

Report Highlights:

- There are no reported human or animal cases of West Nile Virus (WNV), Eastern equine encephalitis (EEE), or Jamestown Canyon virus (JCV) in 2023. NJDOH is investigating one potential case of WNV.
- 14 mosquito pools tested positive for WNV in week 29, for a total of 46 mosquito pools this year in 11 counties. This is lower than last year and below the 5-year average. Bergen County has the highest number of positive pools (19), followed by Union County (8).
- No mosquito pools tested positive for JCV or EEE this week; to date in 2023, 1 pool tested positive for JCV in Cumberland County and no mosquito pools have tested positive for EEE.
- 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 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. 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	79	125
Eastern equine encephalitis	-	-	Babesiosis	57	292
Jamestown Canyon	-	-	<i>Borrelia miyamotoi</i>	2	6
Malaria	18	86	Ehrlichiosis (<i>chaffeensis, ewingii</i>)	43	115
West Nile	-	20	Lyme disease*	3,743	5,897
Zika	-	-	Powassan	-	2
			Spotted fever group rickettsioses	13	35
			Tularemia	1	1

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

Mosquito-borne Disease Activity

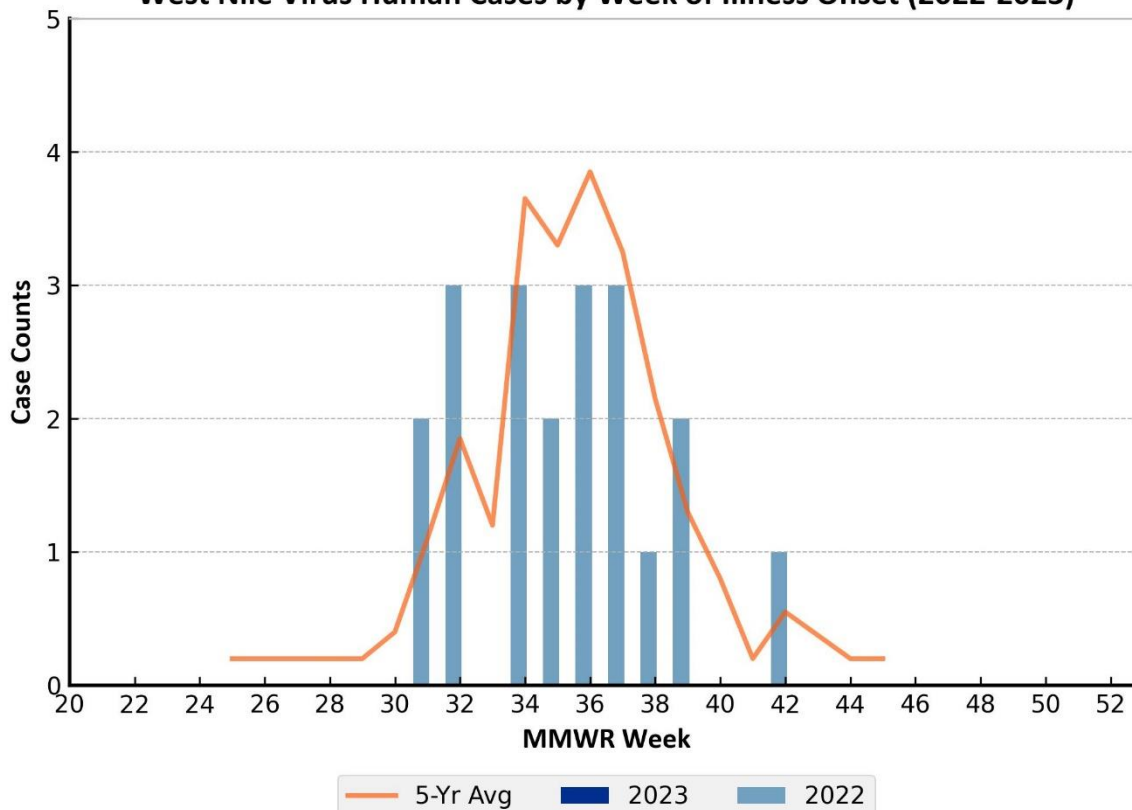
The New Jersey Department of Health Public Health and Environmental Laboratories (PHL) performs arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.*

*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on July 25, 2023

West Nile Virus

- There have been no human or animal cases of WNV reported in New Jersey in 2023. NJDOH is investigating one potential case.
- 3,743 pools from 21 counties have been tested for WNV. 14 pools tested positive in week 29 in 6 counties and a total of 46 mosquito pools have tested positive for WNV so far this year. The positive pools were found in: *Culex sp.* (5), *Culex erraticus* (1), *Culex pipiens* (2), *Culex pipiens/restuans/salinarius* (37), *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)

