

## Report Highlights:

- NJDOH is reporting a presumptive positive case of West Nile virus (WNV) infection in a Camden County resident having an illness onset in mid-July.
- The number of WNV mosquito pools continues to increase with 56 positive pools in week 31, for a total of 156 mosquito pools this year. This is lower than this week last year and below the 5-year average. Bergen County has the highest number of positive pools, followed by Hudson County. The vector index is highest in Bergen and Middlesex counties.
- There are no reported human or animal cases of Eastern equine encephalitis (EEE) or Jamestown Canyon virus (JCV) in 2023. The first EEE positive mosquito pool this year was identified in Cumberland County (collected in week 30). To date, 1 pool has tested positive for JCV also in Cumberland County (week 25).
- The number of tick-related emergency department remains high compared to this time last year and is higher than the 5-year average but continues to decline.
- The number of Lyme disease cases this week remains higher than the number reported during this time last year.
- N.J. vector-borne disease data is available online: [https://dashboards.doh.nj.gov/views/public\\_dashboard/intro](https://dashboards.doh.nj.gov/views/public_dashboard/intro) and can be accessed on the "Fight the Bite N.J." webpage: <https://www.nj.gov/health/cd/topics/vectorborne.shtml>.

## 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 confirmatory 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	76	234
Dengue	13	35	Anaplasmosis	105	125
Eastern equine encephalitis	-	-	Babesiosis	146	292
Jamestown Canyon	-	-	<i>Borrelia miyamotoi</i>	2	6
Malaria	32	86	Ehrlichiosis ( <i>chaffeensis</i> , <i>ewingii</i> )	61	115
West Nile	1	20	Lyme disease*	4,403	5,897
Zika	-	-	Powassan	-	2
			Spotted fever group rickettsioses	12	35
			Tularemia	2	1

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

## Mosquito-borne Disease Activity

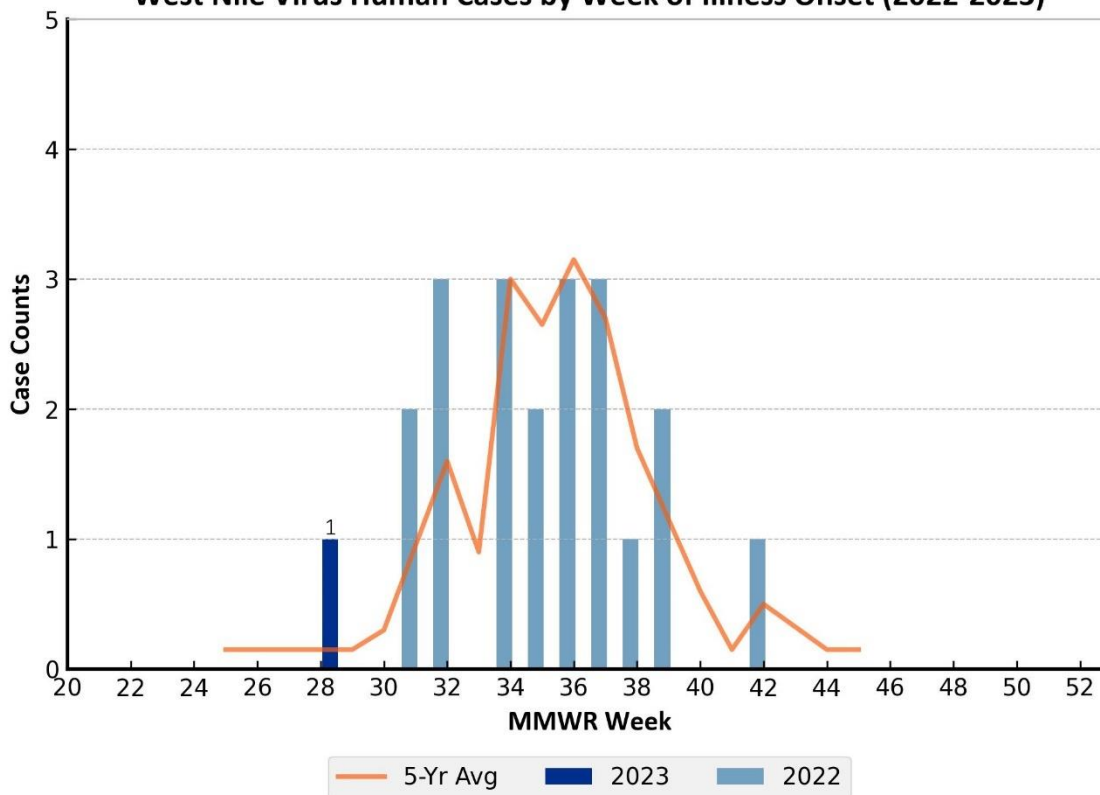
The New Jersey Department of Health Public Health and Environmental Laboratories (PHL) and the Cape May County Department of Mosquito Control Bio-safety Level 3 Laboratory (CMBSL3) perform arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.\*

\*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on August 9, 2023

## West Nile Virus

- There is one presumptive positive human WNV case from week 28 in Camden County. There have been no animal cases of WNV reported in New Jersey in 2023.
- 4,870 pools from 21 counties have been tested for WNV. 56 pools tested positive in week 31 in 10 counties and a total of 156 mosquito pools have tested positive for WNV so far this year. The positive pools were found in: *Aedes albopictus* (2), *Culex sp.* (16), *Culex erraticus* (1), *Culex pipiens* (3), *Culex pipiens/restuans/salinarius* (133), and *Culex restuans* (1).
- The first WNV positive mosquito pool (*Culex pipiens/restuans/salinarius*) was detected in week 24 from Bergen County. In 2022, the first WNV positive pool was detected in Week 22 from Burlington County.

