

Report Highlights:

- NJDOH is reporting 8 cases, 1 death, and 1 asymptomatic blood donor associated with West Nile virus (WNV) infection in Bergen (4 cases, 1 death), Middlesex (3 cases), and Camden (1 case, 1 blood donor) counties.
- An additional 31 mosquito pools tested positive for WNV so far in Week 37, for a total of 691 this year. The number of positive pools in the previous 6 weeks has been higher than in 2022 and higher than the 5-year average (additional tests pending for this week). Bergen County has the highest total number of positive pools, followed by Hudson County. The vector index is highest this week in Hunterdon and Mercer counties.
- One additional Eastern Equine Encephalitis (EEE) mosquito pools was detected, for a total of 9 this year in Atlantic, Burlington, Camden, Cape May, and Cumberland counties. The cumulative minimum infection rate is highest in Camden County. There are no human or animal EEE cases in 2023.
- Several tickborne diseases transmitted by blacklegged ticks (anaplasmosis, babesiosis, Lyme disease) are approaching or have exceeded the 2022 total. Lyme disease cases were roughly level this week and are consistent with 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. "Presumptive positive" cases are pending additional 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	109	234
Dengue	31	35	Anaplasmosis	142	125
Eastern equine encephalitis	-	-	Babesiosis	299	292
Jamestown Canyon	-	-	<i>Borrelia miyamotoi</i>	6	6
Malaria	54	86	Ehrlichiosis (<i>chaffeensis</i> , <i>ewingii</i>)	84	115
West Nile	8	20	Lyme disease*	5,598	5,897
Zika	-	-	Powassan	-	2
			Spotted fever group rickettsioses	19	35
			Tularemia	2	1

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

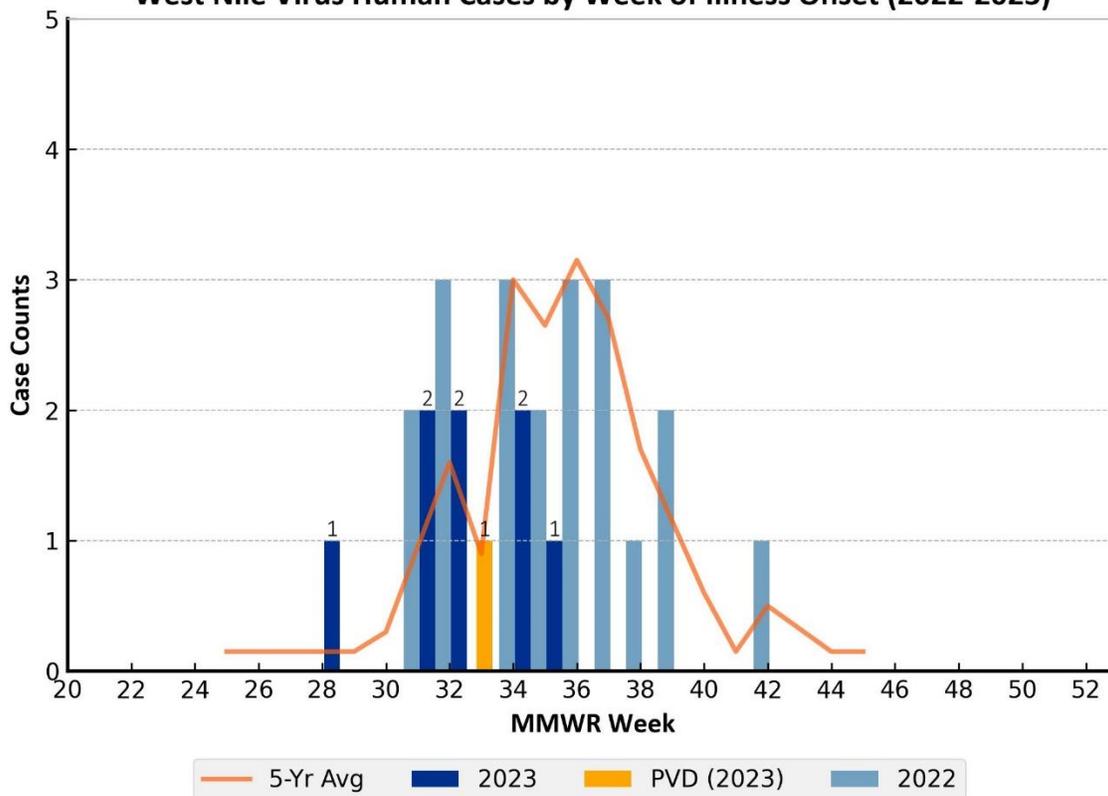
Mosquito-borne Disease Activity

The New Jersey Department of Health Public Health and Environmental Laboratories (PHEL) 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 September 20, 2023.

