

Report Highlights:

- 31 mosquito pools have tested positive for West Nile Virus (WNV) so far this year in 9 counties (Atlantic, Bergen, Camden, Cape May, Hunterdon, Mercer, Morris, Somerset, and Union). This is lower than last year but consistent with the 5-year average.
- One mosquito pool has tested positive for Jamestown Canyon Virus (JCV) in Cumberland County.
- The number of N.J. chikungunya cases reported to date in 2023 is higher than the 2022 total due to an ongoing outbreak in South America.
- The number of tick-related emergency department visits is higher compared to this time last year and is above the 5-year average.
- The number of Lyme disease cases reported this week in 2023 is higher compared to 2022.
- Vector-borne disease data is now available on an online dashboard, located here: https://dashboards.doh.nj.gov/views/public_dashboard/Intro and can also be accessed on the Fight the Bite NJ 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. 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	55	234
Dengue	12	35	Anaplasmosis	70	125
Eastern equine encephalitis	-	-	Babesiosis	56	292
Jamestown Canyon	-	1	<i>Borrelia miyamotoi</i>	2	6
Malaria	19	86	Ehrlichiosis (<i>chaffeensis, ewingii</i>)	40	115
West Nile	-	20	Lyme disease*	3,445	5,897
Zika	-	-	Powassan	-	2
			Spotted fever group rickettsioses	9	35
			Tularemia	1	1

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

Mosquito-borne Disease Activity

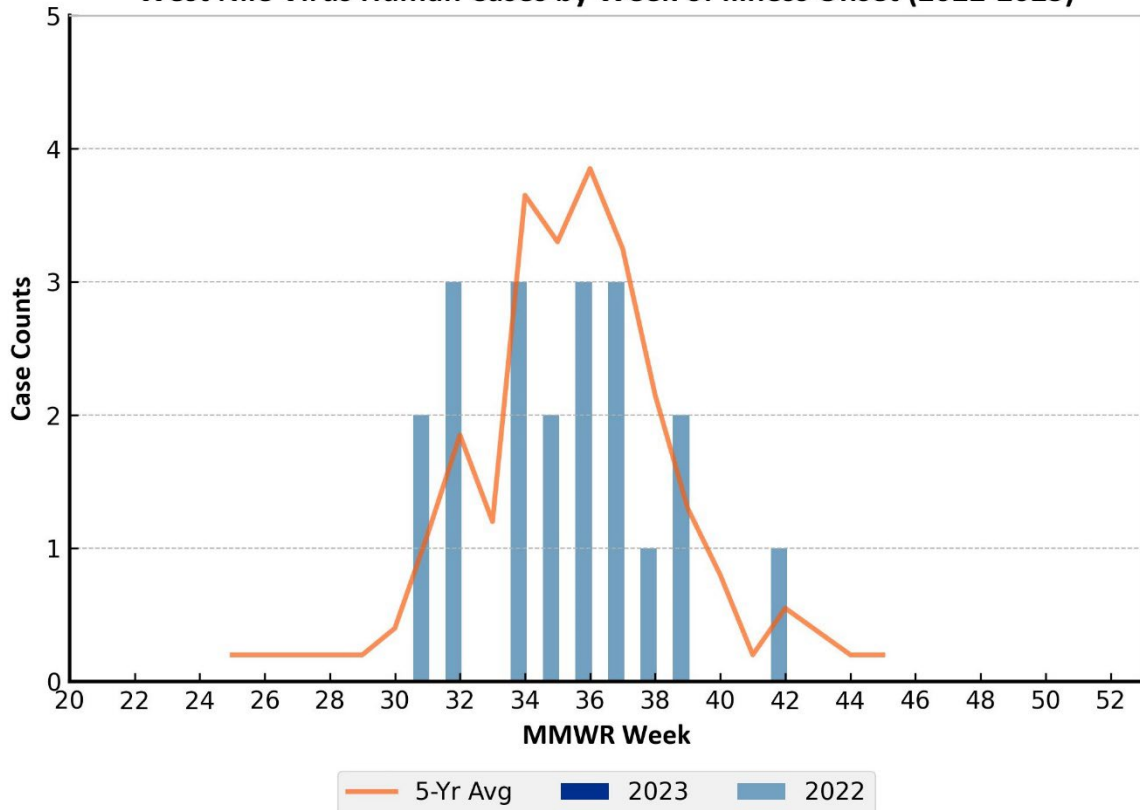
The New Jersey Department of Health Public Health and Environmental Laboratories (PHL) performs arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.*

*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on July 18, 2023

West Nile Virus

- There have been no human cases of WNV reported in New Jersey in 2023.
- 3,461 pools from 21 counties have been tested for WNV. 24 pools tested positive in week 28 in 8 counties and a total of 31 mosquito pools have tested positive for WNV so far this year. The positive pools were found in: *Culex sp.* (3), *Culex pipiens* (2), *Culex pipiens/restuans/salinarius* (25), *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.
- No animals have tested positive for WNV in 2023.

