

### Report Highlight:

- 24 mosquito pools tested positive for West Nile Virus (WNV) in Week 30 for a total of 102 positive pools this year. The number of positive pools is less than last year but is approaching the 5-year average. WNV positive mosquito pools have been detected in 14 counties with the highest number from Union County.
- Jamestown Canyon Virus was detected in two mosquito pools in Bergen County (Week 22 & 24).
- There have been no WNV or EEE positive cases detected in humans or animals this season.
- In Week 30, the number of tick-related ED visits continues to decline and remains at levels lower than the 5-year average, but consistent with 2021.

## 1. Human Cases

N.J.A.C.8:57 mandates public health reporting of communicable diseases. 2022 data reflect cases that have been approved by NJDOH and do not include cases under investigation. All 2022 numbers are preliminary and subject to change.

### Human Cases

Mosquito-borne diseases			Tickborne Diseases/Conditions		
	2022	2021		2022	2021
Chikungunya	1	4	Alpha-gal syndrome	51	-
Dengue	5	12	Anaplasmosis	52	202
Eastern equine encephalitis	-	-	Babesiosis	90	258
Jamestown Canyon	-	2	<i>Borrelia miyamotoi</i>	-	16
Malaria	20	71	Ehrlichiosis ( <i>chaffeensis</i> , <i>ewingii</i> )	61	77
West Nile	-	36	Lyme disease*	145	3,518
Zika	-	-	Powassan	-	-
			Spotted fever group rickettsioses	9	39
			Tularemia	-	4

\* Lyme disease surveillance has transitioned to a laboratory-only surveillance approach in 2022; as such, case reporting is delayed.

## 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):

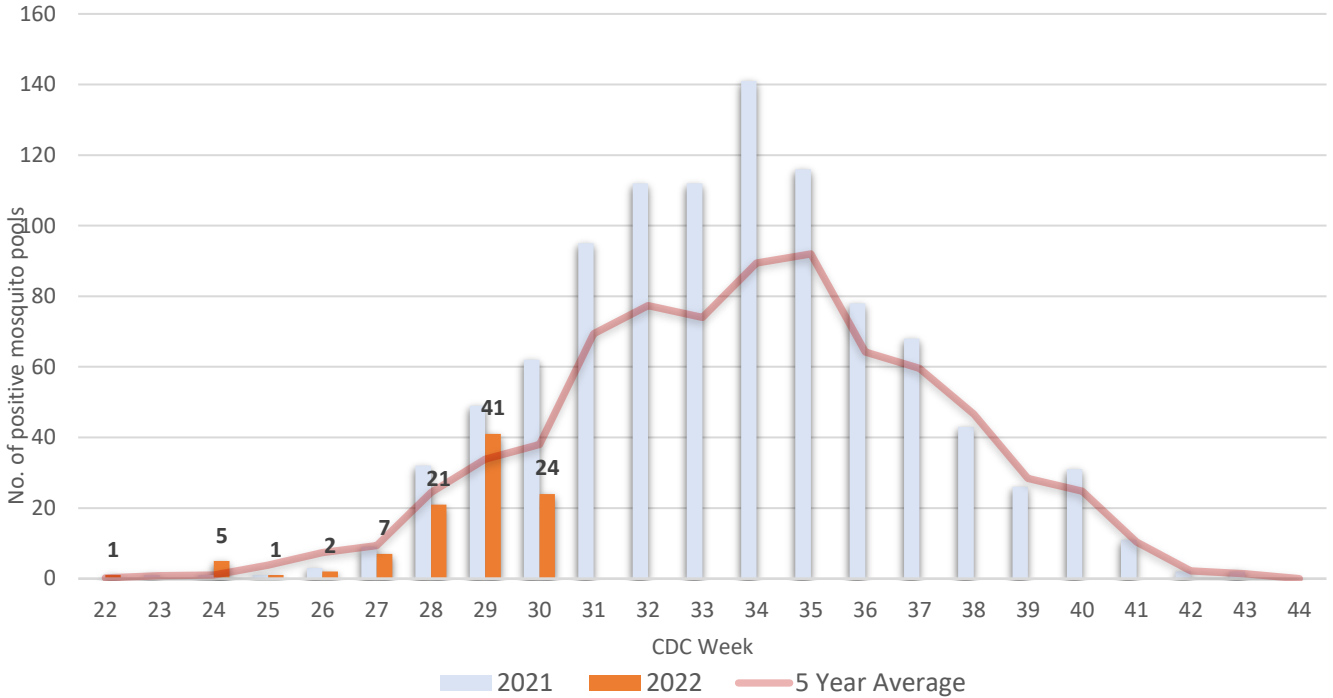
- A total of 3459 mosquito pools from all 21 counties have been tested for WNV.
- 24 pools tested positive for WNV in Week 30, in Hudson (7), Passaic (5), Burlington (4), Ocean (4), Middlesex (1), Monmouth (1), Morris (1) and Somerset (1) counties. There have been 102 positive WNV pools so far this year.
- The positive pools were detected in *Aedes cantator* (1), *Ae. triseriatus* (1), *Ae. vexans* (1), *Culex sp.* (15), *Cx. pipiens* (2), *Cx. pipiens/quinqefasciatus/restuans species mix* (8) and *Cx. pipiens/restuans/salinarius species mix* (74).
- The first WNV positive mosquito pool (*Aedes cantator*) was detected in week 22 from Burlington County. In 2021, the first positive mosquito pool was identified in Week 23 from Somerset County.

