

Report Highlights:

- Six mosquito pools have tested positive for West Nile Virus (WNV) so far this year in 5 counties (Bergen, Cape May, Hunterdon, Somerset, and Union). This is lower than last year and below 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 increased in week 27 and is higher compared to this time last year and above the 5-year average.
- The number of Lyme disease cases reported in 2023 is lower compared to 2022.
- New! 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	53	234
Dengue	9	35	Anaplasmosis	60	125
Eastern equine encephalitis	-	-	Babesiosis	44	292
Jamestown Canyon	-	1	<i>Borrelia miyamotoi</i>	1	6
Malaria	19	86	Ehrlichiosis (<i>chaffeensis, ewingii</i>)	31	115
West Nile	-	20	Lyme disease*	3,115	5,897
Zika	-	-	Powassan	-	2
			Spotted fever group rickettsioses	8	35
			Tularemia	1	1

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

Mosquito-borne Disease Activity

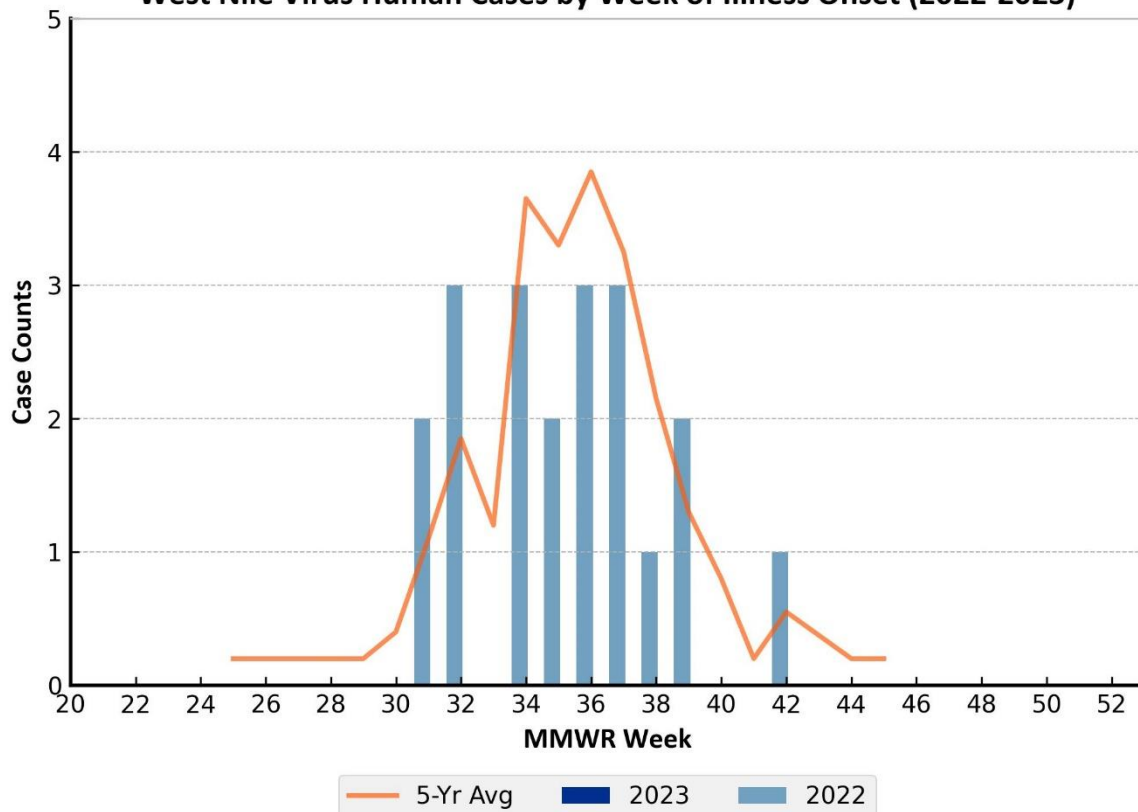
The New Jersey Department of Health Public Health and Environmental Laboratories (PHL) performs arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.*

*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on July 11, 2023

West Nile Virus

- There have been no human cases of WNV reported in New Jersey in 2023.
- A total of 3,085 pools from 21 counties have been tested for WNV.
- Three pools tested positive for WNV in week 27 in Bergen, Cape May, and Hunterdon counties. Six mosquito pools have tested positive so far this year. The positive pools were found in: *Culex pipiens/restuans/salinarius* (5) and *Cx. 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)