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

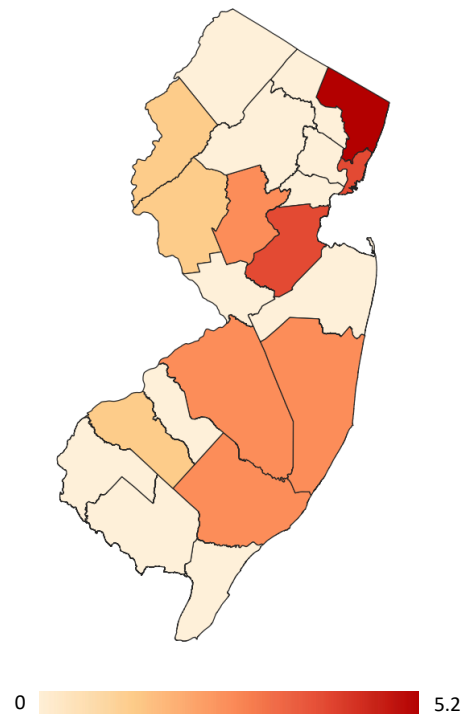


WNV Mosquito Pool Testing

County	WEEK 31 Positive Pools		Cumulative Pos. Total* (WEEK 31)		# Pools Tested*	WEEK 31 Vector Index	
	2023	2022	2023	2022		2023 <sup>t</sup>	
Bergen	6	12	37	43	180	5.231	(↑)
Hudson	14	13	23	29	149	3.581	(↑)
Middlesex	15	12	21	21	189	4.474	(↑)
Union		4	14	25	99	0	(-)
Somerset	4	3	9		165	0.911	(↑)
Burlington	7	2	8		125	0.631	(↑)
Hunterdon	1	1	7	1	223	0.224	(↑)
Atlantic	2		6		197	1.242	(↑)
Camden		2	6	6	197	0	(↓)
Gloucester	3	5	6		485	0.406	(↓)
Morris		3	5	10	238	0	(↓)
Mercer		3	4	13	220	0	(↓)
Cape May			3		508	0	(-)
Ocean	3		3	4	226	0.671	(↑)
Warren	1		3		267	0.127	(↓)
Salem			1	1	238	0	(-)
Cumberland					213	0	(-)
Essex				3	130	0	(-)
Monmouth		3		6	240	0	(-)
Passaic		6		14	127	0	(-)
Sussex					454	0	(-)
<b>Total</b>	<b>56</b>	<b>69</b>	<b>156</b>	<b>201</b>	<b>4870</b>	-	

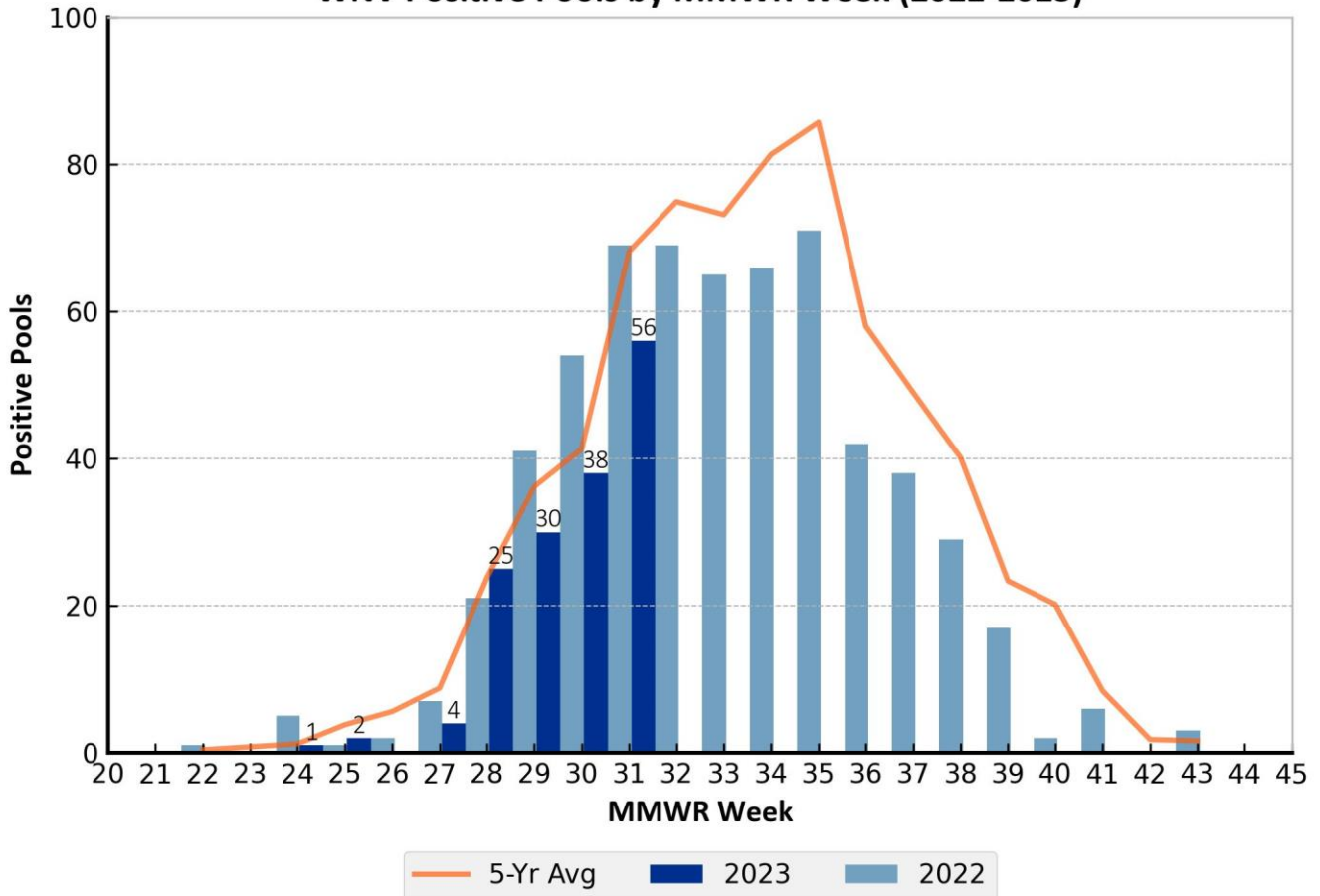
WEEK 31: July 31 - Aug 6, 2022; July 30 - Aug 5, 2023. \*The number of pools tested for 9 counties includes early season collections that were specifically targeting JCV: Camden (9), Cape May (15), Cumberland (13), Essex (3), Gloucester (100), Mercer (7), Morris (18), Salem (8), Sussex (92), and Warren (27).