\*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 August 4, 2022

### WNV Mosquito Pool Testing

County	Week 30 Positive Pools		Cumulative Pos. Total (Week 30)		# Pools Tested
	2022*	2021	2022*	2021	2022*
Union		6	21	15	91
Hudson	7	4	16	6	144
Bergen		12	15	32	166
Burlington	4		9	6	95
Middlesex	1	5	9	13	147
Passaic	5		8	1	119
Morris	1	1	7	2	272
Ocean	4	1	4	6	149
Mercer		1	3	4	210
Monmouth	1	10	3	12	240
Somerset	1	6	3	16	153
Gloucester		2	2	2	182
Essex			1	1	66
Salem			1		202
Atlantic		3		3	172
Camden		9		31	48
Cape May				1	146
Cumberland					187
Hunterdon		2		2	167
Sussex				1	222
Warren				4	281
<b>Total</b>	<b>24</b>	62	<b>102</b>	158	<b>3459</b>

**West Nile Virus Positive Mosquito Pools, NJ (2021-2022)**



**Eastern equine encephalitis virus (EEE)**

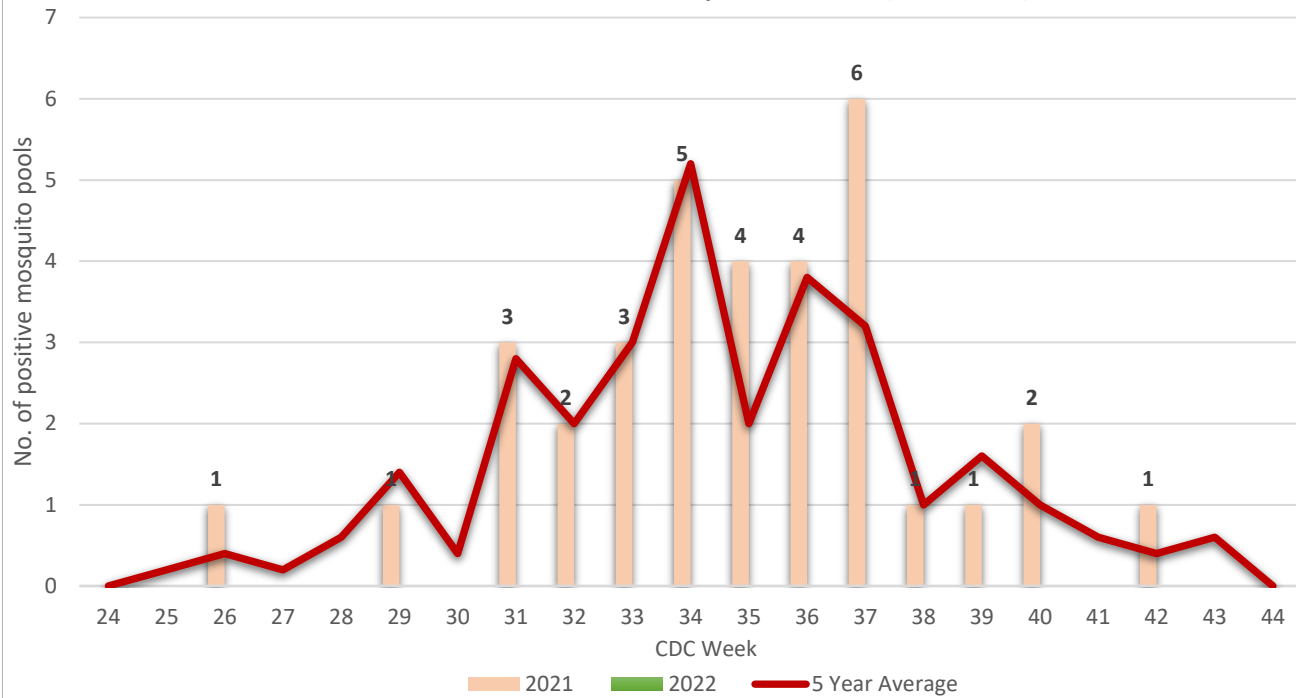
- A total of 3399 mosquito pools from all 21 counties have been tested for EEE.
- No EEE positive mosquito pools have been identified in 2022. In 2021, the first positive mosquito pool was detected in Week 26 from Gloucester County.

**EEE Mosquito Pool Testing**

County	Week 30 Positive Pools		Cumulative Pos. Total (Week 30)		# Pools Tested
	2022*	2021	2022*	2021	2022*
Atlantic					172
Bergen					154
Burlington					94
Camden				1	48
Cape May					146
Cumberland					187
Essex					66
Gloucester				1	182
Hudson					144
Hunterdon					167
Mercer					197
Middlesex					147
Monmouth					240
Morris					272
Ocean					149
Passaic					114
Salem					195
Somerset					153
Sussex					218
Union					90
Warren					264
<b>Total</b>	-	-	-	<b>2</b>	<b>3399</b>

Week 30: July 25-31, 2021; July 24-30, 2022

