

**Report Highlight:**

- **Welcome!** 2021 Vector Season is underway and mosquito testing has commenced in 19 counties for arboviruses.
- One human case of Jamestown Canyon virus was confirmed from Sussex County. This is the first positive human case identified (and the 2<sup>nd</sup> case ever) in the state since 2015.
- A mosquito pool collected from Somerset County tested positive for West Nile virus (WNV) in week 23.
- There have been no WNV or EEE positive cases detected in humans, mosquitoes, or animals this season.
- The number of tick related ED visits in 2021 is higher compared with visits reported in 2020.

## 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<sup>a</sup>**

Mosquito-borne diseases			Tickborne Diseases		
	2021 <sup>b</sup>	2020		2021 <sup>b</sup>	2020
Chikungunya	-	3	Anaplasmosis	18	115
Dengue	-	2	Babesiosis	12	238
Eastern equine encephalitis	-	-	<i>Borrelia miyamotoi</i>	-	9
Jamestown Canyon	1	-	Ehrlichiosis	3	78
Malaria	1	24	Lyme disease	517	2572
West Nile	-	3	Powassan	-	1
Zika	-	3	Spotted fever group rickettsioses	4	35

<sup>a</sup> Data for 2021 reflect confirmed and probable cases that have been approved by NJDOH. This does not include cases under investigation.

All 2021 numbers are preliminary and are subject to change.

<sup>b</sup> Cumulative through week 23: June 6-12, 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):**

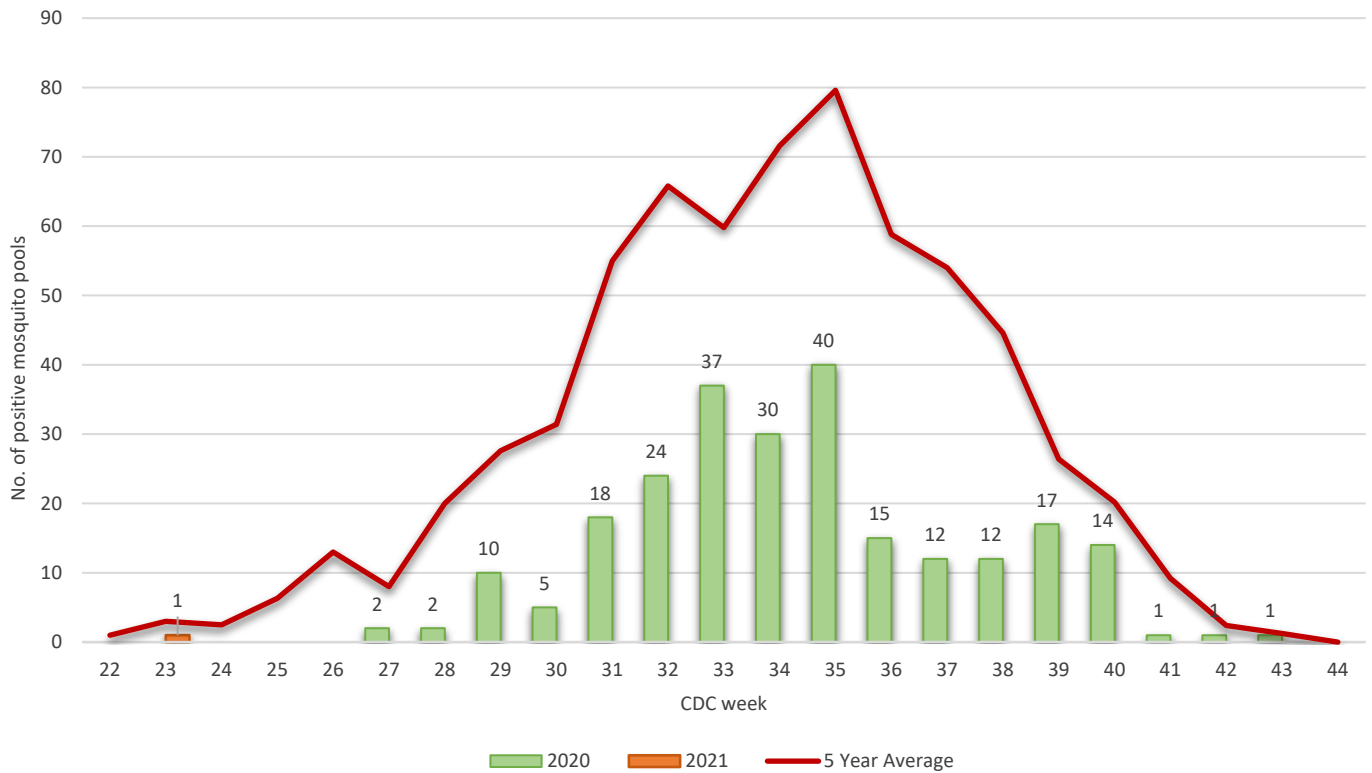
- A total of 1244 mosquito pools from 19 counties (Atlantic, Bergen, Burlington, Cape May, Cumberland, Essex, Gloucester, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Salem, Somerset, Sussex and Warren) have been tested for WNV.
- One positive WNV pool was detected in week 23 from Somerset County.
- The positive pool was detected in *Culex pipiens/restuans/salinarius* species mix
- In 2020 the first WNV positive mosquito pool was identified in week 27 from Mercer and Monmouth counties.

