Vector-borne Surveillance Report

CDC WEEK 25: June 18-24, 2023

Report Highlights:

- ***Three mosquito pools have tested positive for West Nile Virus (WNV) so far this year in Bergen, Somerset, and Union Counties.***
- ***NJDOH began testing mosquitoes for arboviruses the week of May 15th and to date has tested mosquitoes submitted from all 21 counties.***
- ***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 comparable to this time last year, but below 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.

Mosquito-borne diseases			Tickborne Diseases/Conditions		
	2023	2022		**2023**	2022
Chikungunya	**8**	2	Alpha-gal syndrome	**46**	234
Dengue	**9**	35	Anaplasmosis	**34**	125
Eastern equine encephalitis	**-**	-	Babesiosis	**22**	292
Jamestown Canyon	**-**	1	*Borrelia miyamotoi*	**-**	6
Malaria	**15**	86	Ehrlichiosis (*chaffeensis, ewingii*)	**10**	115
West Nile	**-**	20	Lyme disease*	**2,704**	5,897
Zika	**-**	-	Powassan	**-**	2
			Spotted fever group rickettsioses	**7**	35
			Tularemia	**1**	1

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

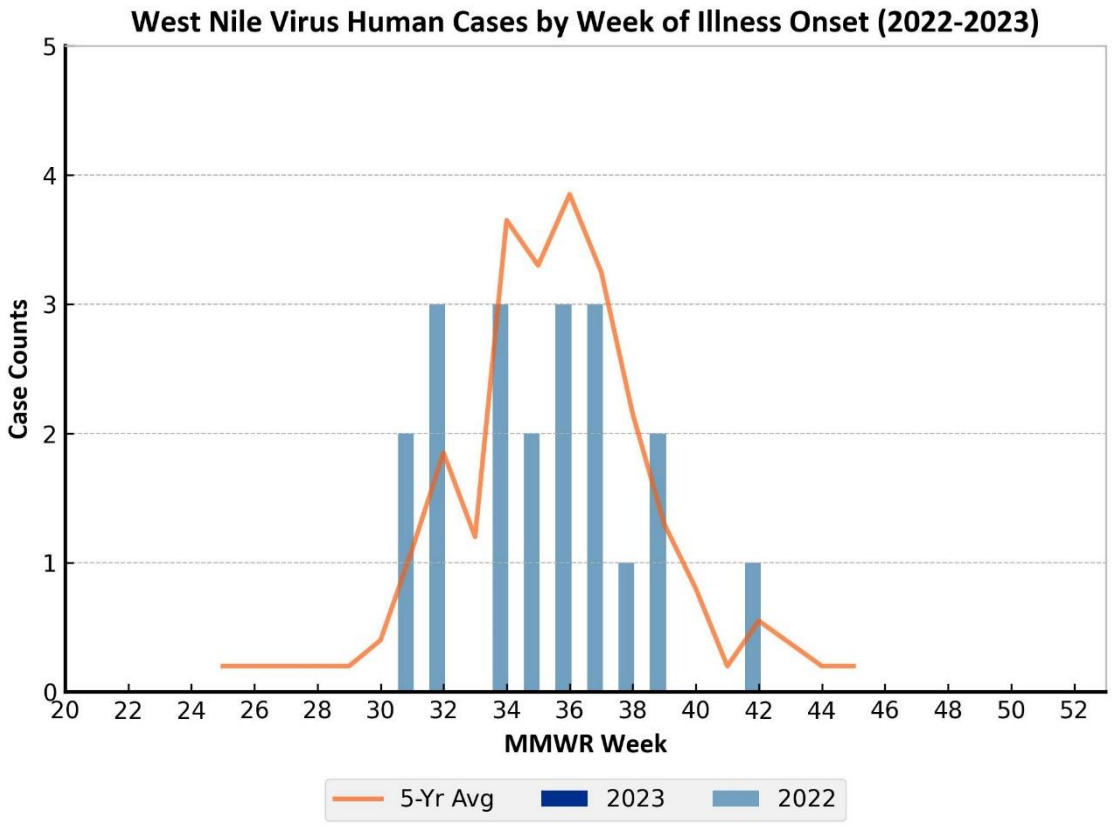
Mosquito-borne Disease Activity

The New Jersey Department of Health Public Health and Environmental Laboratories (PHEL) 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 June 27, 2023*

West Nile Virus

- There have been no human cases of WNV in New Jersey in 2023.
- A total of 2,159 pools from all 21 counties have been tested for WNV.
- Two pools tested positive for WNV in week 25 in Somerset and Union Counties. Three mosquito pools have tested positive so far this year. The positive pools were found in: *Culex pipiens/restuans/salinarius (3)*.
- 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.