WNV Vector Index, WEEK 31<sup>t</sup>

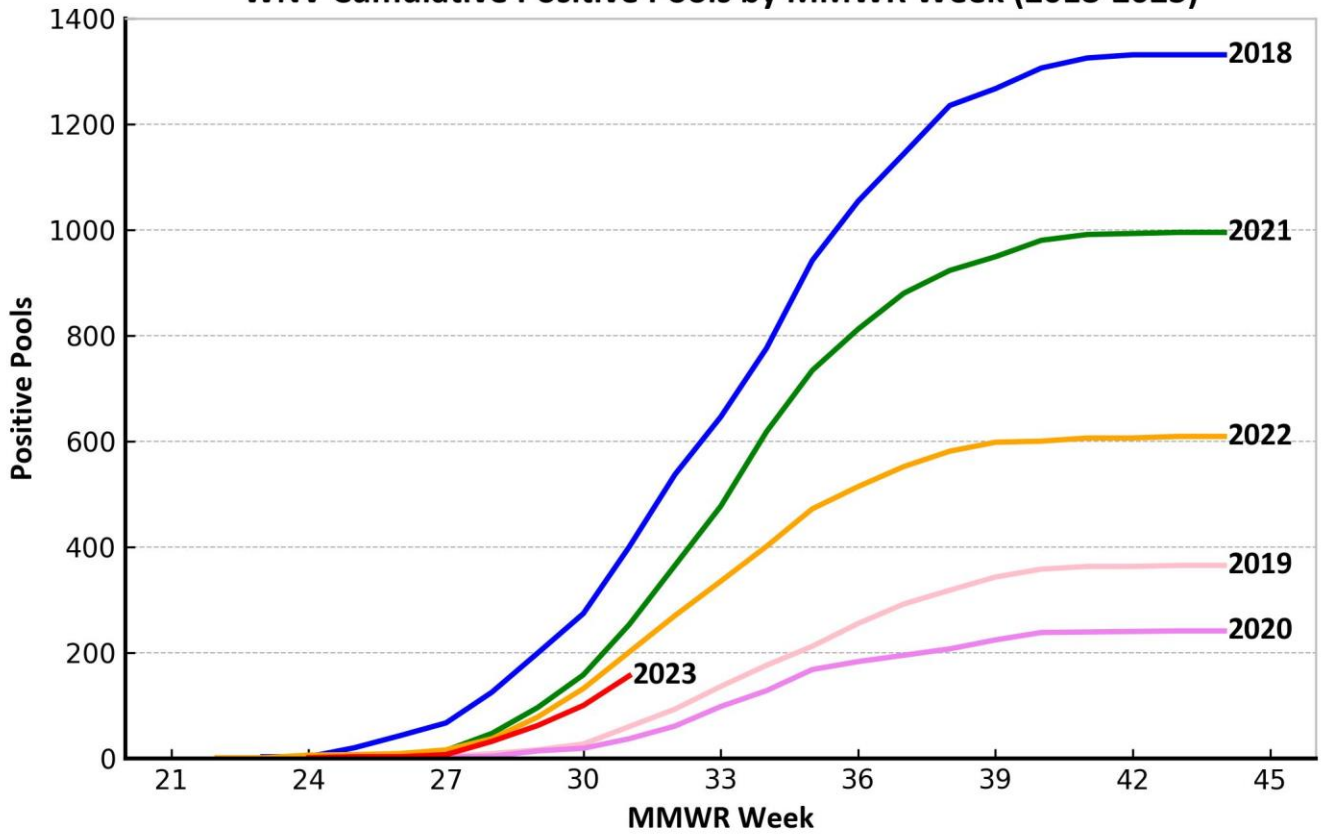


<sup>t</sup> Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only.