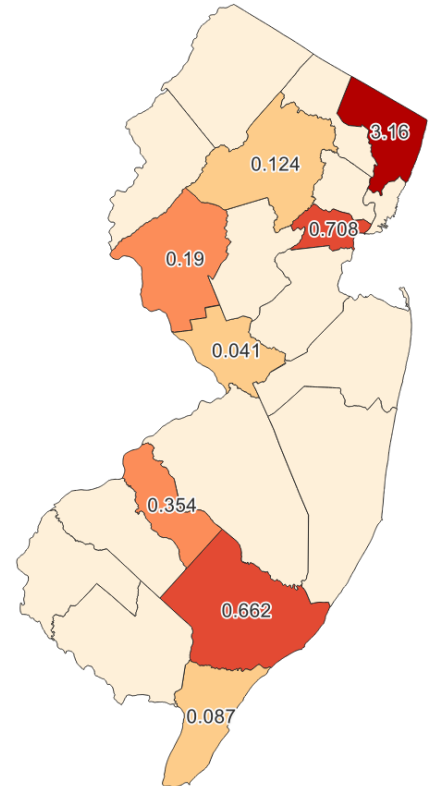
West Nile Virus Human Cases by Week of Illness Onset (2022-2023)



WNV Mosquito Pool Testing

County	WEEK 28 Positive Pools		Cumulative Pos. Total* (WEEK 28)		# Pools Tested*	WEEK 28 Vector Index
	2023	2022	2023	2022		
Bergen	11	3	13	6	120	3.160
Union	5	7	6	7	54	0.708
Cape May	2		3		214	0.087
Atlantic	2		2		126	0.662
Camden	1		2		126	0.087
Hunterdon	1		2		163	0.190
Mercer	1	2	1	2	180	0.041
Morris	1	2	1	6	191	0.124
Somerset			1	1	105	
Burlington		1		2	72	
Cumberland					153	
Essex					100	
Gloucester				2	413	
Hudson		2		4	103	
Middlesex		3		5	134	
Monmouth					175	
Ocean					166	
Passaic		1		1	114	
Salem				1	174	
Sussex					394	
Warren					184	
Total	24	21	31	37	3461	-

