

Report Highlight:

- **West Nile virus (WNV)** has been detected in 12 mosquito pools in seven counties (Bergen, Burlington, Essex, Middlesex, Ocean, Somerset, and Warren).
- **Eastern Equine Encephalitis virus (EEEV)** has been detected in one mosquito pool from Gloucester County.
- There have been no positive WNV or EEE cases detected in humans or animals this season.
- The number of tick-related ED visits in 2021 is higher than those reported in 2020 but is lower than historical averages.

1. Human Testing

New Jersey Administrative Code (NJAC.) 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		
	2021 ^b	2020		2021 ^b	2020
Chikungunya	-	3	Anaplasmosis	43	115
Dengue	-	2	Babesiosis	41	238
Eastern equine encephalitis	-	-	<i>Borrelia miyamotoi</i>	1	9
Jamestown Canyon	1	-	Ehrlichiosis	3	78
Malaria	13	24	Lyme disease	865	2572
West Nile	-	3	Powassan	-	1
Zika	-	3	Spotted fever group rickettsioses	6	35

^a Data for 2021 reflect confirmed and probable cases that NJDOH has approved. This does not include cases under investigation. All 2021 numbers are preliminary and are subject to change.

^b Cumulative through Week 27: July 4-10, 2021

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 2731 mosquito pools have been tested for WNV.
- 12 pools were positive for WNV this year.
- The positive pools were detected in *Culex pipiens/restuans/salinarius* species mix and *Aedes trivittatus*.
- The first WNV positive pool was detected in week 23 from Somerset County. In 2020, the first WNV positive mosquito pool was identified in week 27 from Mercer and Monmouth counties.

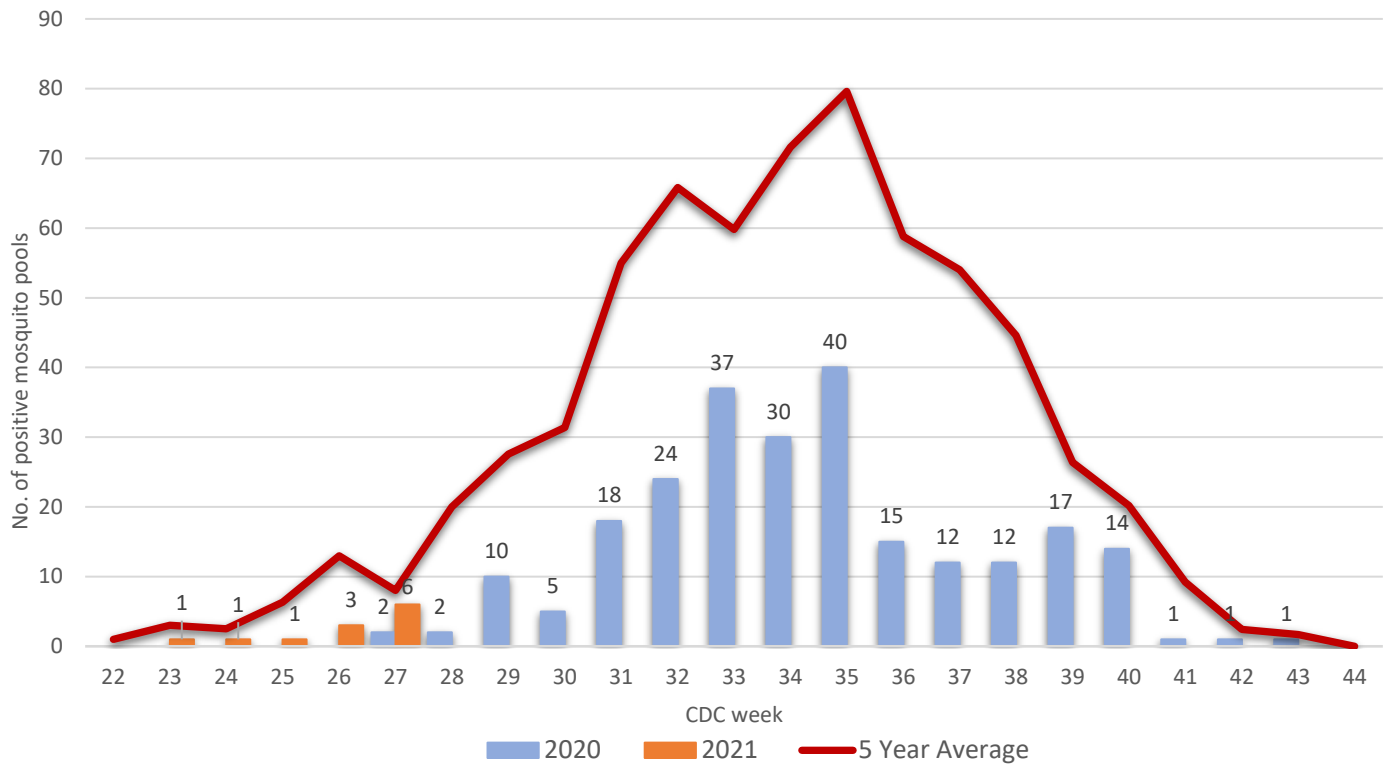
*Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL and CMBSL3 as of July 14th, 2021

