VECTOR SURVEILLANCE IN NEW JERSEY

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

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Begin to 23 June to 29 June, 2019, CDC Week 26
Data download 1:36 pm 28 June

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Culiseta melanura and Eastern Equine Encephalitis

SITE/Boxes	Inland or Coastal	Historic Population Mean	Current Weekly Mean	Total Tested* (Collected)	Total Pools Tested* (Submitted)	EEE Isolation Pools	MFIR
Bass River (Burlington Co.)/5	**Coastal**	0.03	0.00	4	2		
Green Bank (Burlington Co.)/25	**Coastal**	1.94	0.00	13	2		
Corbin City (Atlantic Co.)/25	**Coastal**	0.70	0.40	36 (46)	3 (4)		
Dennisville (Cape May Co.)/50	**Coastal**	2.97	0.02	27	3		
Winslow (Camden Co.)/50	**Inland**	1.33	1.02	51	2		
Centerton (Salem Co.)/50	**Inland**	1.61	0.52	26	1		
Turkey Swamp (Monmouth Co.)/50	**Inland**	0.54	0.14	76 (86)	5 (6)		
Glassboro (Gloucester Co.)/50	**Inland**	0.34	0.62	31	1		

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

Remarks: Currently in 2019, there are no detections of EEE virus in mosquito pools, horses or humans.

Statewide, 1,551 *Cs. melanura* from 225 pools have been tested, with no positive pools detected for an overall *Cs. melanura* MFIR of 0.0. 30,481 specimens in 1,462 pools from 29 other species have also been tested, with no positives detected. Overall MFIR for all species statewide is 0.0.

Traditional Resting Box Sites: 267 *Cs. melanura* from 19 pools have been tested, with no positive pools detected. An additional 17 *Cs. melanura* in two pools are at labs to be tested.

	Additional *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD UNDERLINED.**				
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Atlantic	BGS, CO_2, RB	18	536		
Bergen	RB	1	1		
Burlington	ULVT	7	197		
Cape May	GR, RB	40	129		
Cumberland	AGO, RB	3	46		
Gloucester	RB	9	169		
Middlesex	RB	2	16		
Monmouth	Other	2	25		
Morris	RB	3	15		
Ocean	CO_2, GR, RB	16	128		
Salem	CO_2, RB	4	4		
Sussex	CO_2	1	18		
TOTAL		**106**	**1284**		

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: There have not been any reports of human illness. 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.

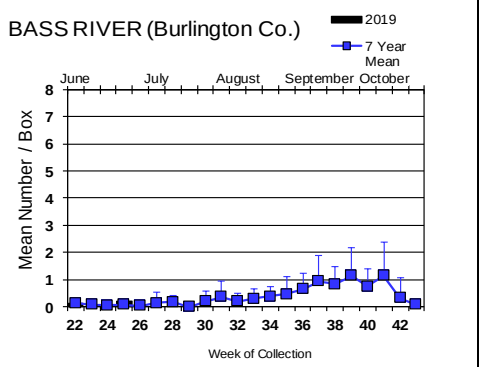
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

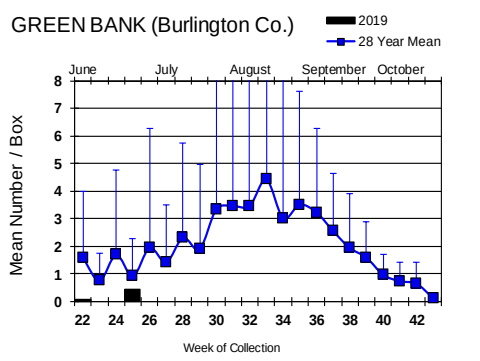
Additional Species: 29 additional species were tested for EEE. No positives were detected.

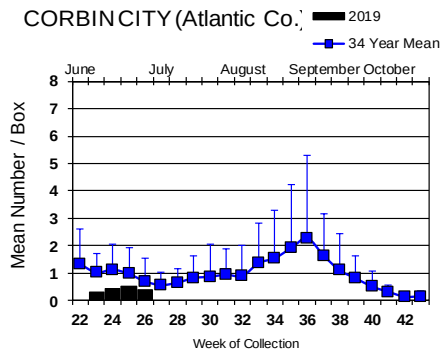
Species other than *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	13	258		
Aedes albopictus	112	353		
Aedes atlanticus	1	1		
Aedes aurifer	1	12		
Aedes canadensis canadensis	52	624		
Aedes cantator	12	256		
Aedes grossbecki	5	12		
Aedes japonicus	172	980		
Aedes mitchellae	1	1		
Aedes provocans	2	8		
Aedes sollicitans	1	53		
Aedes sticticus	2	84		
Aedes stimulans	2	10		
Aedes triseriatus	26	67		
Aedes trivittatus	11	184		
Aedes vexans	13	111		
Anopheles bradleyi	14	73		
Anopheles crucians	1	6		
Anopheles punctipennis	18	110		
Anopheles quadrimaculatus	21	284		
Coquillettidia perturbans	58	1560		
Culex Mix	586	23217		
Culex erraticus	6	8		
Culex pipiens	96	1060		
Culex restuans	143	415		
Culex salinarius	73	542		
Culex territans	7	10		
Orthopodomyia signifera	2	2		
Psorophora ferox	10	179		
Psorophora howardii	1	1		
State Total	**1462**	**30481**		