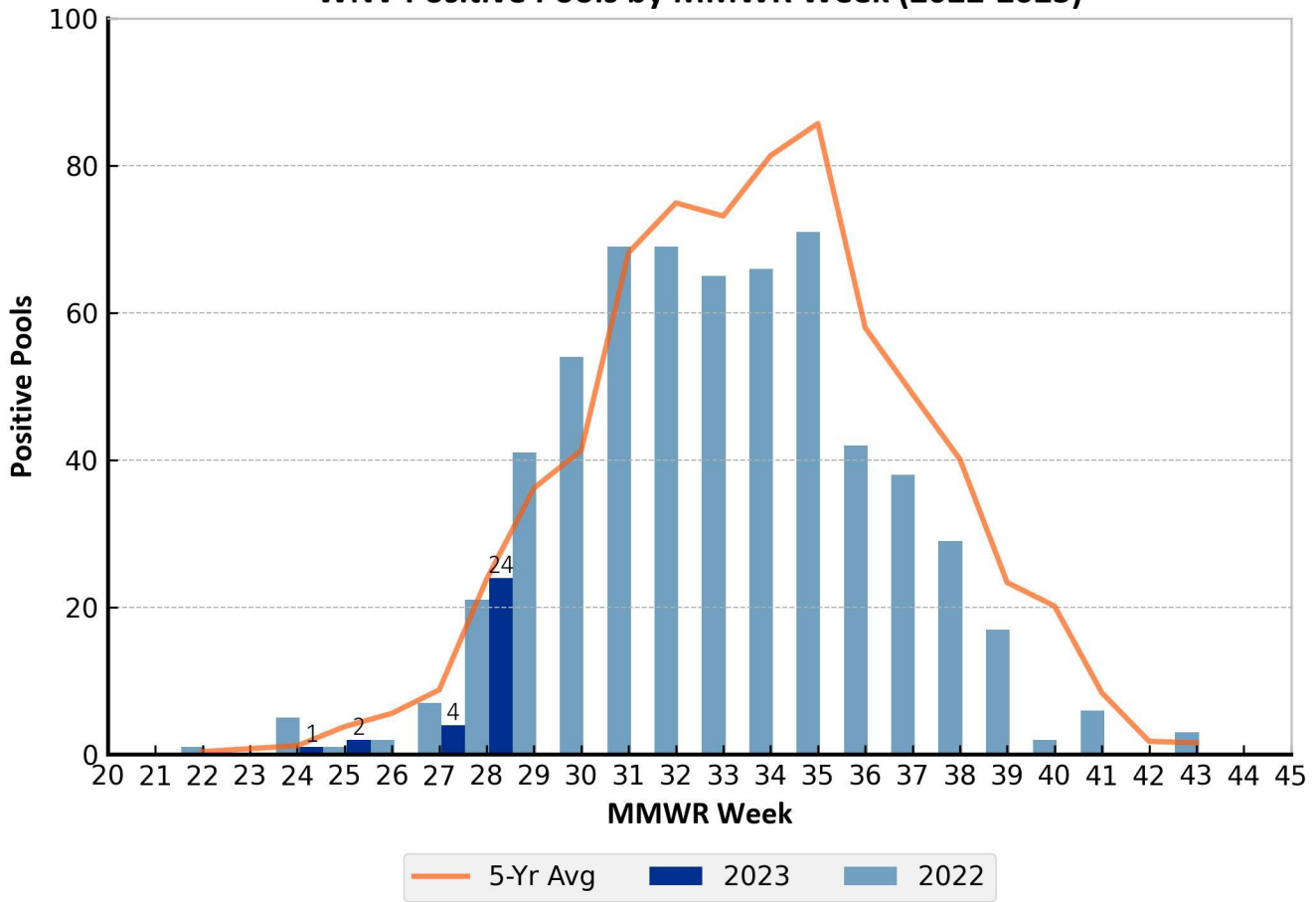
WNV Vector Index, WEEK 28^t



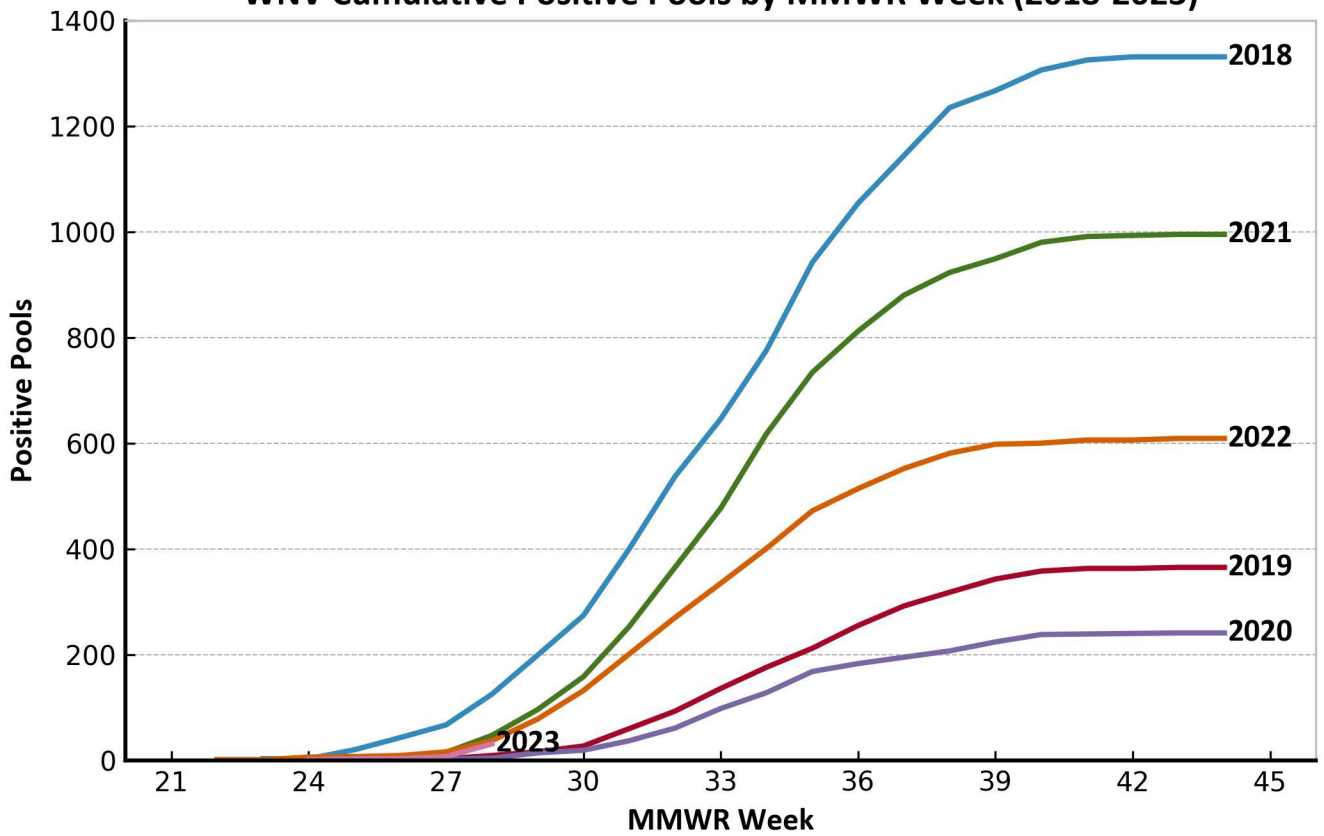
^t Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only.