**WNV Positive Mosquito Pools**

County	Week 23		Cumulative Total (week 23)	
	2021*	2020	2021*	2020
Atlantic				
Bergen				
Burlington				
Camden				
Cape May				
Cumberland				
Essex				
Gloucester				
Hudson				
Hunterdon				
Mercer				
Middlesex				
Monmouth				
Morris				
Ocean				
Passaic				
Salem				
Somerset	1		1	
Sussex				
Union				
Warren				
<b>Total</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>-</b>

\*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 June 17, 2021

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



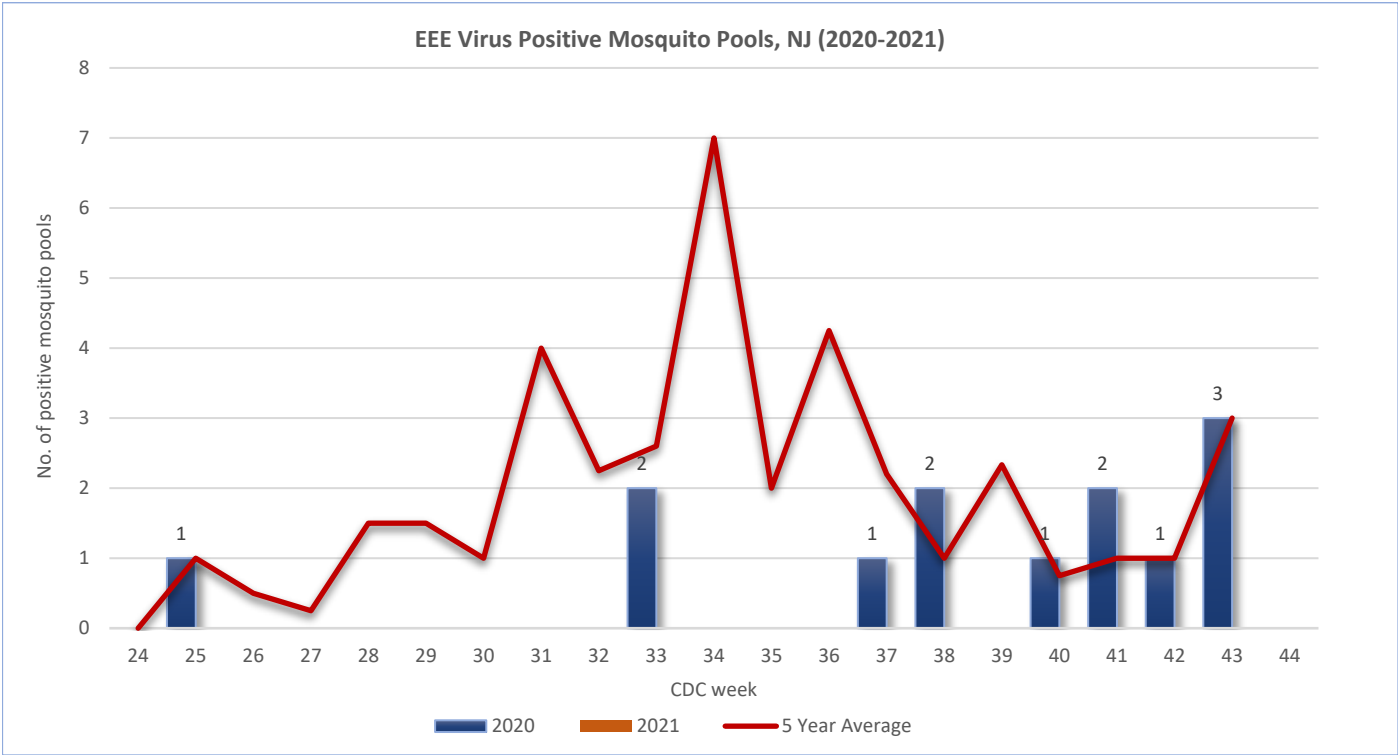
**Eastern equine encephalitis virus (EEE)**

- A total of 1236 mosquito pools from 19 counties (Atlantic, Bergen, Burlington, Cape May, Cumberland, Essex, Gloucester, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Salem, Somerset, Sussex and Warren) have been tested for EEE.
- No EEE positive mosquito pools have been identified in 2021. In 2020, the first EEE mosquito pool was reported from Atlantic County in week 25.