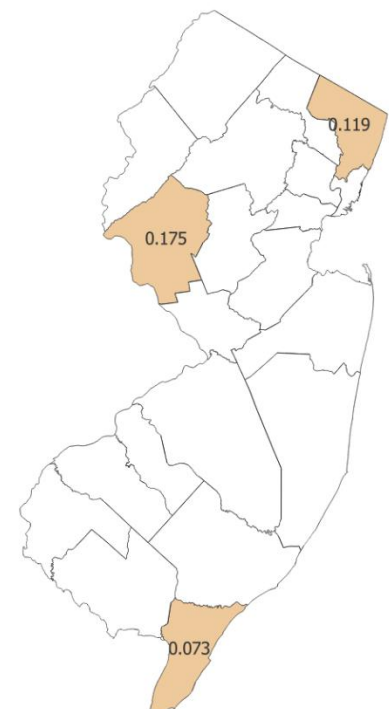


WNV Mosquito Pool Testing

County	WEEK 27 Positive Pools		Cumulative Pos. Total (WEEK 27)		# Pools Tested 2023	WEEK 27 Vector Index 2023 ^t
	2023	2022	2023	2022		
Bergen	1	1	2	3	100	0.119
Cape May	1		1		189	0.073
Hunterdon	1		1		143	0.175
Somerset			1	1	90	
Union			1		40	
Atlantic					112	
Burlington				1	51	
Camden					110	
Cumberland					133	
Essex					89	
Gloucester				2	387	
Hudson		2		2	88	
Mercer					160	
Middlesex		2		2	114	
Monmouth					153	
Morris		2		4	178	
Ocean					146	
Passaic					103	
Salem				1	161	
Sussex					374	
Warren					164	
Total	3	7	6	16	3085	-

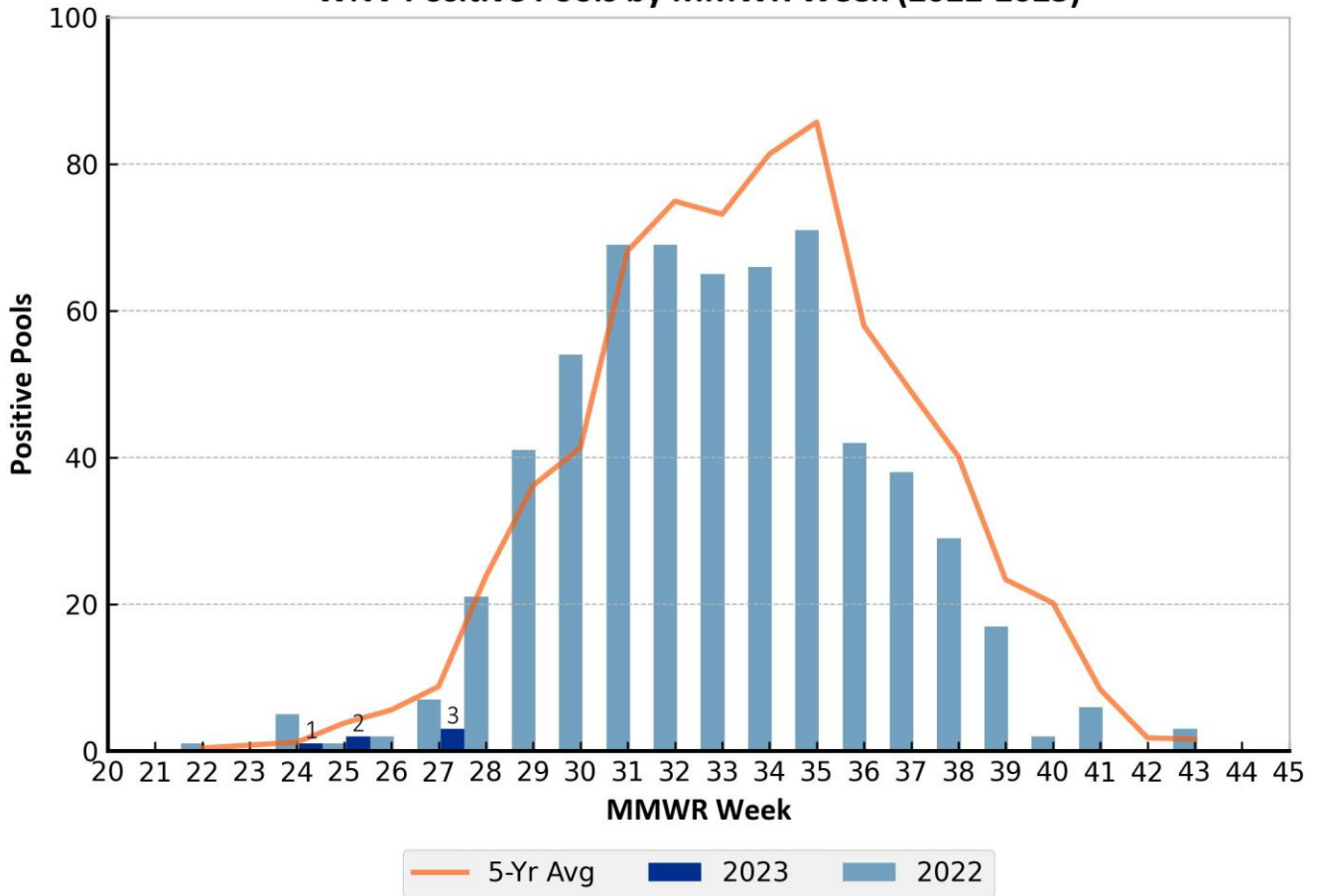
WEEK 27: July 3 - 9, 2022; July 2 - 8, 2023