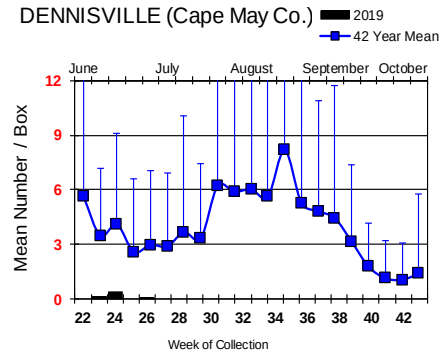
Culiseta melanura Populations

Coastal

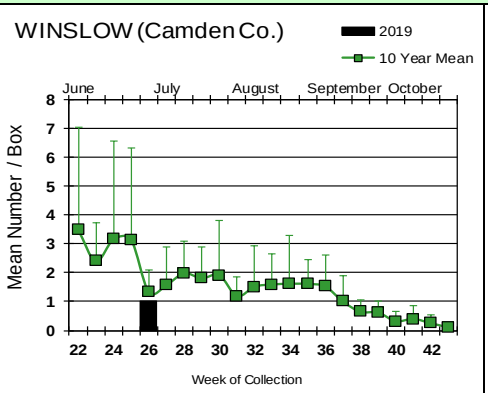


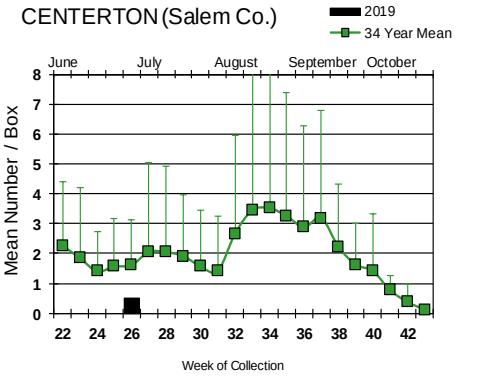


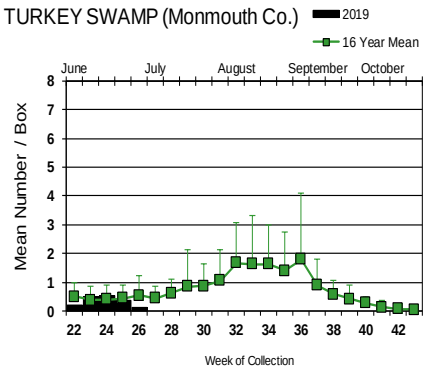


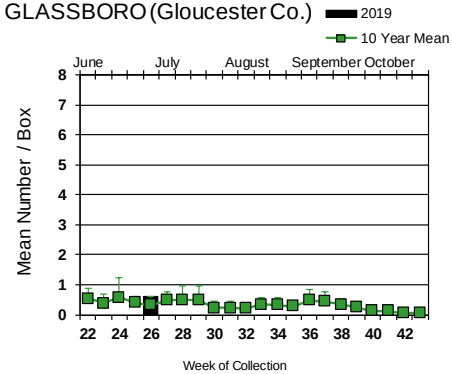


Inland









Resting boxes at the Centerton, Glassboro, and Winslow site are now being collected. Only the Glassboro site had *Cs. melanura* collectioins higher than historical values. No detections of EEE has occurred at any of the traditional resting box sites.

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

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

- **equine:** 18 (FL) 1 (GA)
- **mosquito pools:**
- **sentinel:** 44 (+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**	**10**
Arkansas					
California	**5**	**220**	**0**	**0**	**0**
Colorado					
Connecticut		**0**		**0**	**0**
Delaware					
Florida			**13/14**	**1**	
Georgia					
Hawaii					
Idaho	**0**	**1/2**		**0**	**0**
Illinois	**2**	**39/55**		**0**	**0**
Indiana	**0**	**1/2**		**0**	**0**
Iowa					
Kansas					**0**
Kentucky					
Louisiana					
Maine					
Maryland(+DC)					
Mass.		**0**		**0**	**0**
Michigan	**0/1**	**0/2**			
Minnesota					
Mississippi		**1**			**0**
Missouri		**0**		**0**	**0**

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska	**0**	**0**		**0**	**0**
Nevada					
New Hampshire					
New Jersey		**1**		**0**	**0**
New Mexico					**0**
New York					
North Carolina					
North Dakota	**0**	**0**		**0**	**0**
Ohio		**2**			
Oklahoma					
Oregon	**0**	**0**	**0**	**0**	**0**
Pennsylvania					
Rhode Island		**0**			
South Carolina					
South Dakota		**0**			
Tennessee					
Texas		**10/15**			
Utah					
Vermont					
Virginia					
Washington	**0**	**0**		**0**	**0**
West Virginia					
Wisconsin	**0**	**0/1**		**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 29 June 2019