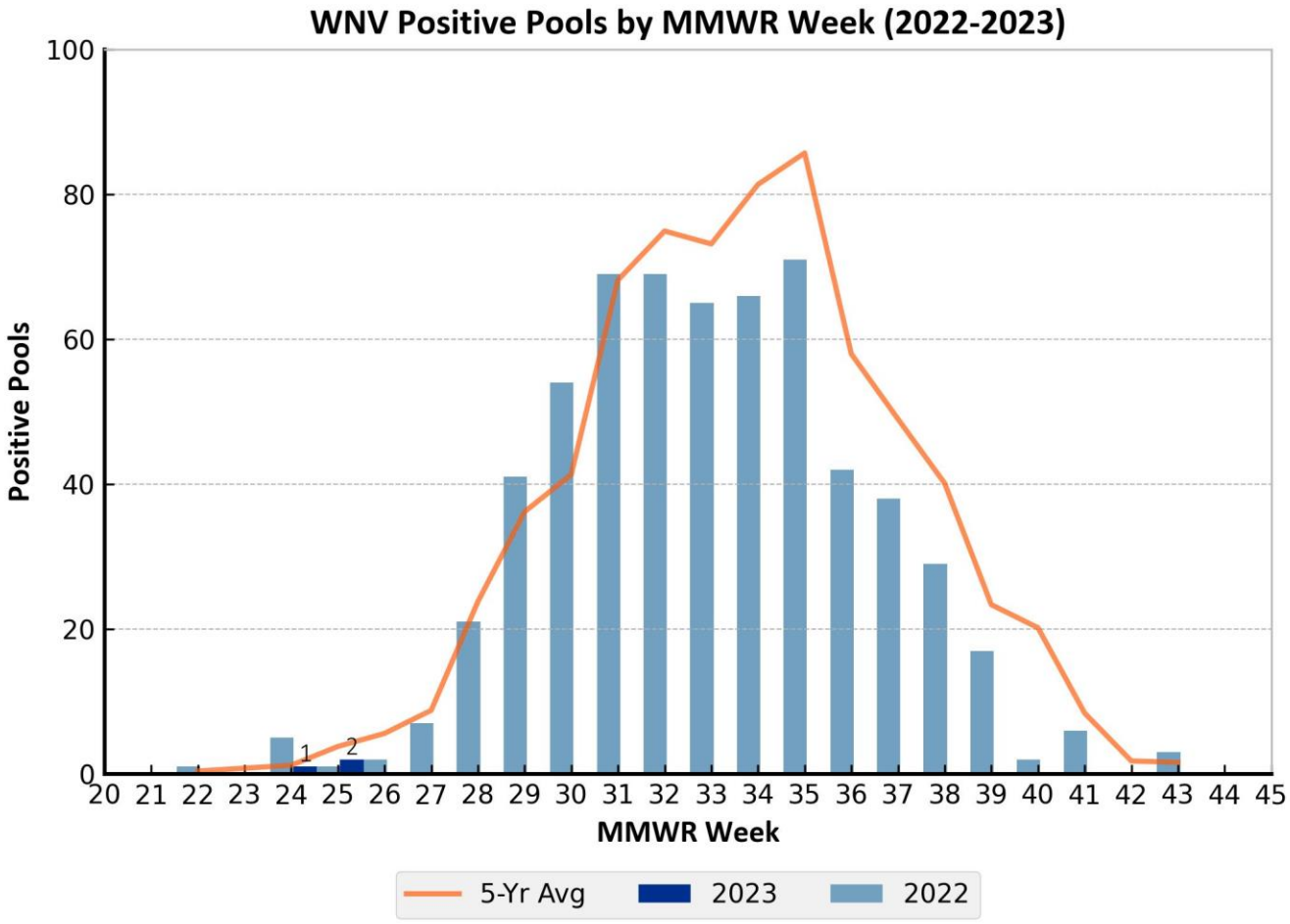
WNV Mosquito Pool Testing

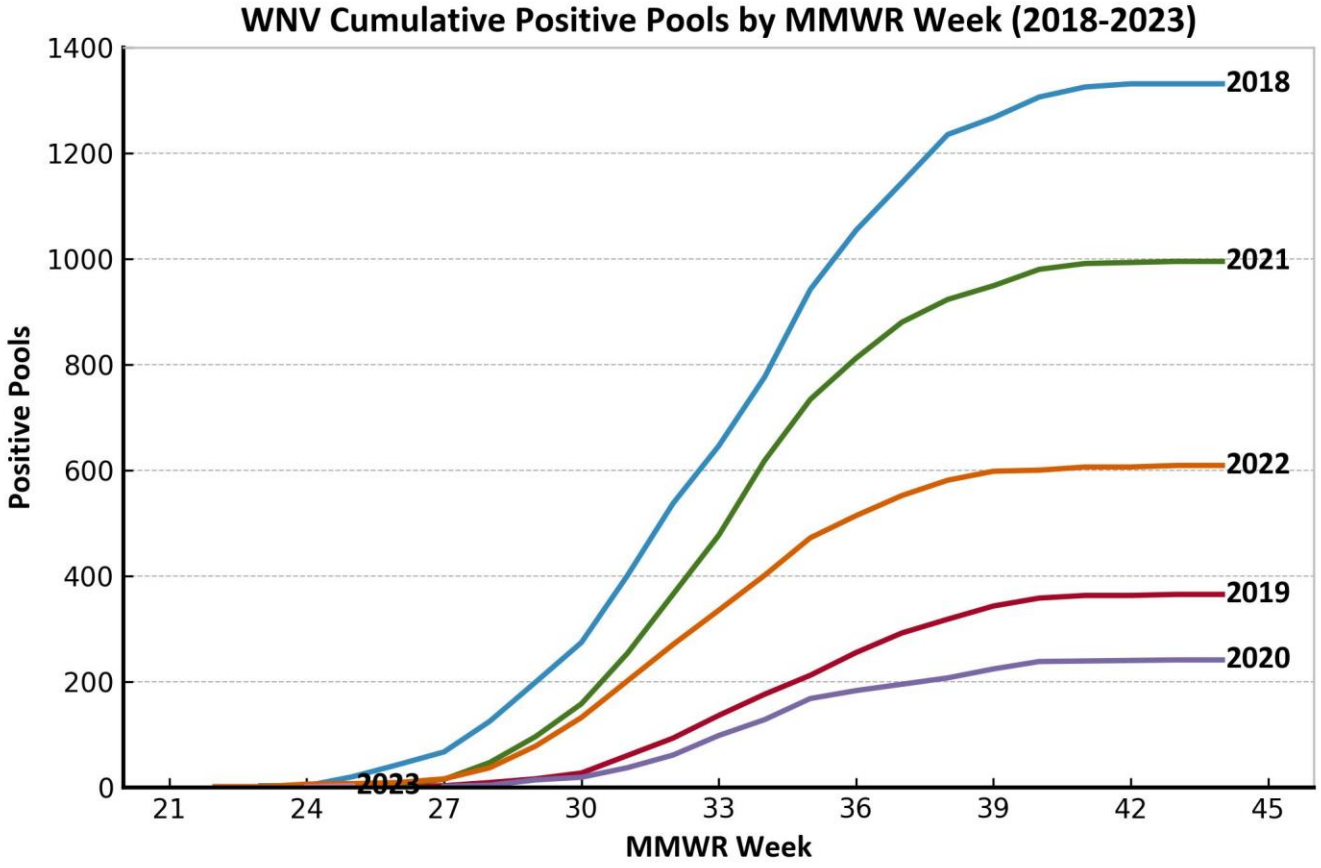
	WEEK 25 Positive Pools		Cumulative Pos. Total (WEEK 25)		# Pools Tested	WEEK 25 Vector Index
County	**2023**	2022	**2023**	2022	**2023**	**2023[t]**
Bergen			1	2	60	
Somerset	1		1	1	49	0.529
Union	1		1		22	
Atlantic					92	
Burlington				1	4	
Camden					81	
Cape May					123	
Cumberland					58	
Essex					51	
Gloucester				1	316	
Hudson					58	
Hunterdon					86	
Mercer					97	