WNV Positive Mosquito Pools

County	Week 27		Cumulative Total (Week 27)	
	2021*	2020	2021*	2020
Atlantic				
Bergen			3	
Burlington	1		1	
Camden				
Cape May				
Cumberland				
Essex			1	
Gloucester				
Hudson				
Hunterdon				
Mercer		1		1
Middlesex	1		1	
Monmouth		1		1
Morris				
Ocean	3		3	
Passaic				
Salem				
Somerset			1	
Sussex				
Union				
Warren	1		2	
Total	6	2	12	2

Week 27: June 28-July 4, 2020; July 4-10, 2021

West Nile Virus Positive Mosquito Pools, NJ (2020-2021)



Eastern equine encephalitis virus (EEE)

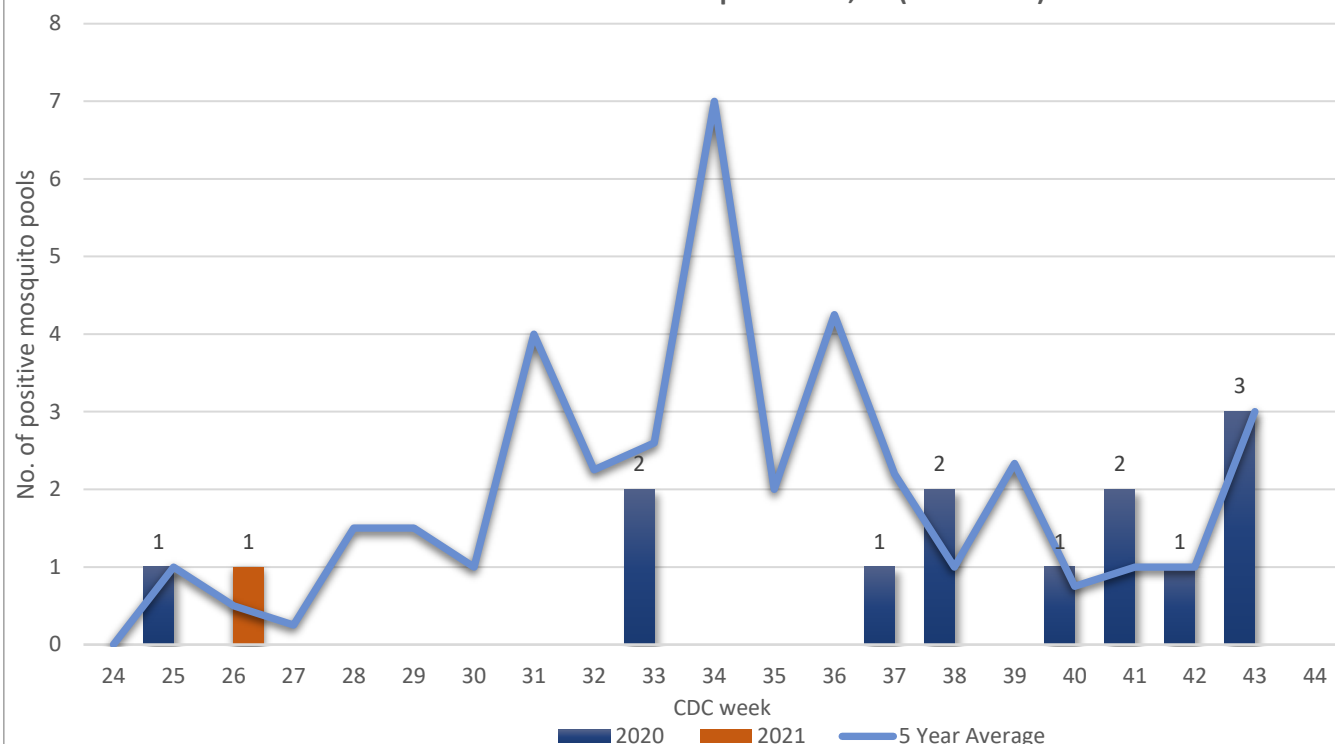
- A total of 2197 mosquito pools have been tested for EEE.
- One EEE positive mosquito pool has been reported from Gloucester County in Week 26.
- The positive pool was detected in *Culiseta melanura*.
- In 2020, the first EEE mosquito pool was reported from Atlantic County in Week 25.