WEEK 28: July 10 - 16, 2022; July 9 - 15, 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)



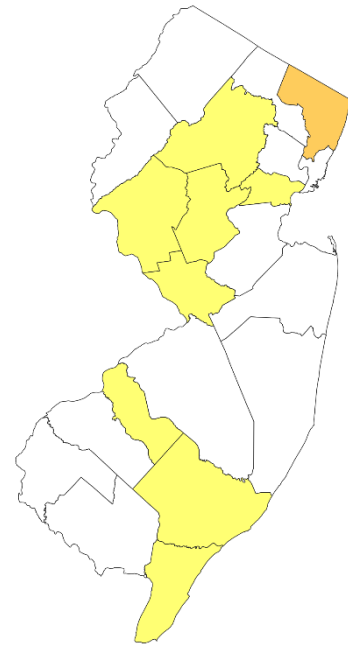
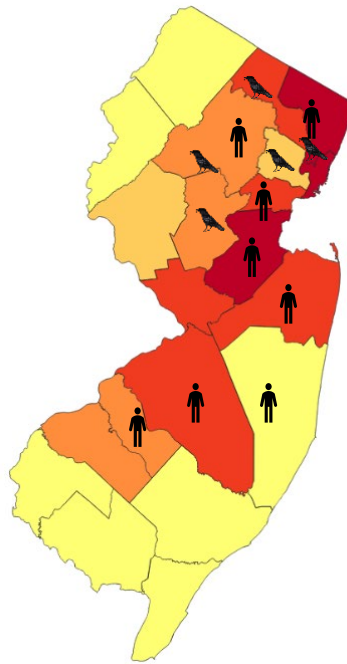
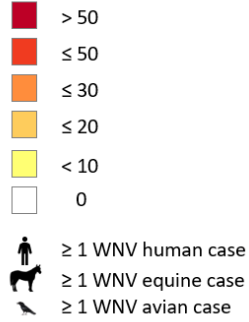
WNV Cumulative Positive Pools by MMWR Week (2018-2023)



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 cases were last reported in 2019 (4 cases).
- A total of 3,434 pools from 21 counties have been tested for EEE.
- No positive EEE pools have been identified in 2023. In 2022, the first EEE positive pool was detected in Week 33 from Morris County.
- No animals have tested positive for EEE in 2023.

EEE Mosquito Pool Testing

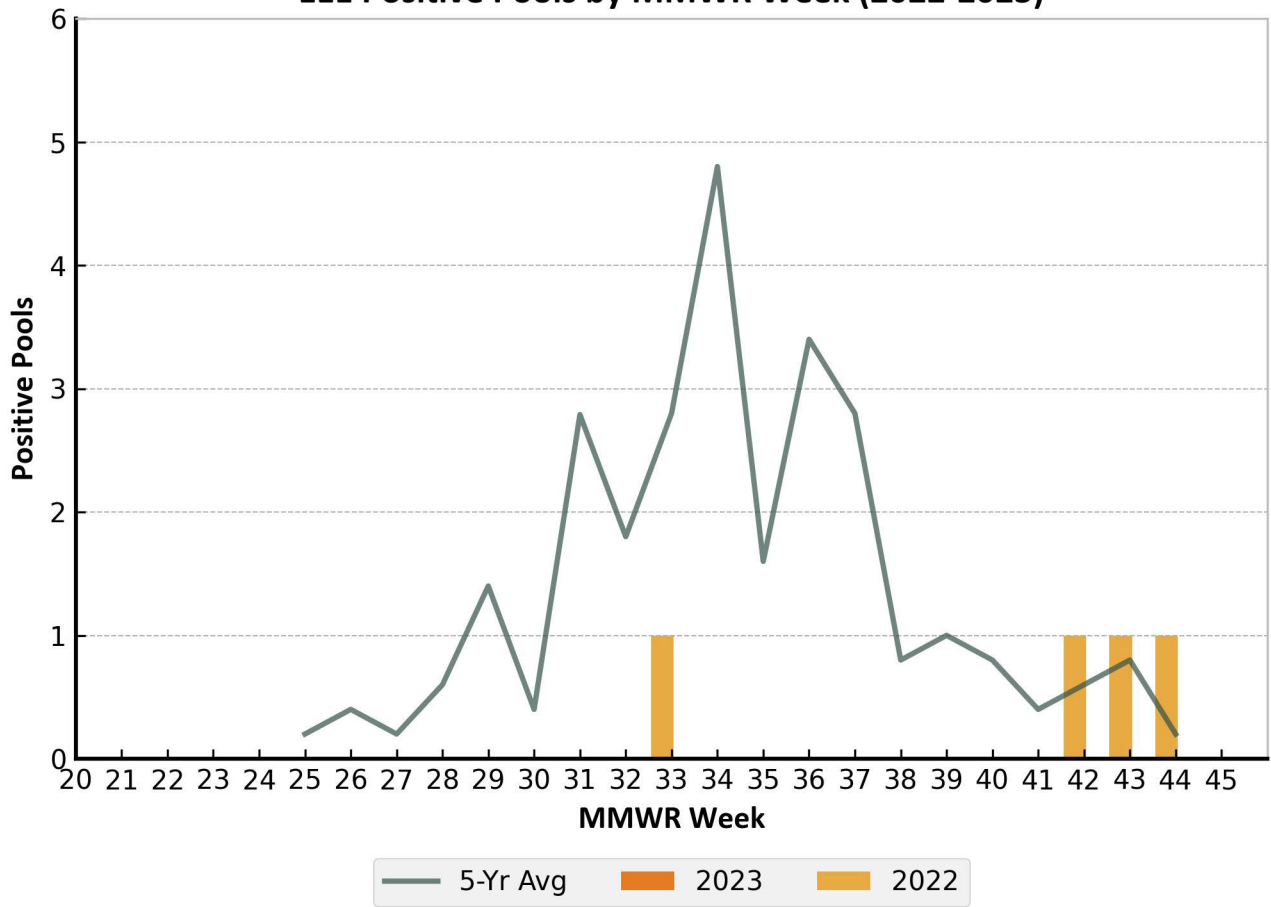
County	WEEK 28 Positive Pools		Cumulative Pos. Total* (WEEK 28)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022		
Atlantic					126	
Bergen					120	
Burlington					71	
Camden					125	
Cape May					214	
Cumberland					153	
Essex					100	
Gloucester					413	
Hudson					103	
Hunterdon					162	
Mercer					169	
Middlesex					134	
Monmouth					175	
Morris					191	
Ocean					166	
Passaic					114	
Salem					172	
Somerset					105	
Sussex					390	
Union					54	
Warren					177	
Total	-	-	-	-	3,434	-