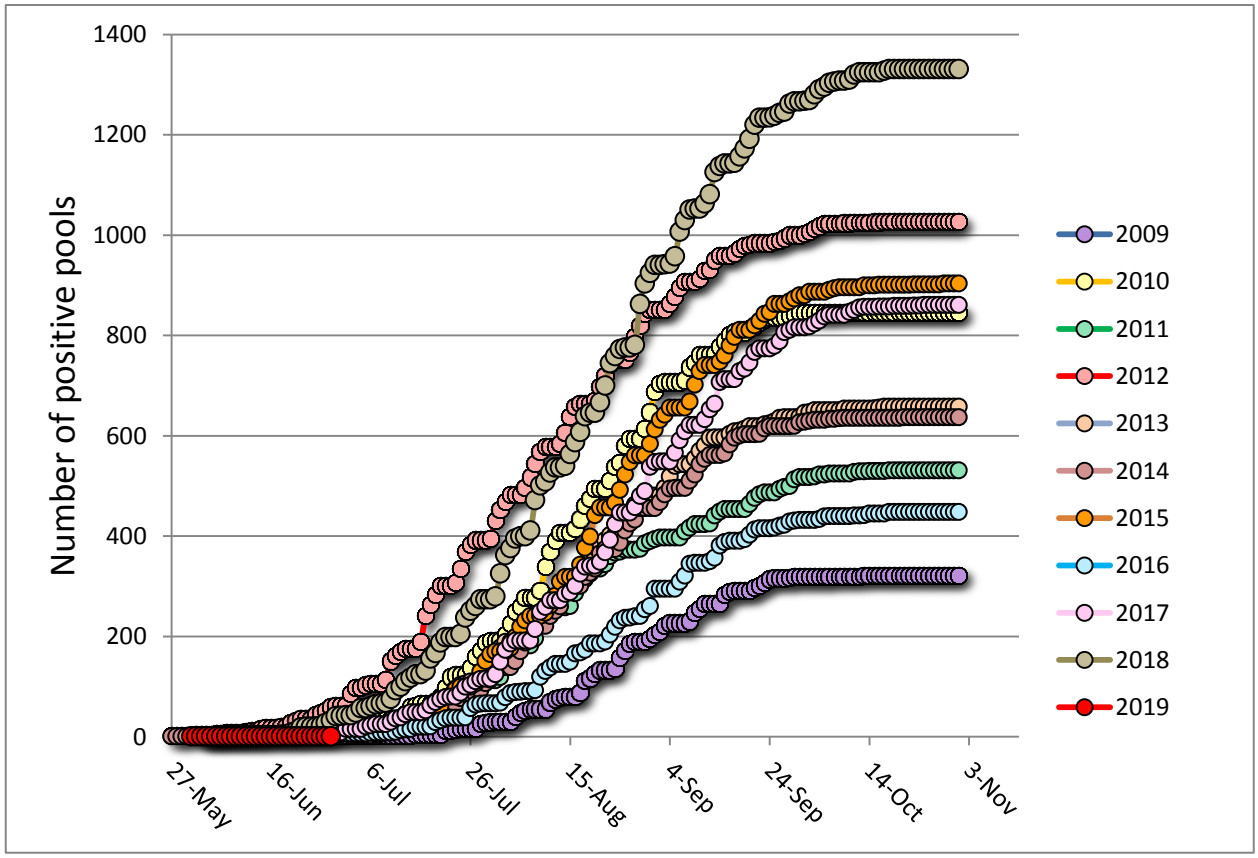
Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	13	258		
Aedes albopictus	203	535		
Aedes atlanticus	1	1		
Aedes aurifer	1	12		
Aedes canadensis canadensis	52	624		
Aedes cantator	12	256		
Aedes grossbecki	5	12		
Aedes japonicus	176	1039		
Aedes mitchellae	1	1		
Aedes provocans	2	8		
Aedes sollicitans	1	53		
Aedes sticticus	2	84		
Aedes stimulans	2	10		
Aedes triseriatus	112	233	1	4.292
Aedes trivittatus	11	184		
Aedes vexans	13	111		
Anopheles bradleyi	14	73		
Anopheles crucians	1	6		
Anopheles punctipennis	19	111		
Anopheles quadrimaculatus	21	284		
Coquillettidia perturbans	58	1560		
Culex spp.	586	23217		
Culex erraticus	6	8		
Culex pipiens	97	1061		
Culex restuans	146	418		
Culex salinarius	72	540		
Culex territans	7	10		
Culiseta melanura	125	1551		
Orthopodomyia signifera	2	2		
Psorophora ferox	10	179		
Psorophora howardii	1	1		
Grand Total	**1772**	**32442**	**1**	**0.031**

Remarks: To date, 1,772 pools of 32,442 mosquitoes from 30 species have been tested. A total of 1 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). 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 0.031.

Humans, Horses and Wild Birds: Currently, there are no reported human cases of WNV. 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 29 June 2019.