WNV Vector Index, WEEK 27^t

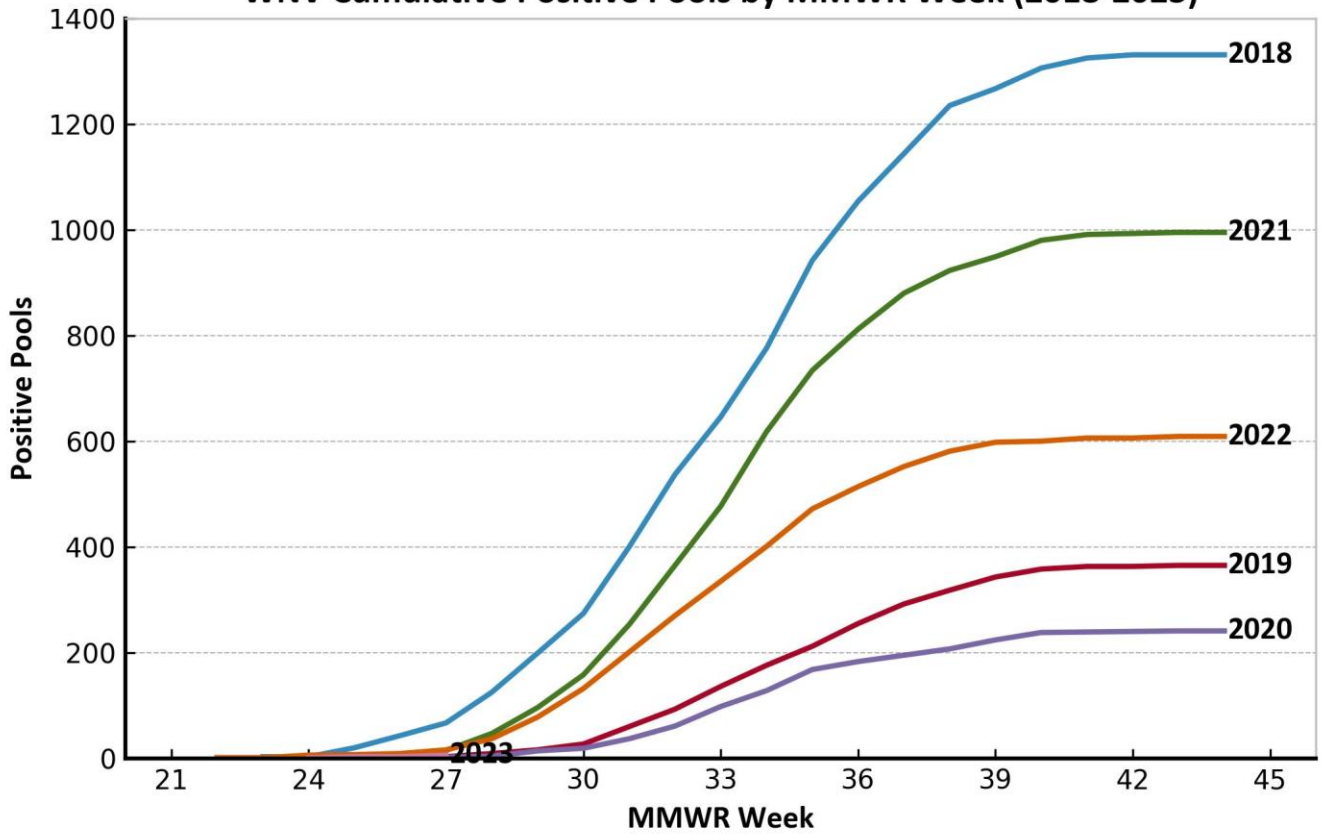


^t Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only.