Cumulative EEE MFIR, 2023



WEEK 28: July 10 - 16, 2022; July 9 - 15, 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).

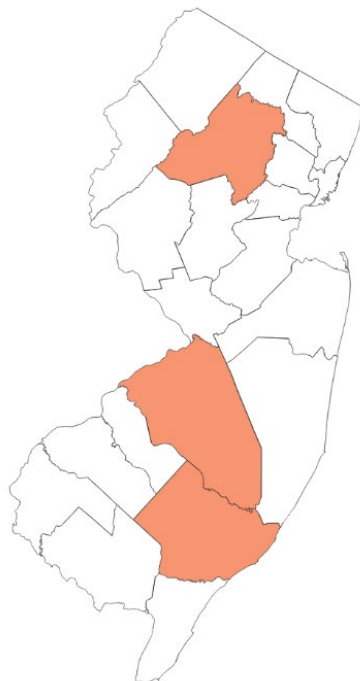
EEE Positive Pools by MMWR Week (2022-2023)



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



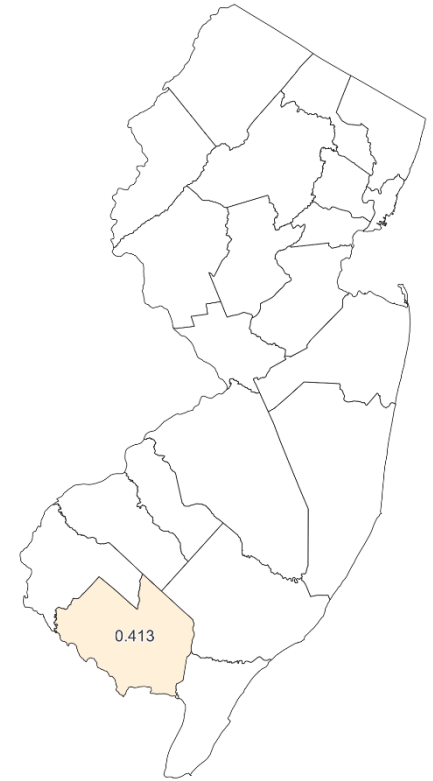
Jamestown Canyon Virus

- There have been no human cases of JCV in New Jersey in 2023.
- A total of 3,434 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 1st 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