West Nile Virus

- There are 8 human WNV cases with the date of illness onset ranging from week 28 (week ending 7/15/23) to week 35 (week ending 9/2/23).
- WNV cases have been reported in Bergen (4 cases, 1 death), Middlesex (3 cases), and Camden (1 case and 1 presumptive viremic blood donor (PVD)) counties.
- There have been no animal cases of WNV reported in New Jersey in 2023.
- 7,816 pools from 21 counties have been tested for WNV. 31 pools tested positive in Week 37 in 11 counties and a total of 691 mosquito pools have tested positive for WNV so far this year. The positive pools were found in: *Aedes albopictus* (10), *Aedes japonicus* (4), *Aedes taeniorhynchus* (1), *Aedes triseriatus* (2), *Anopheles punctipennis* (1), *Culex* (91), *Culex erraticus* (3), *Culex pipiens* (20), *Culex pipiens/quinqfasciatus/restuans* (10), *Culex pipiens/restuans/salinarius* (543), *Culex restuans* (2), *Culiseta melanura* (3), and *Psorophora ferox* (1).

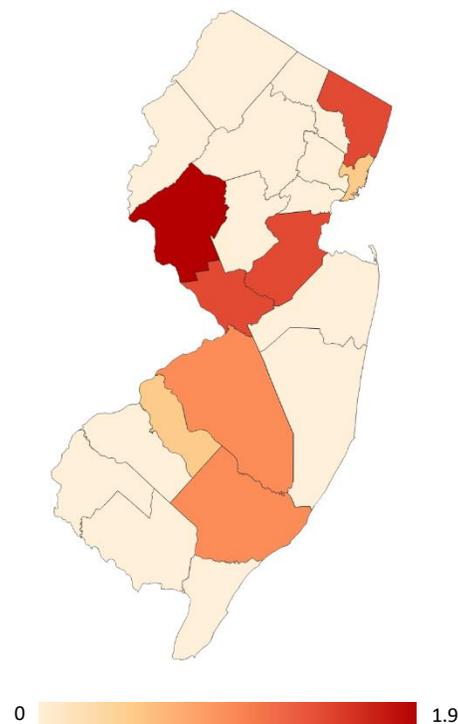
West Nile Virus Human Cases by Week of Illness Onset (2022-2023)



WNV Mosquito Pool Testing

County	WEEK 37 Positive Pools		Cumulative Pos. Total* (WEEK 37)		# Pools Tested*	WEEK 37 Vector Index	
	2023	2022	2023	2022		2023 ^t	2022
Bergen	5		105	90	297	0.61	(↑)
Hudson	1	4	72	83	235	0.11	(↓)
Middlesex	6	6	62	60	284	0.62	(↑)
Union	2	2	50	44	187	0.00	(-)
Mercer	4	2	47	26	355	0.67	(↓)
Hunterdon	4		44	14	341	1.86	(↓)
Somerset	1	1	43	26	241	0.00	(↓)
Morris		2	33	26	378	0.00	(-)
Gloucester		1	32	19	643	0.00	(-)
Monmouth	2	3	30	26	374	0.00	(↓)
Warren			26	7	374	0.00	(↓)
Atlantic	1		22	4	330	0.24	(↓)
Burlington	3	2	21	26	242	0.34	(↑)
Sussex		1	21	8	574	0.00	(-)
Cape May		2	20	2	1167	0.00	(-)
Ocean			20	9	346	0.00	(↓)
Passaic		9	19	46	200	0.00	(-)
Camden	2	2	11	23	275	0.17	(↑)
Salem		1	6	2	398	0.00	(-)
Essex			4	11	246	0.00	(-)
Cumberland					329	0.00	(-)
Total	31	38	691	552	7816	-	

