis</i>	5	184		
<i>Aedes cantator</i>	1	28		
<i>Aedes infirmatus</i>	1	1		
<i>Aedes japonicus</i>	3	25		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sticticus</i>	1	9		
<i>Aedes taeniorhynchus</i>	1	9		
<i>Aedes vexans</i>	1	30		
<i>Anopheles bradleyi</i>	1	27		
<i>Anopheles crucians</i>	1	56	1	17.857
<i>Coquillettidia perturbans</i>	5	375		
<i>Culex</i> spp.	61	4009		
<i>Culex salinarius</i>	7	229		
<i>Culiseta melanura</i>	16	295		
<i>Psorophora ferox</i>	1	24		
Camden	2	5		
<i>Aedes japonicus</i>	1	1		
<i>Culex</i> spp.	1	4		
Cape May	21	33		
<i>Aedes triseriatus</i>	21	33		
Cumberland	42	405		
<i>Aedes albopictus</i>	3	16		
<i>Aedes canadensis canadensis</i>	2	51		
<i>Aedes japonicus</i>	1	10		
<i>Aedes trivittatus</i>	2	6		
<i>Aedes vexans</i>	7	38		
<i>Anopheles punctipennis</i>	4	32		

<i>Anopheles quadrimaculatus</i>	3	13		
<i>Coquillettidia perturbans</i>	3	6		
<i>Culex</i> spp.	11	184		
<i>Culiseta melanura</i>	4	47		
<i>Psorophora ferox</i>	2	2		
Essex	46	237		
<i>Aedes albopictus</i>	4	9		
<i>Aedes canadensis canadensis</i>	2	14		
<i>Aedes grossbecki</i>	5	12		
<i>Aedes japonicus</i>	5	8		
<i>Aedes triseriatus</i>	4	10		
<i>Aedes trivittatus</i>	6	116		
<i>Aedes vexans</i>	1	1		
<i>Culex</i> spp.	19	67		
Gloucester	99	3409		
<i>Aedes albopictus</i>	15	128		
<i>Aedes japonicus</i>	16	293		
<i>Aedes triseriatus</i>	3	23		
<i>Culex</i> spp.	52	2661		
<i>Culex pipiens</i>	3	60		
<i>Culiseta melanura</i>	9	169		
<i>Psorophora ferox</i>	1	75		
Hudson	59	2864		
<i>Aedes albopictus</i>	5	61		
<i>Aedes triseriatus</i>	2	4		
<i>Culex</i> spp.	52	2799		
Hunterdon	66	2983		
<i>Aedes albopictus</i>	1	6		
<i>Aedes triseriatus</i>	1	3		
<i>Aedes trivittatus</i>	1	50		
<i>Aedes vexans</i>	1	7		
<i>Anopheles punctipennis</i>	1	3		
<i>Coquillettidia perturbans</i>	1	2		
<i>Culex</i> spp.	58	2900		
<i>Psorophora ferox</i>	1	11		
<i>Psorophora howardii</i>	1	1		
Mercer	114	1758		
<i>Aedes albopictus</i>	14	94		
<i>Aedes japonicus</i>	32	164		
<i>Aedes vexans</i>	1	12		
<i>Culex</i> spp.	67	1488		
Middlesex	55	479		
<i>Aedes albopictus</i>	1	3		
<i>Aedes japonicus</i>	7	109		
<i>Aedes triseriatus</i>	1	5		
<i>Coquillettidia perturbans</i>	1	18		
<i>Culex</i> spp.	43	328		
<i>Culiseta melanura</i>	2	16		

