

## Report Highlights:

- NJDOH is reporting 10 cases, 1 death, and 2 presumptive viremic blood donors (PVD) associated with West Nile Virus (WNV) infection in Bergen (4 cases, 1 death), Middlesex (3 cases), Camden (2 cases, 1 PVD), Atlantic (1 case), and Burlington (1 PVD) counties.
- An additional 57 mosquito pools tested positive for WNV so far in Week 38, for a total of 775 this year. The number of positive pools in the previous 6 weeks has been higher than in 2022 and higher than the 5-year average (additional tests pending for this week). Bergen County has the highest total number of positive pools, followed by Hudson County. The vector index is highest this week in Hunterdon and Union counties.
- One additional Eastern Equine Encephalitis (EEE) mosquito pool was detected, for a total of 10 this year in Atlantic, Burlington, Camden, Cape May, Cumberland, and Somerset counties. One horse tested positive for EEE in Gloucester County in week 37. There are no human cases of EEE in 2023.
- La Crosse Encephalitis (LAC) virus was detected in a mosquito pool in week 38 in Sussex County. This is the first LAC positive mosquito pool in New Jersey since 2019 (Passaic County) and only the 4<sup>th</sup> identification in at least 20 years. There have been no human cases of LAC reported in New Jersey for at least the past 20 years.
- One additional Jamestown Canyon Virus (JCV) mosquito pool was detected for a total of 4 this year in Cumberland, Gloucester, Salem, and Sussex counties. There have been no human cases of JCV in 2023.
- Several tickborne diseases transmitted by blacklegged ticks (anaplasmosis, babesiosis, Lyme disease) are approaching or have exceeded the 2022 total. Lyme disease cases declined this week and are lower than this time last year.

## Vector-borne Disease Case Summary

N.J.A.C.8:57 mandates public health reporting of communicable diseases. 2023 data reflect cases that have been approved by NJDOH and do not include cases under investigation. Due to the time needed for public health investigation, the number of tickborne diseases (with the exception of Lyme disease) may be significantly lower than actual counts and should be interpreted with caution. All 2023 numbers are preliminary and subject to change. "Presumptive positive" cases are pending additional testing. Case counts for 2022 reflect the annual total for that year.

	Mosquito-borne diseases		Tickborne Diseases/Conditions		
	2023	2022		2023	2022
Chikungunya	8	2	Alpha-gal syndrome	109	234
Dengue	35	35	Anaplasmosis	145	125
Eastern equine encephalitis	-	-	Babesiosis	315	292
Jamestown Canyon	-	-	<i>Borrelia miyamotoi</i>	8	6
Malaria	58	86	Ehrlichiosis ( <i>chaffeensis</i> , <i>ewingii</i> )	91	115
West Nile	10	20	Lyme disease*	5,693	5,897
Zika	-	-	Powassan	-	2
			Spotted fever group rickettsioses	19	35
			Tularemia	2	1

\* Lyme disease surveillance transitioned to laboratory-based surveillance in 2022.

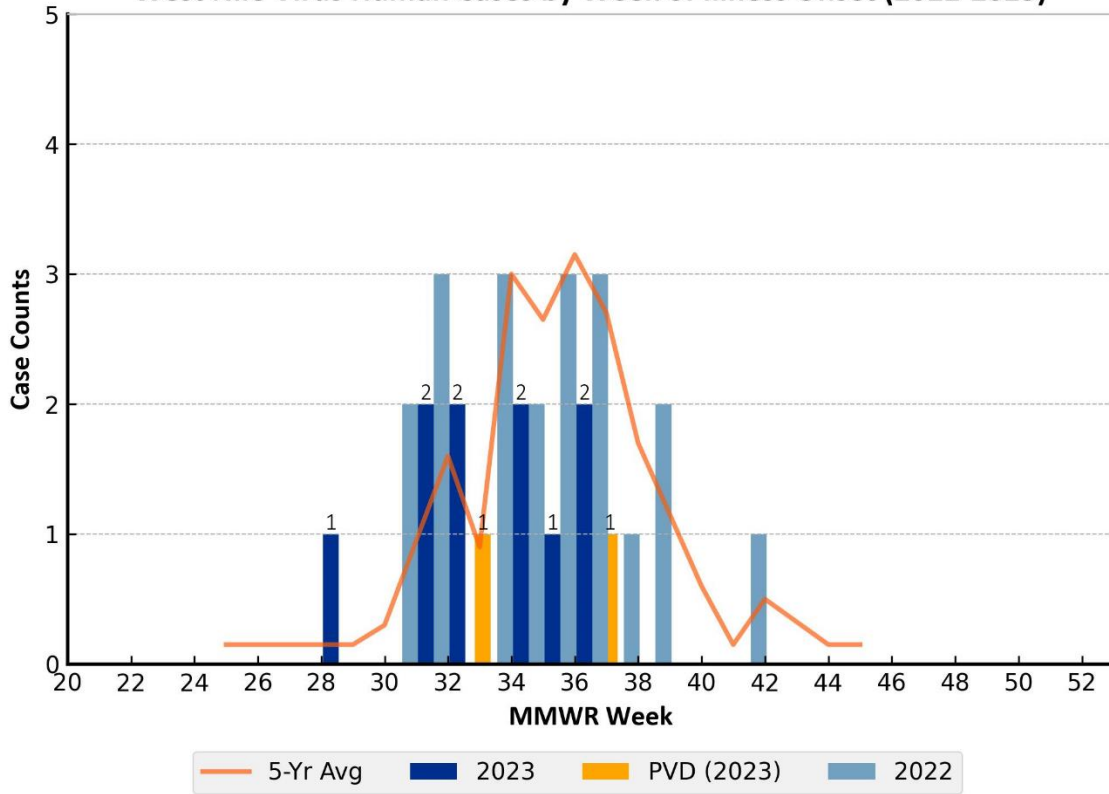
## Mosquito-borne Disease Activity\*

\*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on September 27, 2023.