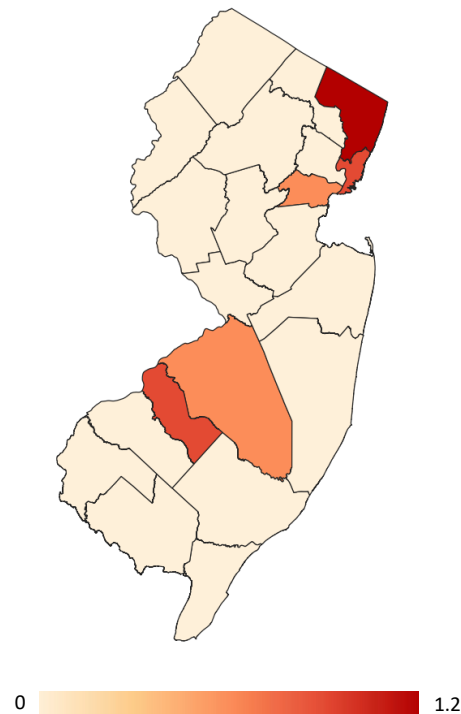


WNV Mosquito Pool Testing

County	WEEK 29 Positive Pools		Cumulative Pos. Total* (WEEK 29)		# Pools Tested*	WEEK 29 Vector Index	
	2023	2022	2023	2022		2023 ^t	
Bergen	6	9	19	15	140	1.198	(↓)
Union	2	14	8	21	67	0.382	(↓)
Camden	1		4		150	0.546	(↑)
Cape May			3		219	0	(↓)
Hudson	3	5	3	9	118	0.491	(↑)
Atlantic	1		3		151	0	(↓)
Hunterdon			2		163	0	(↓)
Burlington	1	3	1	5	97	0.100	(↑)
Mercer		1	1	3	180	0	(↓)
Morris			1	6	198	0	(↓)
Somerset		1	1	2	120	0	(-)
Cumberland					153	0	(-)
Essex		1		1	100	0	(-)
Gloucester				2	435	0	(-)
Middlesex		3		8	149	0	(-)
Monmouth		2		2	198	0	(-)
Ocean					166	0	(-)
Passaic		2		3	127	0	(-)
Salem				1	194	0	(-)
Sussex					414	0	(-)
Warren					204	0	(-)
Total	14	41	46	78	3,743	-	

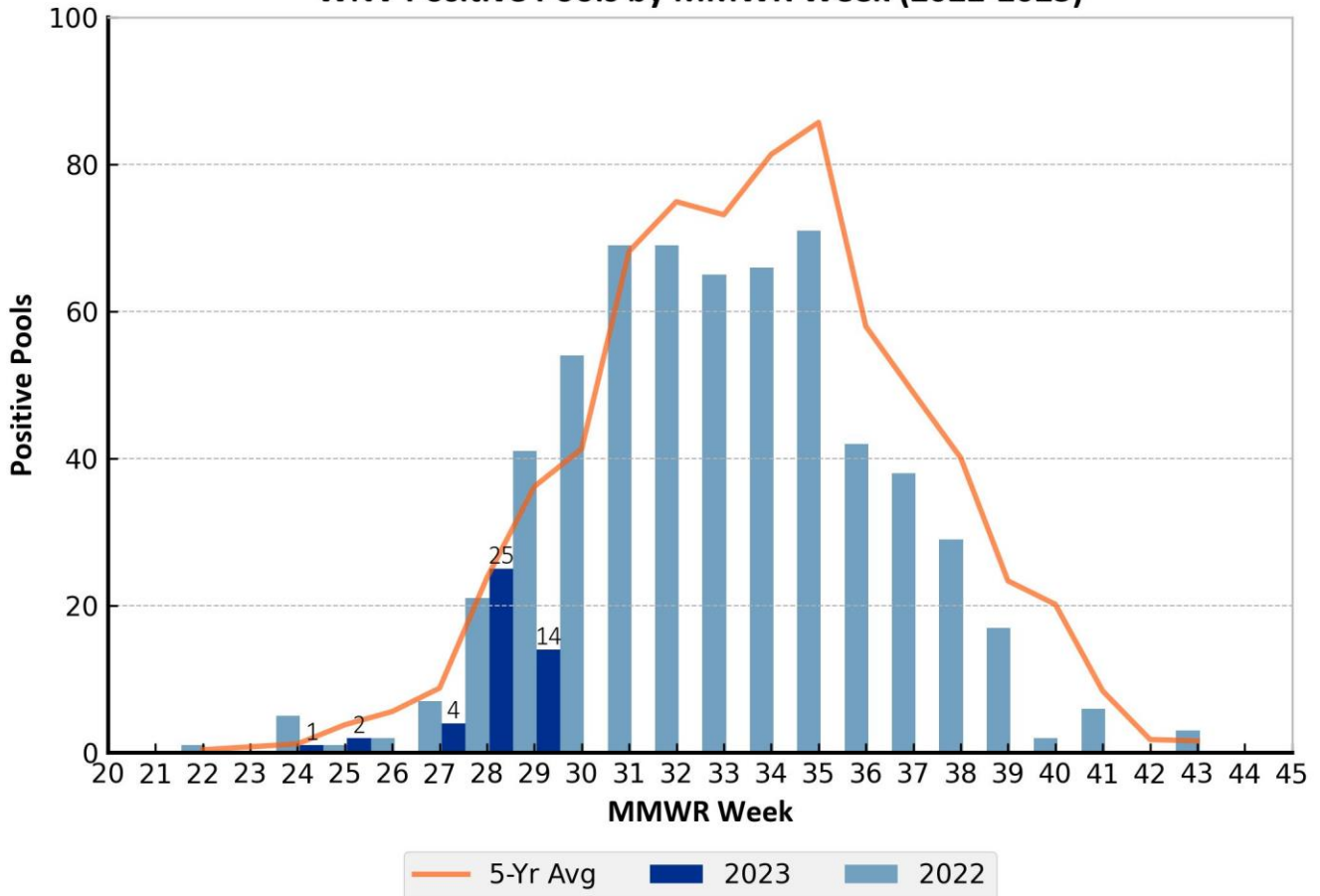
WEEK 29: July 17 - 23, 2022; July 16 - 22, 2023. *The number of pools tested for 9 counties includes early season collections that were specifically targeting JCV: Camden (9), Cape May (15), Cumberland (13), Essex (3), Gloucester (100), Mercer (7), Morris (18), Salem (8), Sussex (92), and Warren (27).