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



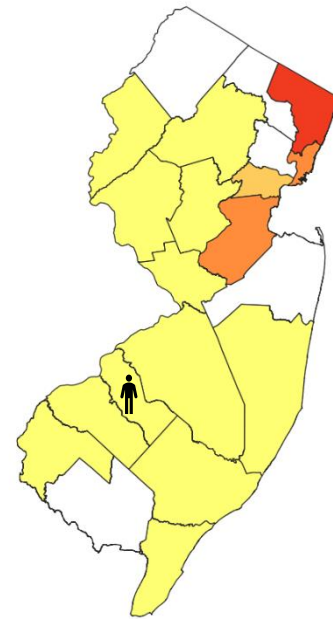
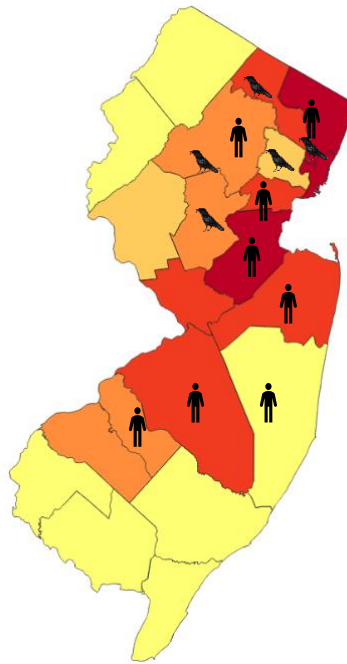
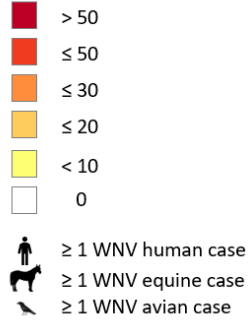
**WNV Cumulative Positive Pools by MMWR Week (2018-2023)**



### 2022 WNV Activity

### Cumulative WNV Activity, 2023

#### WNV Positive Pools



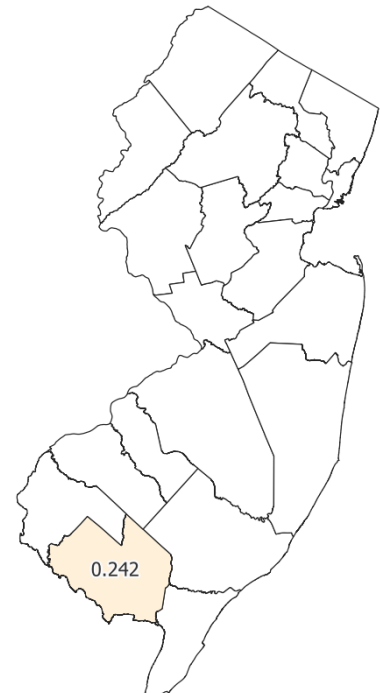
### Eastern Equine Encephalitis

- There have been no human or animal cases of EEE in New Jersey in 2023. EEE human cases were last reported in 2019 (4 cases).
- A total of 4,809 pools from 21 counties have been tested for EEE. One positive EEE pool (*Culiseta melanura*) was identified in Cumberland County in week 30. In 2022, the first EEE positive pool was detected in Week 33 from Morris County.