### West Nile Virus

- There are 10 human WNV cases with dates of illness onset ranging from week 28 (week ending 7/15/23) to week 36 (week ending 9/9/23).
- WNV cases have been reported in Bergen (4 cases, 1 death), Middlesex (3 cases), Camden (2 cases and 1 presumptive viremic blood donor (PVD)), and Atlantic (1 case) counties and an additional PVD in Burlington County.
- There have been no animal cases of WNV reported in New Jersey in 2023.
- 8,415 pools from 21 counties have been tested for WNV. 57 pools tested positive in Week 38 in 15 counties and a total of 775 mosquito pools have tested positive for WNV so far this year. The positive pools were found in: *Aedes albopictus* (10), *Aedes japonicus* (4), *Aedes taeniorhynchus* (1), *Aedes triseriatus* (3), *Anopheles punctipennis* (2), *Culex* (103), *Culex erraticus* (4), *Culex pipiens* (23), *Culex pipiens/quinqfasciatus/restuans* (10), *Culex pipiens/restuans/salinarius* (608), *Culex restuans* (3), *Culiseta melanura* (3), and *Psorophora ferox* (1).

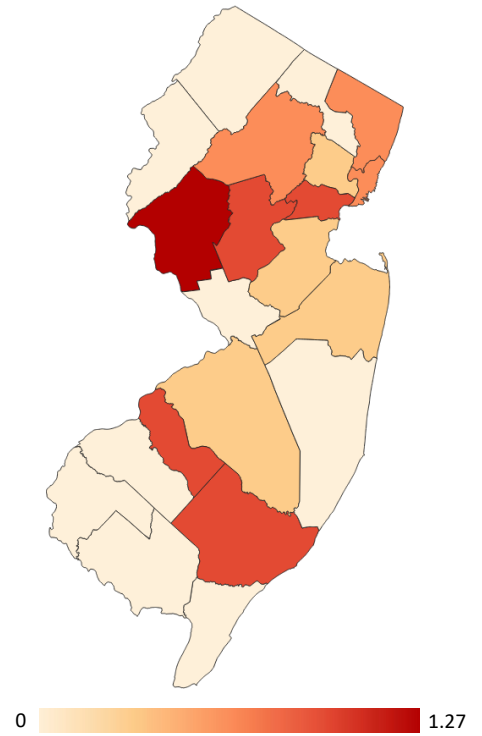
### West Nile Virus Human Cases by Week of Illness Onset (2022-2023)



### WNV Mosquito Pool Testing

County	WEEK 38 Positive Pools		Cumulative Pos. Total* (WEEK 38)		# Pools Tested*	WEEK 38 Vector Index	
	2023	2022	2023	2022		2023 <sup>t</sup>	
Bergen	6	2	111	92	316	0.64	(↑)
Hudson	6	1	78	84	250	0.65	(↑)
Middlesex	2	3	64	63	296	0.25	(↓)
Hunterdon	12	1	56	15	362	1.27	(↓)
Somerset	7	1	55	27	269	0.95	(↑)
Union	5		55	44	198	0.97	(↑)
Mercer	1	6	48	32	375	0.07	(↓)
Gloucester			37	19	693	0.00	(-)
Morris	1	2	35	28	398	0.49	(↑)
Monmouth	2	7	33	33	400	0.19	(↑)
Warren		1	29	8	414	0.00	(-)
Sussex	2		27	8	614	0.05	(↑)
Atlantic	4	2	26	6	360	0.83	(↑)
Burlington	2		26	26	266	0.22	(↓)
Cape May	1		24	2	1307	0.06	(↑)
Passaic		2	24	48	219	0.00	(-)
Ocean			20	9	366	0.00	(-)
Camden	5		16	23	287	0.96	(↑)
Salem			6	2	418	0.00	(-)
Essex	1		5	11	266	0.14	(↑)
Cumberland		1		1	341	0.00	(-)
<b>Total</b>	<b>57</b>	<b>29</b>	<b>775</b>	<b>581</b>	<b>8415</b>	-	