WNV Vector Index, WEEK 29^t

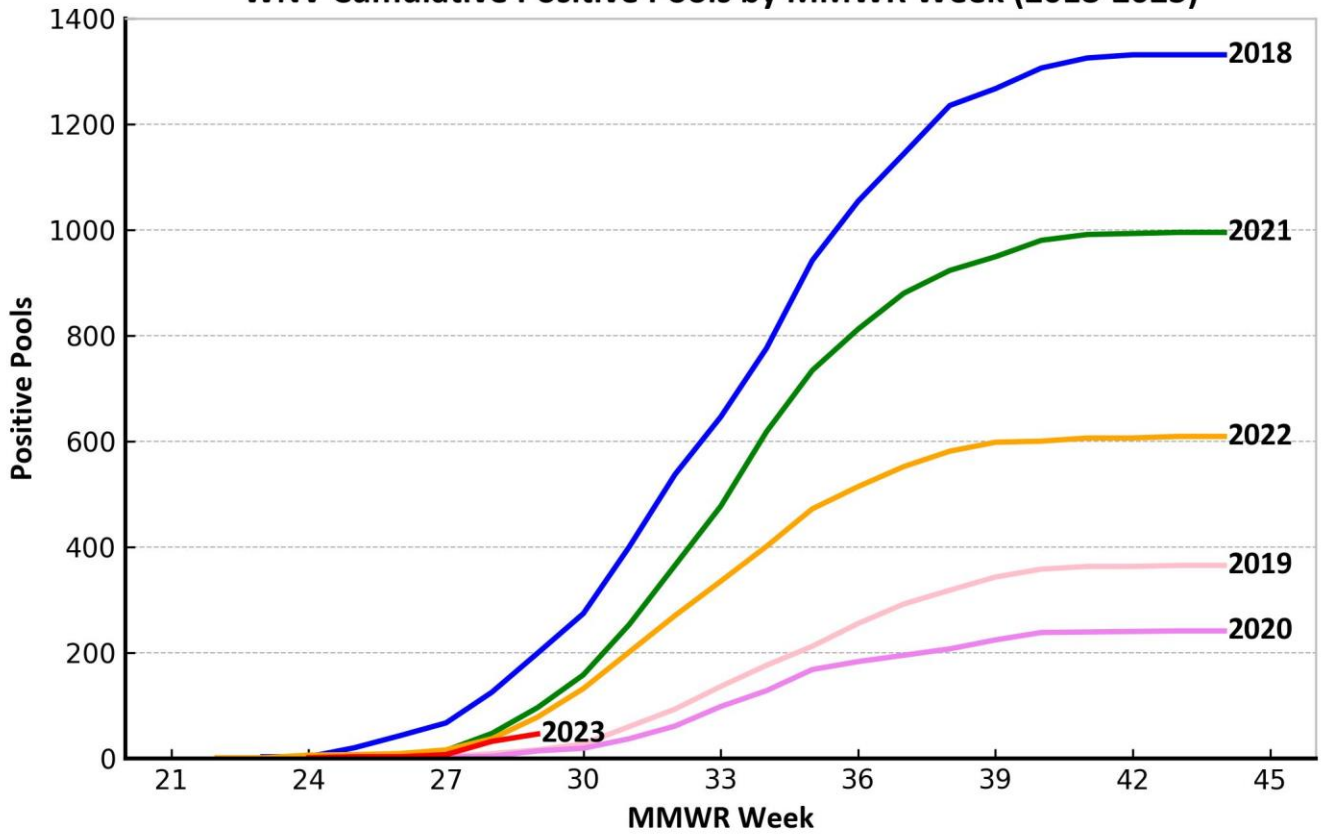


^t Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only. The Atlantic County pool for week 29 was caught in a CO2 trap.

WNV Positive Pools by MMWR Week (2022-2023)



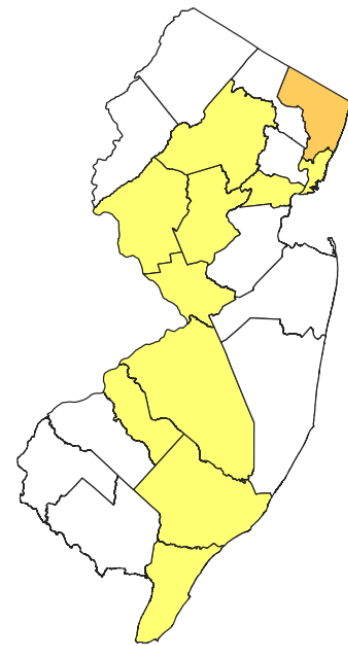
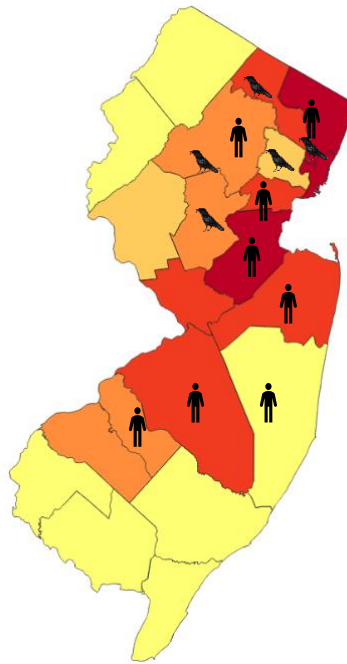
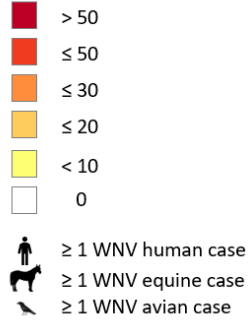
WNV Cumulative Positive Pools by MMWR Week (2018-2023)



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 3,707 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.