EEE Positive Mosquito Pools

County	Week 27		Cumulative Total (Week 27)	
	2021*	2020	2021*	2020
Atlantic				1
Bergen				
Burlington				
Camden				
Cape May				
Cumberland				
Essex				
Gloucester			1	
Hudson				
Hunterdon				
Mercer				
Middlesex				
Monmouth				
Morris				
Ocean				
Passaic				
Salem				
Somerset				
Sussex				
Union				
Warren				
Total	-	-	1	1

Week 27: June 28-July 4, 2020; July 4-10, 2021

EEE Virus Positive Mosquito Pools, NJ (2020-2021)



Other viruses:

Mosquito pools from 21 counties have been tested for other arboviruses. None have tested positive.

Cumulative 2021 Mosquito Pool Testing (Other Viruses ^a)

County	CHIKV		DENV		JCV		LACV		SLEV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	12		12		153				153		12	
Bergen					117				118			
Burlington					133		8		167			
Camden					53				53			
Cape May	1		1		146				163		1	
Cumberland					141				190			
Essex					37				48			
Gloucester					151				187			
Hudson					68				74			
Hunterdon					90				130			
Mercer					118		2		165			
Middlesex					100				137			
Monmouth					132				181			
Morris	2		2		85				129		2	
Ocean					87				100			
Passaic					61		2		84			
Salem					138		6		174			
Somerset					85				85			
Sussex					207		4		207			
Union					14				14			
Warren					150				150			
Total	15		15		2266		22		2709		15	

^a Chikungunya virus (CHIKV), Dengue virus (DENV), Jamestown Canyon Virus (JCV), La Crosse encephalitis virus (LAC), St. Louis encephalitis virus (SLE), Zika Virus (ZIKV)

Numbers in white columns represent the number of pools tested to date in 2021

Numbers in blue shaded columns represent positive pools in 2021

Jamestown Canyon virus (JCV):

- No positive Jamestown Canyon virus pools have been identified in 2021.
- In 2020, Six mosquito pools from 4 counties tested positive for Jamestown Canyon virus. The positive pools were identified in Bergen (Week 23 and Week 27), Cumberland (Week 28 and week 32), Middlesex (Week 31) and Monmouth (Week 29).
- NJ reported its 2nd ever human case of Jamestown Canyon virus this year in Week 18 in a Sussex County resident. The first case was reported in 2015 in a Sussex County resident.

La Crosse encephalitis virus (LAC):

- No positive La Crosse virus pools have been identified in 2021.
- Prior to the current year, a mosquito pool collected in Passaic County tested positive for La Crosse virus at PHEL in 2019.
- There has not been any human La Crosse virus cases reported in at least the past 20 years.

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 2021.
- Routine avian testing has been discontinued but is available upon request at PHEL.

WNV/EEE Positive Test Results

	Week 27		Cum. Total (Year)	
	2021*	2020	2021*	2020
Equine (EEE)				
Equine (WNV)				
Avian (WNV)				
Other				

Week 27: June 28-July 4, 2020; July 4-10, 2021

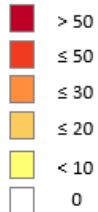
4. Surveillance Maps

West Nile Virus (WNV)

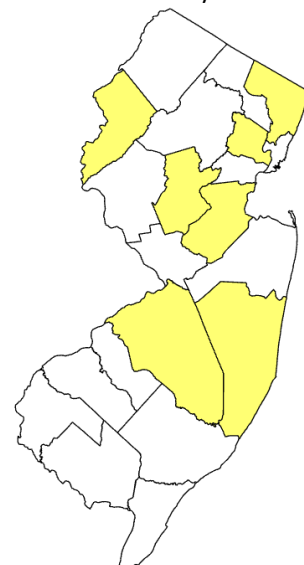
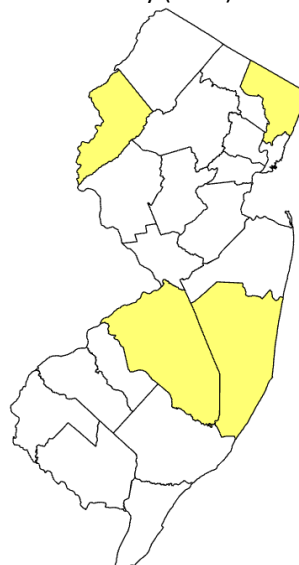
Week 27 WNV Activity (2021)*

Cumulative WNV Activity 2021

WNV Positive Pools



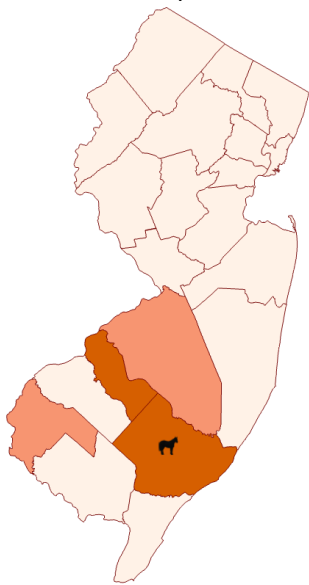
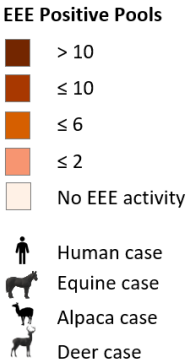
- WNV human case
- WNV equine case



Eastern equine encephalitis (EEE)

2020 EEE Activity

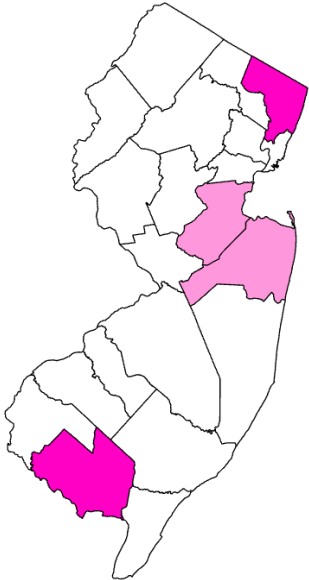
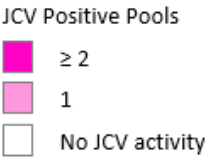
Cumulative EEE Activity 2021



Jamestown Canyon Virus (JCV)

2020 JCV Activity

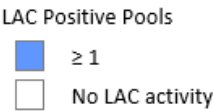
Cumulative JCV Activity 2021



La Crosse Virus (LAC)