#### EEE Mosquito Pool Testing

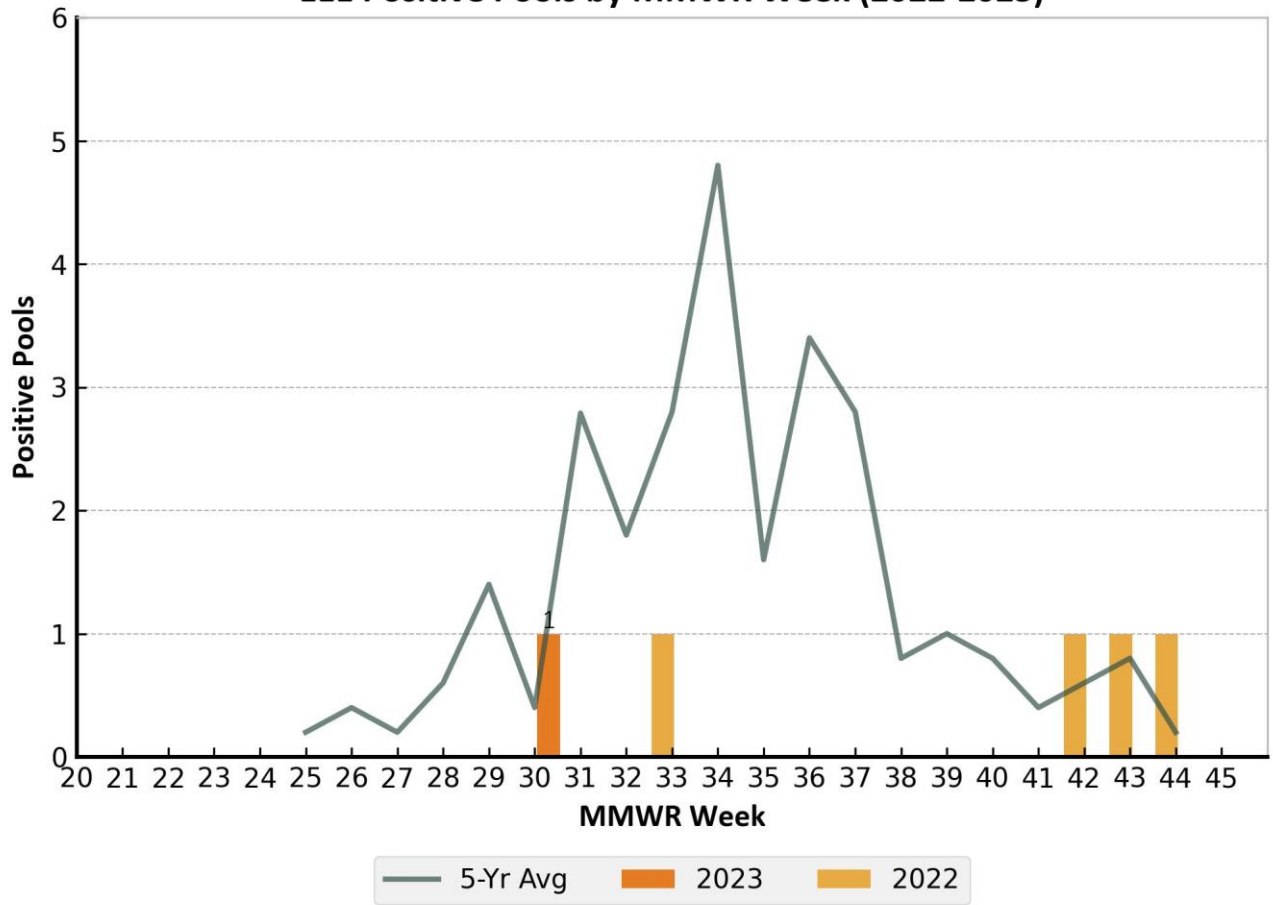
County	WEEK 31 Positive Pools		Cumulative Pos. Total* (WEEK 31)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022		
Cumberland			1		213	0.242
Atlantic					197	
Bergen					180	
Burlington					120	
Camden					190	
Cape May					508	
Essex					130	
Gloucester					485	
Hudson					149	
Hunterdon					220	
Mercer					208	
Middlesex					189	
Monmouth					240	
Morris					238	
Ocean					222	
Passaic					127	
Salem					226	
Somerset					165	
Sussex					447	
Union					99	
Warren					256	
<b>Total</b>	-	-	1	-	<b>4809</b>	-

#### Cumulative EEE MFIR, 2023



WEEK 31: July 31 - Aug 6, 2022; July 30 - Aug 5, 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).

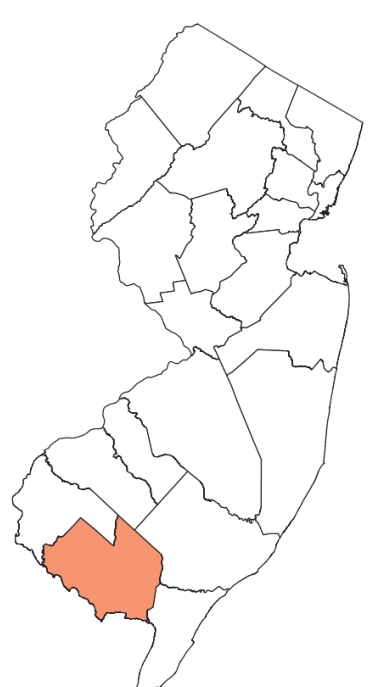
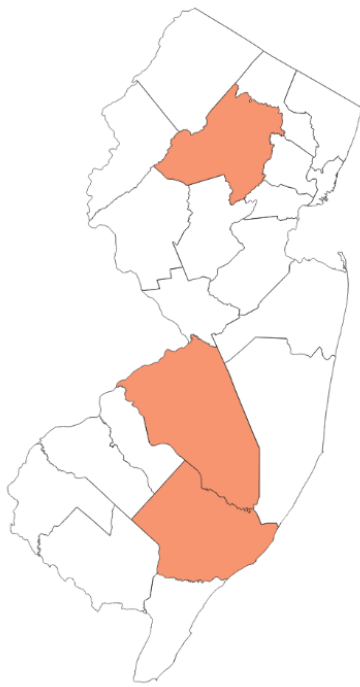
### EEE Positive Pools by MMWR Week (2022-2023)



### 2022 EEE Activity

### Cumulative EEE Activity, 2023

- EEE Positive Pools**
- > 10
  - ≤ 10
  - ≤ 6
  - ≤ 2
  - No EEE activity
- Case Types:**
- Human case
  - Equine case
  - Alpaca case
  - Deer case