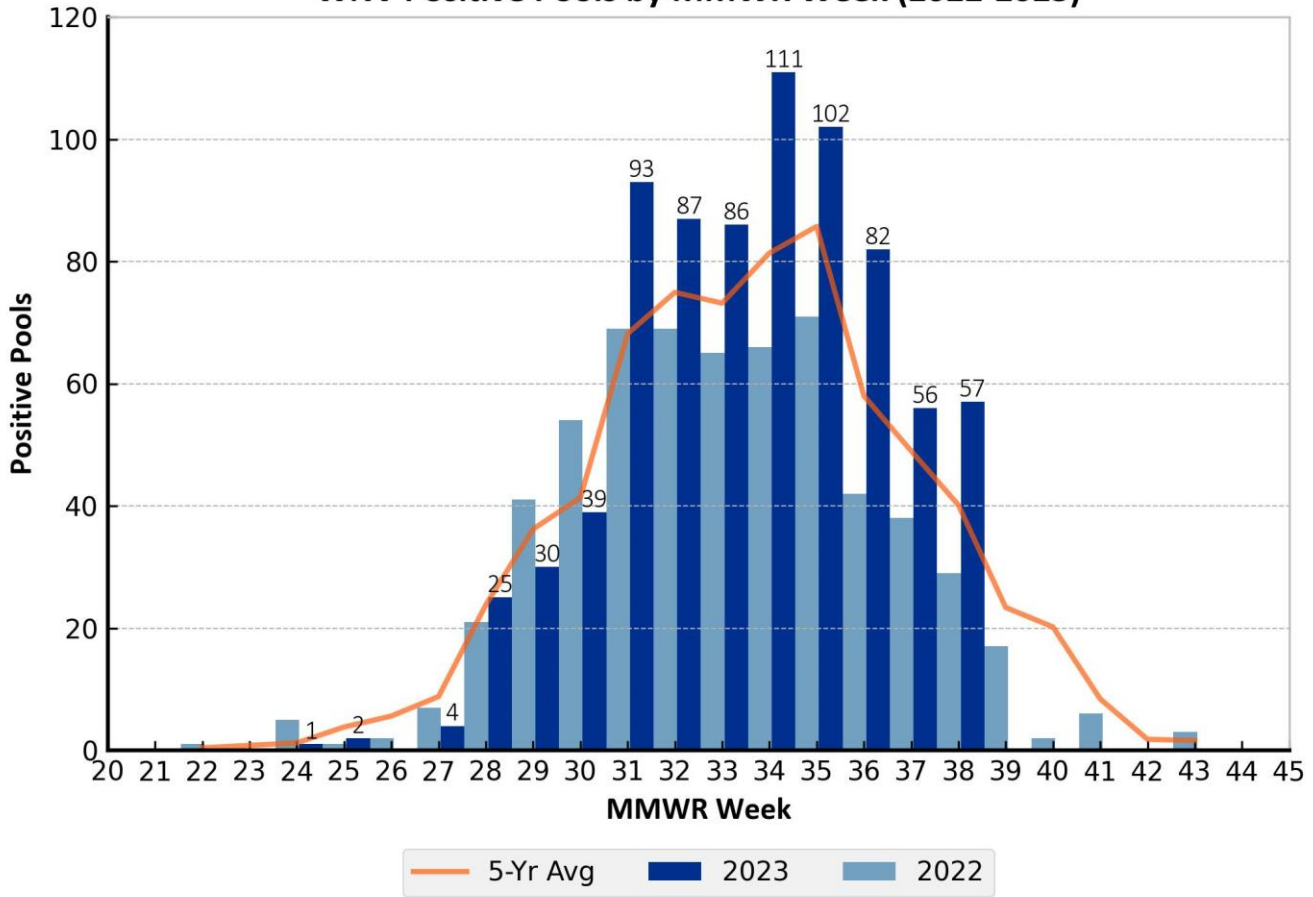
### WNV Vector Index, WEEK 38<sup>t</sup>



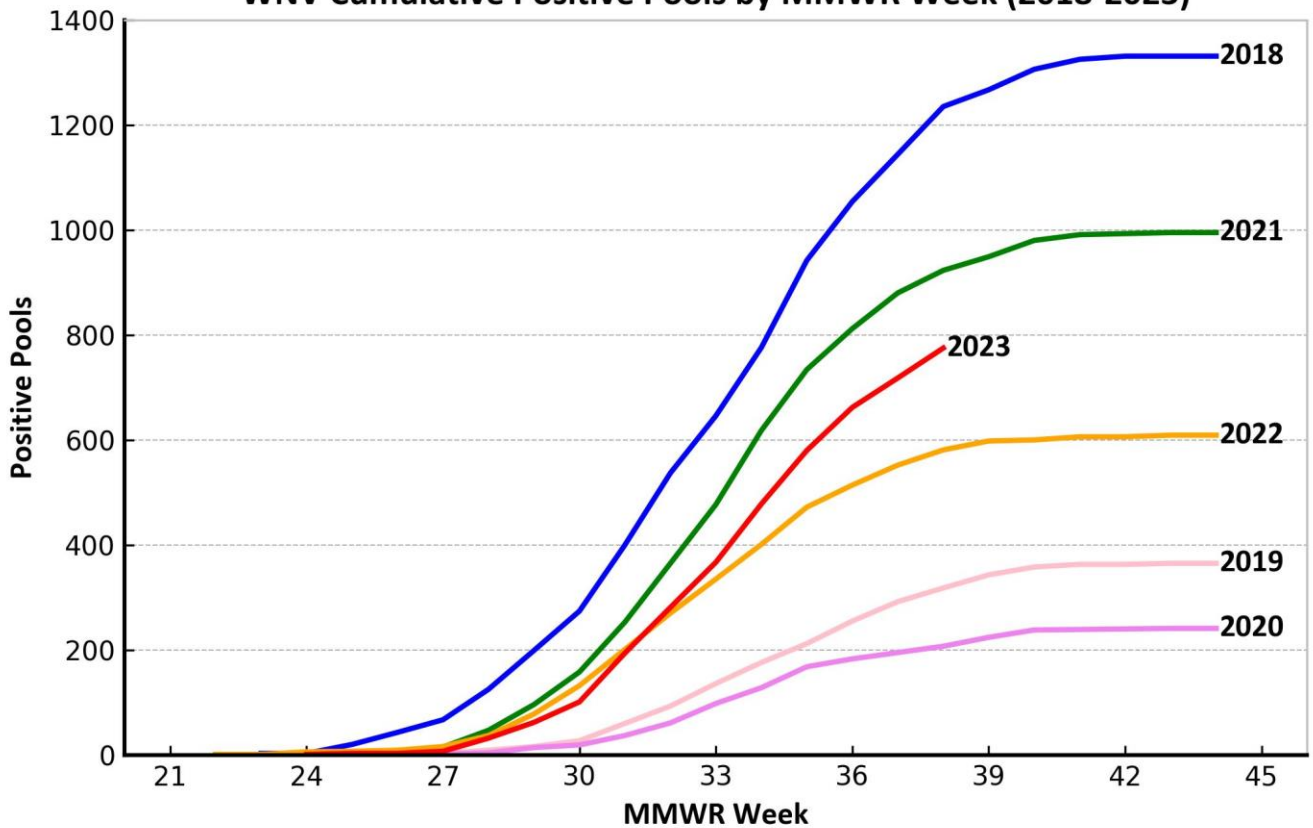
<sup>t</sup> Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only.