Middlesex					96	
Monmouth					111	
Morris		1		1	118	
Ocean					104	
Passaic					69	
Salem				1	106	
Sussex					334	
Warren					124	
Total	2	1	3	7	2159	-

WEEK 25: June 19-25, 2022; June 18-24, 2023

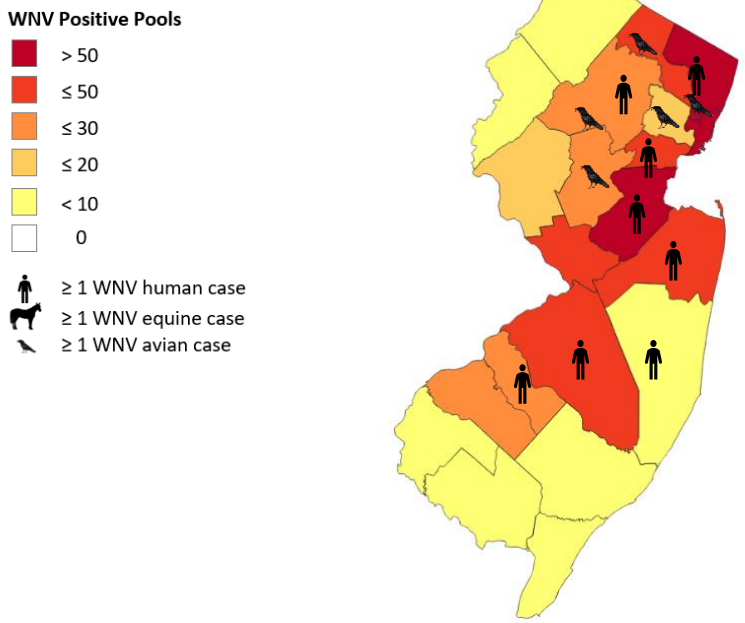
WNV Vector Index, WEEK 25[t]

[t] Vector Index is calculated based on *Ae. taeniorhynchus, An. quadrimaculatus,* and all *Culex* species caught in gravid traps only. The Union County positive pool was not collected in a gravid trap.