WNV Positive Pools by MMWR Week (2022-2023)



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

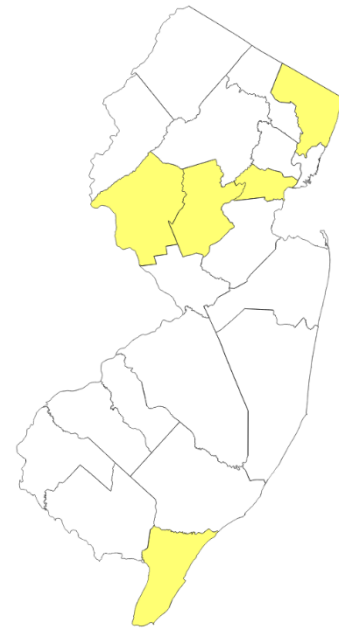
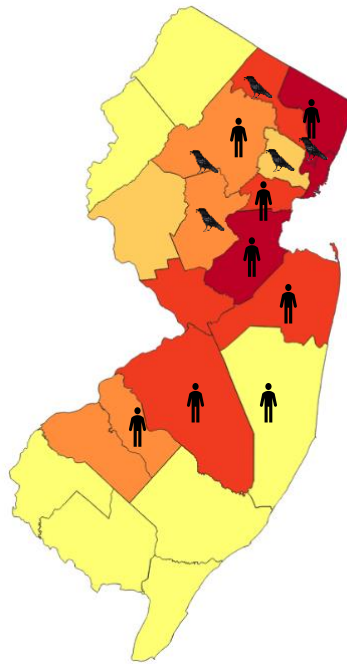


2022 WNV Activity

Cumulative WNV Activity, 2023

WNV Positive Pools

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



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 3,066 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.