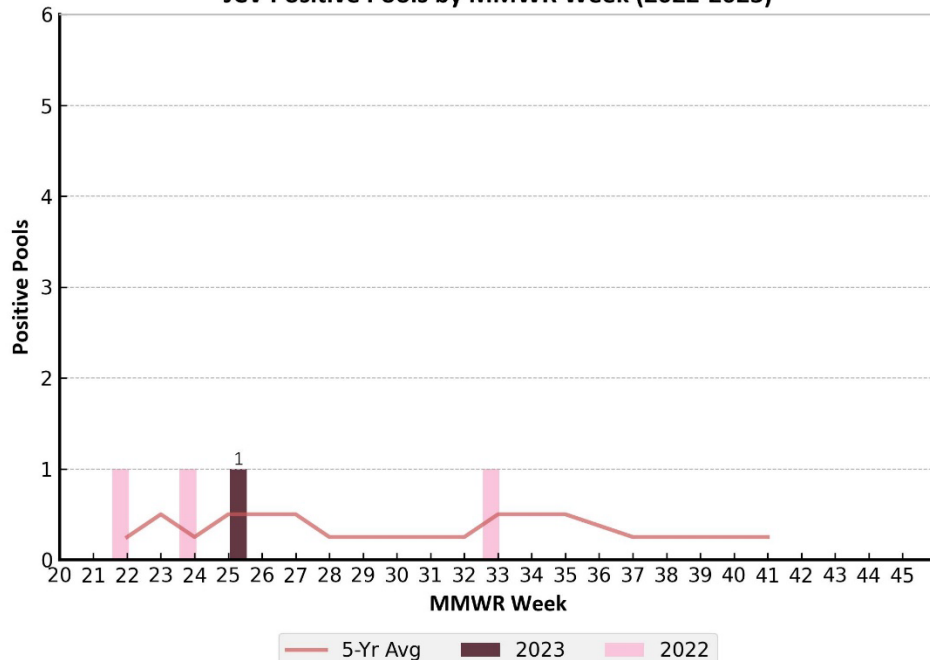
County	WEEK 28 Positive Pools		Cumulative Pos. Total* (WEEK 28)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022	2023	2023
Cumberland			1		153	0.413
Atlantic					126	
Bergen				2	120	
Burlington					71	
Camden					125	
Cape May					214	
Essex					100	
Gloucester					413	
Hudson					103	
Hunterdon					162	
Mercer					169	
Middlesex					134	
Monmouth					175	
Morris					191	
Ocean					166	
Passaic					114	
Salem					172	
Somerset					105	
Sussex					390	
Union					54	
Warren					177	
Total	-	-	1	2	3434	-

Cumulative JCV MFIR, 2023



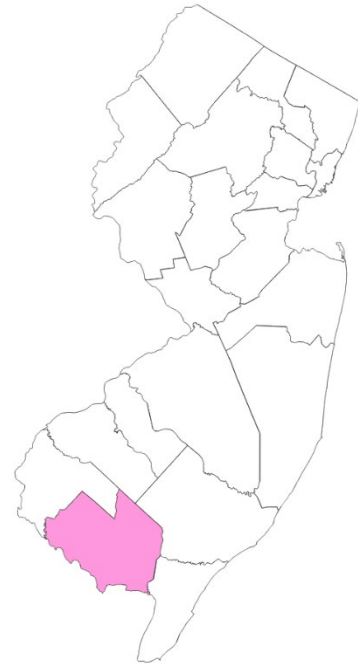
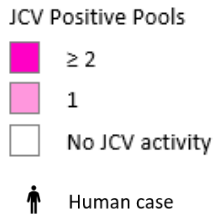
WEEK 28: July 10 - 16, 2022; July 9 - 15, 2023 *includes early season pools from 9 counties

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^a)