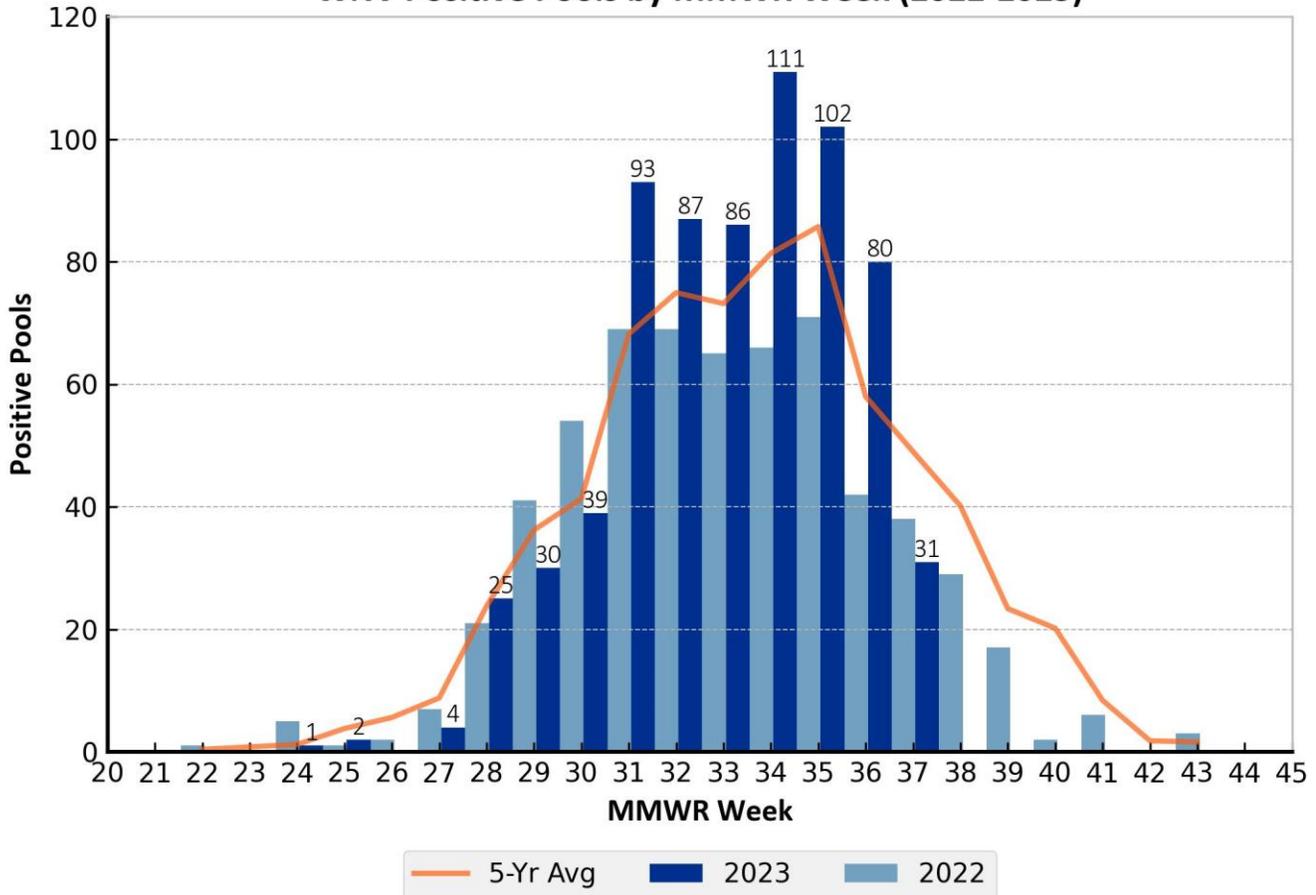
WNV Vector Index, WEEK 37^t



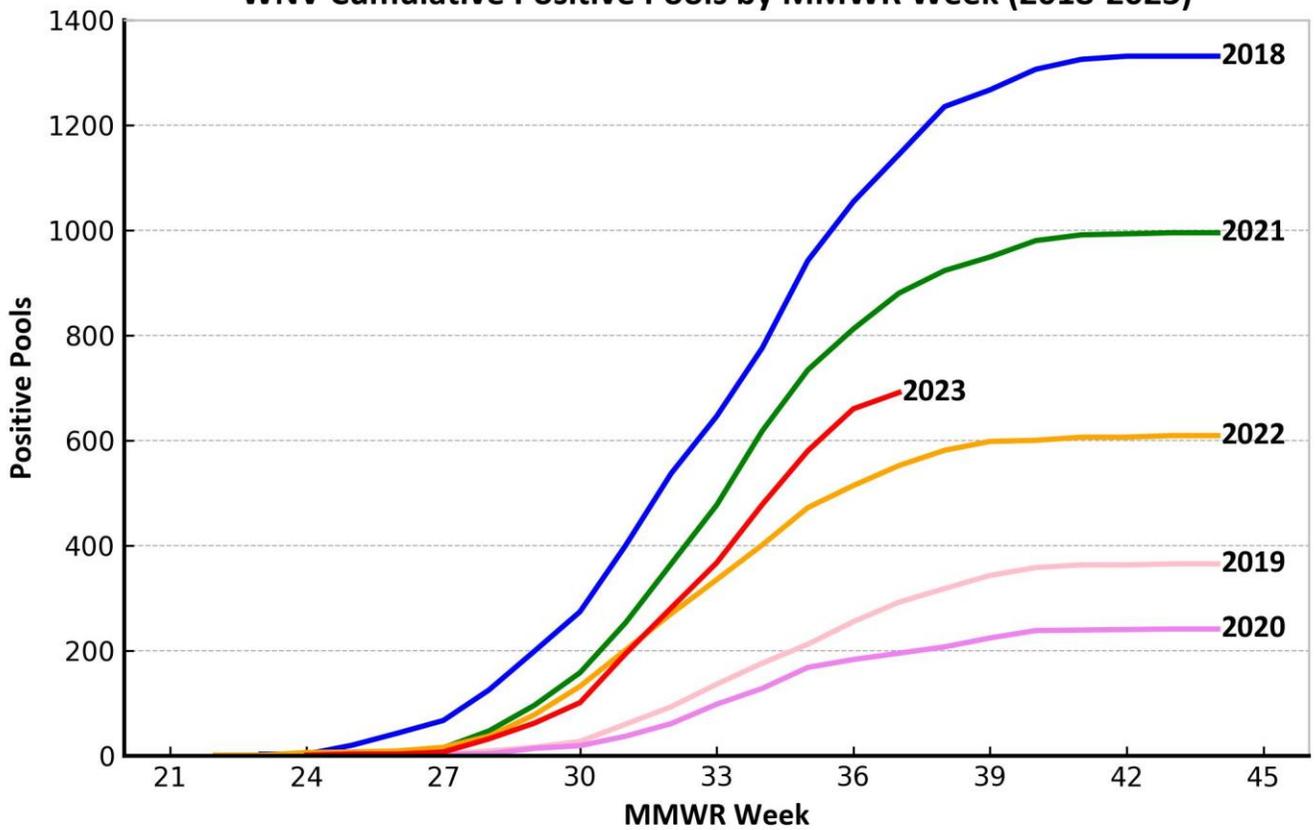
^t Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only.

WEEK 37: Sep 11 - 17, 2022; Sep 10 - 16, 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)