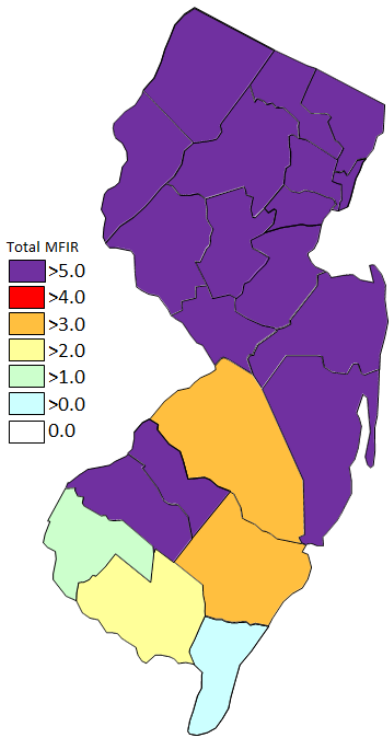
County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**75**	**2669**		
	Aedes albopictus	10	28		
	Aedes cantator	2	112		
	Aedes japonicus	2	33		
	Aedes sollicitans	1	53		
	Aedes vexans	1	63		
	Anopheles bradleyi	2	6		
	Anopheles crucians	1	6		
	Anopheles punctipennis	1	45		
	Coquillettidia perturbans	8	379		
	Culex spp.	22	1144		
	Culex pipiens	1	75		
	Culex restuans	1	3		
	Culiseta melanura	21	572		
	Psorophora ferox	2	150		
Bergen		**58**	**2800**		
	Aedes albopictus	2	14		
	Aedes canadensis canadensis	3	11		
	Aedes cantator	2	105		
	Aedes japonicus	4	90		
	Aedes triseriatus	1	3		

	Aedes trivittatus	1	6		
	Coquillettidia perturbans	3	37		
	Culex spp.	37	2386		
	Culex salinarius	3	141		
	Culiseta melanura	1	1		
	Psorophora ferox	1	6		
Burlington		**67**	**2979**		
	Aedes albopictus	2	13		
	Aedes canadensis canadensis	5	184		
	Aedes japonicus	4	73		
	Aedes mitchellae	1	1		
	Aedes triseriatus	1	2		
	Anopheles bradleyi	1	27		
	Coquillettidia perturbans	4	300		
	Culex spp.	32	1998		
	Culex salinarius	6	167		
	Culiseta melanura	11	214		
Camden		**2**	**51**		
	Culiseta melanura	2	51		
Cape May		**682**	**2573**		
	Aedes albopictus	119	236		
	Aedes canadensis canadensis	11	15		
	Aedes cantator	3	3		
	Aedes japonicus	77	187		
	Aedes triseriatus	80	138		
	Aedes vexans	2	2		
	Anopheles bradleyi	10	39		
	Anopheles punctipennis	5	5		
	Anopheles quadrimaculatus	17	260		
	Coquillettidia perturbans	11	16		
	Culex spp.	3	14		
	Culex erraticus	4	6		
	Culex pipiens	95	951		
	Culex restuans	139	329		
	Culex salinarius	54	204		
	Culex territans	7	10		
	Culiseta melanura	43	156		
	Orthopodomyia signifera	2	2		
Cumberland		**33**	**332**		
	Aedes albopictus	3	16		
	Aedes canadensis canadensis	2	51		
	Aedes japonicus	1	10		
	Aedes trivittatus	2	6		
	Aedes vexans	5	30		
	Anopheles punctipennis	3	31		
	Anopheles quadrimaculatus	1	11		
	Coquillettidia perturbans	3	6		
	Culex spp.	8	123		
	Culiseta melanura	3	46		
	Psorophora ferox	2	2		

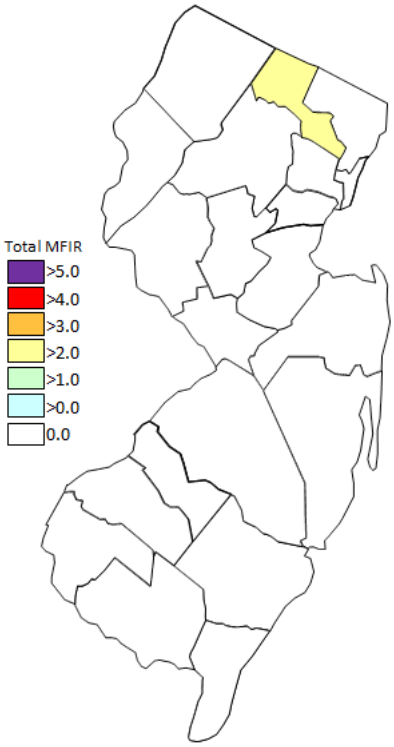
Essex		**36**	**203**		
	Aedes albopictus	4	6		
	Aedes canadensis canadensis	2	14		
	Aedes grossbecki	5	12		
	Aedes japonicus	4	6		
	Aedes triseriatus	1	3		
	Aedes trtivittatus	6	116		
	Aedes vexans	1	1		
	Culex spp.	13	45		
Gloucester		**60**	**1945**		
	Aedes albopictus	8	29		
	Aedes japonicus	10	145		
	Culex spp.	31	1536		
	Culex pipiens	1	35		
	Culiseta melanura	10	200		
Hudson		**29**	**1085**		
	Aedes triseriatus	6	10		
	Culex spp.	23	1075		
Hunterdon		**32**	**1283**		
	Aedes albopictus	1	6		
	Aedes triseriatus	1	3		
	Aedes trtivittatus	1	50		
	Aedes vexans	1	7		
	Anopheles punctipennis	1	3		
	Coquillettidia perturbans	1	2		
	Culex spp.	24	1200		
	Psorophora ferox	1	11		
	Psorophora howardii	1	1		
Mercer		**83**	**1410**		
	Aedes albopictus	3	26		
	Aedes japonicus	25	138		
	Aedes triseriatus	2	10		
	Culex spp.	53	1236		
Middlesex		**29**	**228**		
	Aedes albopictus	1	3		
	Coquillettidia perturbans	1	18		
	Culex spp.	25	191		
	Culiseta melanura	2	16		
Monmouth		**103**	**818**		
	Aedes albopictus	24	95		
	Aedes atlanticus	1	1		
	Aedes canadensis canadensis	10	195		
	Aedes cantator	3	27		
	Aedes japonicus	2	4		
	Aedes triseriatus	4	28		
	Aedes vexans	3	8		
	Anopheles punctipennis	5	11		
	Coquillettidia perturbans	3	5		
	Culex spp.	32	319		