EEE Mosquito Pool Testing

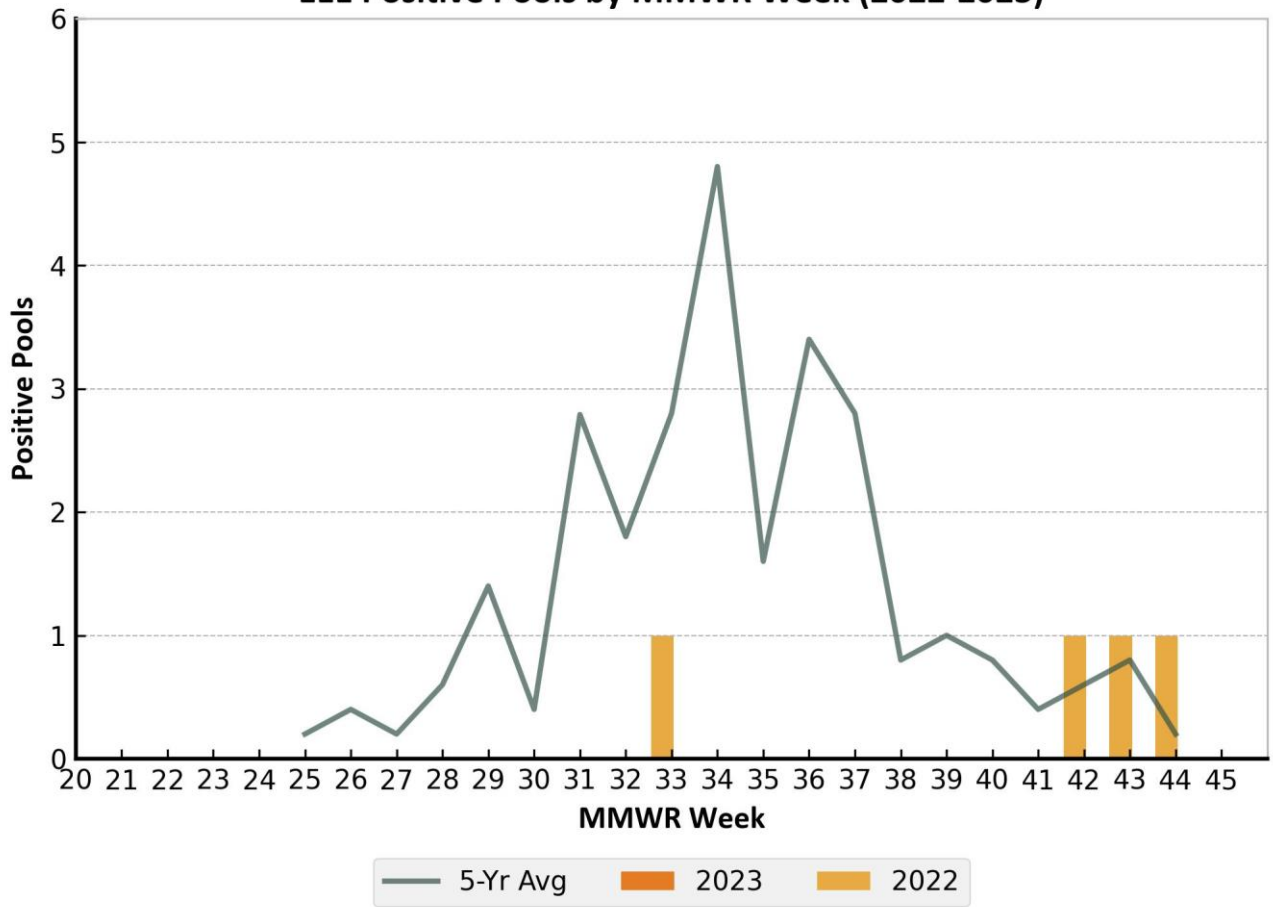
County	WEEK 29 Positive Pools		Cumulative Pos. Total* (WEEK 29)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022		
Atlantic					151	
Bergen					140	
Burlington					96	
Camden					145	
Cape May					219	
Cumberland					153	
Essex					100	
Gloucester					435	
Hudson					118	
Hunterdon					162	
Mercer					169	
Middlesex					149	
Monmouth					198	
Morris					198	
Ocean					166	
Passaic					127	
Salem					188	
Somerset					120	
Sussex					409	
Union					67	
Warren					197	
Total	-	-	-	-	3,707	-

Cumulative EEE MFIR, 2023



WEEK 29: July 17 - 23, 2022; July 16 - 22, 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)



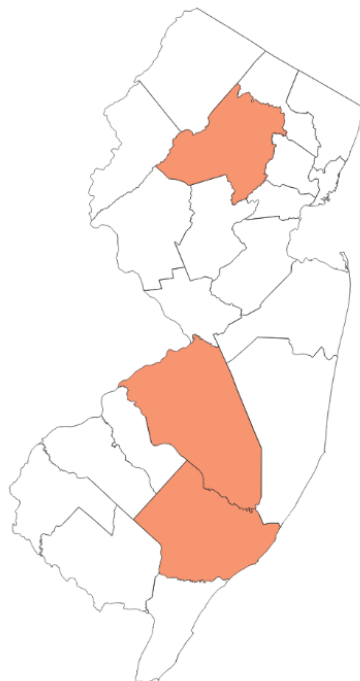
2022 EEE Activity

Cumulative EEE Activity, 2023

EEE Positive Pools

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

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



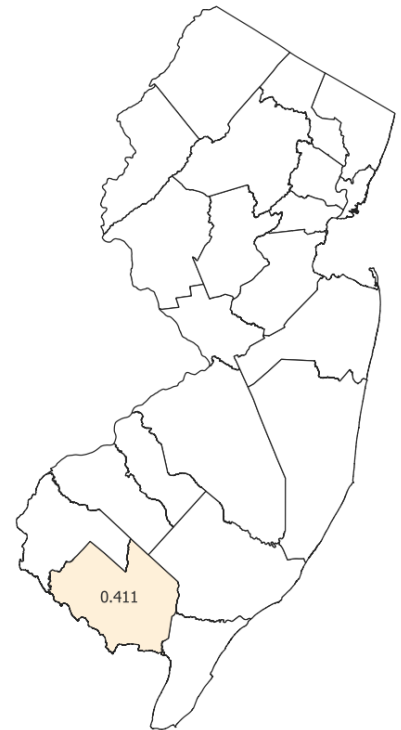
Jamestown Canyon Virus

- There have been no human cases of JCV in New Jersey in 2023.
- 3,707 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

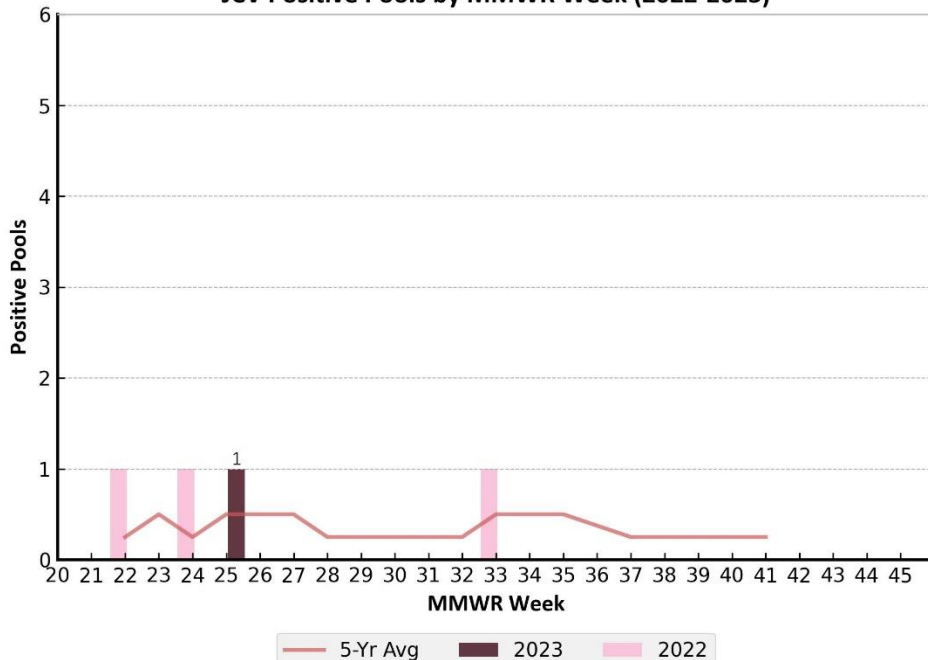
County	WEEK 29 Positive Pools		Cumulative Pos. Total* (WEEK 29)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022	2023	2023
Cumberland			1		153	0.411
Atlantic					151	
Bergen				2	140	
Burlington					96	
Camden					145	
Cape May					219	
Essex					100	
Gloucester					435	
Hudson					118	
Hunterdon					162	
Mercer					169	
Middlesex					149	
Monmouth					198	
Morris					198	
Ocean					166	
Passaic					127	
Salem					188	
Somerset					120	
Sussex					409	
Union					67	
Warren					197	
Total	-	-	1	2	3,707	-

Cumulative JCV MFIR, 2023



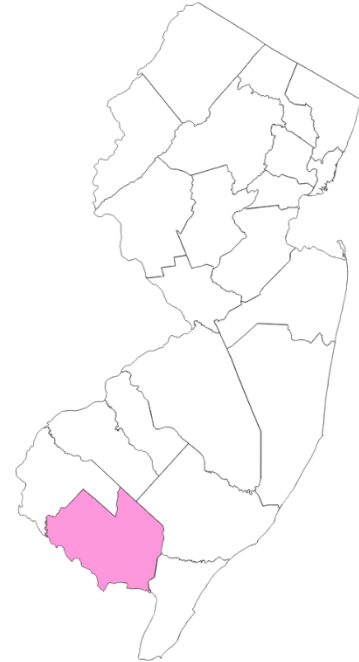
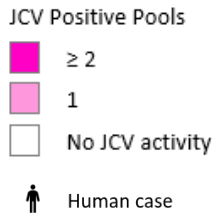
WEEK 29: July 17 - 23, 2022; July 16 - 22, 2023 *includes early season pools from 9 counties

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	151		4							
Bergen	140									
Burlington	96		1							
Camden	145		5							
Cape May	219									
Cumberland	153									
Essex	100									
Gloucester	435									
Hudson	118									
Hunterdon	162		1							
Mercer	169		11							
Middlesex	149									
Monmouth	198				2		2		2	
Morris	198									
Ocean	166									
Passaic	127		4							
Salem	188		10							
Somerset	120									
Sussex	409		7							
Union	67									
Warren	197		8							
Total	3,707	-	51	-	2	-	2	-	2	-