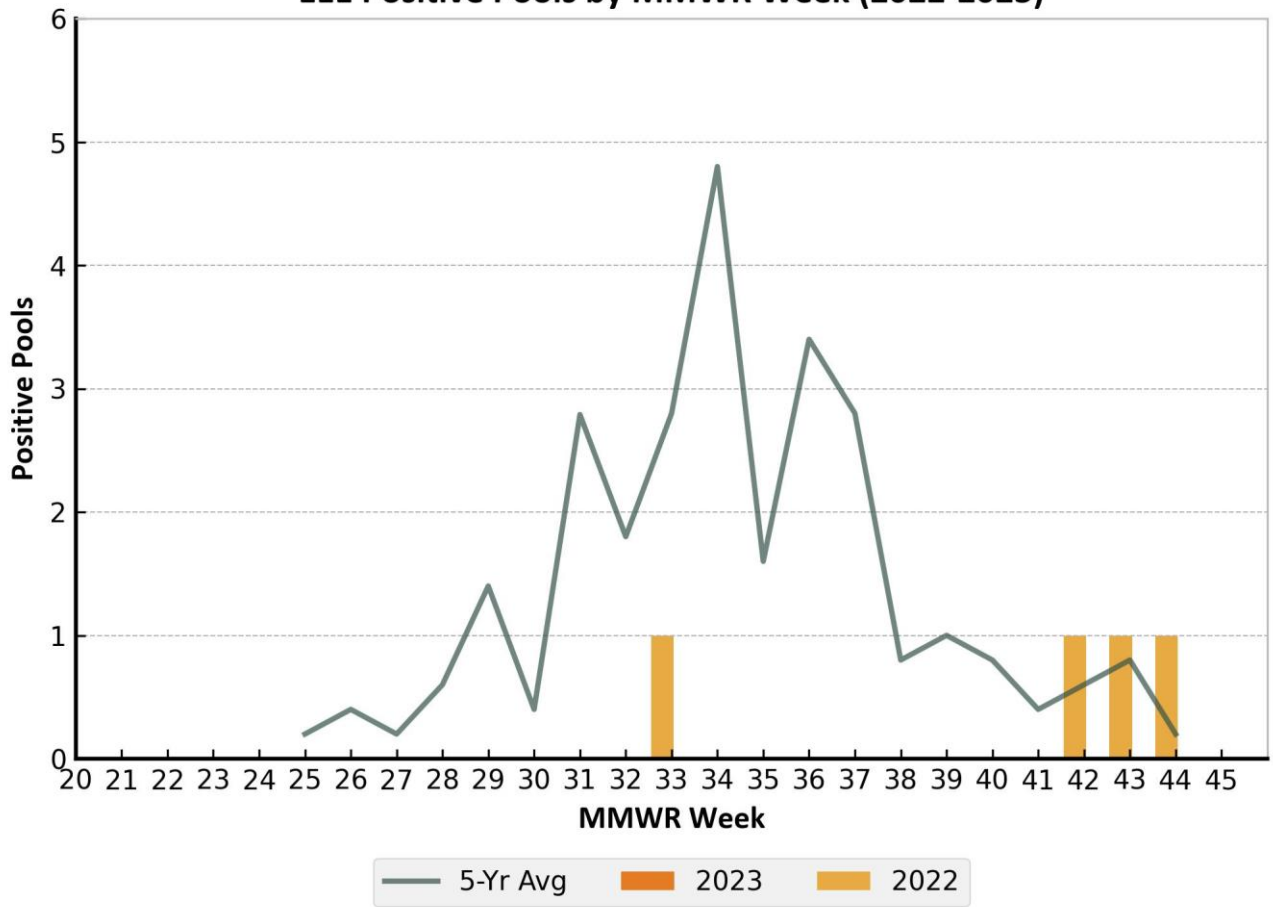
EEE Mosquito Pool Testing

County	WEEK 27 Positive Pools		Cumulative Pos. Total (WEEK 27)		# Pools Tested 2023	Cumulative MFIR 2023
	2023	2022	2023	2022		
Atlantic					112	
Bergen					100	
Burlington					51	
Camden					110	
Cape May					189	
Cumberland					133	
Essex					89	
Gloucester					387	
Hudson					88	
Hunterdon					142	
Mercer					149	
Middlesex					114	
Monmouth					153	
Morris					178	
Ocean					146	
Passaic					103	
Salem					160	
Somerset					90	
Sussex					372	
Union					40	
Warren					160	
Total	-	-	-	-	3066	-

Cumulative EEE MFIR, 2023



EEE Positive Pools by MMWR Week (2022-2023)



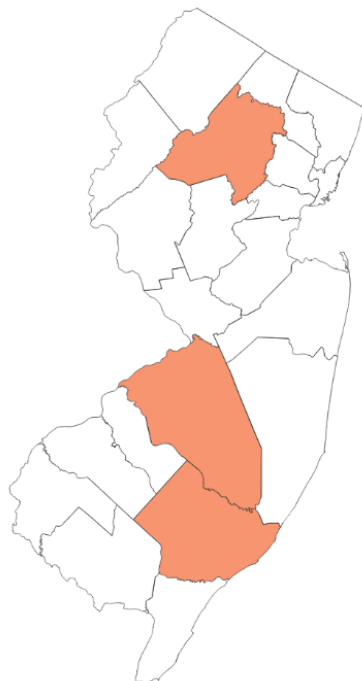
2022 EEE Activity

Cumulative EEE Activity, 2023

EEE Positive Pools

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

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



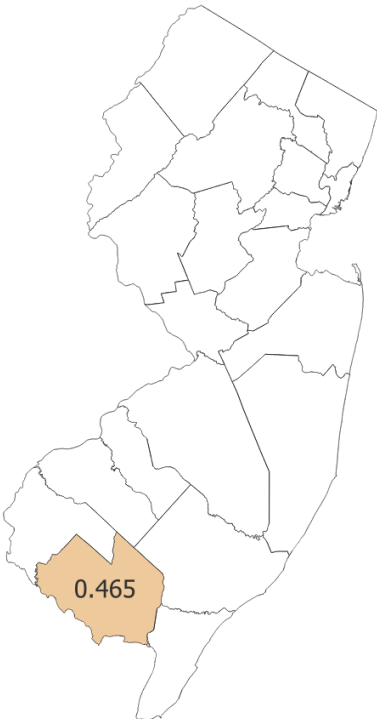
Jamestown Canyon Virus

- There have been no human cases of JCV in New Jersey in 2023.
- 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. A total of 2,878 pools from all 21 counties have been tested for JCV.
- One positive JCV mosquito pool (*Anopheles quadrimaculatus s.l.*) was identified in 2023 in Cumberland County in week 25. In 2022, the first JCV positive pool was detected in Week 22 (Bergen County).