	Culex erraticus	1	1		
	Culex restuans	2	2		
	Culex salinarius	4	15		
	Culiseta melanura	7	104		
	Psorophora ferox	2	3		
Morris		**85**	**3244**		
	Aedes canadensis canadensis	3	21		
	Aedes japonicus	5	16		
	Coquillettidia perturbans	12	656		
	Culex spp.	62	2536		
	Culiseta melanura	3	15		
Ocean		**73**	**382**		
	Aedes albopictus	13	25		
	Aedes canadensis canadensis	6	19		
	Aedes cantator	2	9		
	Aedes japonicus	5	12		
	Anopheles bradleyi	1	1		
	Anopheles punctipennis	1	1		
	Coquillettidia perturbans	3	6		
	Culex spp.	20	166		
	Culex erraticus	1	1		
	Culex restuans	1	1		
	Culex salinarius	3	9		
	Culiseta melanura	16	128		
Passaic		**54**	**383**	**1**	2.611
	Aedes albopictus	1	1		
	Aedes canadensis canadensis	2	12		
	Aedes japonicus	17	122		
	Aedes triseriatus	3	10	1	100.00
	Aedes trivittatus	1	6		
	Coquillettidia perturbans	1	8		
	Culex spp.	26	213		
	Culex restuans	2	8		
	Psorophora ferox	1	3		
Salem		**74**	**1357**		
	Aedes albopictus	12	37		
	Aedes japonicus	8	29		
	Aedes triseriatus	7	12		
	Anopheles punctipennis	2	8		
	Anopheles quadrimaculatus	3	13		
	Coquillettidia perturbans	8	127		
	Culex spp.	27	1097		
	Culex salinarius	2	4		
	Culiseta melanura	5	30		
Somerset		**40**	**1264**		
	Aedes canadensis canadensis	1	3		
	Aedes japonicus	6	64		
	Aedes triseriatus	2	4		
	Culex spp.	31	1193		

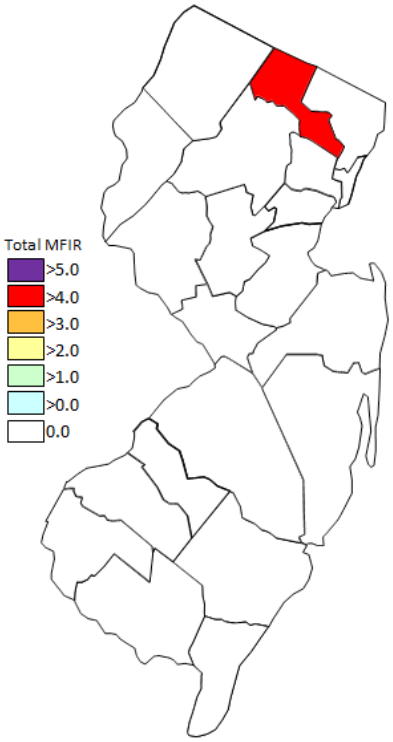
Sussex		**60**	**1864**		
	Aedes abserratus	13	258		
	Aedes aurifer	1	12		
	Aedes canadensis canadensis	7	99		
	Aedes provocans	2	8		
	Aedes sticticus	2	84		
	Aedes stimulans	2	10		
	Aedes triseriatus	4	10		
	Anopheles punctipennis	1	7		
	Culex spp.	26	1283		
	Culex restuans	1	75		
	Culiseta melanura	1	18		
Union		**17**	**1006**		
	Culex spp.	17	1006		
Warren		**80**	**4566**		
	Aedes japonicus	6	110		
	Culex spp.	74	4456		
Grand Total		**1772**	**32442**	**1**	**0.031**



Cumulative WNV activity in 2018.



WNV activity to 29 June 2019.