EEE Positive Mosquito Pools

County	Week 23		Cumulative Total (week 23)	
	2021*	2020	2021*	2020
Atlantic				
Bergen				
Burlington				
Camden				
Cape May				
Cumberland				
Essex				
Gloucester				
Hudson				
Hunterdon				
Mercer				
Middlesex				
Monmouth				
Morris				
Ocean				
Passaic				
Salem				
Somerset				
Sussex				
Union				
Warren				
<b>Total</b>	-	-	-	-

Week 23: May 31- June 6, 2020; June 6-12, 2021



**Other viruses:**

Mosquito pools from 19 counties have been tested for other arboviruses.

**Cumulative 2021 Mosquito Pool Testing (Other Viruses<sup>a</sup>)**

County	SLE		JCV		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	46		46				2		2		2	
Bergen	71		29									
Burlington	71		36		5							
Camden	-		-									
Cape May	60		43				1		1		1	
Cumberland	99		50									
Essex	22		11									
Gloucester	89		53									
Hudson	30		24									
Hunterdon	70		30									
Mercer	86		39		1							
Middlesex	65		28									
Monmouth	99		50									
Morris	84		40									
Ocean	29		16									
Passaic	31		8									
Salem	85		42		2							
Somerset	25		25									
Sussex	98		50									
Union	-		-									
Warren	76		31									
<b>Total</b>	<b>1236</b>		<b>651</b>		<b>8</b>		<b>3</b>		<b>3</b>		<b>3</b>	

<sup>a</sup> 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 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 25), Cumberland (week 28 and week 32), Middlesex (week 31) and Monmouth (week 29).
- NJ reported its 2<sup>nd</sup> ever human case of Jamestown Canyon virus in 2021 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 have 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 23		Cum. Total (Year)	
	2021*	2020	2021*	2020
Equine (EEE)				
Equine (WNV)				
Avian (WNV)				
Other				

Week 23: May 31- June 6, 2020; June 6-12, 2021

**4. Surveillance Maps**

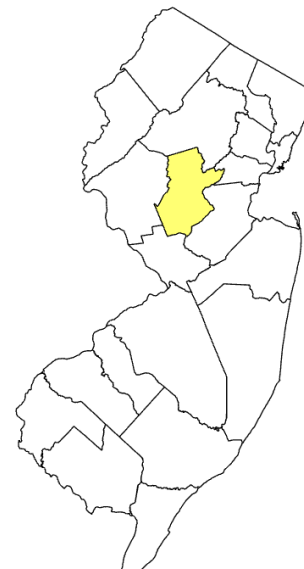
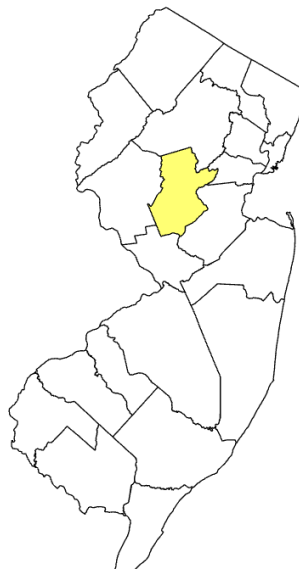
**West Nile Virus (WNV)**

Week 23 WNV Activity (2021)\*

Cumulative WNV Activity 2021

**WNV Positive Pools**

- > 50
- ≤ 50
- ≤ 30
- ≤ 20
- < 10
- 0
- WNV human case
- WNV equine case







**Eastern equine encephalitis (EEE)**

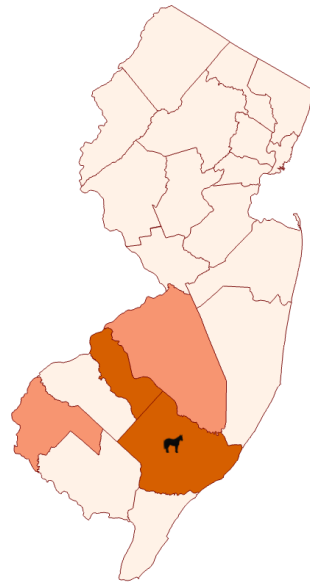
2020 EEE Activity

Cumulative EEE Activity 2021

EEE Positive Pools

- > 10
- ≤ 10
- ≤ 6
- ≤ 2
- No EEE activity

-  Human case
-  Equine case
-  Alpaca case
-  Deer case



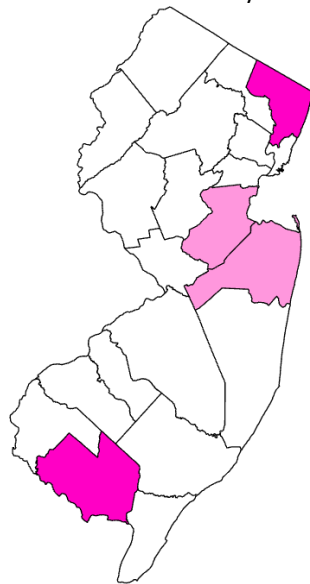
**Jamestown Canyon Virus (JCV)**

2020 JCV Activity

Cummulative JCV Activity 2021

JCV Positive Pools

- ≥ 2
- 1
- No JCV activity



**La Crosse Virus (LAC)**

2020 LAC Activity

Cummulative LAC Activity 2021

LAC Positive Pools

- ≥ 1
- No LAC activity

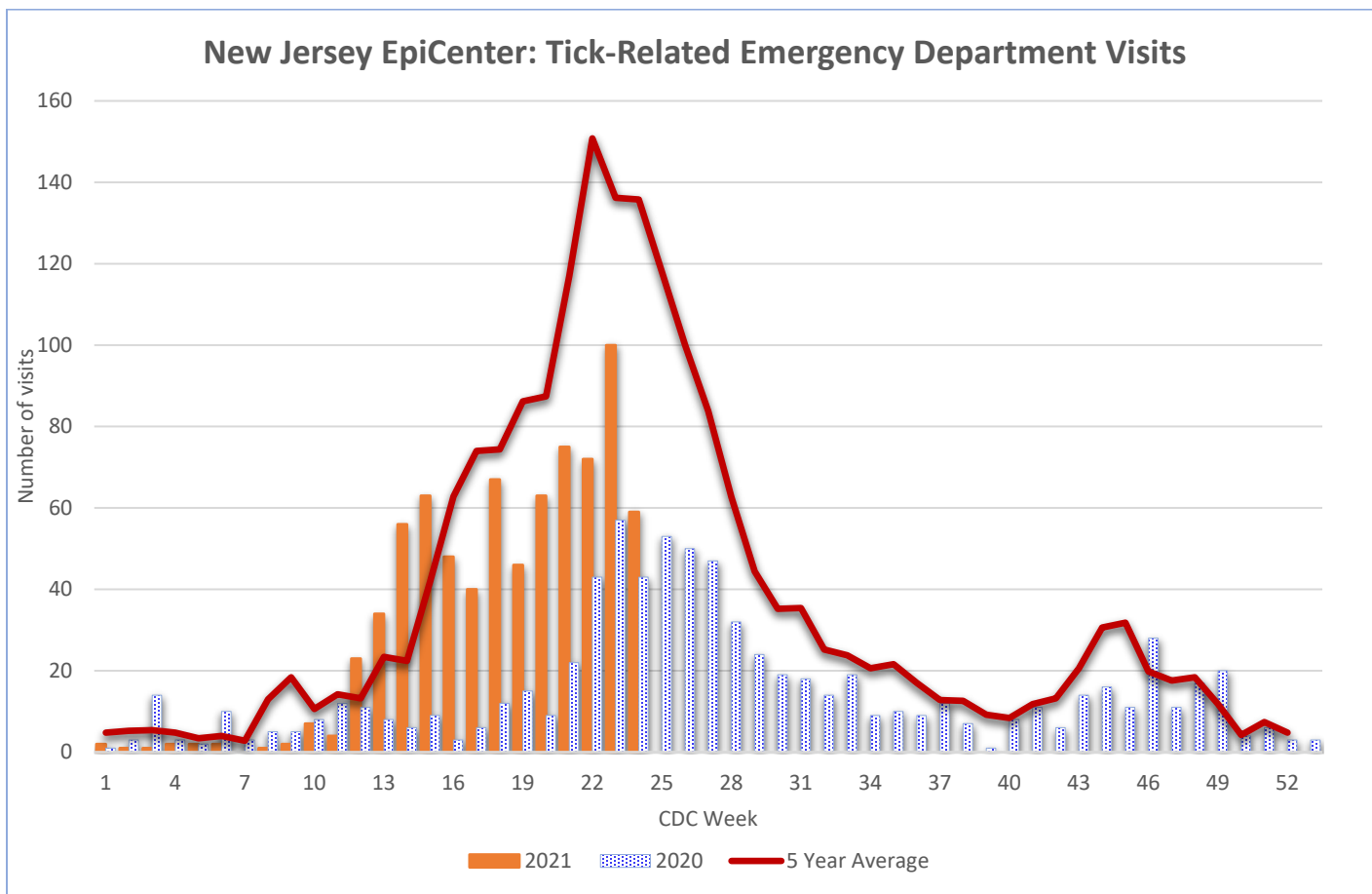


## 5. Syndromic Surveillance for Tick-related Emergency Department Visits

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 23, 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.



### 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/>