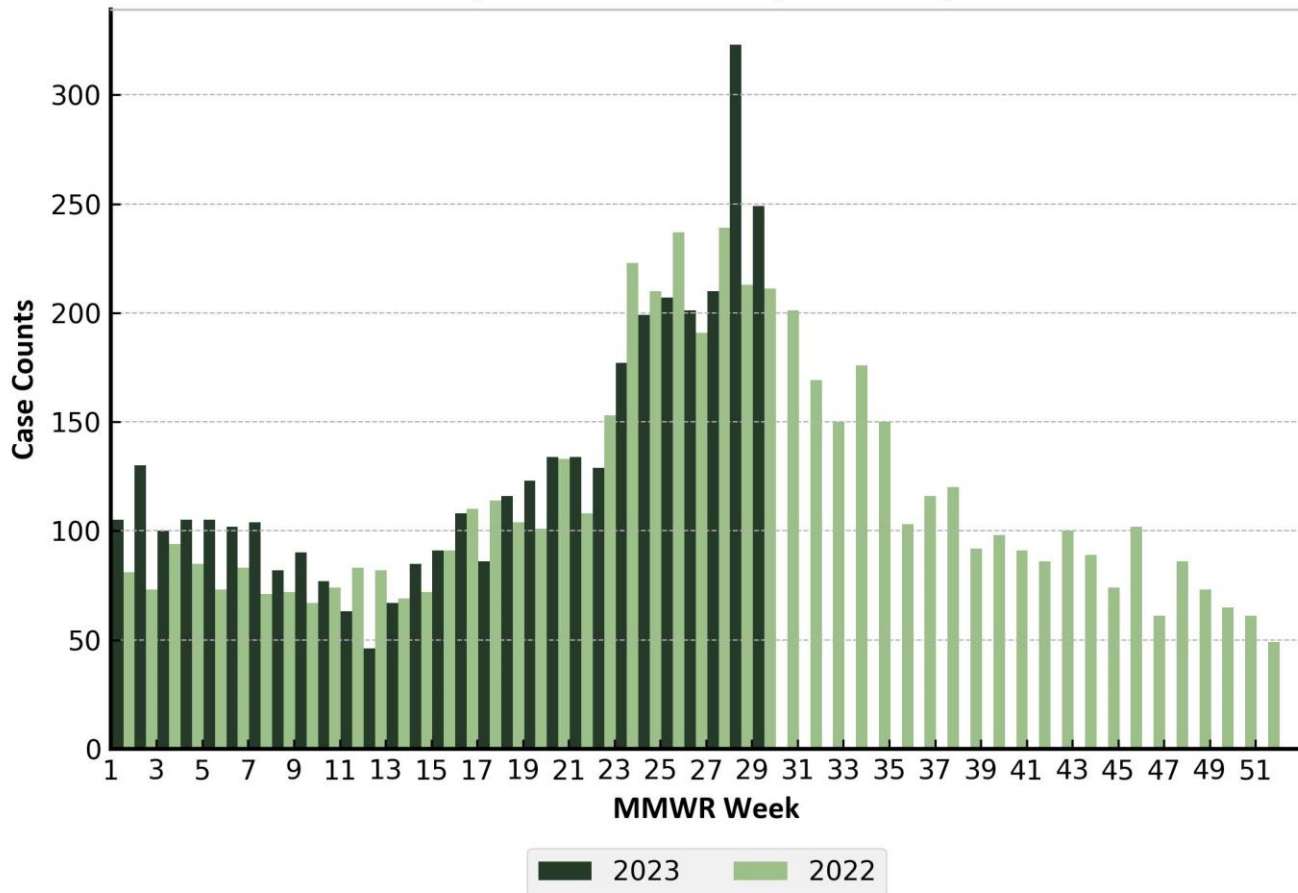
^a St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)
 Numbers in white columns represent number of pools tested to date in 2023
 Number in blue shaded columns represent positive pools in 2023

Tick-borne Disease Activity

Lyme Disease

- There have been 3,743 cases of Lyme disease reported in New Jersey in 2023 in 21 counties.
- The number of cases in Week 29 this year is higher than the number of cases reported in 2022.

Lyme Disease Cases (2022-2023)