WEEK 38: Sep 18 - 24, 2022; Sep 17 - 23, 2023. \*The number of pools tested for 9 counties includes early season collections that were specifically targeting JCV: Camden (9), Cape May (15), Cumberland (13), Essex (3), Gloucester (100), Mercer (7), Morris (18), Salem (8), Sussex (92), and Warren (27).

**WNV Positive Pools by MMWR Week (2022-2023)**



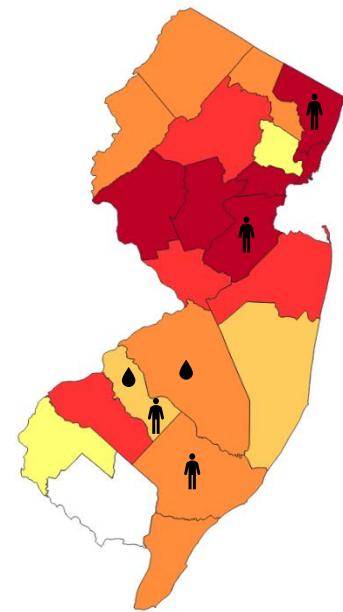
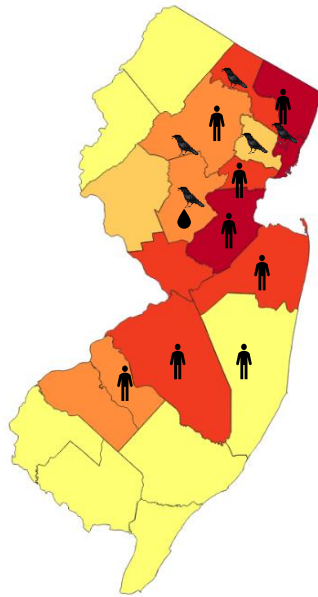
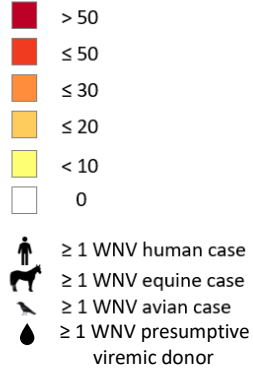
**WNV Cumulative Positive Pools by MMWR Week (2018-2023)**



### 2022 WNV Activity

### Cumulative WNV Activity, 2023

#### WNV Positive Pools



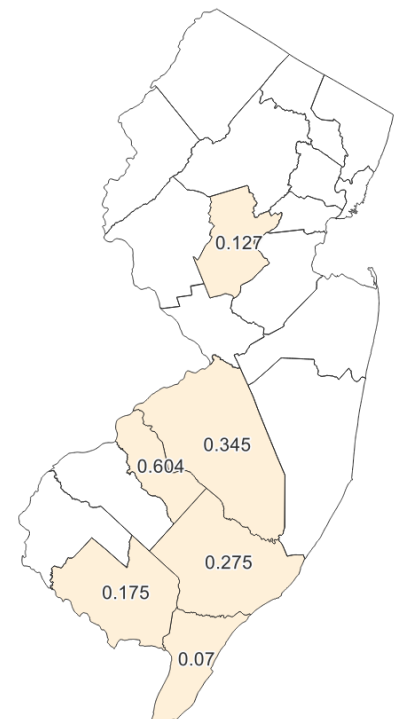
### Eastern Equine Encephalitis

- There have been no human cases of EEE in New Jersey in 2023. EEE human cases were last reported in 2019 (4 cases).
- New Jersey Department of Agriculture reported 1 equine case of EEE in Gloucester County in week 37. The case had been vaccinated in the past for EEE, but their vaccination was not up to date.
- A total of 8,239 mosquito pools from 21 counties have been tested for EEE with 10 pools testing positive in Atlantic, Burlington, Camden, Cape May, Cumberland, and Somerset counties. The positive pools were found in: *Culex* (1), *Culex pipiens* (1), *Culex pipiens/restuans/salinarius* (1) and *Culiseta melanura* (7). The first positive EEE pool (*Culiseta melanura*) was identified in Cumberland County in week 30.