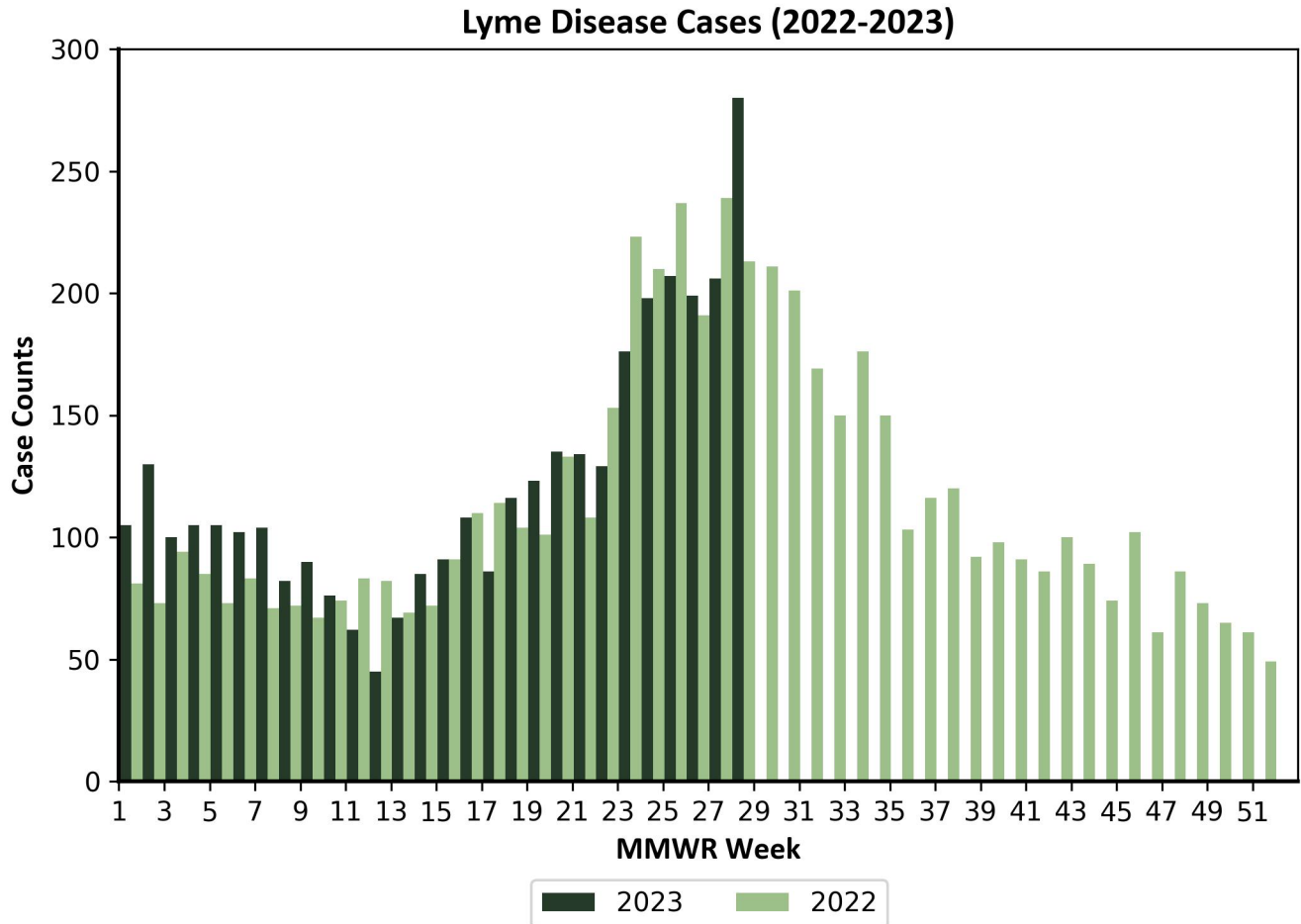
County	SLE		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	126		4							
Bergen	120									
Burlington	71		1							
Camden	125		1							
Cape May	214									
Cumberland	153									
Essex	100									
Gloucester	413									
Hudson	103									
Hunterdon	162		1							
Mercer	169		11							
Middlesex	134									
Monmouth	175				2		2		2	
Morris	191									
Ocean	166									
Passaic	114		4							
Salem	172		6							
Somerset	105									
Sussex	390		6							
Union	54									
Warren	177		8							
Total	3434	-	42	-	2	-	2	-	2	-

^a 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 3,445 cases of Lyme disease reported in New Jersey in 2023 in 21 counties.
- The number of cases in Week 28 this year is higher than the number of cases reported in 2022. The increase in cases in Week 28 compared to prior weeks may be due in part to a laboratory reporting error.