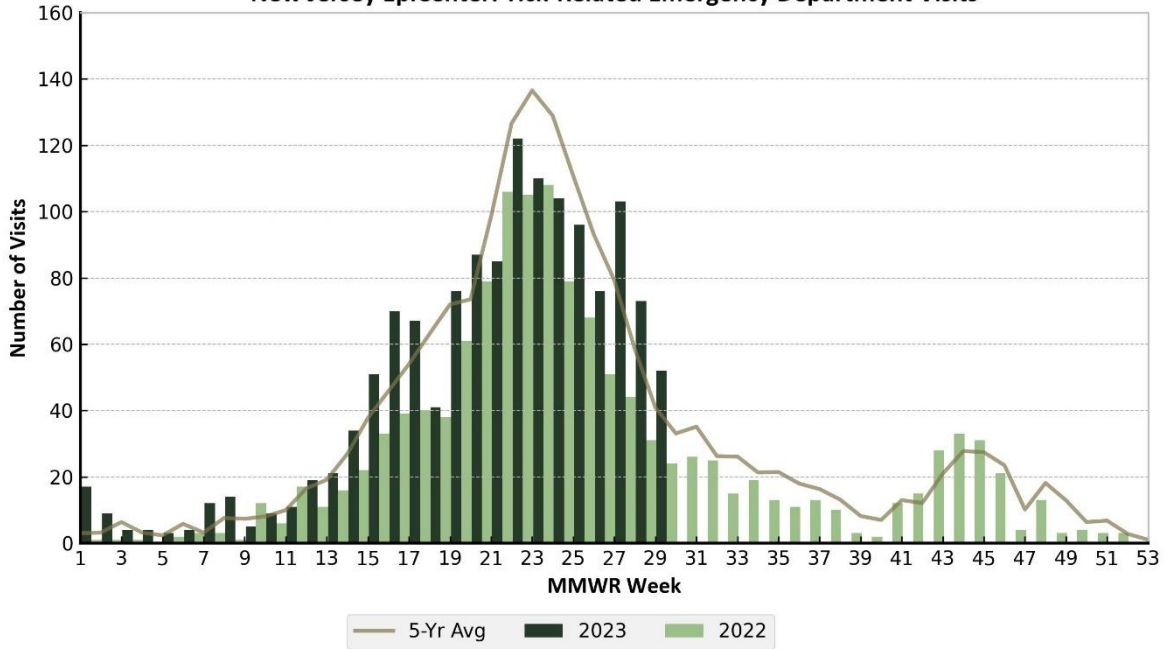


Tick-related Emergency Department Visits

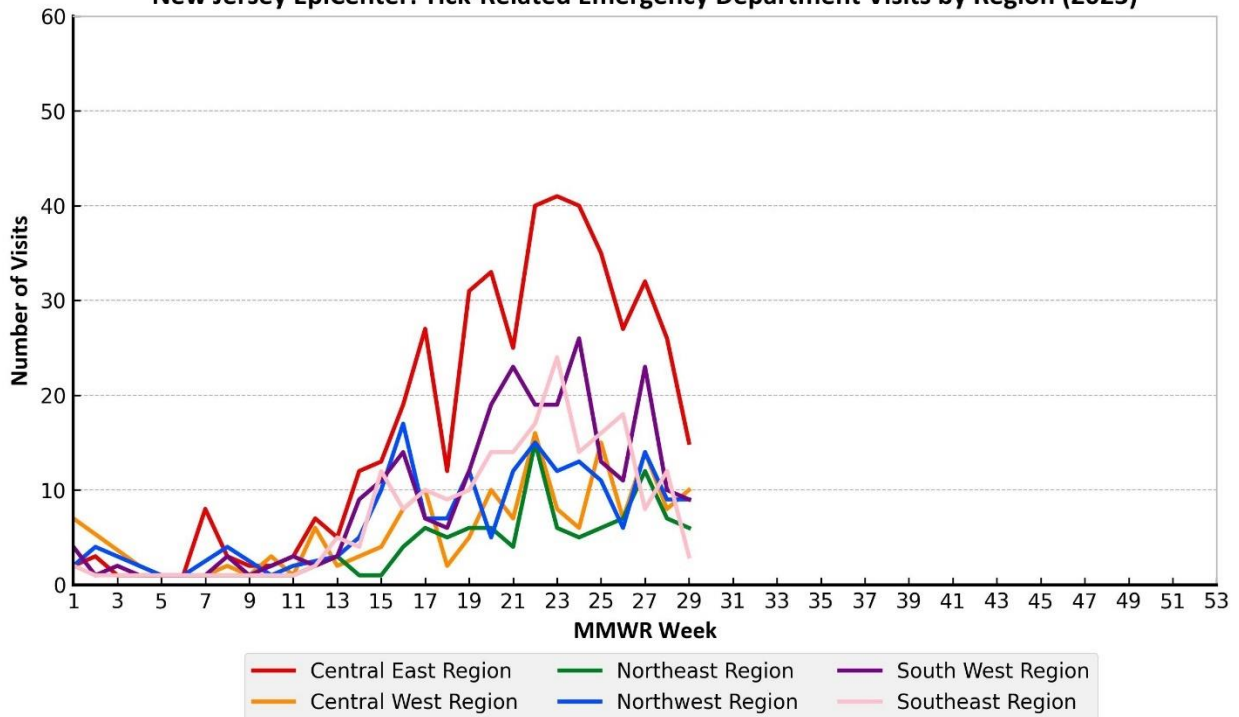
New Jersey's syndromic surveillance system, known as EpiCenter, receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing 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 29, 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 25, 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