#### EEE Mosquito Pool Testing

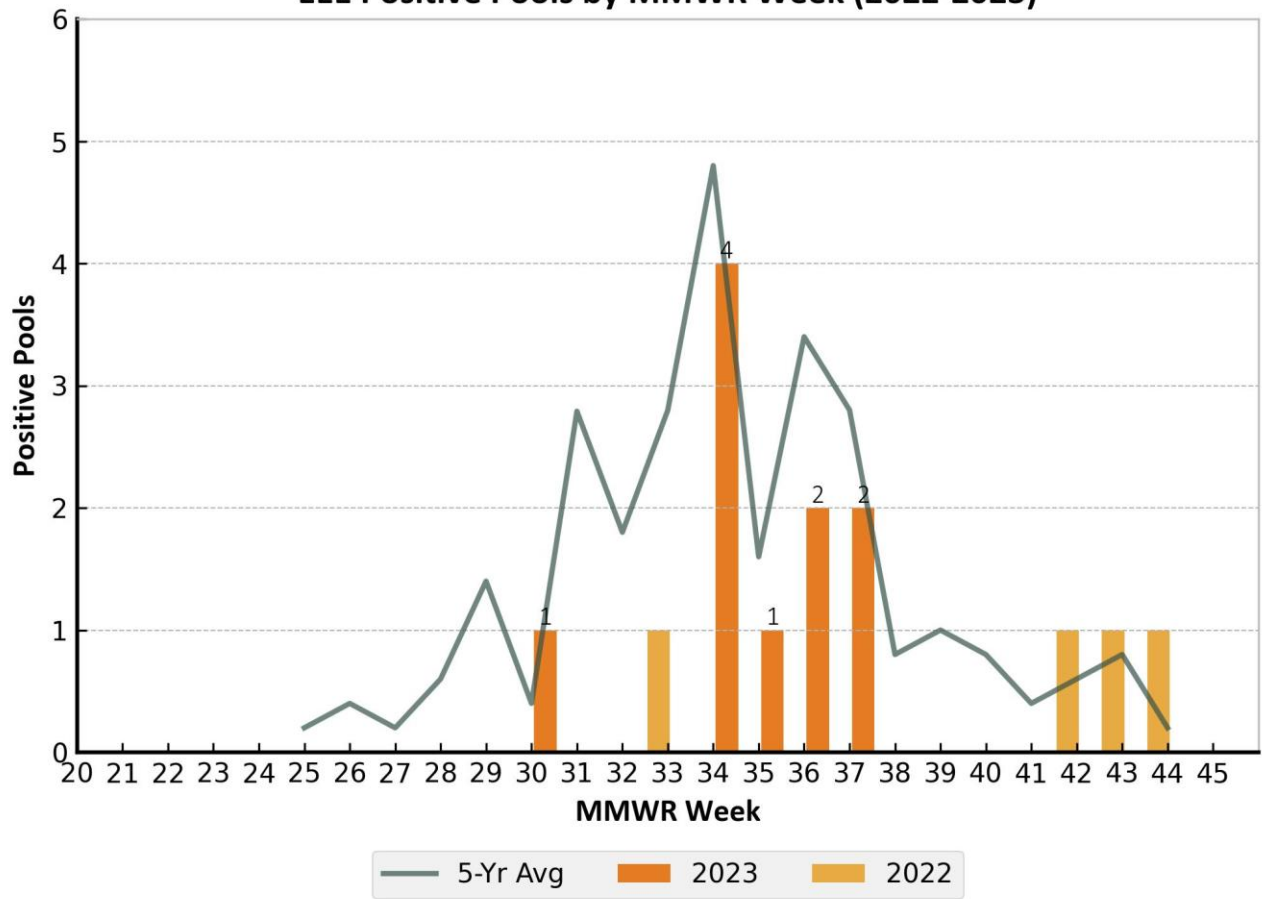
County	WEEK 38 Positive Pools		Cumulative Pos. Total* (WEEK 38)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022		
Atlantic			3		331	0.275
Burlington			2		261	0.345
Camden			2		279	0.604
Cape May			1		1236	0.070
Cumberland			1		341	0.175
Somerset			1		269	0.127
Bergen					316	
Essex					266	
Gloucester					687	
Hudson					250	
Hunterdon					359	
Mercer					362	
Middlesex					296	
Monmouth					400	
Morris				1	398	
Ocean					360	
Passaic					219	
Salem					397	
Sussex					596	
Union					198	
Warren					389	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>8239</b>	<b>-</b>

#### Cumulative EEE MFIR, 2023



WEEK 38: Sep 18 - 24, 2022; Sep 17 - 23, 2023 \*includes early season pools from 9 counties: Camden (9), Cape May (15), Cumberland (13), Essex (3), Gloucester (100), Mercer (7), Morris (18), Salem (8), Sussex (92), and Warren (27).

### EEE Positive Pools by MMWR Week (2022-2023)



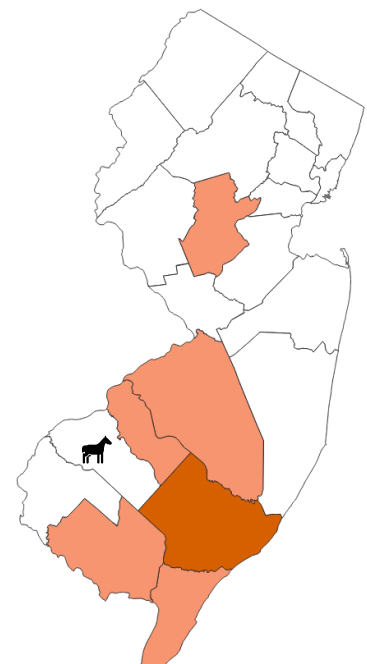
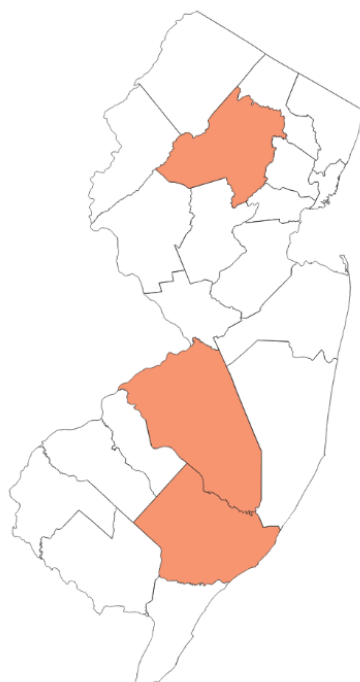
### 2022 EEE Activity

### Cumulative EEE Activity, 2023

#### EEE Positive Pools

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

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



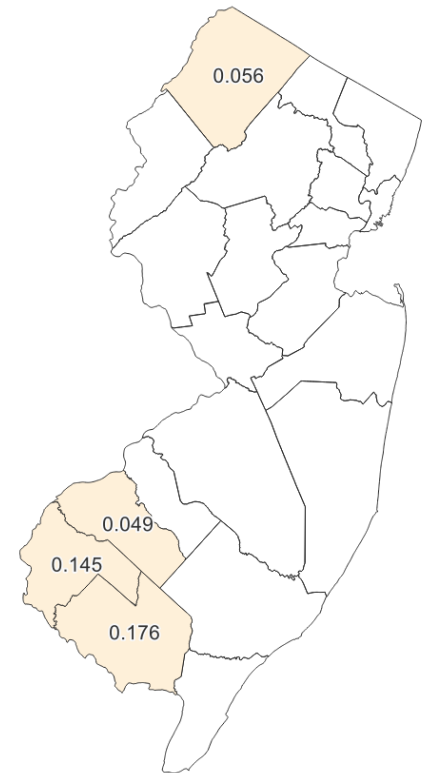
## Jamestown Canyon Virus

- There have been no human cases of JCV in New Jersey in 2023.
- 7,446 mosquito pools from 21 counties have been tested for JCV with 4 pools testing positive in Cumberland, Gloucester, Salem, and Sussex counties. The positive pools were found in: *Anopheles quadrimaculatus s.l.* (1), *Anopheles punctipennis* (2), and *Coquillettidia perturbans* (1). The first positive JCV pool was identified in Cumberland County in week 25.
- JCV can be detected in early-season mosquitoes. Nine counties submitted early season mosquito pools for JCV testing, with collection dates starting the 1<sup>st</sup> week of April. These are Camden (9), Cape May (15), Cumberland (13), Essex (3), Gloucester (100), Mercer (7), Morris (18), Salem (8), Sussex (92), and Warren (27). None of the early-season pools was positive for JCV.

JCV Mosquito Pool Testing

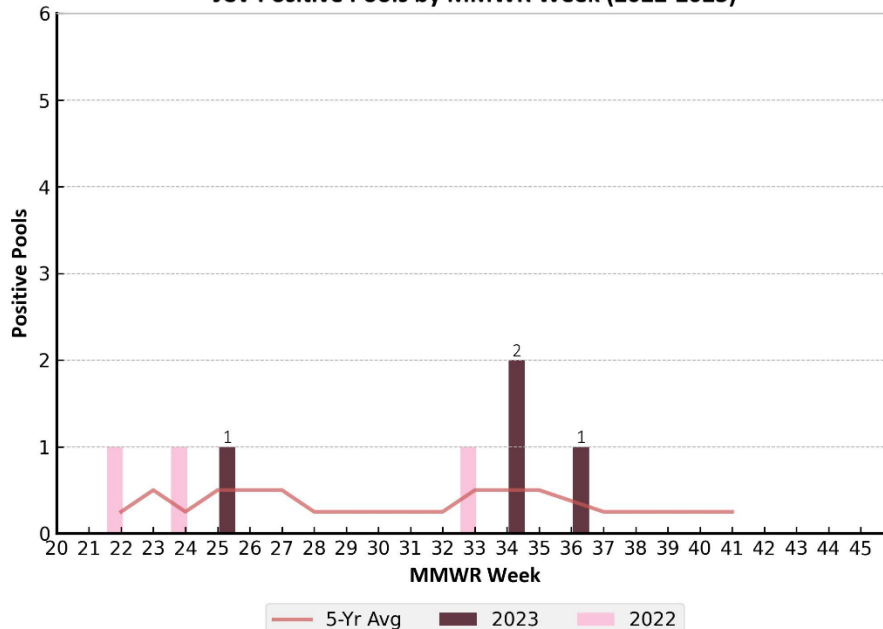
County	WEEK 38 Positive Pools		Cumulative Pos. Total* (WEEK 38)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022	2023	2023
Cumberland			1		341	0.176
Gloucester			1		682	0.049
Salem			1		384	0.145
Sussex			1	1	596	0.056
Atlantic					360	
Bergen				2	316	
Burlington					261	
Camden					257	
Cape May					483	
Essex					266	
Hudson					250	
Hunterdon					359	
Mercer					362	
Middlesex					296	
Monmouth					400	
Morris					398	
Ocean					360	
Passaic					219	
Somerset					269	
Union					198	
Warren					389	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>7446</b>	<b>-</b>

Cumulative JCV MFIR, 2023



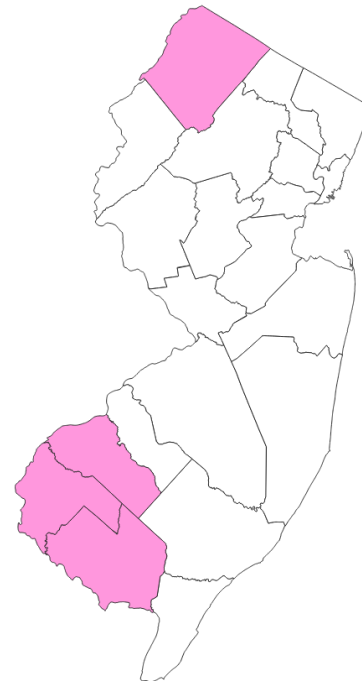
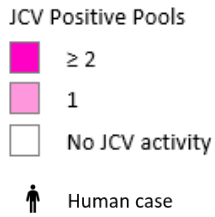
WEEK 38: Sep 18 - 24, 2022; Sep 17 - 23, 2023 \*includes early season pools from 9 counties

JCV Positive Pools by MMWR Week (2022-2023)



### 2022 JCV Activity

### Cumulative JCV Activity, 2023



### Other Mosquito-borne Viruses

- There was 1 positive pool of LAC in Sussex County in week 38. The positive pool was in *Ae. triseriatus*. The last positive LAC pool in New Jersey was in week 22 of 2019 in Passaic County.