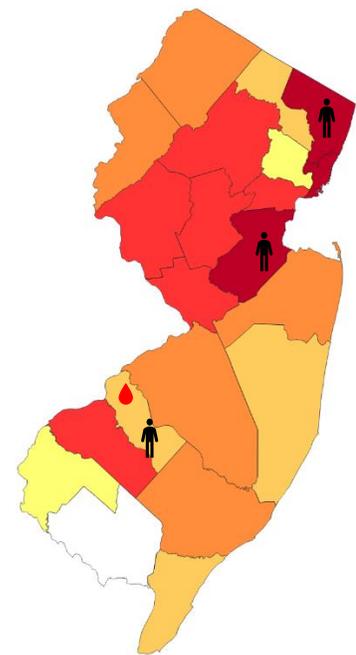
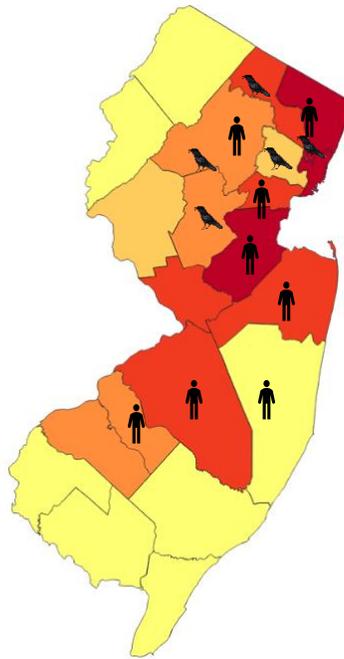
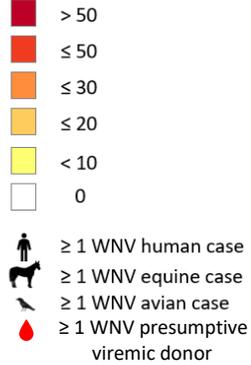
WNV Cumulative Positive Pools by MMWR Week (2018-2023)



2022 WNV Activity

Cumulative WNV Activity, 2023

WNV Positive Pools



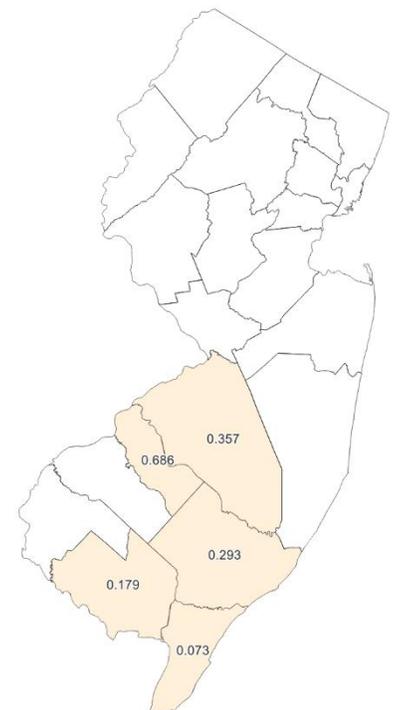
Eastern Equine Encephalitis

- There have been no human or animal cases of EEE in New Jersey in 2023. EEE human cases were last reported in 2019 (4 cases).
- A total of 7,648 mosquito pools from 21 counties have been tested for EEE with nine pools testing positive in Atlantic, Burlington, Camden, Cape May, and Cumberland counties. The positive pools were found in: *Culex* (1), *Culex pipiens* (1), and *Culiseta melanura* (7). The first positive EEE pool (*Culiseta melanura*) was identified in Cumberland County in week 30. In 2022, the first EEE positive pool was detected in Week 34 from Morris County.

EEE Mosquito Pool Testing

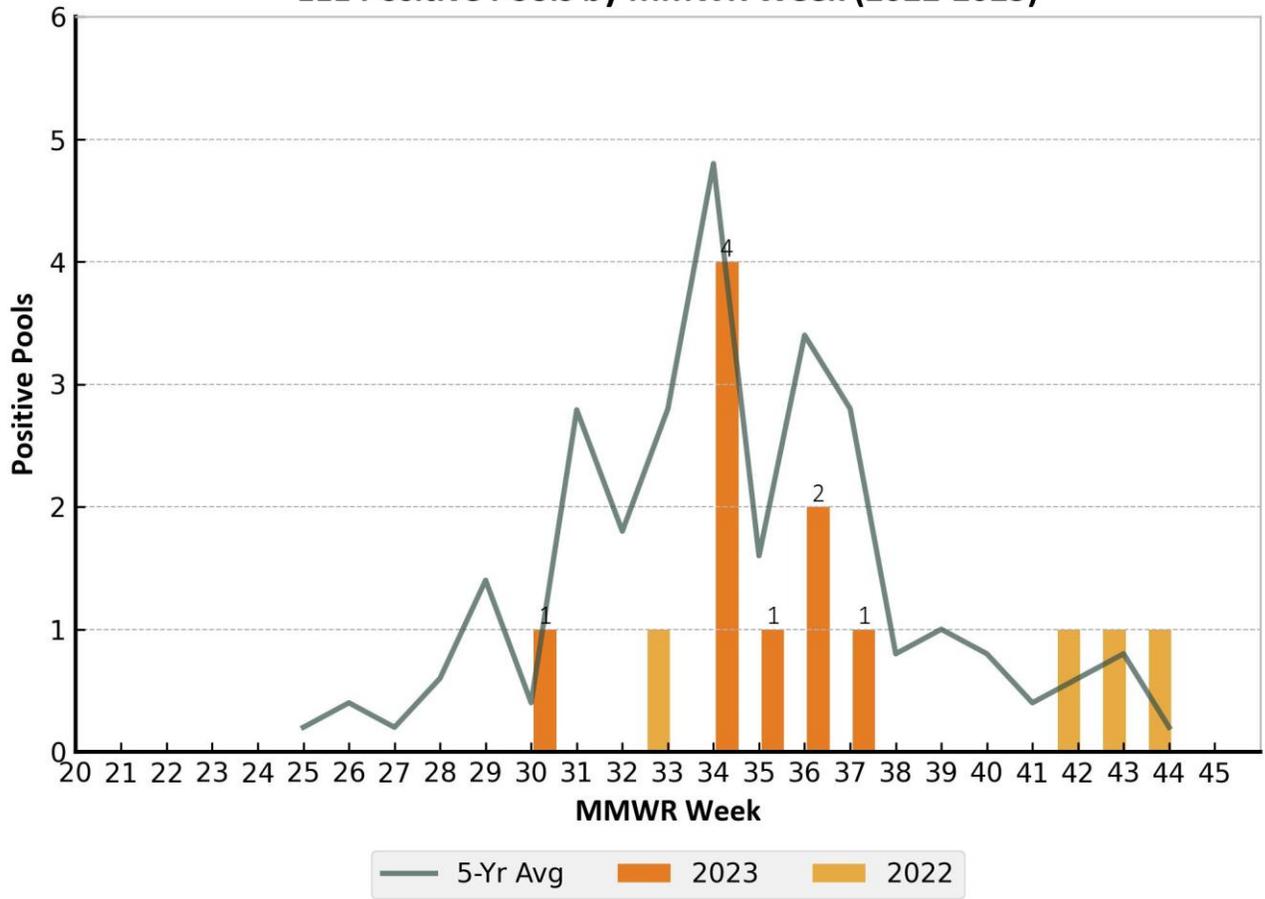
County	WEEK 37 Positive Pools		Cumulative Pos. Total* (WEEK 37)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022		
Atlantic			3		330	0.293
Burlington	1		2		237	0.357
Camden			2		267	0.686
Cape May			1		1096	0.073
Cumberland			1		329	0.179
Bergen					297	
Essex					246	
Gloucester					637	
Hudson					235	
Hunterdon					338	
Mercer					342	
Middlesex					284	
Monmouth					374	
Morris				1	378	
Ocean					340	
Passaic					200	
Salem					377	
Somerset					241	
Sussex					561	
Union					187	
Warren					352	
Total	1	0	9	1	7648	-

Cumulative EEE MFIR, 2023



WEEK 37: Sep 11 - 17, 2022; Sep 10 - 16, 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).

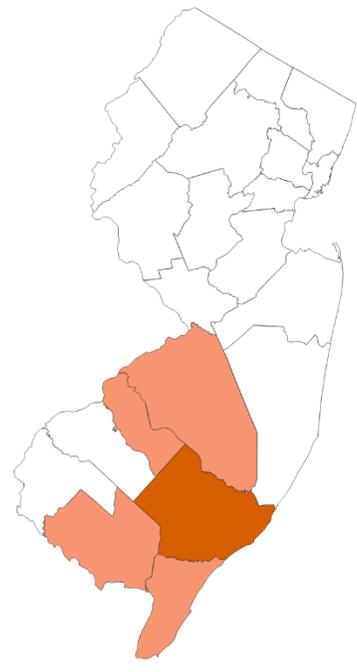
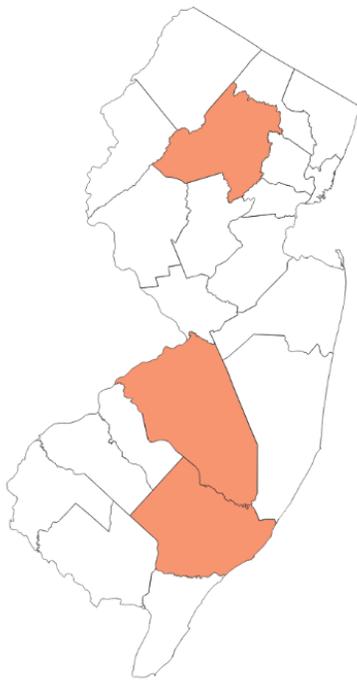
EEE Positive Pools by MMWR Week (2022-2023)



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



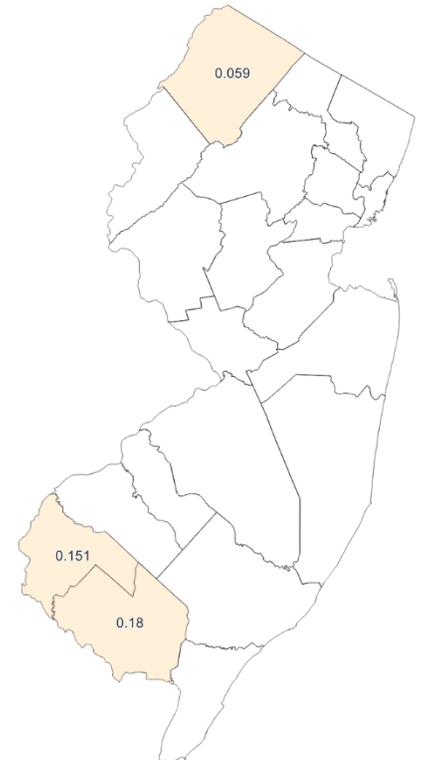
Jamestown Canyon Virus

- There have been no human cases of JCV in New Jersey in 2023.
- 6,940 mosquito pools from 21 counties have been tested for JCV with three pools testing positive in Bergen and Cumberland counties. The positive pools were found in: *Anopheles quadrimaculatus s.l.* (1), *Anopheles punctipennis* (1), and *Coquillettidia perturbans* (1). The first positive JCV pool 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

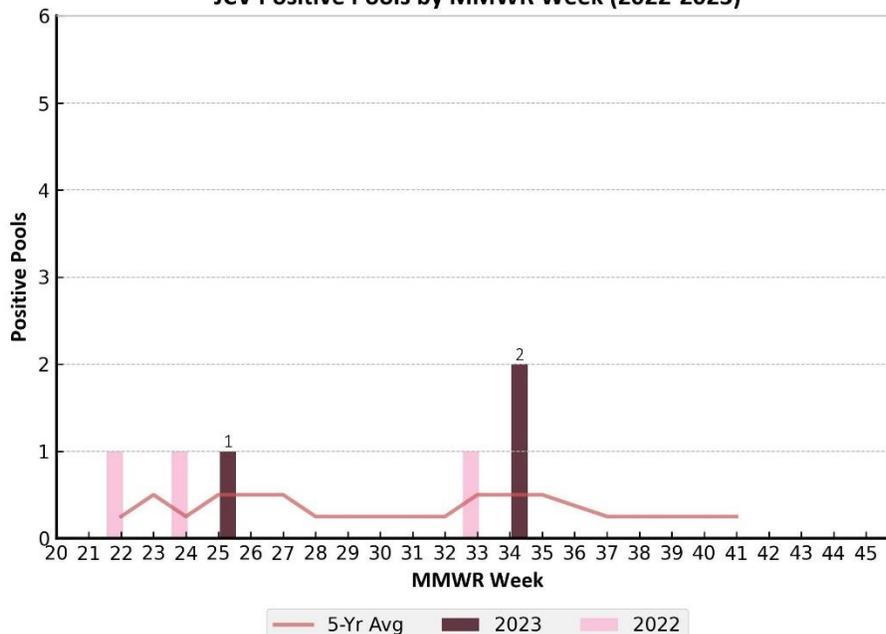
County	WEEK 37 Positive Pools		Cumulative Pos. Total* (WEEK 37)		# