

Report Highlight:

- Two cases of Powassan were reported in Sussex county.
- New Jersey's first positive West Nile virus (WNV) mosquito pool in 2019 was identified in Passaic county.
- A mosquito pool collected from Passaic County tested positive for La Crosse virus (LAC).
- A mosquito pool collected from Sussex County tested positive for Jamestown Canyon virus (JCV).

1. Human Testing

New Jersey Administrative Code (N.J.A.C.) Title 8 Chapter 57 mandates public health reporting of specified vector-borne diseases to prevent further disease spread.

Table 1.1 Human Cases^a

Mosquito-borne diseases			Tickborne Diseases		
	2019 ^b	2018		2019 ^b	2018
Chikungunya	3	16	Anaplasmosis	27	118
Dengue	10	20	Babesiosis	17	247
Eastern equine encephalitis	-	-	<i>Borrelia miyamotoi</i>	5	7
Jamestown Canyon	-	-	Ehrlichiosis	29	94
Malaria	37	93	Lyme disease	790	3956
West Nile	-	61	Powassan	2	1
Zika	4	10	Spotted fever group rickettsioses	39	147

^a Data for 2019 reflect confirmed and probable cases that have been approved by NJDOH. This does not include cases under investigation.

All 2019 numbers are preliminary and are subject to change.

^b Cumulative through week 25: June 16-22, 2019.

2. Mosquito Testing

The New Jersey Department of Health Public Health and Environmental Laboratories (PHEL) and the Cape May County Department of Mosquito Control Bio-safety Level 3 Laboratory (CMBSL3) perform arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.

West Nile virus (WNV):

- A total of 1326 mosquito pools from 20 counties have been tested for WNV.
- In week 22, one mosquito pool tested positive for WNV in Passaic county. The positive pool was detected in *Aedes abserratus* species. In 2018 the first WNV positive mosquito pool was identified in week 23.

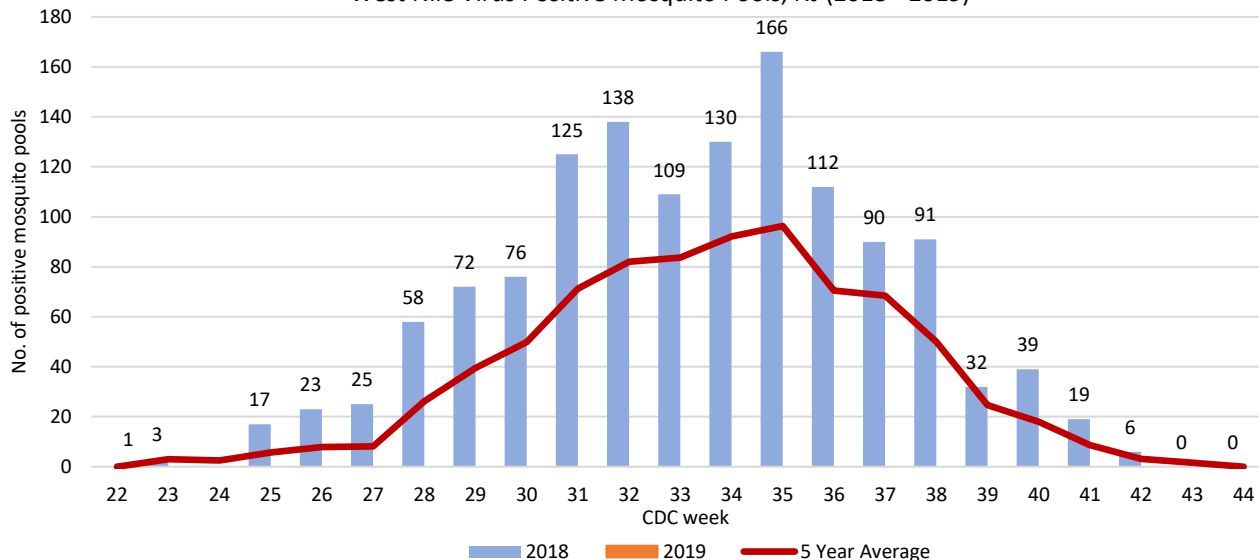
WNV Positive Mosquito Pools

County	Week 25		Cumulative Total (week 25)	
	2019*	2018	2019*	2018
Atlantic		1		1
Bergen		1		1
Burlington				
Camden		1		1
Cape May				
Cumberland		3		3
Essex				
Gloucester		2		4
Hudson				
Hunterdon		1		1
Mercer		1		1
Middlesex				
Monmouth				
Morris				
Ocean		1		1
Passaic			1	
Salem		1		1
Somerset		2		2
Sussex				
Union				
Warren		3		4
Total	-	17	1	20

*Test results may be incomplete; Counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL, CMBSL3 and US Army Public Health as of June 25, 2019

Week 25: June 17-23, 2018; June 16-22, 2019

West Nile Virus Positive Mosquito Pools, NJ (2018 - 2019)



Eastern equine encephalitis virus (EEE)

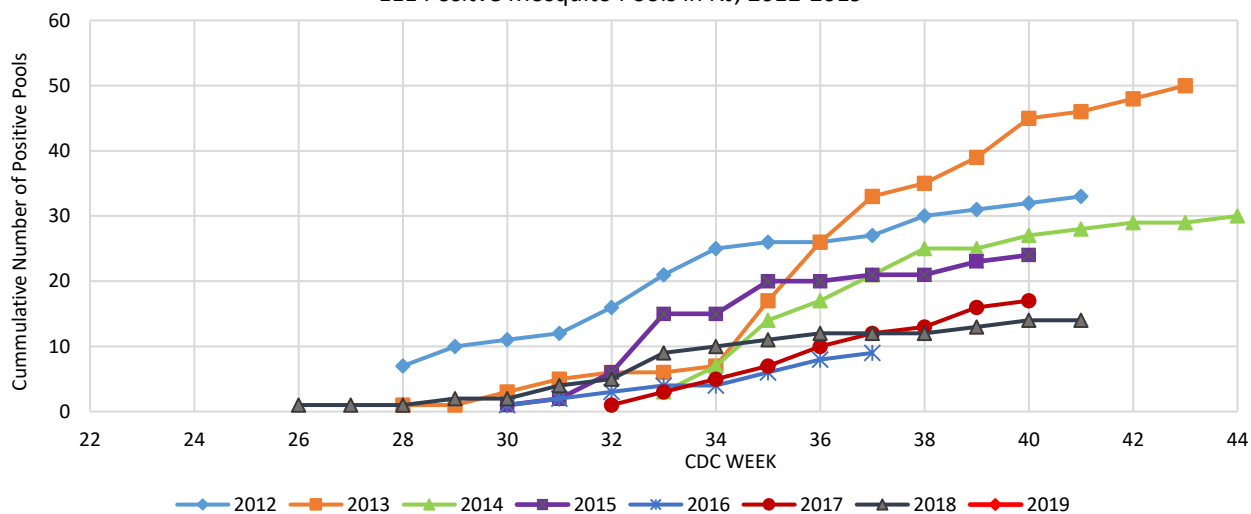
- A total of 1194 mosquito pools from 20 counties have been tested for EEE.
- No EEE positive mosquito pools have been identified in 2019. In 2018, the first EEE mosquito pool was reported in week 26.

EEE Positive Mosquito Pools

County	Week 25		Cumulative Total (week 25)	
	2019*	2018	2019*	2018
Atlantic				
Cape May				
Cumberland				
Hunterdon				
Mercer				
Middlesex				
Morris				
Ocean				
Passaic				
Salem				
Somerset				
Warren				
Total	-	-	-	-

Week 25: June 17-23, 2018; June 16-22, 2019

EEE Positive Mosquito Pools in NJ, 2012-2019



Other viruses:

Mosquito pools from 20 counties have been tested for other arboviruses. In 2019, PHEL and Cape May County BLS3 labs brought on new capacity to test for Jamestown Canyon virus (JCV) in mosquitoes.

Cumulative 2019 Mosquito Pool Testing (Other Viruses^a)

County	SLE		JCV		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	52		52				8		8		8	
Bergen	38		38		3							
Burlington	41		41									
Cape May	382		21		52		67				67	
Cumberland	33		33									
Essex	35		35		1							
Gloucester	59		59									
Hudson	14		14		4							
Hunterdon	14		14									
Mercer	59		59		1							
Middlesex	29		29				1		1		1	
Monmouth	79		79		2							
Morris	60		60									
Ocean	57		57									
Passaic	35		35		4	1						
Salem	68		68		5							
Somerset	25		25									
Sussex	37		37	1	2							
Union	17		17									
Warren	60		60									
Total	1194	-	833	1	74	1	76		9	-	76	-

^a St. Louis encephalitis virus (SLE), Jamestown Canyon Virus (JCV), La Crosse encephalitis virus (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)
 Numbers in white columns represent number of pools tested to date in 2019
 Numbers in blue shaded columns represent positive pools in 2019

La Crosse encephalitis virus (LAC):

- A mosquito pool collected on May 31st (week 22) in Passaic County tested positive for La Crosse virus at PHEL. The positive pool was detected in *Aedes triseriatus* species.
Errata: In 2014, 2 mosquito pools collected from the Joint Base MDL (Burlington County) by the Department of the Airforce tested positive for LACV. The virus was detected in both *Ochlerotatus triseriatus* and *Aedes albopictus*.
- There have not been any human La Crosse virus cases reported in at least the past 20 years.

Jamestown Canyon virus (JCV):

- A mosquito pool collected on June 5th (week 23) in Sussex County tested positive for Jamestown Canyon virus at PHEL. This is the first time Jamestown Canyon virus has been detected in mosquito pools in NJ. The positive pool was detected in *Aedes abserratus* species.
- NJ reported its first and only human case of Jamestown Canyon virus in 2015 in a Sussex County resident.

3. Equine/Avian /Other Animal Testing

Equine testing for WNV and EEE is conducted at the New Jersey Department of Agriculture's Animal Health and Diagnostic Laboratory.

- No animals have tested positive for WNV or EEE in 2019.
- Routine avian testing has been discontinued but is available upon request at PHEL.

WNV/EEE Positive Test Results

	Week 25		Cum. Total (Year)	
	2019	2018	2019	2018
Equine (EEE)				
Equine (WNV)				
Avian (WNV)				
Other				

Week 25: June 17-23, 2018; June 16-22, 2019

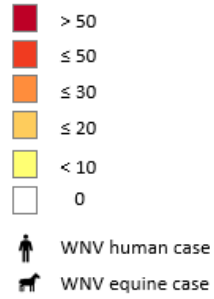
4. Surveillance Maps

West Nile Virus (WNV)

Week 25 WNV Activity (2019)*

Cumulative WNV Activity 2019

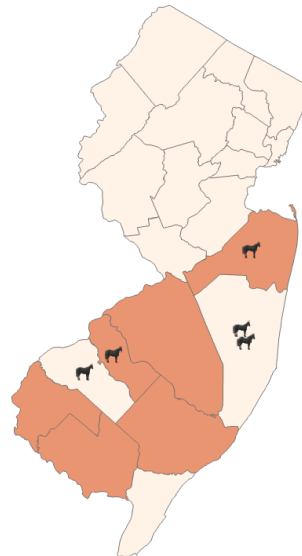
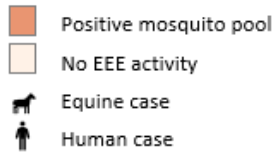
WNV Positive Pools



Eastern equine encephalitis (EEE)

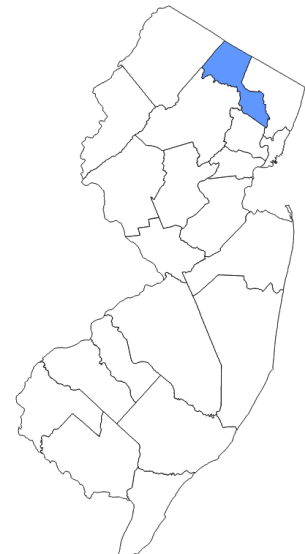
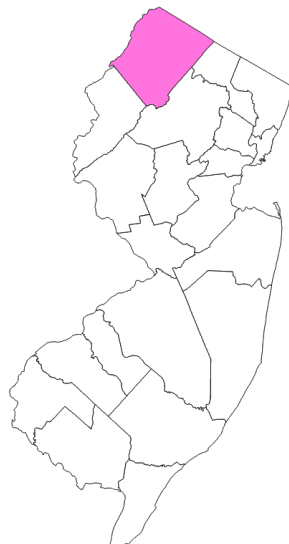
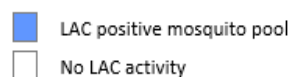
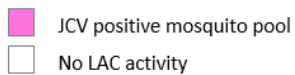
2018 EEE Activity

Cumulative EEE Activity 2019



Jamestown Canyon Virus Activity 2019

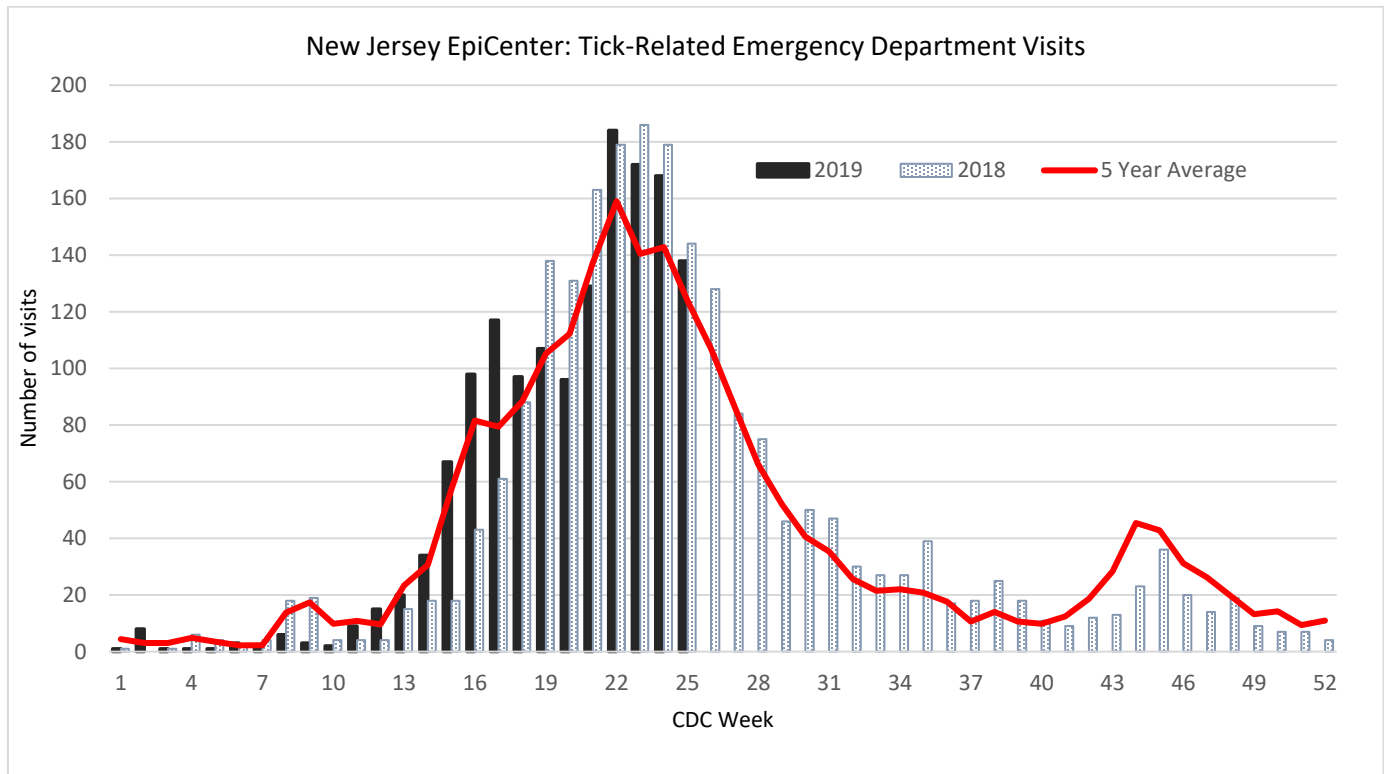
La Crosse Virus Activity 2019



5. Syndromic Surveillance for Tick-related Emergency Department Visits

EpiCenter is a syndromic surveillance system developed and maintained by Health Monitoring Systems, Inc, for monitoring by health departments in the United States. New Jersey's EpiCenter receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing ED computer systems.

The chart below represents NJ residents seen at emergency departments state wide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite. Tick-related ED visits occur throughout the year with peak number of visits in the summer months and a smaller peak in the fall weeks when adult *Ixodes scapularis* (blacklegged ticks) are active. In week 25 the number of ED visits is higher than the 5-year average.



Data reflects ED visits downloaded from EpiCenter as of June 24, 2019

For More Information

- NJDOH Communicable Disease Service: <http://nj.gov/health/cd/topics/vectorborne.shtml>
- NJDEP Office of Mosquito Control Coordination: <http://www.nj.gov/dep/mosquito/>
- NJDA Division of Animal Health: <http://www.nj.gov/agriculture/divisions/ah/>
- Rutgers Center for Vector Biology: <http://vectorbio.rutgers.edu/>