WNV activity last week, 2019

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 29 June 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		**75**	**2669**		
	Aedes albopictus	10	28		
	Aedes cantator	2	112		
	Aedes japonicus	2	33		
	Aedes sollicitans	1	53		
	Aedes vexans	1	63		
	Anopheles bradleyi	2	6		
	Anopheles crucians	1	6		
	Anopheles punctipennis	1	45		
	Coquillettidia perturbans	8	379		
	Culex spp.	22	1144		
	Culex pipiens	1	75		
	Culex restuans	1	3		
	Culiseta melanura	21	572		
	Psorophora ferox	2	150		
Bergen		**58**	**2800**		
	Aedes albopictus	2	14		
	Aedes canadensis canadensis	3	11		
	Aedes cantator	2	105		
	Aedes japonicus	4	90		
	Aedes triseriatus	1	3		
	Aedes trivittatus	1	6		
	Coquillettidia perturbans	3	37		
	Culex spp.	37	2386		
	Culex salinarius	3	141		
	Culiseta melanura	1	1		
	Psorophora ferox	1	6		
Burlington		**64**	**2919**		
	Aedes albopictus	1	3		
	Aedes canadensis canadensis	5	184		
	Aedes japonicus	3	25		
	Aedes mitchellae	1	1		
	Anopheles bradleyi	1	27		
	Coquillettidia perturbans	4	300		
	Culex spp.	32	1998		
	Culex salinarius	6	167		
	Culiseta melanura	11	214		
Camden		**2**	**51**		

	Culiseta melanura	2	51		
Cape May		**520**	**2283**		
	Aedes albopictus	30	65		
	Aedes canadensis canadensis	11	15		
	Aedes cantator	3	3		
	Aedes japonicus	74	176		
	Aedes triseriatus	14	33		
	Aedes vexans	2	2		
	Anopheles bradleyi	10	39		
	Anopheles punctipennis	4	4		
	Anopheles quadrimaculatus	17	260		
	Coquillettidia perturbans	11	16		
	Culex spp.	3	14		
	Culex erraticus	4	6		
	Culex pipiens	94	950		
	Culex restuans	136	326		
	Culex salinarius	55	206		
	Culex territans	7	10		
	Culiseta melanura	43	156		
	Orthopodomyia signifera	2	2		
Cumberland		**33**	**332**		
	Aedes albopictus	3	16		
	Aedes canadensis canadensis	2	51		
	Aedes japonicus	1	10		
	Aedes trivittatus	2	6		
	Aedes vexans	5	30		
	Anopheles punctipennis	3	31		
	Anopheles quadrimaculatus	1	11		
	Coquillettidia perturbans	3	6		
	Culex spp.	8	123		
	Culiseta melanura	3	46		
	Psorophora ferox	2	2		
Essex		**36**	**203**		
	Aedes albopictus	4	6		
	Aedes canadensis canadensis	2	14		
	Aedes grossbecki	5	12		
	Aedes japonicus	4	6		
	Aedes triseriatus	1	3		
	Aedes trtivittatus	6	116		
	Aedes vexans	1	1		
	Culex spp.	13	45		
Gloucester		**60**	**1945**		
	Aedes albopictus	8	29		
	Aedes japonicus	10	145		
	Culex spp.	31	1536		
	Culex pipiens	1	35		
	Culiseta melanura	10	200		
Hudson		**23**	**1075**		
	Culex spp.	23	1075		

Hunterdon		**32**	**1283**		
	Aedes albopictus	1	6		
	Aedes triseriatus	1	3		
	Aedes trtivittatus	1	50		
	Aedes vexans	1	7		
	Anopheles punctipennis	1	3		
	Coquillettidia perturbans	1	2		
	Culex spp.	24	1200		
	Psorophora ferox	1	11		
	Psorophora howardii	1	1		
Mercer		**81**	**1400**		
	Aedes albopictus	3	26		
	Aedes japonicus	25	138		
	Culex spp.	53	1236		
Middlesex		**29**	**228**		
	Aedes albopictus	1	3		
	Coquillettidia perturbans	1	18		
	Culex spp.	25	191		
	Culiseta melanura	2	16		
Monmouth		**100**	**792**		
	Aedes albopictus	24	95		
	Aedes atlanticus	1	1		
	Aedes canadensis canadensis	10	195		
	Aedes cantator	3	27		
	Aedes japonicus	2	4		
	Aedes triseriatus	1	2		
	Aedes vexans	3	8		
	Anopheles punctipennis	5	11		
	Coquillettidia perturbans	3	5		
	Culex spp.	32	319		
	Culex erraticus	1	1		
	Culex restuans	2	2		
	Culex salinarius	4	15		
	Culiseta melanura	7	104		
	Psorophora ferox	2	3		
Morris		**85**	**3244**		
	Aedes canadensis canadensis	3	21		
	Aedes japonicus	5	16		
	Coquillettidia perturbans	12	656		
	Culex spp.	62	2536		
	Culiseta melanura	3	15		
Ocean		**73**	**382**		
	Aedes albopictus	13	25		
	Aedes canadensis canadensis	6	19		
	Aedes cantator	2	9		
	Aedes japonicus	5	12		
	Anopheles bradleyi	1	1		
	Anopheles punctipennis	1	1		
	Coquillettidia perturbans	3	6		
	Culex spp.	20	166		

	Culex erraticus	1	1		
	Culex restuans	1	1		
	Culex salinarius	3	9		
	Culiseta melanura	16	128		
	Psorophora ferox	1	4		
Passaic		**55**	**390**		
	Aedes albopictus	1	1		
	Aedes canadensis canadensis	2	12		
	Aedes japonicus	17	122		
	Aedes triseriatus	4	17		
	Aedes trivittatus	1	6		
	Coquillettidia perturbans	1	8		
	Culex spp.	26	213		
	Culex restuans	2	8		
	Psorophora ferox	1	3		
Salem		**69**	**1347**		
	Aedes albopictus	12	37		
	Aedes japonicus	8	29		
	Aedes triseriatus	2	2		
	Anopheles punctipennis	2	8		
	Anopheles quadrimaculatus	3	13		
	Coquillettidia perturbans	8	127		
	Culex spp.	27	1097		
	Culex salinarius	2	4		
	Culiseta melanura	5	30		
Somerset		**40**	**1264**		
	Aedes canadensis canadensis	1	3		
	Aedes japonicus	6	64		
	Aedes triseriatus	2	4		
	Culex spp.	31	1193		
Sussex		**56**	**1854**		
	Aedes abserratus	13	258		
	Aedes aurifer	1	12		
	Aedes canadensis canadensis	7	99		
	Aedes provocans	2	8		
	Aedes sticticus	2	84		
	Aedes stimulans	2	10		
	Anopheles punctipennis	1	7		
	Culex spp.	26	1283		
	Culex restuans	1	75		
	Culiseta melanura	1	18		
Union		**17**	**1006**		
	Culex spp.	17	1006		
Warren		**80**	**4566**		
	Aedes japonicus	6	110		
	Culex spp.	74	4456		
Grand Total		**1588**	**32033**		

La Crosse Encephalitis (LAC) to 29 June 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		**3**	**33**		
	Aedes canadensis canadensis	1	3		
	Aedes japonicus	1	27		
	Aedes triseriatus	1	3		
Burlington		**3**	**60**		
	Aedes albopictus	1	10		
	Aedes japonicus	1	48		
	Aedes triseriatus	1	2		
Cape May		**71**	**118**		
	Aedes japonicus	3	11		
	Aedes triseriatus	65	104		
	Anopheles punctipennis	1	1		
	Culex restuans	2	2		
Essex		**1**	**3**		
	Aedes triseriatus	1	3		
Hudson		**6**	**10**		
	Aedes triseriatus	6	10		
Mercer		**2**	**10**		
	Aedes triseriatus	2	10		
Monmouth		**3**	**26**		
	Aedes triseriatus	3	26		
Passaic		**4**	**18**	**1**	**55.556**
	Aedes canadensis canadensis	1	8		
	Aedes triseriatus	3	10	1	100.00
Salem		**5**	**10**		
	Aedes triseriatus	5	10		
Sussex		**4**	**10**		
	Aedes triseriatus	4	10		
Grand Total		**102**	**298**	**1**	**3.356**

Dengue (DENV) to 29 June 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		**10**	**28**		
	Aedes albopictus	10	28		
Middlesex		**1**	**3**		
	Aedes albopictus	1	3		
Grand Total		**11**	**31**		

Chikungunya (CHIK) to 29 June 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		**10**	**28**		
	Aedes albopictus	10	28		
Cape May		**91**	**171**		
	Aedes albopictus	88	168		
	Aedes triseriatus	1	1		
	Culex pipiens	1	1		
	Culex restuans	1	1		
Middlesex		**1**	**3**		
	Aedes albopictus	1	3		
Grand Total		**102**	**202**		

Zika (ZIKV) to 29 June 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		**10**	**28**		
	Aedes albopictus	10	28		

Cape May		**91**	**172**		
	Aedes albopictus	88	169		
	Aedes triseriatus	1	1		
	Culex pipiens	1	1		
	Culex restuans	1	1		
Middlesex		**1**	**3**		
	Aedes albopictus	1	3		
Grand Total		**102**	**203**		

Jamestown Canyon (JCV) to 29 June 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.

One pool of *Aedes abserratus* has been found positive in 2019. This pool was collected 5 June 2019 in Sussex County. This deer-feeding species 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). There are currently 0 human cases in NJ.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**75**	**2669**		
	Aedes albopictus	10	28		
	Aedes cantator	2	112		
	Aedes japonicus	2	33		
	Aedes sollicitans	1	53		
	Aedes vexans	1	63		
	Anopheles bradleyi	2	6		
	Anopheles crucians	1	6		
	Anopheles punctipennis	1	45		
	Coquillettidia perturbans	8	379		
	Culex spp.	22	1144		
	Culex pipiens	1	75		
	Culex restuans	1	3		
	Culiseta melanura	21	572		
	Psorophora ferox	2	150		
Bergen		**58**	**2800**	**1**	**0.357**
	Aedes albopictus	2	14		
	Aedes canadensis canadensis	3	11		
	Aedes cantator	2	105	1	9.524
	Aedes japonicus	4	90		
	Aedes triseriatus	1	3		
	Aedes trivittatus	1	6		
	Coquillettidia perturbans	3	37		
	Culex spp.	37	2386		
	Culex salinarius	3	141		
	Culiseta melanura	1	1		
	Psorophora ferox	1	6		
Burlington		**64**	**2919**		
	Aedes albopictus	1	3		