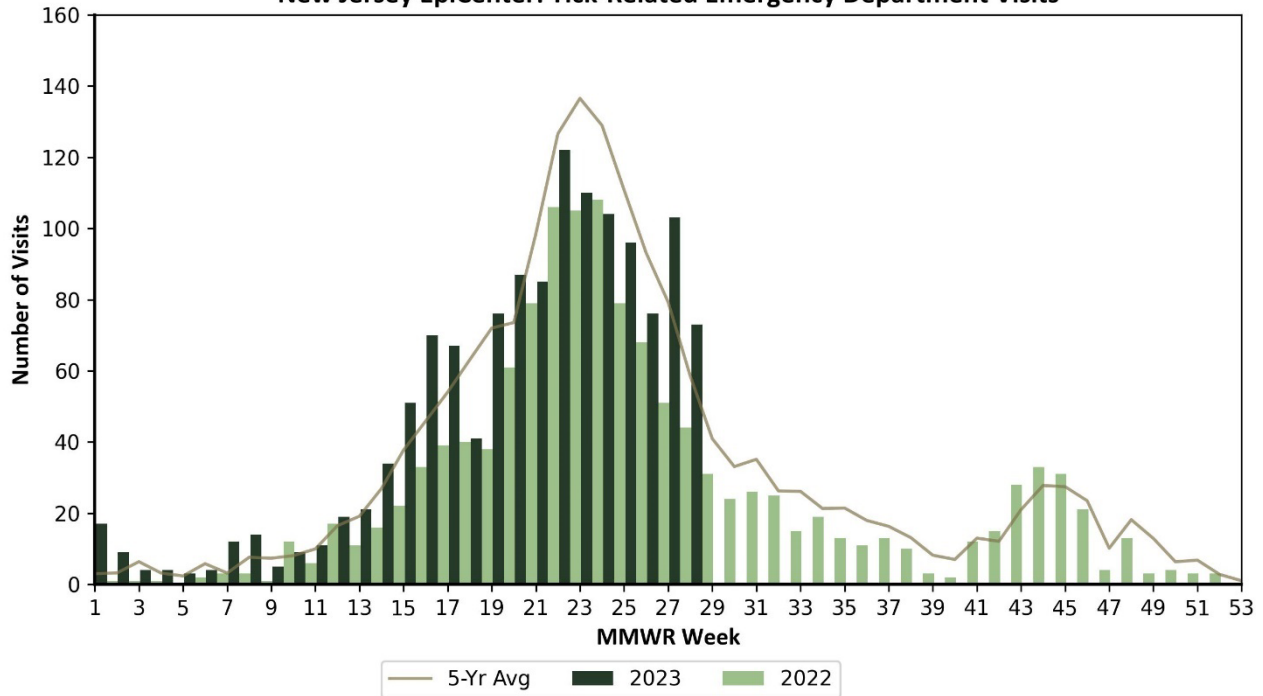


Tick-related Emergency Department Visits

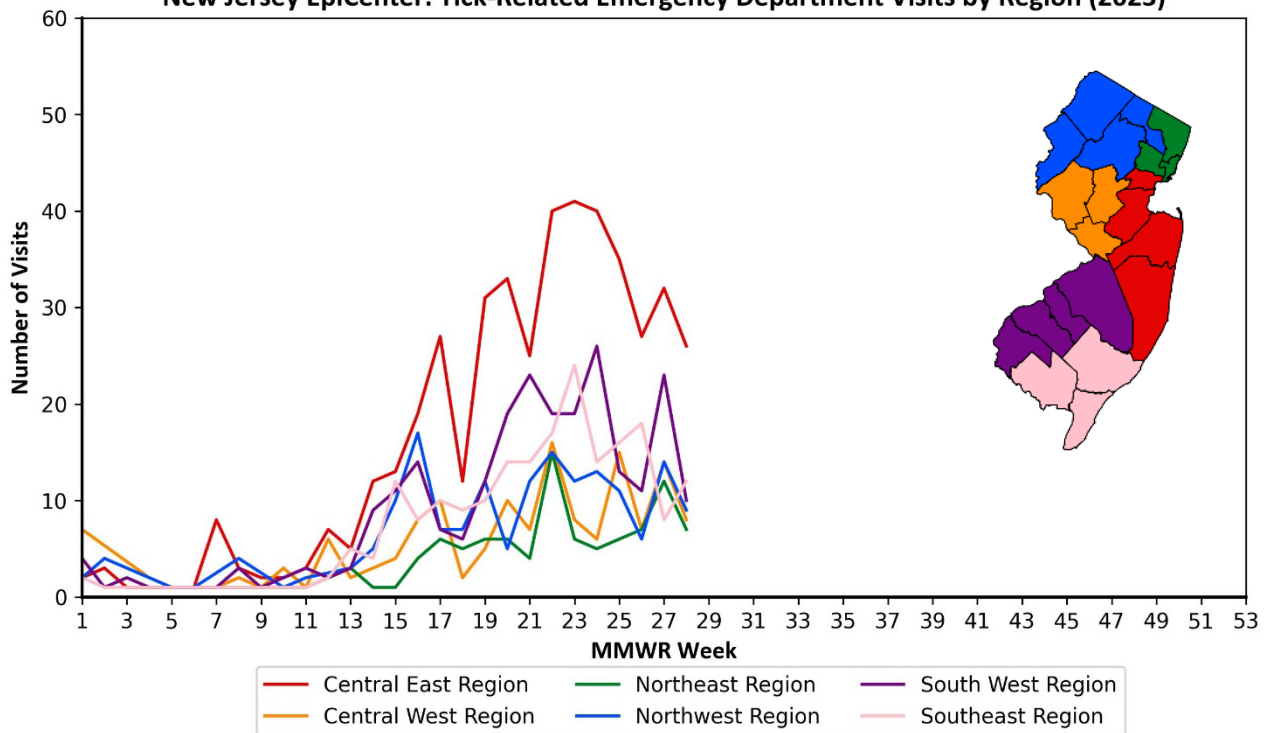
New Jersey's syndromic surveillance system, known as EpiCenter, receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing 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 28, 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 July 18, 2023

For more information

- NJDOH Communicable Disease Service: <http://nj.gov/health/cd/topics/vectorborne.shtml>
- New Jersey Vector-borne Disease Dashboard: https://dashboards.doh.nj.gov/views/public_dashboard/Intro
- 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/>
- New Jersey Vector-borne Disease Dashboard: https://dashboards.doh.nj.gov/views/public_dashboard/Intro