JCV Mosquito Pool Testing

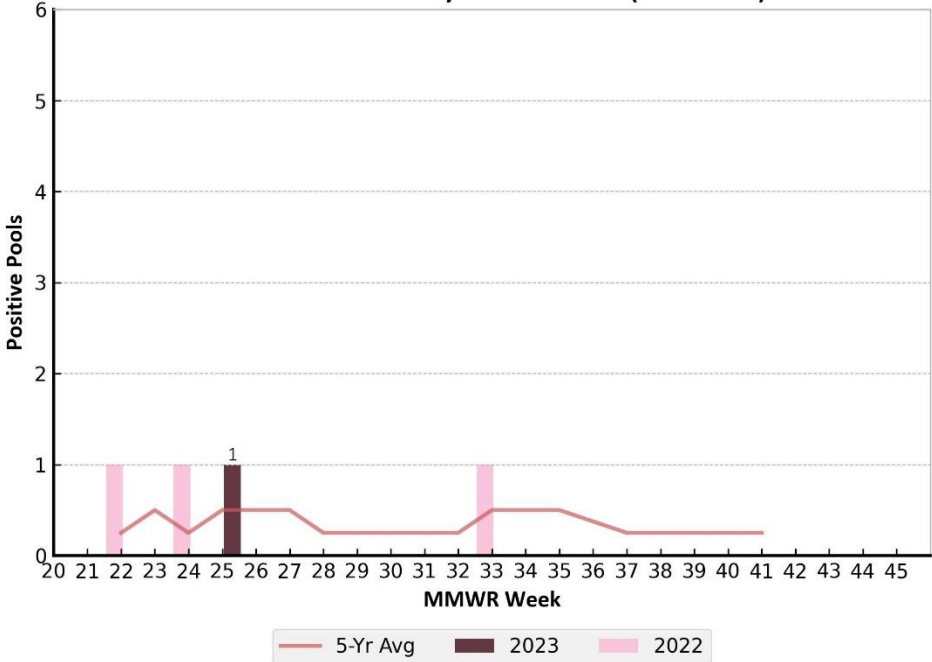
County	WEEK 27 Positive Pools		Cumulative Pos. Total (WEEK 27)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022		
Cumberland			1		133	0.465
Atlantic					112	
Bergen				2	100	
Burlington					51	
Camden					110	
Cape May					189	
Essex					89	
Gloucester					387	
Hudson					88	
Hunterdon					142	
Mercer					149	
Middlesex					114	
Monmouth					153	
Morris					178	
Ocean					146	
Passaic					103	
Salem					160	
Somerset					90	
Sussex					372	
Union					40	
Warren					160	
Total	-	-	1	2	3066	-

Cumulative JCV MFIR, 2023



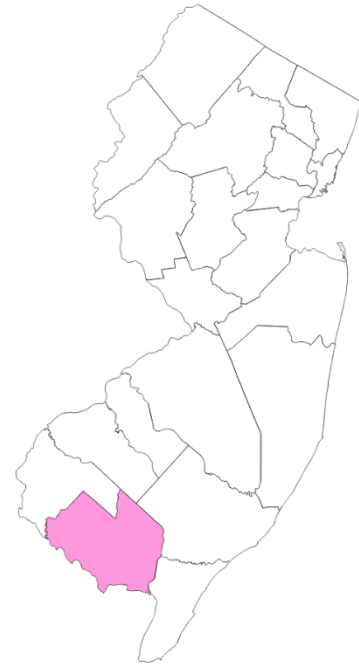
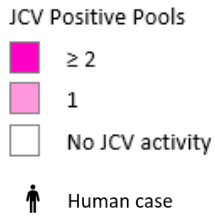
WEEK 27: July 3 - 9, 2022; July 2 - 8, 2023

JCV Positive Pools by MMWR Week (2022-2023)



2022 JCV Activity

Cumulative JCV Activity, 2023



Other Mosquito-borne Viruses

- Mosquito pools from all 21 counties have been tested for other arboviruses with no positives.

Cumulative 2023 Mosquito Pool Testing (Other Viruses^a)