	Aedes canadensis canadensis	5	184		
	Aedes japonicus	3	25		
	Aedes mitchellae	1	1		
	Anopheles bradleyi	1	27		
	Coquillettidia perturbans	4	300		
	Culex spp.	32	1998		
	Culex salinarius	6	167		
	Culiseta melanura	11	214		
Cape May		**21**	**33**		
	Aedes triseriatus	21	33		
Cumberland		**33**	**332**		
	Aedes albopictus	3	16		
	Aedes canadensis canadensis	2	51		
	Aedes japonicus	1	10		
	Aedes trivittatus	2	6		
	Aedes vexans	5	30		
	Anopheles punctipennis	3	31		
	Anopheles quadrimaculatus	1	11		
	Coquillettidia perturbans	3	6		
	Culex spp.	8	123		
	Culiseta melanura	3	46		
	Psorophora ferox	2	2		
Essex		**36**	**203**		
	Aedes albopictus	4	6		
	Aedes canadensis canadensis	2	14		
	Aedes grossbecki	5	12		
	Aedes japonicus	4	6		
	Aedes triseriatus	1	3		
	Aedes trtivittatus	6	116		
	Aedes vexans	1	1		
	Culex spp.	13	45		
Gloucester		**59**	**1914**		
	Aedes albopictus	8	29		
	Aedes japonicus	10	145		
	Culex spp.	31	1536		
	Culex pipiens	1	35		
	Culiseta melanura	9	169		
Hudson		**23**	**1075**		
	Culex spp.	23	1075		
Hunterdon		**32**	**1283**		
	Aedes albopictus	1	6		
	Aedes triseriatus	1	3		
	Aedes trtivittatus	1	50		
	Aedes vexans	1	7		
	Anopheles punctipennis	1	3		
	Coquillettidia perturbans	1	2		
	Culex spp.	24	1200		
	Psorophora ferox	1	11		
	Psorophora howardii	1	1		

Mercer		**81**	**1400**		
	Aedes albopictus	3	26		
	Aedes japonicus	25	138		
	Culex spp.	53	1236		
Middlesex		**29**	**228**		
	Aedes albopictus	1	3		
	Coquillettidia perturbans	1	18		
	Culex spp.	25	191		
	Culiseta melanura	2	16		
Monmouth		**100**	**792**		
	Aedes albopictus	24	95		
	Aedes atlanticus	1	1		
	Aedes canadensis canadensis	10	195		
	Aedes cantator	3	27		
	Aedes japonicus	2	4		
	Aedes triseriatus	1	2		
	Aedes vexans	3	8		
	Anopheles punctipennis	5	11		
	Coquillettidia perturbans	3	5		
	Culex spp.	32	319		
	Culex erraticus	1	1		
	Culex restuans	2	2		
	Culex salinarius	4	15		
	Culiseta melanura	7	104		
	Psorophora ferox	2	3		
Morris		**85**	**3244**		
	Aedes canadensis canadensis	3	21		
	Aedes japonicus	5	16		
	Coquillettidia perturbans	12	656		
	Culex spp.	62	2536		
	Culiseta melanura	3	15		
Ocean		**73**	**382**		
	Aedes albopictus	13	25		
	Aedes canadensis canadensis	6	19		
	Aedes cantator	2	9		
	Aedes japonicus	5	12		
	Anopheles bradleyi	1	1		
	Anopheles punctipennis	1	1		
	Coquillettidia perturbans	3	6		
	Culex spp.	20	166		
	Culex erraticus	1	1		
	Culex restuans	1	1		
	Culex salinarius	3	9		
	Culiseta melanura	16	128		
	Psorophora ferox	1	4		
Passaic		**55**	**390**		
	Aedes albopictus	1	1		
	Aedes canadensis canadensis	2	12		
	Aedes japonicus	17	122		

	Aedes triseriatus	4	17		
	Aedes trivittatus	1	6		
	Coquillettidia perturbans	1	8		
	Culex spp.	26	213		
	Culex restuans	2	8		
	Psorophora ferox	1	3		
Salem		**68**	**1321**		
	Aedes albopictus	12	37		
	Aedes japonicus	8	29		
	Aedes triseriatus	2	2		
	Anopheles punctipennis	2	8		
	Anopheles quadrimaculatus	3	13		
	Coquillettidia perturbans	8	127		
	Culex spp.	27	1097		
	Culex salinarius	2	4		
	Culiseta melanura	4	4		
Somerset		**40**	**1264**		
	Aedes canadensis canadensis	1	3		
	Aedes japonicus	6	64		
	Aedes triseriatus	2	4		
	Culex spp.	31	1193		
Sussex		**56**	**1854**	**1**	**0.539**
	Aedes abserratus	13	258	1	3.876
	Aedes aurifer	1	12		
	Aedes canadensis canadensis	7	99		
	Aedes provocans	2	8		
	Aedes sticticus	2	84		
	Aedes stimulans	2	10		
	Anopheles punctipennis	1	7		
	Culex spp.	26	1283		
	Culex restuans	1	75		
	Culiseta melanura	1	18		
Union		**17**	**1006**		
	Culex spp.	17	1006		
Warren		**80**	**4566**		
	Aedes japonicus	6	110		
	Culex spp.	74	4456		
Grand Total		**1085**	**29675**	**2**	**0.067**