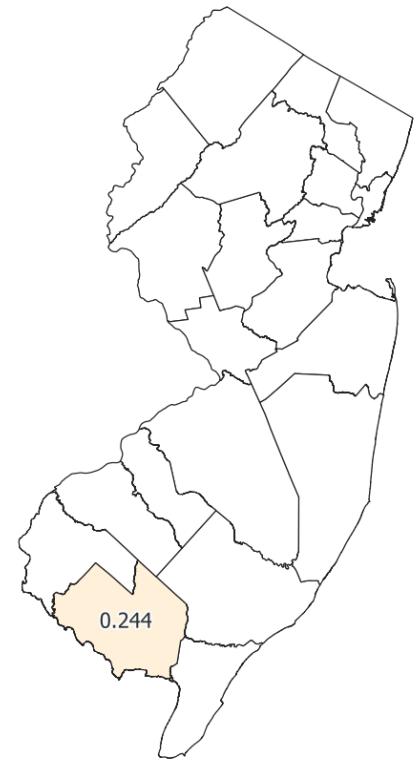
## Jamestown Canyon Virus

- There have been no human cases of JCV in New Jersey in 2023.
- 4,554 pools from 21 counties have been tested for JCV. One positive JCV mosquito pool (*Anopheles quadrimaculatus s.l.*) was identified in Cumberland County in week 25. In 2022, the first JCV positive pool was detected in Week 22 (Bergen County).
- 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

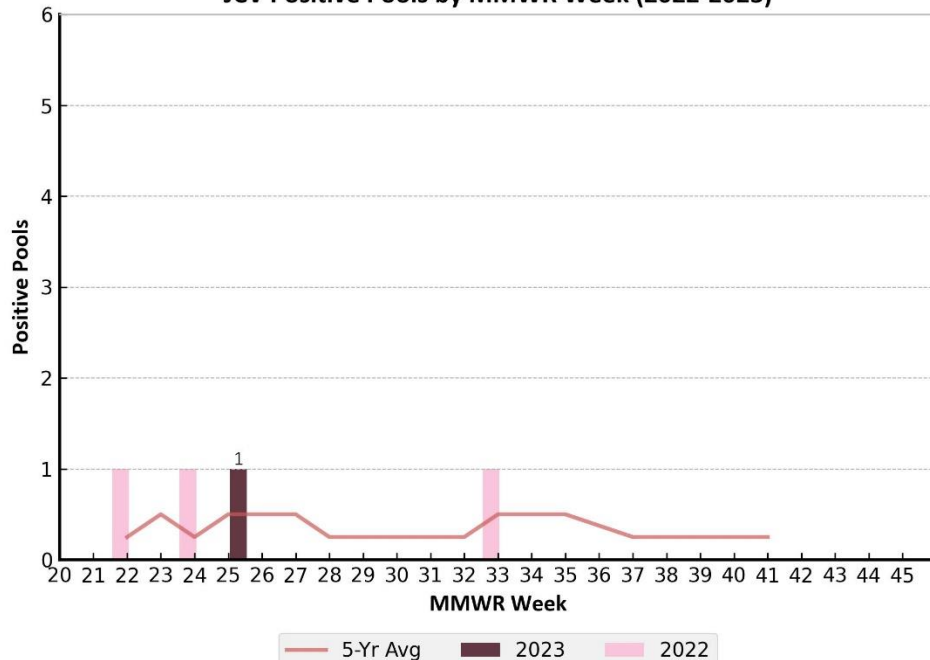
County	WEEK 31 Positive Pools		Cumulative Pos. Total* (WEEK 31)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022	2023	2023
Cumberland			1		213	0.244
Atlantic					197	
Bergen				2	180	
Burlington					120	
Camden					181	
Cape May					267	
Essex					130	
Gloucester					484	
Hudson					149	
Hunterdon					220	
Mercer					208	
Middlesex					189	
Monmouth					240	
Morris					238	
Ocean					222	
Passaic					127	
Salem					222	
Somerset					165	
Sussex					447	
Union					99	
Warren					256	
<b>Total</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>4554</b>	<b>-</b>

Cumulative JCV MFIR, 2023



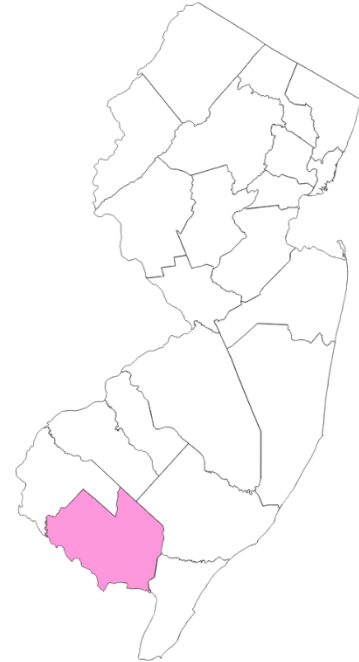
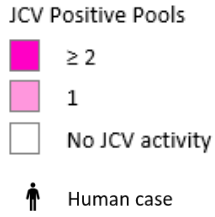
WEEK 31: July 31 - Aug 6, 2022; July 30 - Aug 5, 2023 \*includes early season pools from 9 counties

JCV Positive Pools by MMWR Week (2022-2023)



**2022 JCV Activity**

**Cumulative JCV Activity, 2023**



**Other Mosquito-borne Viruses**

- Mosquito pools from 21 counties have been tested for other arboviruses with no positive results.