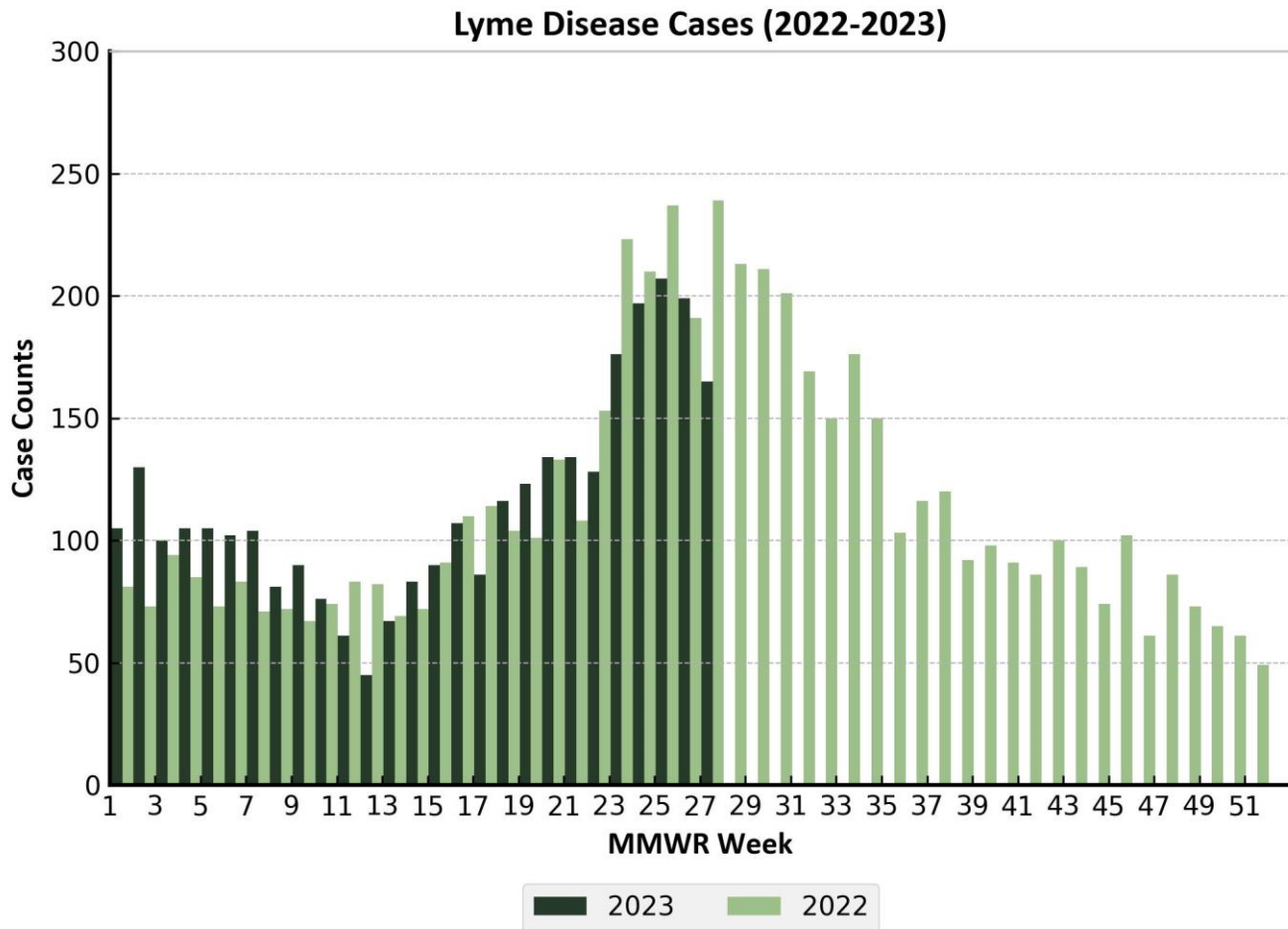
County	SLE		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	112		4							
Bergen	100									
Burlington	51									
Camden	110									
Cape May	189									
Cumberland	133									
Essex	89									
Gloucester	387									
Hudson	88									
Hunterdon	142		1							
Mercer	149		11							
Middlesex	114									
Monmouth	153				2		2		2	
Morris	178									
Ocean	146									
Passaic	103		3							
Salem	160		5							
Somerset	90									
Sussex	372		4							
Union	40									
Warren	160		5							
Total	3066	-	33	-	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 3,115 cases of Lyme disease reported in New Jersey in 2023 from all 21 counties.
- The number of cases in Week 27 this year is lower than the number of cases reported in 2022.

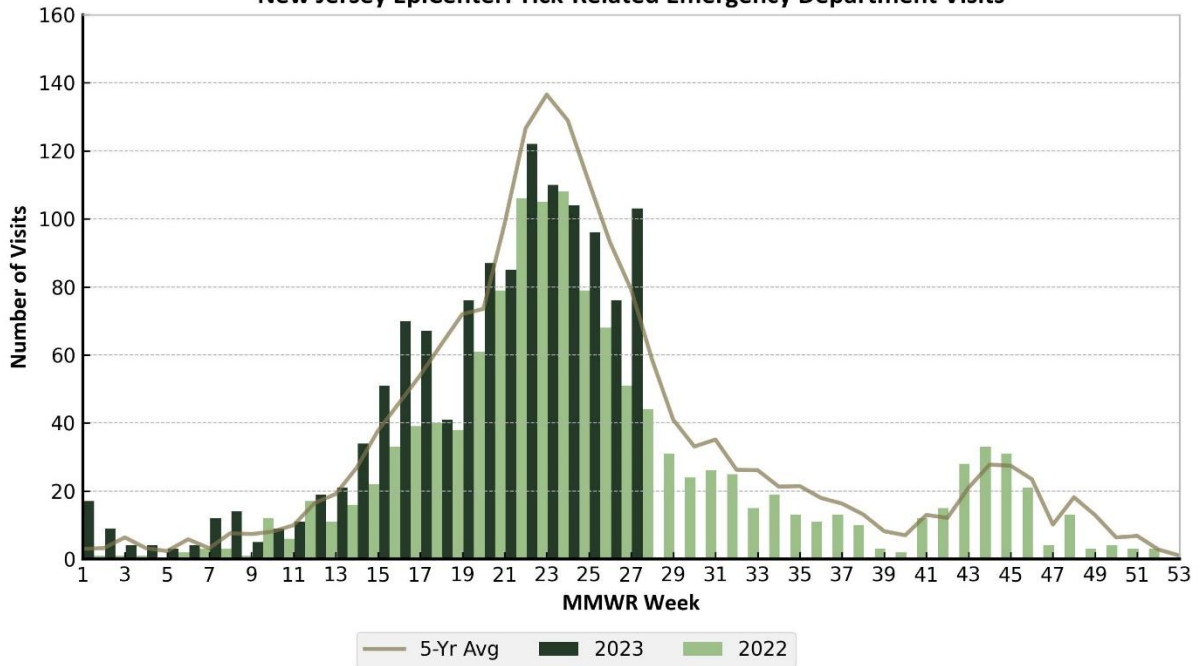


Tick-related Emergency Department Visits

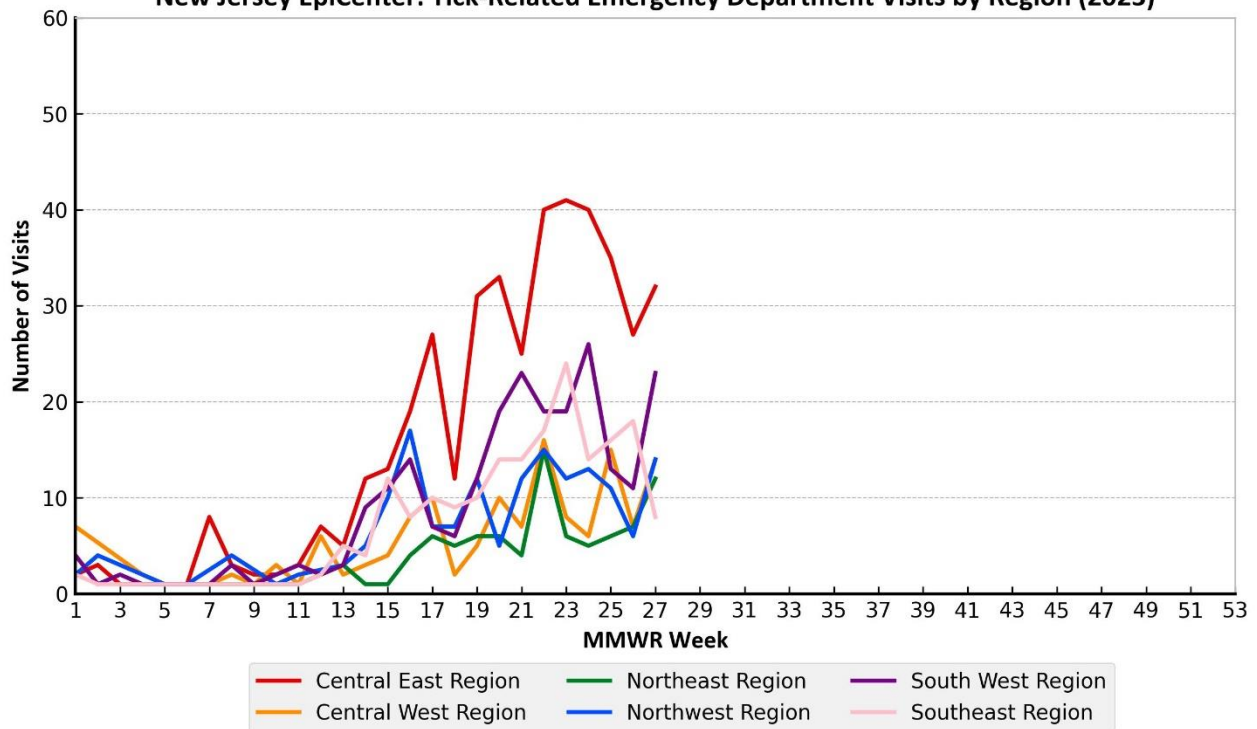
New Jersey's syndromic surveillance system, known as EpiCenter, receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing 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 27, 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 11, 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