**EEE Virus Positive Mosquito Pools, NJ (2021-2022)**



**Other viruses:**

Mosquito pools from 21 counties have been tested for other arboviruses. Two pools tested positive for JCV.

**Cumulative 2022 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	172		172				4		4		4	
Bergen	154		154	2	12		1		1		1	
Burlington	94		94		1							
Camden	48		38									
Cape May	146											
Cumberland	187		187									
Essex	66		66									
Gloucester	182		174									
Hudson	144		144									
Hunterdon	167		167									
Mercer	197		197		13							
Middlesex	147		147									
Monmouth	240		240									
Morris	272		272									
Ocean	149		149									
Passaic	114		114		5							
Salem	195		186		7							
Somerset	153		153									
Sussex	218		218		3							
Union	90		90		1							
Warren	264		264		17							
<b>Total</b>	<b>3399</b>	<b>-</b>	<b>3226</b>	<b>2</b>	<b>59</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>5</b>	<b>-</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 2022

Numbers in green shaded columns represent positive pools in 2022

**Jamestown Canyon virus (JCV):**

- Two mosquito pools (*Ae. cantator*) from Bergen County tested positive for JCV on Week 22 and Week 24. In 2021, the first positive pool was detected on Week 27 from Sussex County.
- Jamestown Canyon virus has not been detected in humans in 2022.
- NJ reported 2 human JCV cases last year in Sussex County (week 18) and in Essex County (week 36). The first NJ JCV case was reported in 2015 in Sussex County.
- In 2021, eight positive JCV pools were reported in Atlantic, Camden, Essex, Gloucester, and Sussex counties.

**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 2022.
- Routine avian testing has been discontinued but is available upon request at PHEL.

**WNV/EEE Positive Test Results**

	WEEK 26		Cum. Total (Year)	
	2022*	2021	2022*	2021
Equine (EEE)				
Equine (WNV)				
Avian (WNV)				
Other				

Week 30: July 18-24, 2021; July 24-30, 2022

**4. Surveillance Maps**

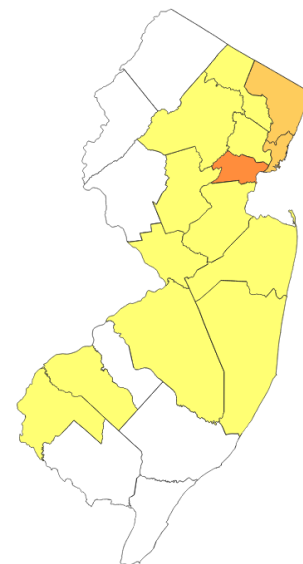
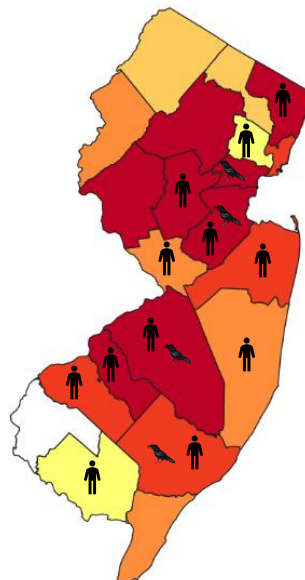
**West Nile Virus (WNV)**

2021 WNV Activity

Cumulative WNV Activity 2022

**WNV Positive Pools**

- > 50
  - ≤ 50
  - ≤ 30
  - ≤ 20
  - < 10
  - 0
- 
- ≥ 1 WNV human case
  - ≥ 1 WNV equine case
  - ≥ 1 WNV avian case



**Eastern equine encephalitis (EEE)**

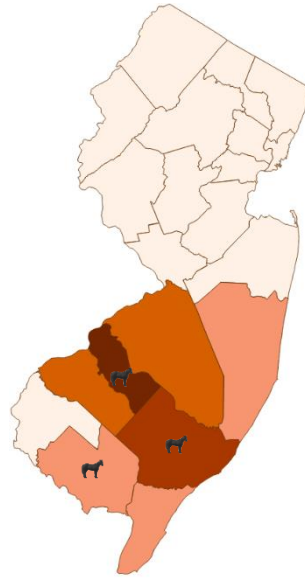
2021 EEE Activity

Cumulative EEE Activity 2022

**EEE Positive Pools**

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

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



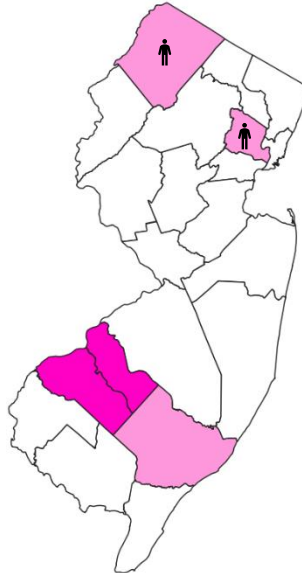
**Jamestown Canyon Virus**

2021 JCV Activity

Cummulative JCV Activity 2022

**JCV Positive Pools**

- ≥ 2
- 1
- No JCV activity



**La Crosse Virus Activity 2022**

2021 LAC Activity

Cummulative LAC Activity 2022

**LAC Positive Pools**

- ≥ 1
- No LAC activity

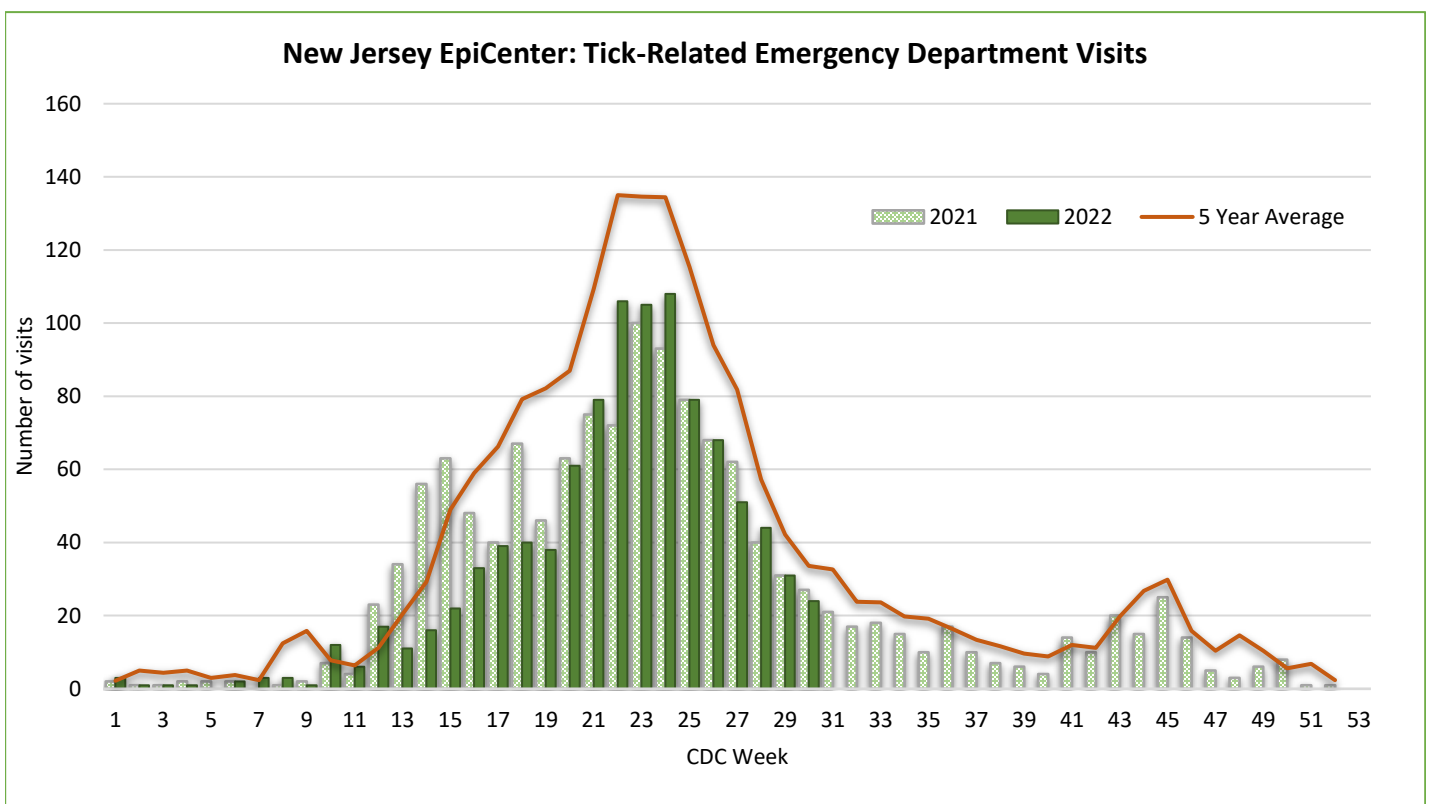


## 5. Syndromic Surveillance for Tick-related Emergency Department Visits

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 30, the number of tick-related ED visits continues to decline and remains at levels lower than the 5-year average.



Data reflects ED visits downloaded from EpiCenter as of August 4, 2022

### 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/>