**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	197		4							
Bergen	180									
Burlington	120		5							
Camden	190		7		3		3		3	
Cape May	508									
Cumberland	213									
Essex	130									
Gloucester	485									
Hudson	149									
Hunterdon	220		3							
Mercer	208		12							
Middlesex	189									
Monmouth	240				2		2		2	
Morris	238									
Ocean	222		4							
Passaic	127		4							
Salem	226		16							
Somerset	165									
Sussex	447		9							
Union	99									
Warren	256		12							
<b>Total</b>	<b>4809</b>	<b>-</b>	<b>76</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>5</b>	<b>-</b>

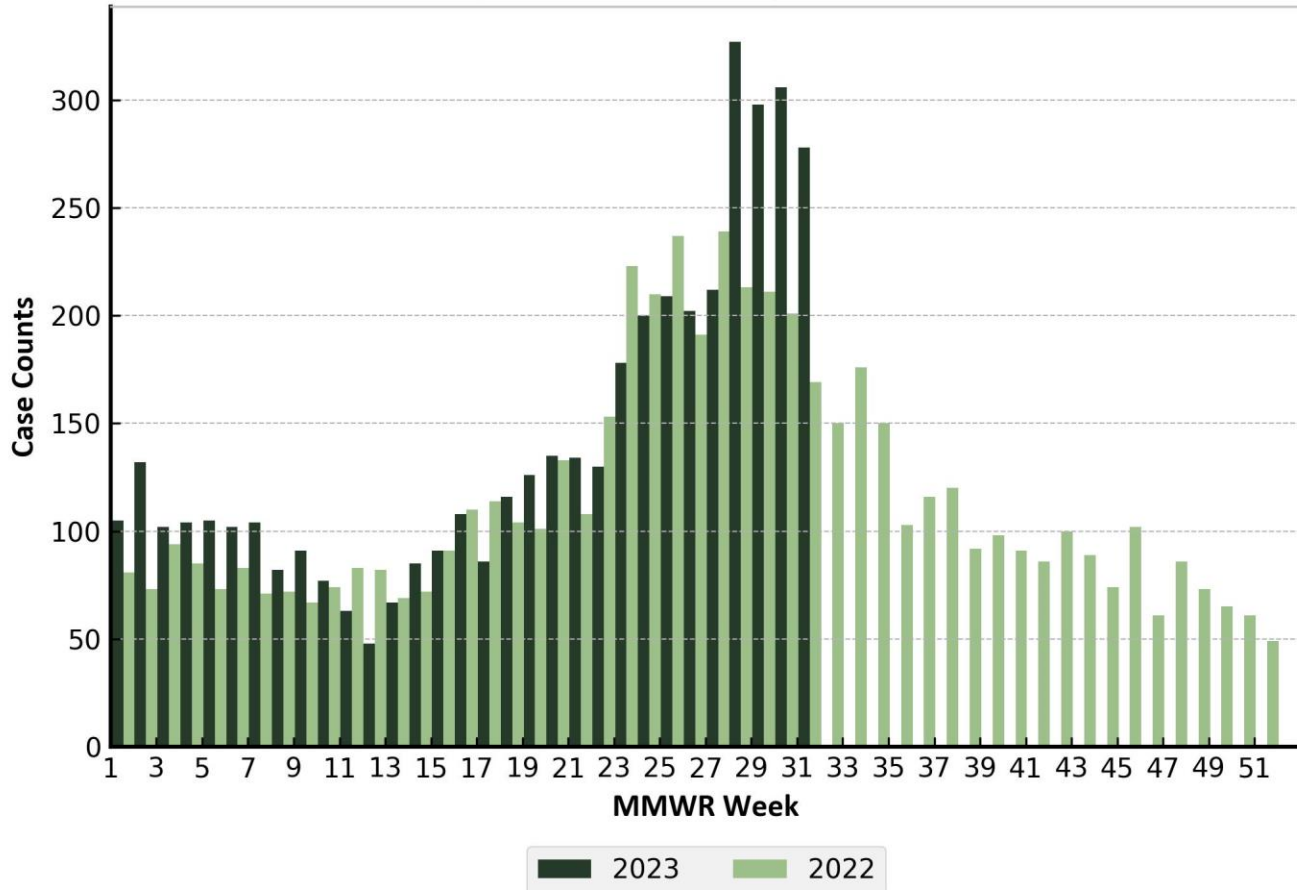
<sup>a</sup> St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)  
 Numbers in white columns represent number of pools tested to date in 2023  
 Number in blue shaded columns represent positive pools in 2023

## Tick-borne Disease Activity

### Lyme Disease

- There have been 4,403 cases of Lyme disease reported in New Jersey in 2023 in 21 counties.
- The number of cases in Week 31 this year is higher than the number of cases reported in 2022.