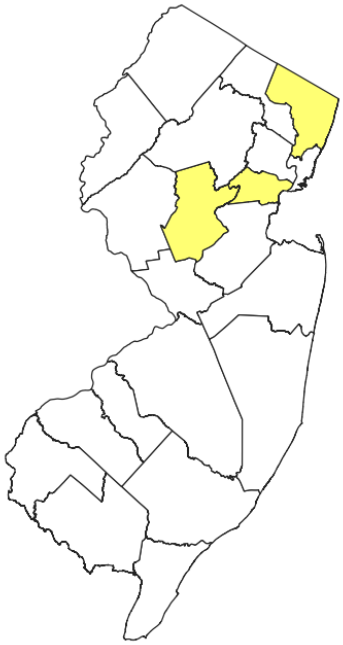

WNV Positive Pools by MMWR Week (2022-2023)
Positive Pools
MMWR Week
5-Yr Avg
2023
2022


WNV Cumulative Positive Pools by MMWR Week (2018-2023)
Positive Pools
MMWR Week
2018
2021
2022
2019
2020
2023

2022 WNV Activity



Cumulative WNV Activity, 2023



Eastern Equine Encephalitis

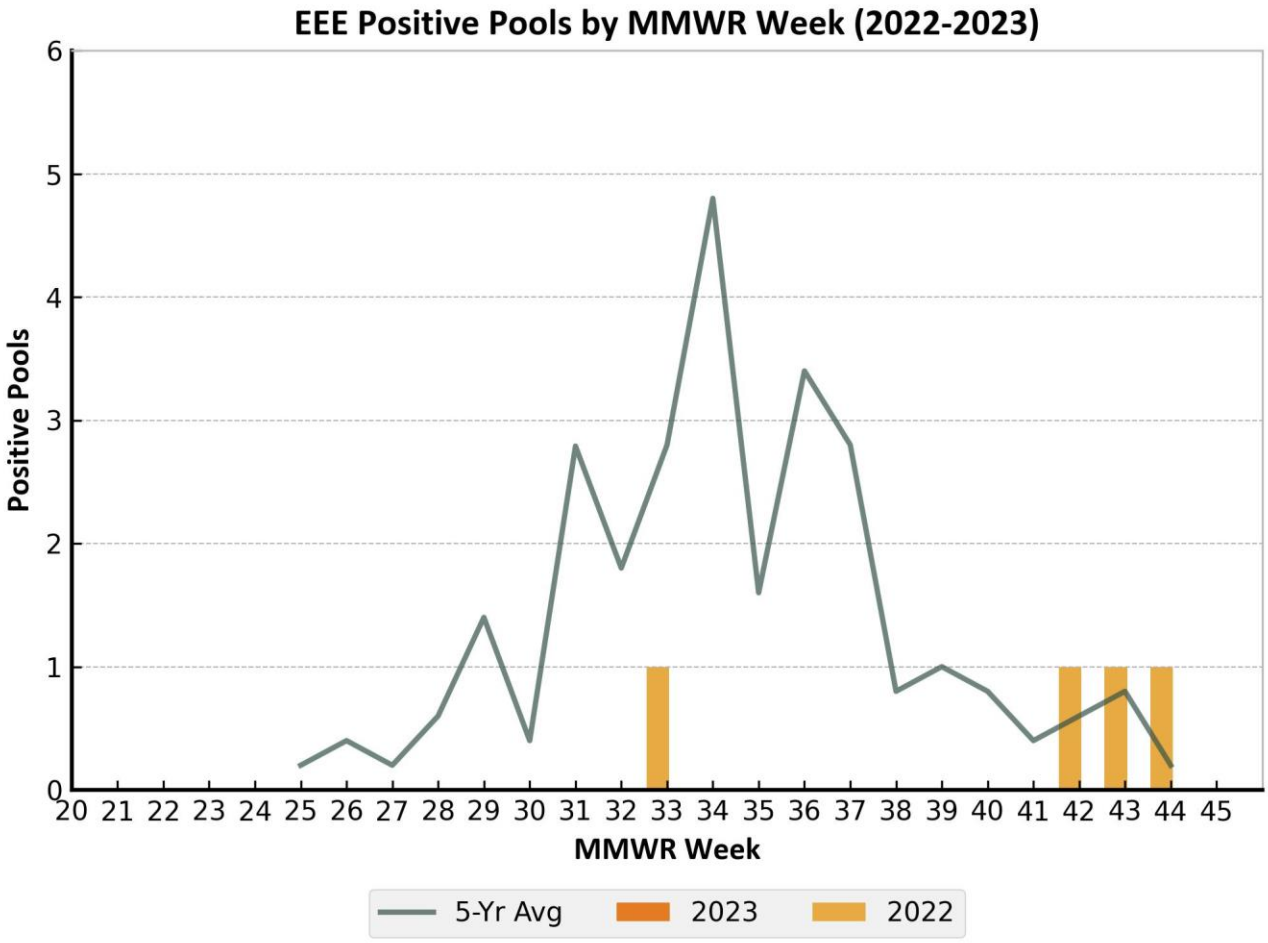
- There have been no human cases of EEE in New Jersey in 2023. EEE cases were last reported in 2019 (4 cases).
- A total of 2,147 pools from all 21 counties have been tested for EEE.
- No positive EEE pools have been identified in 2023. In 2022, the first EEE positive pool was detected in Week 33 from Morris County.
- No animals have tested positive for EEE in 2023.

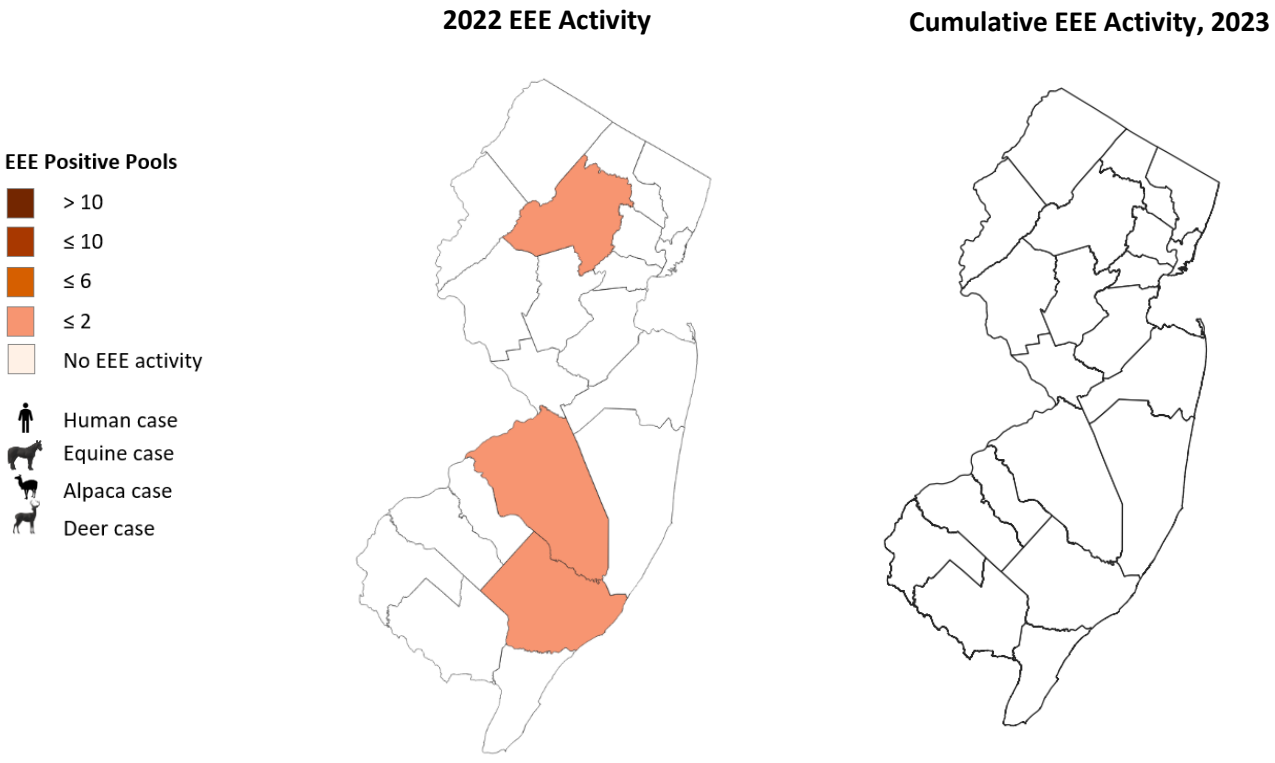
EEE Mosquito Pool Testing

	WEEK 25 Positive Pools		Cumulative Pos. Total (WEEK 25)		# Pools Tested	Cumulative MFIR
County	**2023**	2022	**2023**	2022	**2023**	**2023**
Atlantic					88	
Bergen					60	
Burlington					4	
Camden					81	
Cape May					123	
Cumberland					58	
Essex					51	
Gloucester					316	
Hudson					58	
Hunterdon					86	
Mercer					92	
Middlesex					96	
Monmouth					111	
Morris					118	
Ocean					104	
Passaic					69	
Salem					103	
Somerset					49	
Sussex					334	
Union					22	
Warren					124	
Total	-	-	-	-	2147	-

WEEK 25: June 19-25, 2022; June 18-24, 2023

Cumulative EEE MFIR, 2023


EEE Positive Pools by MMWR Week (2022-2023)
Positive Pools
0
1
2
3
4
5
6
20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
MMWR Week
5-Yr Avg
2023
2022


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 2,147 pools from all 21 counties have been tested for JCV.
- No positive JCV pools have been identified in 2023. In 2022, the first JCV positive pool was detected in Week 22 (Bergen County).

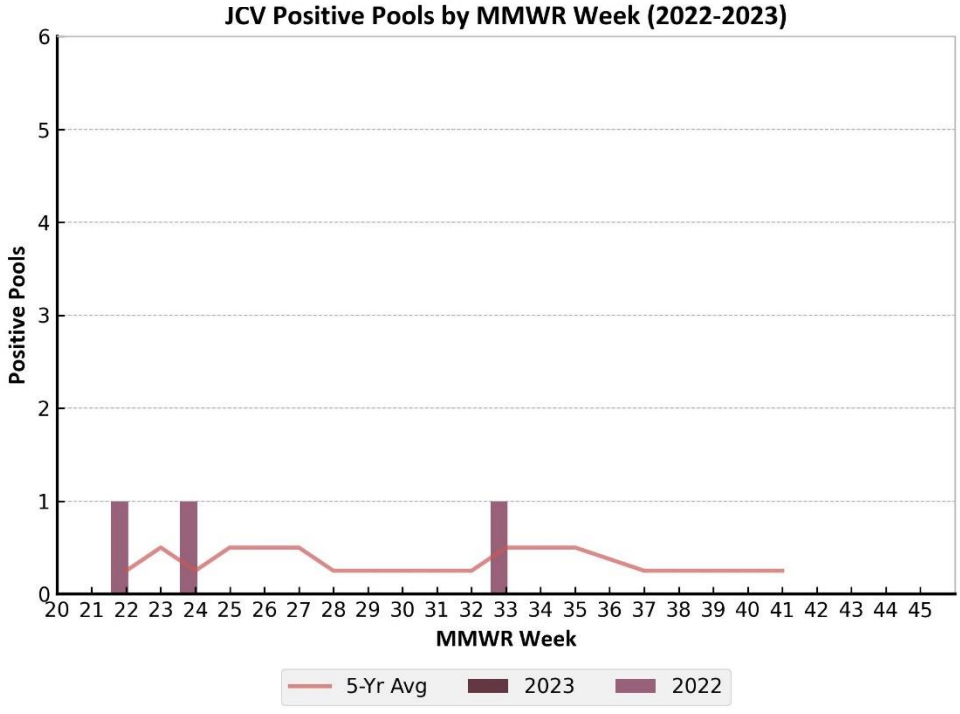
JCV Mosquito Pool Testing

	WEEK 25 Positive Pools		Cumulative Pos. Total (WEEK 25)		# Pools Tested	Cumulative MFIR
County	**2023**	2022	**2023**	2022	**2023**	**2023**
Atlantic					88	
Bergen				2	60	
Burlington					4	
Camden					81	
Cape May					123	
Cumberland					58	
Essex					51	
Gloucester					316	
Hudson					58	
Hunterdon					86	
Mercer					92	
Middlesex					96	
Monmouth					111	
Morris					118	
Ocean					104	
Passaic					69	
Salem					103	
Somerset					49	
Sussex					334	
Union					22	
Warren					124	
Total	-	-	-	2	2147	-

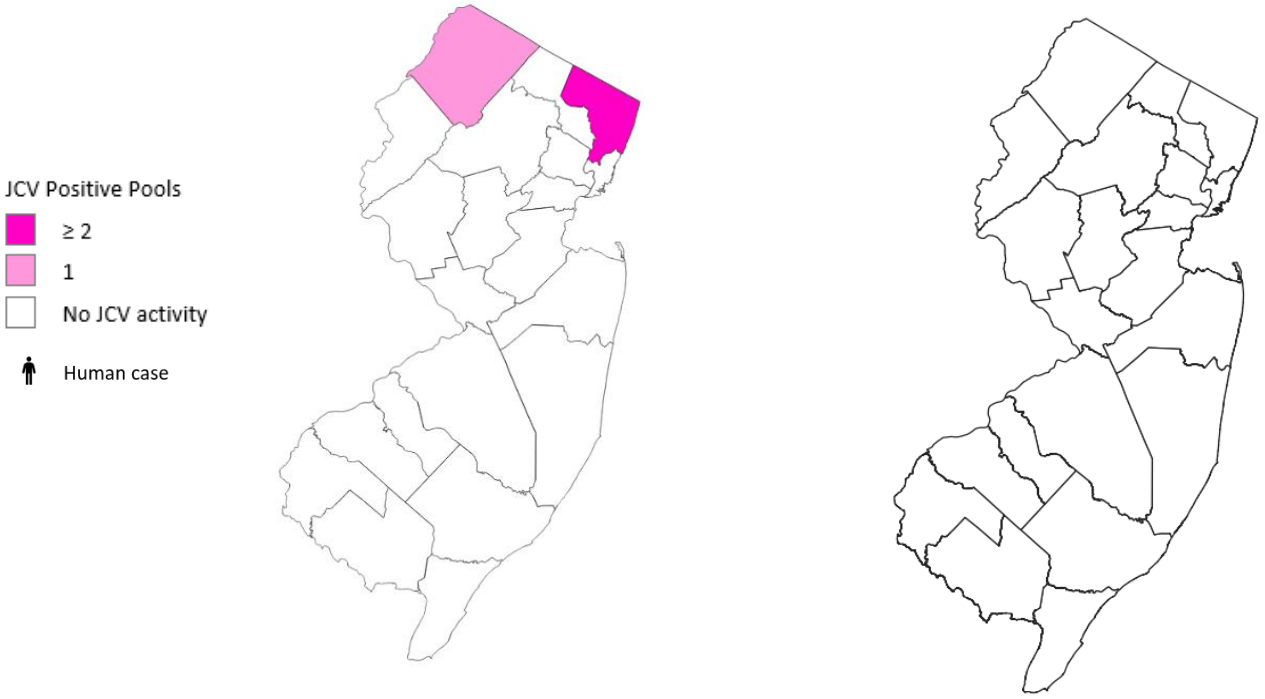
WEEK 25: June 19-25, 2022; June 18-24, 2023

Cumulative JCV MFIR, 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])

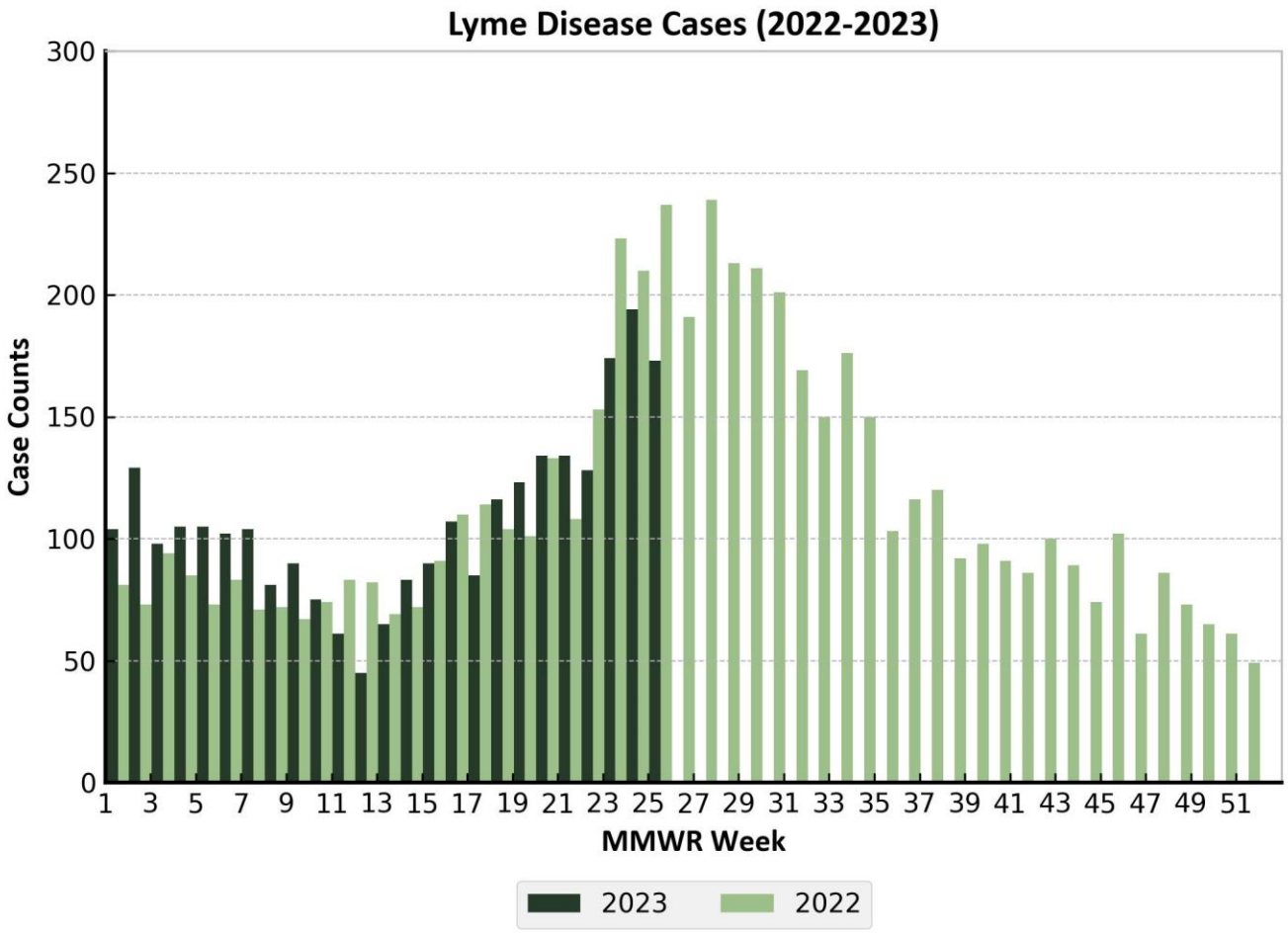
	SLE		LAC		CHIKV		DENV		ZIKV	
County	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	88		4							
Bergen	60									
Burlington	4									
Camden	81									
Cape May	123									
Cumberland	58									
Essex	51									
Gloucester	316									
Hudson	58									
Hunterdon	86									
Mercer	92		5							
Middlesex	96									
Monmouth	111				2		2		2	
Morris	118									
Ocean	104									
Passaic	69									
Salem	103		3							
Somerset	49									
Sussex	334									
Union	22									
Warren	124									
Total	**2147**	-	**12**	-	**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

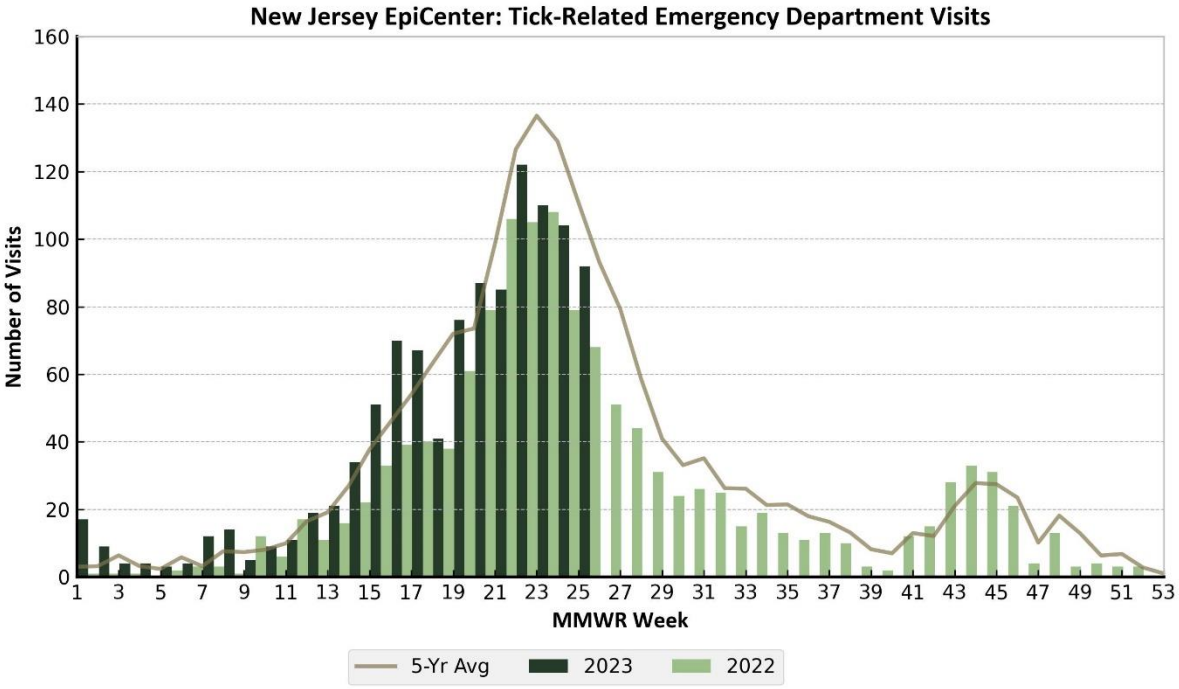
- There have been 2,704 cases of Lyme disease reported in New Jersey in 2023, including cases in all 21 counties.
- The number of cases in Week 25 this year is lower than the number of cases reported in 2022.

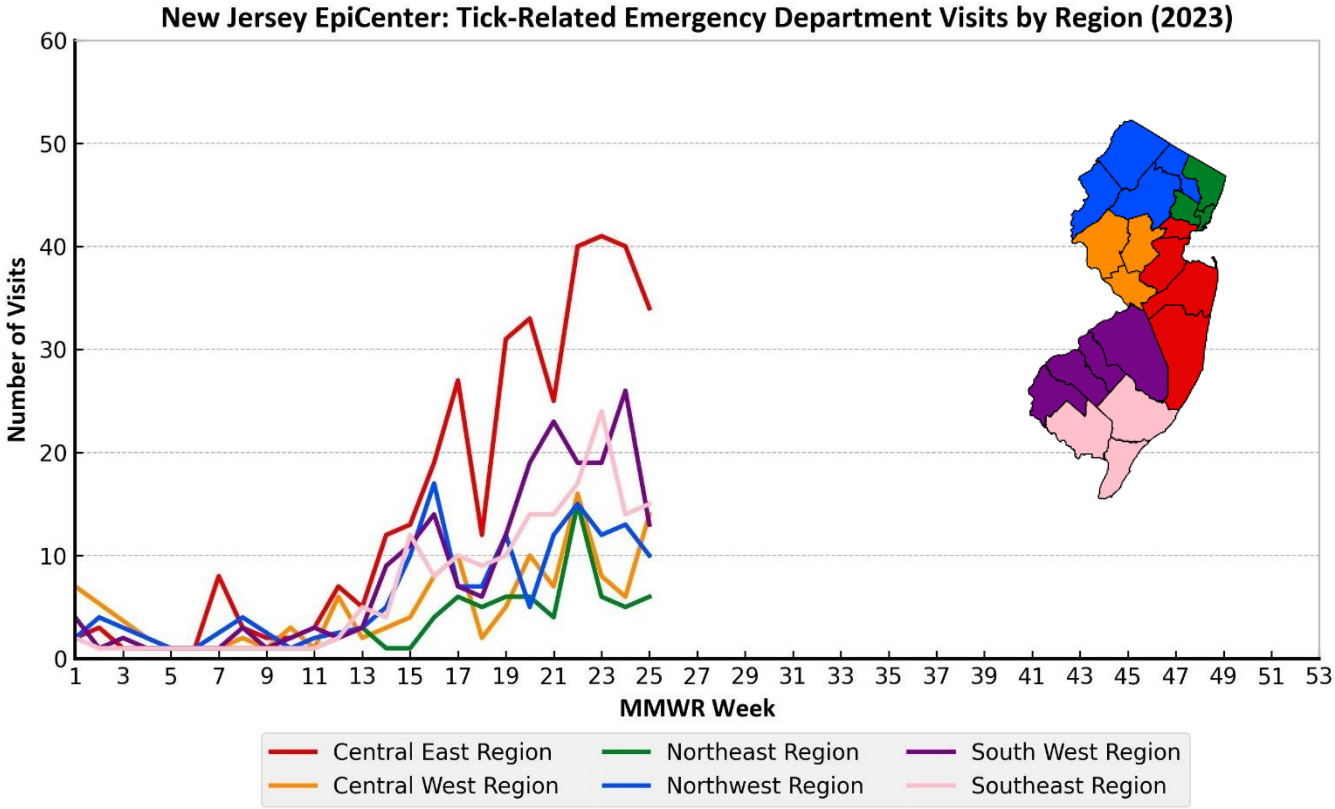


Tick-related Emergency Department Visits

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 25, the number of tick-related ED visits is higher than in 2022 but below the 5-year average.





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

For more information

- NJDOH Communicable Disease Service: http://nj.gov/health/cd/topics/vectorborne.shtml
- 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