### Cumulative 2023 Mosquito Pool Testing (Other Viruses<sup>a</sup>)

County	SLE		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	360		4		4		4		4	
Bergen	316				4		4		4	
Burlington	261		5		2		2		2	
Camden	272		11		4		4		4	
Cape May	1136		32		180				180	
Cumberland	341									
Essex	266									
Gloucester	686		5							
Hudson	250									
Hunterdon	359		3							
Mercer	362		13		11		11		11	
Middlesex	296				2		2		2	
Monmouth	400				2		2		2	
Morris	398				10		10		10	
Ocean	360		6		2		2		2	
Passaic	219		10		1		1		1	
Salem	394		21		1		1		1	
Somerset	269									
Sussex	596		20	1						
Union	198									
Warren	389		26							
<b>Total</b>	<b>8128</b>	<b>-</b>	<b>156</b>	<b>1</b>	<b>223</b>	<b>-</b>	<b>43</b>	<b>-</b>	<b>223</b>	<b>-</b>

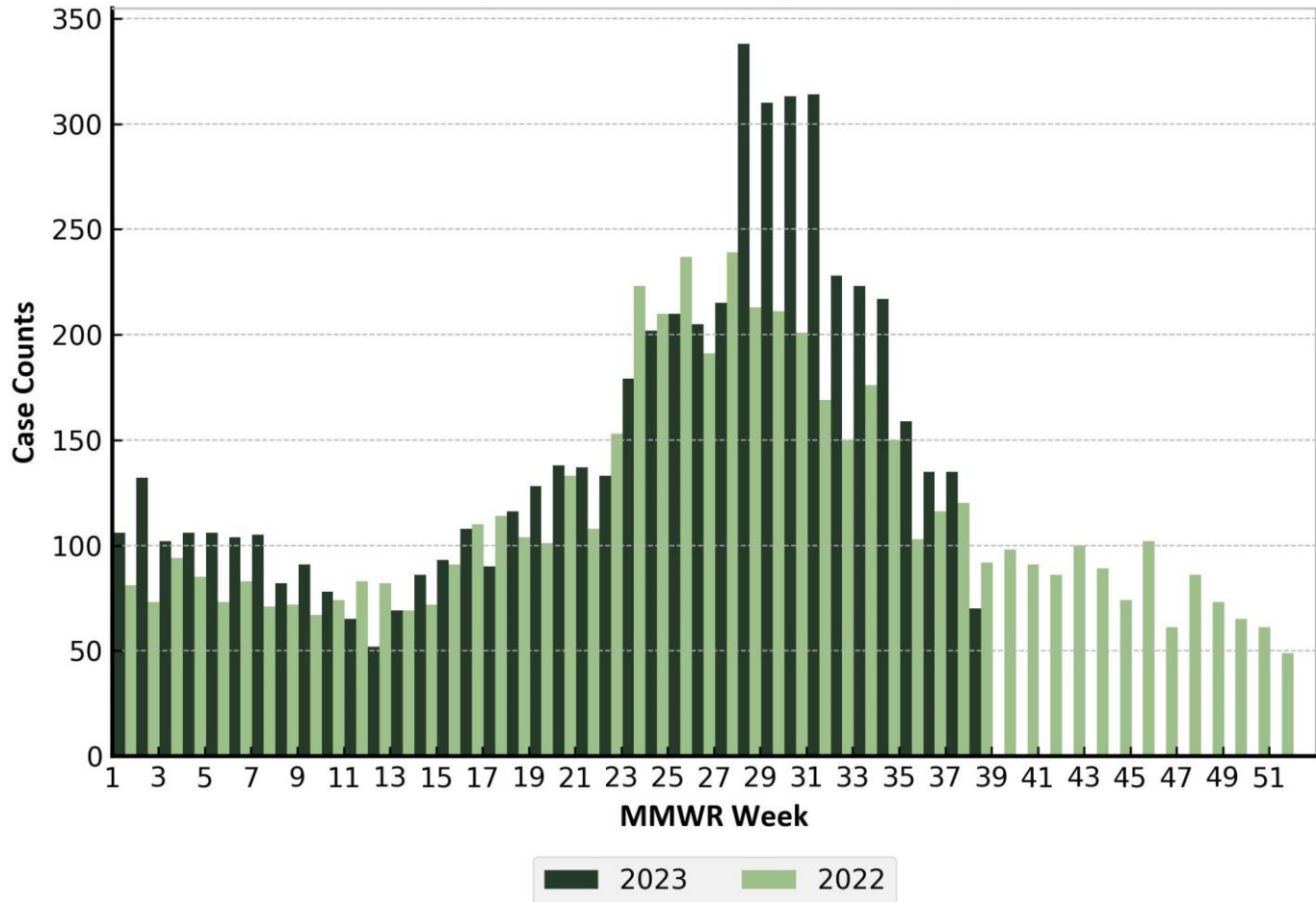
<sup>a</sup> St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)  
 Numbers in white columns represent number of pools tested to date in 2023  
 Number in blue shaded columns represent positive pools in 2023

## Tick-borne Disease Activity

### Lyme Disease

- There have been 5,693 cases of Lyme disease reported in New Jersey in 2023 in 21 counties.
- The number of cases in Week 38 sharply decreased and is below the amount this week last year.