Monmouth	151	1726		
<i>Aedes albopictus</i>	29	132		
<i>Aedes atlanticus</i>	1	1		
<i>Aedes canadensis canadensis</i>	15	396		
<i>Aedes cantator</i>	3	27		
<i>Aedes japonicus</i>	6	12		
<i>Aedes triseriatus</i>	1	2		
<i>Aedes trivittatus</i>	1	4		
<i>Aedes vexans</i>	6	37		
<i>Anopheles punctipennis</i>	9	23		
<i>Anopheles quadrimaculatus</i>	1	1		
<i>Coquillettidia perturbans</i>	6	17		
<i>Culex</i> spp.	48	868		
<i>Culex erraticus</i>	1	1		
<i>Culex restuans</i>	2	2		
<i>Culex salinarius</i>	4	15		
<i>Culiseta melanura</i>	10	155		
<i>Psorophora columbiae</i>	2	20		
<i>Psorophora ferox</i>	6	13		
Morris	135	5231		
<i>Aedes canadensis canadensis</i>	13	435		
<i>Aedes japonicus</i>	5	16		
<i>Aedes triseriatus</i>	2	7		
<i>Coquillettidia perturbans</i>	12	656		
<i>Culex</i> spp.	92	3954		
<i>Culiseta melanura</i>	11	163		
Ocean	108	827		
<i>Aedes albopictus</i>	19	56		
<i>Aedes canadensis canadensis</i>	6	19		
<i>Aedes cantator</i>	3	13		
<i>Aedes japonicus</i>	8	22		
<i>Aedes triseriatus</i>	2	4		
<i>Anopheles bradleyi</i>	1	1		
<i>Anopheles punctipennis</i>	2	3		
<i>Coquillettidia perturbans</i>	6	24		
<i>Culex</i> spp.	31	478		
<i>Culex erraticus</i>	2	2		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	5	23		
<i>Culiseta melanura</i>	21	177		
<i>Psorophora ferox</i>	1	4		
Passaic	83	667		
<i>Aedes albopictus</i>	1	1		
<i>Aedes canadensis canadensis</i>	3	13		
<i>Aedes japonicus</i>	22	166		
<i>Aedes triseriatus</i>	10	20		
<i>Aedes trivittatus</i>	1	6		
<i>Coquillettidia perturbans</i>	2	10		
<i>Culex</i> spp.	41	440		
<i>Culex restuans</i>	2	8		
<i>Psorophora ferox</i>	1	3		

Salem	112	1593		
<i>Aedes albopictus</i>	25	77		
<i>Aedes japonicus</i>	17	61		
<i>Aedes triseriatus</i>	2	2		
<i>Anopheles punctipennis</i>	3	12		
<i>Anopheles quadrimaculatus</i>	4	19		
<i>Coquillettidia perturbans</i>	9	128		
<i>Culex</i> spp.	41	1281		
<i>Culex erraticus</i>	1	1		
<i>Culex pipiens</i>	1	1		
<i>Culex restuans</i>	1	1		
<i>Culex salinarius</i>	2	4		
<i>Culiseta melanura</i>	5	5		
<i>Psorophora columbiae</i>	1	1		
Somerset	67	2173		
<i>Aedes albopictus</i>	1	7		
<i>Aedes canadensis canadensis</i>	1	3		
<i>Aedes japonicus</i>	8	86		
<i>Aedes triseriatus</i>	2	4		
<i>Culex</i> spp.	55	2073		
Sussex	91	3234	1	0.309
<i>Aedes abserratus</i>	13	258	1	3.876
<i>Aedes aurifer</i>	1	12		
<i>Aedes canadensis canadensis</i>	14	249		
<i>Aedes provocans</i>	2	8		
<i>Aedes sticticus</i>	2	84		
<i>Aedes stimulans</i>	2	10		
<i>Anopheles punctipennis</i>	51	2280		
<i>Culex</i> spp.	1	75		
<i>Culex restuans</i>	3	193		
<i>Culiseta melanura</i>	2	65		
Union	41	2454		
<i>Aedes albopictus</i>	1	11		
<i>Aedes japonicus</i>	2	25		
<i>Culex</i> spp.	38	2418		
Warren	112	5983		
<i>Aedes japonicus</i>	9	149		
<i>Culex</i> spp.	103	5834		
Grand Total	1729	50146	3	0.060