2020 LAC Activity

Cumulative LAC Activity 2021

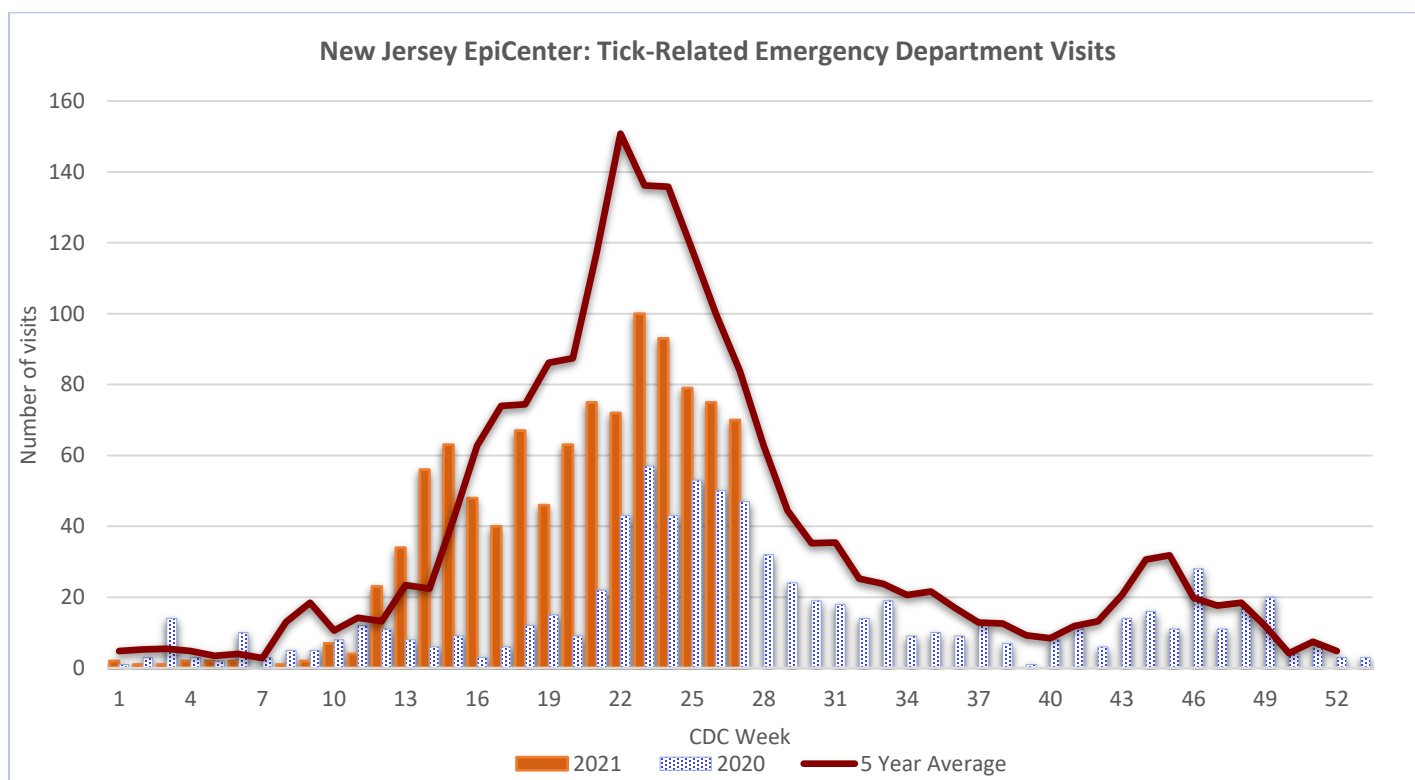


5. Syndromic Surveillance for Tick-related Emergency Department Visits

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 statewide 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 27, the overall number of ED visits is lower than the 5-year average. There is a significant increase in activity compared with last year starting from week 12.



Data reflects ED visits downloaded from EpiCenter as of July 14, 2021

For More Information

- NJDOH Communicable Disease Service: <http://nj.gov/health/cd/topics/vectorborne.shtml>
- New Jersey Arboviral Activity Maps: <http://bit.ly/JerseySurv>
- 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/>