

### Report Highlight:

- There are five WNV human cases so far in 2022 from Bergen, Morris, Ocean (2), and Union counties.
- 36 mosquito pools tested positive for West Nile Virus (WNV) in Week 34 for a total of 367 positive pools this year. The number of positive pools in Week 34 was lower than Week 33 and below the 5-year average. WNV positive mosquito pools have been detected in 19 counties with the highest number from Hudson and Bergen counties.
- The first EEE positive pool of 2022 was detected in Morris County in Week 33.
- The number of tick-related ED visits remains elevated and are highest in the south and central east regions of the state.
- The number of human ehrlichiosis cases to date in 2022 is approaching the 2021 total number of cases.

## 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	69	-
Dengue	9	12	Anaplasmosis	62	202
Eastern equine encephalitis	-	-	Babesiosis	165	258
Jamestown Canyon	-	2	<i>Borrelia miyamotoi</i>	4	16
Malaria	22	71	Ehrlichiosis ( <i>chaffeensis</i> , <i>ewingii</i> )	76	77
West Nile	5	36	Lyme disease*	194	3,518
Zika	-	-	Powassan	-	-
			Spotted fever group rickettsioses	13	39
			Tularemia	1	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):

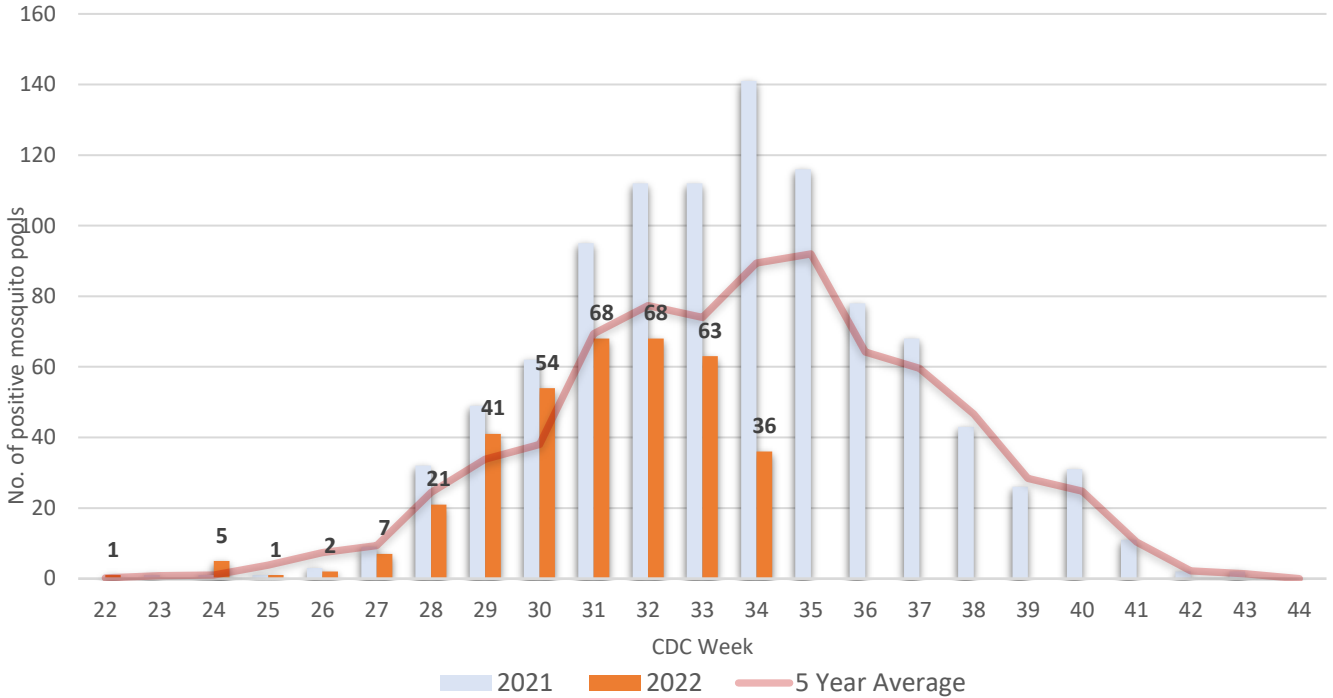
- A total of 4973 mosquito pools from all 21 counties have been tested for WNV.
- 36 pools tested positive for WNV in Week 34, in Hudson(11), Union(5), Middlesex(4), Burlington(3), Passaic(3), Camden(2), Hunterdon(2), Monmouth(2), Atlantic(1), Morris(1), Ocean(1), and Warren(1). There have been 367 positive WNV pools so far this year.
- The positive pools were detected in *Aedes albopictus* (9), *Ae. canadensis*(1), *Ae. cantator*(1), *Ae. japonicus* (1), *Ae. triseriatus* (1), *Ae. vexans* (1), *Culex sp.* (45), *Cx. pipiens* (10), *Cx. pipiens/quinqüefasciatus/restuans species mix* (23) and *Cx. pipiens/restuans/salinarius species mix* (274).
- The first WNV positive mosquito pool (*Ae. cantator*) was detected in week 22 from Burlington 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 September 1, 2022

### WNV Mosquito Pool Testing

County	Week 34 Positive Pools		Cumulative Pos. Total (Week 34)		# Pools Tested 2022*
	2022*	2021	2022*	2021	
Hudson	11	8	67	37	226
Bergen		7	63	72	259
Middlesex	4	17	38	68	217
Union	5	12	35	85	146
Passaic	3	3	23	10	168
Burlington	3	12	20	47	160
Mercer		6	19	15	315
Monmouth	2	9	17	30	327
Morris	1	10	16	37	372
Somerset		8	16	52	210
Camden	2	10	12	67	134
Gloucester		5	10	9	258
Hunterdon	2	11	8	28	227
Essex		2	7	4	100
Ocean	1	7	7	17	216
Warren	1	2	4	16	368
Atlantic	1	7	3	13	271
Salem			1		268
Sussex			1	2	304
Cape May		4		7	147
Cumberland		1		2	280
<b>Total</b>	<b>36</b>	<b>141</b>	<b>367</b>	<b>618</b>	<b>4973</b>

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



**Eastern equine encephalitis virus (EEE)**

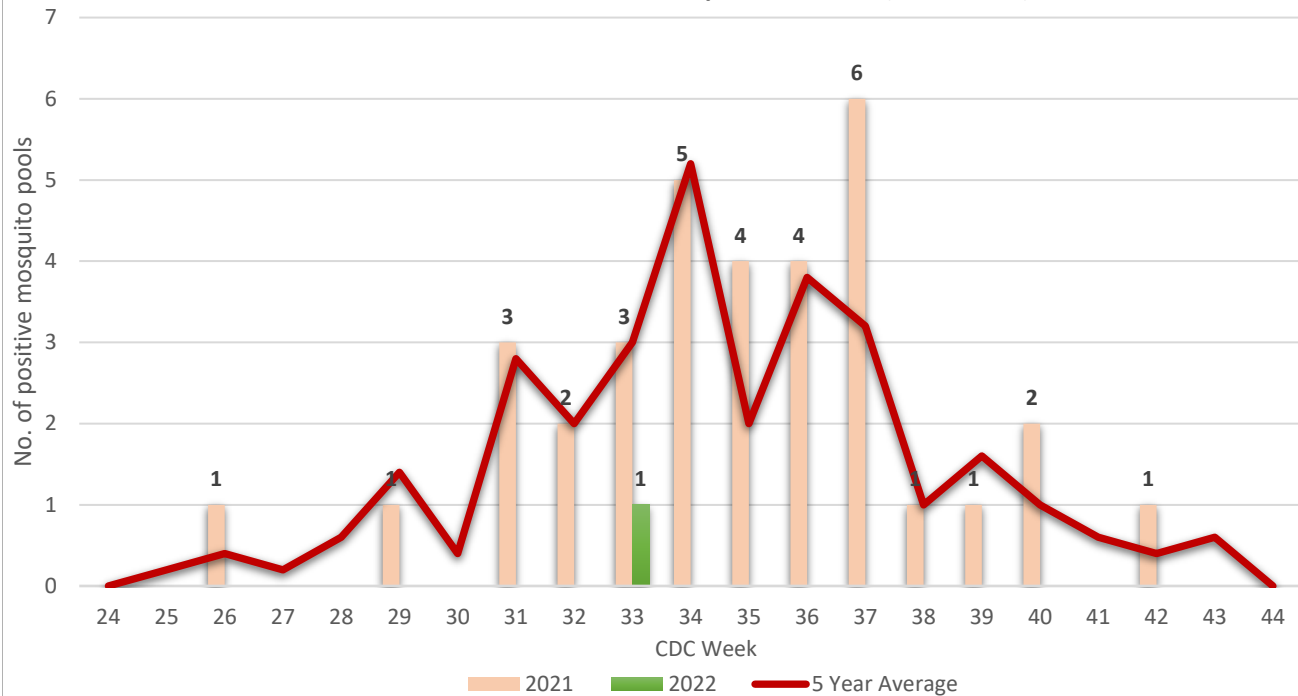
- A total of 4892 mosquito pools from all 21 counties have been tested for EEE.
- The first EEE positive mosquito pool of 2022 has been identified in Morris County on Week 33. It was detected in a *Culex sp.* pool.
- In 2021, the first positive mosquito pool was detected in Week 26 from Gloucester County.

**EEE Mosquito Pool Testing**

County	Week 34 Positive Pools		Cumulative Pos. Total (Week 34)		# Pools Tested
	2022*	2021	2022*	2021	2022*
Atlantic		3		7	271
Bergen					242
Burlington					159
Camden		1		3	133
Cape May				2	147
Cumberland					280
Essex					100
Gloucester				2	258
Hudson					226
Hunterdon					227
Mercer					302
Middlesex					217
Monmouth					327
Morris			1		372
Ocean		1		1	216
Passaic					161
Salem					259
Somerset					210
Sussex					295
Union					145
Warren					345
<b>Total</b>	-	<b>5</b>	<b>1</b>	<b>15</b>	<b>4892</b>

Week 34: August 22-28, 2021; August 21-27, 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	271		271				4		4		4	
Bergen	242		242	2	17		1		1		1	
Burlington	159		159		1							
Camden	133		122		1		7		7		7	
Cape May	147											
Cumberland	280		280									
Essex	100		100									
Gloucester	258		248									
Hudson	226		226									
Hunterdon	227		227									
Mercer	302		302		13							
Middlesex	217		217									
Monmouth	327		327									
Morris	372		372									
Ocean	216		216									
Passaic	161		161		7							
Salem	259		249		10							
Somerset	210		210									
Sussex	295		295		8							
Union	145		145		1							
Warren	345		345		23							
<b>Total</b>	<b>4892</b>	<b>-</b>	<b>4714</b>	<b>2</b>	<b>81</b>	<b>-</b>	<b>12</b>	<b>-</b>	<b>12</b>	<b>-</b>	<b>12</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.

- A red-tailed hawk tested positive for WNV on Week 31 in Somerset County.
- No animals have tested positive for EEE in 2022.
- Routine avian testing has been discontinued but is available upon request at PHEL.

**WNV/EEE Positive Test Results**

	WEEK 34		Cum. Total (Year)	
	2022*	2021	2022*	2021
Equine (EEE)				
Equine (WNV)				
Avian (WNV)			1	
Other				

Week 34: August 22-28, 2021; August 21-27, 2022

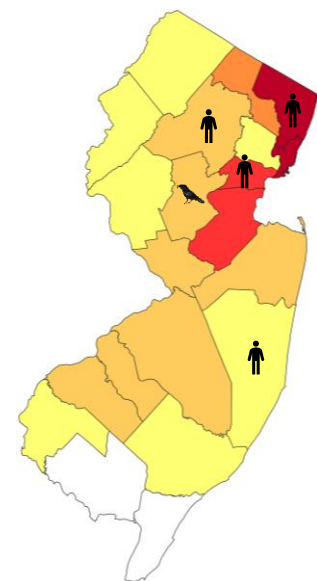
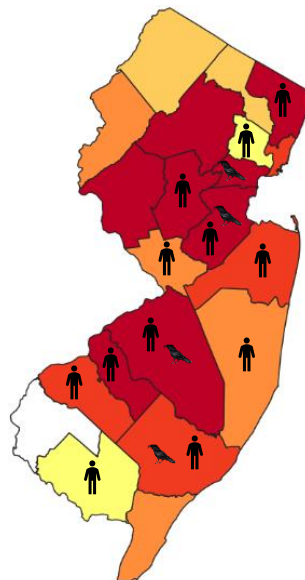
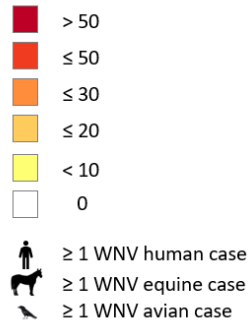
**4. Surveillance Maps**

**West Nile Virus (WNV)**

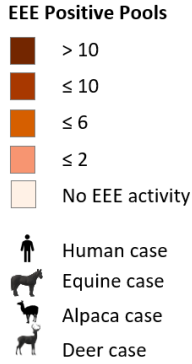
2021 WNV Activity

Cumulative WNV Activity 2022

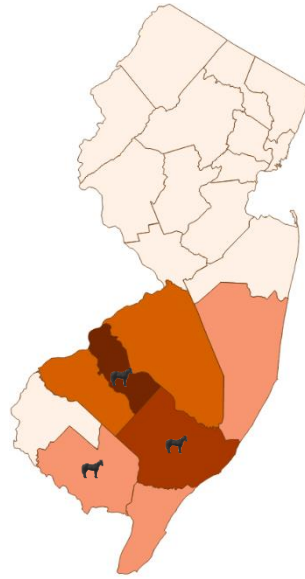
**WNV Positive Pools**



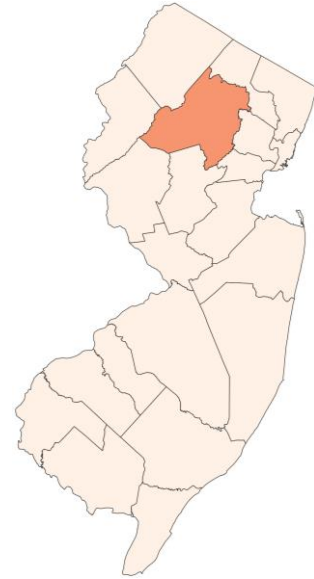
### Eastern equine encephalitis (EEE)



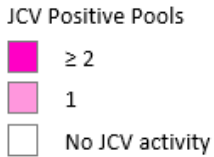
2021 EEE Activity



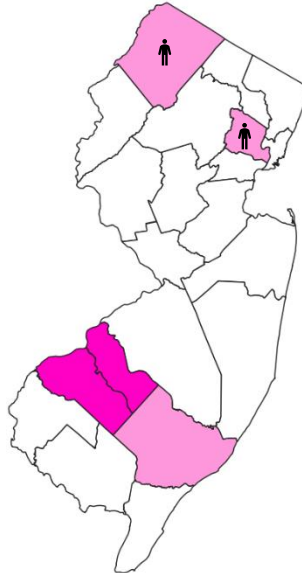
Cumulative EEE Activity 2022



### Jamestown Canyon Virus



2021 JCV Activity



Cummulative JCV Activity 2022



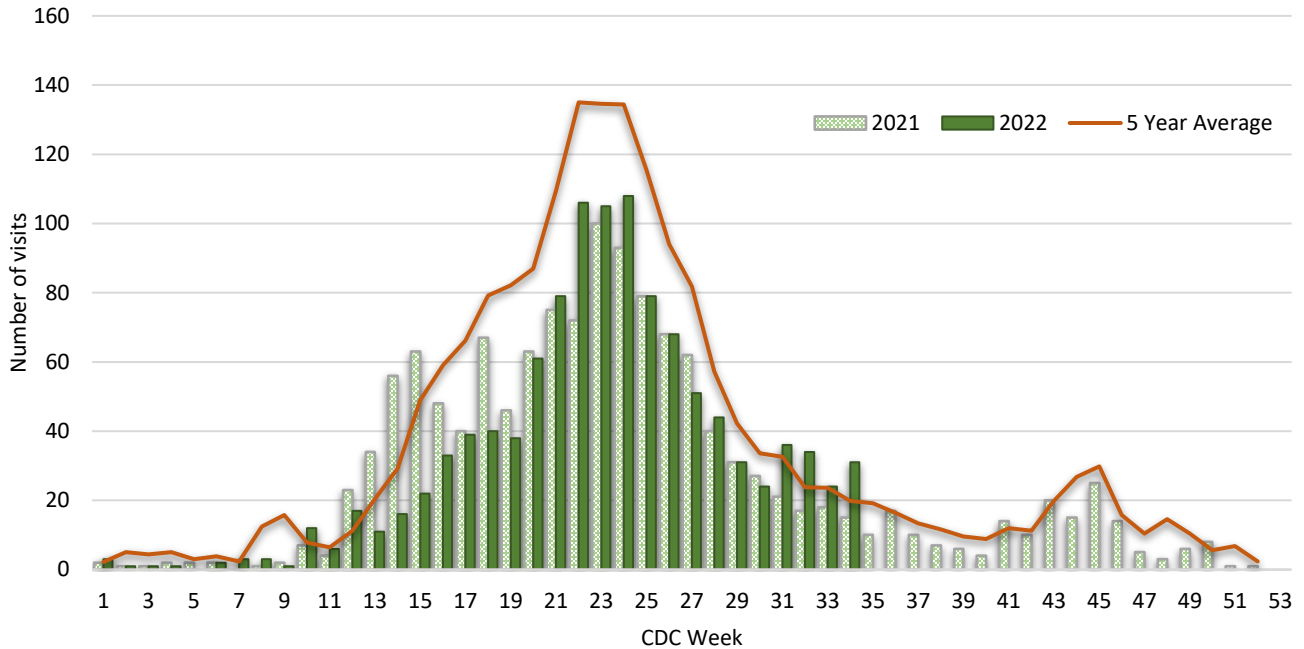
## 5. Syndromic Surveillance for Tick-related Emergency Department Visits

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.

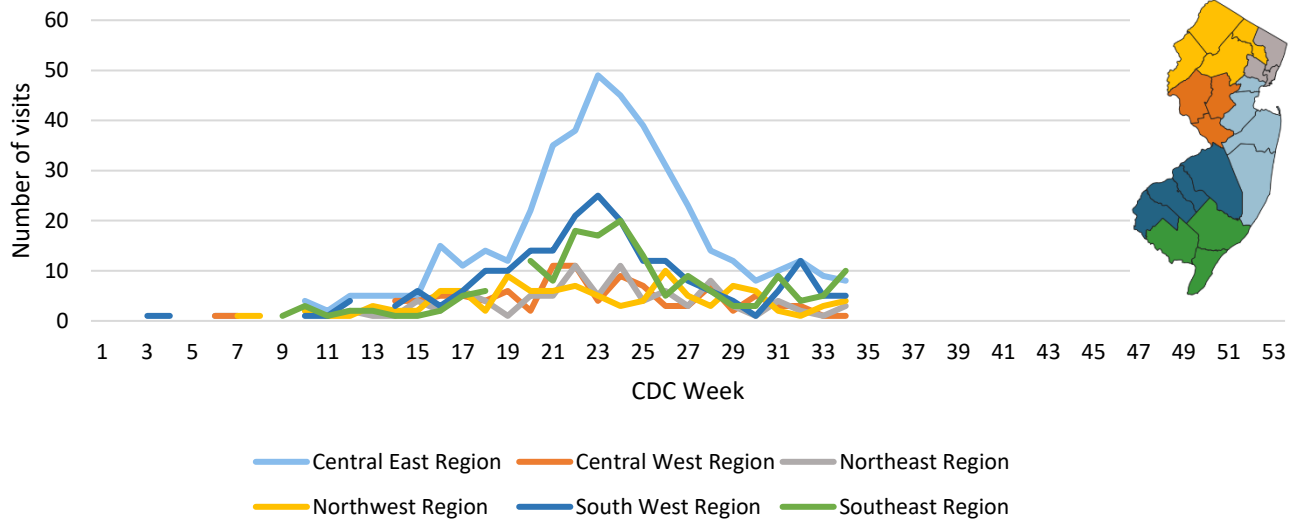
The chart below represents NJ residents seen at emergency departments statewide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite. Tick-related ED visits occur throughout the year with peak number of visits in the summer months and a smaller peak in the fall weeks when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

In Week 34, the number of tick-related ED visits increased and is above the 5-year average. ED visits are highest in the southeast and central east region of the state.

### New Jersey EpiCenter: Tick-Related Emergency Department Visits



### New Jersey EpiCenter: Tick-Related Emergency Department Visits by Region (2022)



Data reflects ED visits downloaded from EpiCenter as of September 1, 2022

#### For More Information

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