**Lyme Disease Cases (2022-2023)**



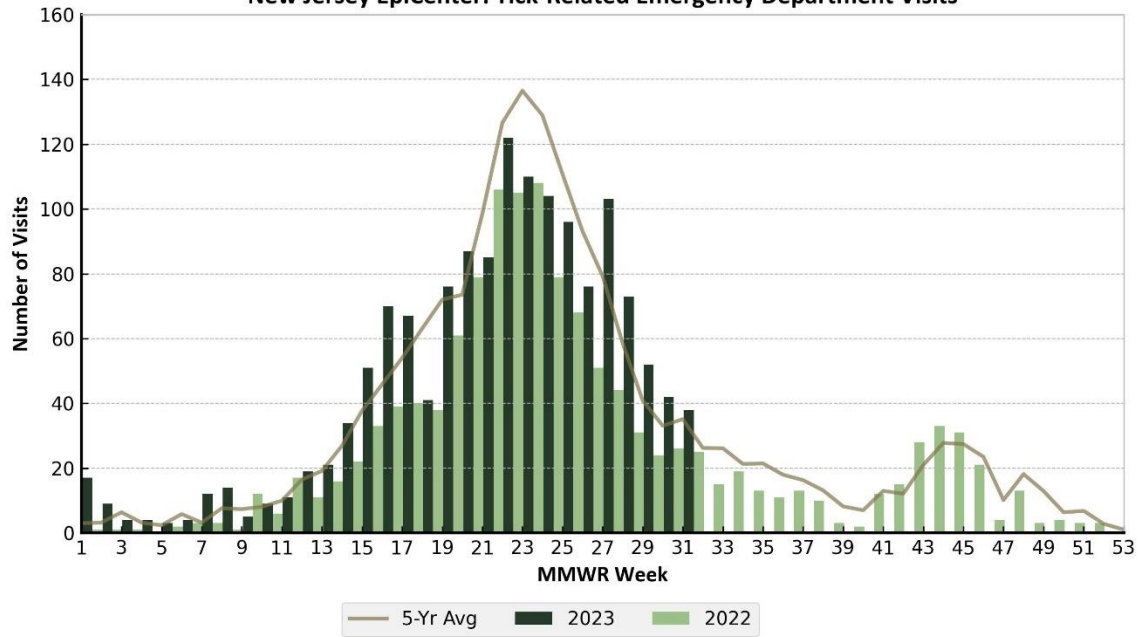
### Tick-related Emergency Department Visits

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.

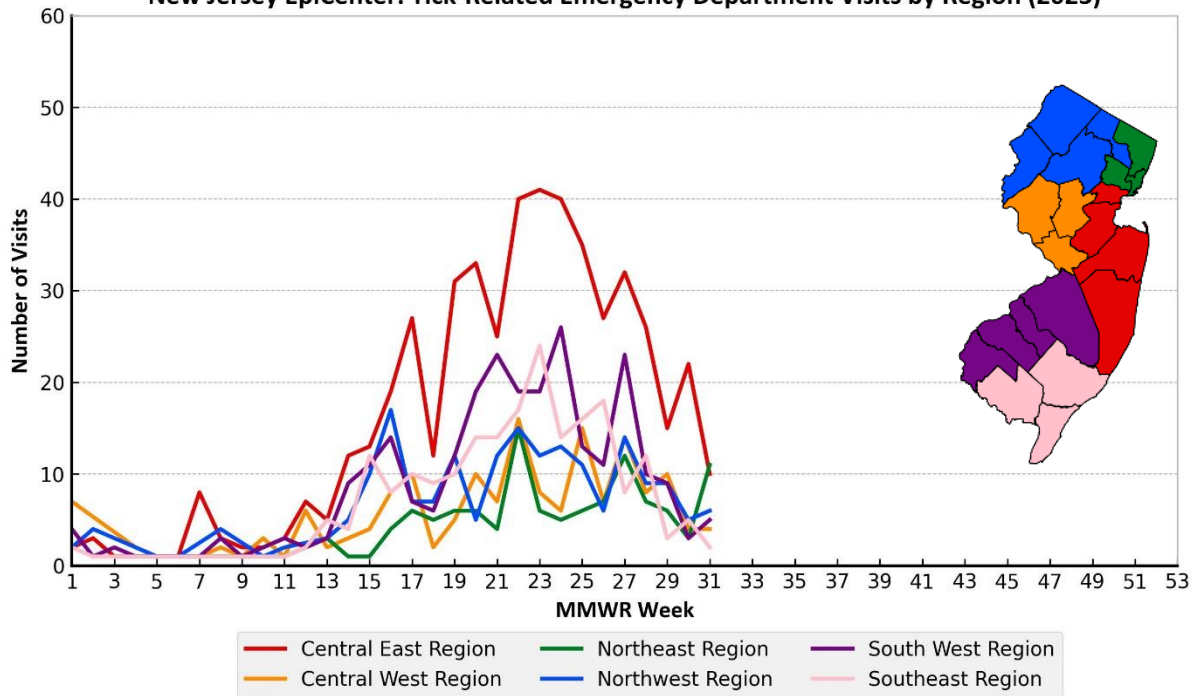
In Week 31, the number of tick-related ED visits is higher than in 2022 and above the 5-year average.



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



**New Jersey EpiCenter: Tick-Related Emergency Department Visits by Region (2023)**



Data reflects ED visits downloaded from EpiCenter as of August 9, 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/>