### Lyme Disease Cases (2022-2023)

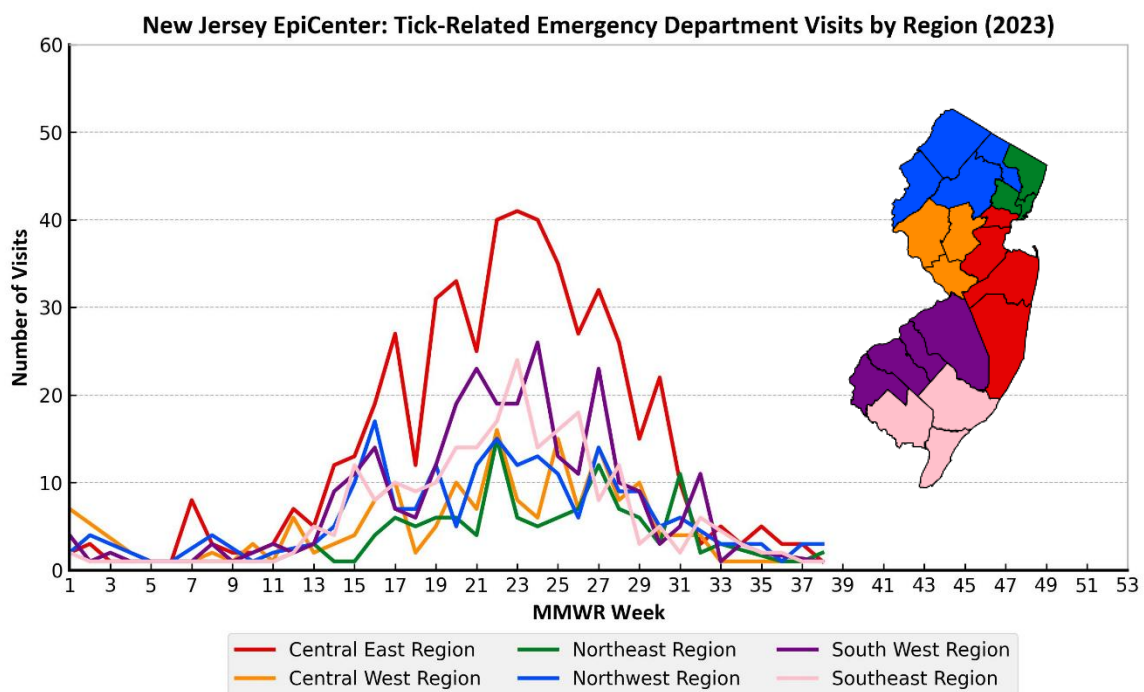
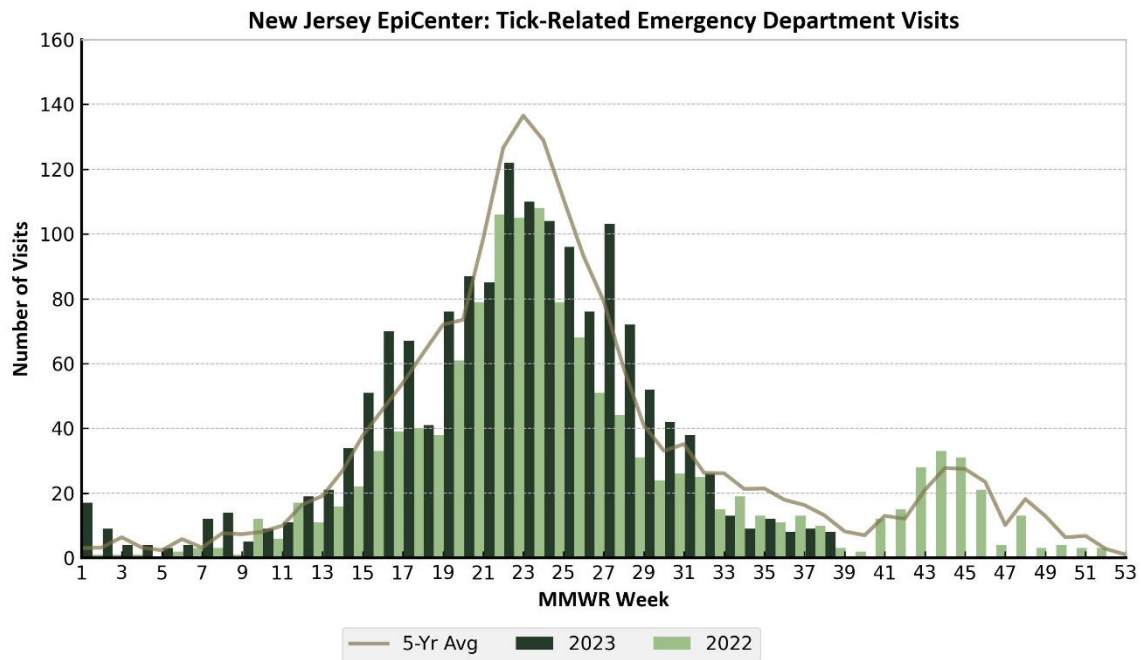


### Tick-related Emergency Department Visits

New Jersey's syndromic surveillance system, known as 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 N.J. 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 38, the number of tick-related ED visits remained at low levels and is below the 5-year average.





Data reflects ED visits downloaded from EpiCenter as of Sep 27, 2023

#### For more information

- NJDOH Communicable Disease Service: <https://www.nj.gov/health/cd/topics/vectorborne.shtml>
- New Jersey Vector-borne Disease Dashboard: [https://dashboards.doh.nj.gov/views/public\\_dashboard/Intro](https://dashboards.doh.nj.gov/views/public_dashboard/Intro)
- New Jersey Arboviral Activity Maps: <http://bit.ly/JerseySurv>
- NJDEP Office of Mosquito Control Coordination: <https://www.nj.gov/dep/mosquito/>
- NJDA Division of Animal Health: <https://www.nj.gov/agriculture/divisions/ah/>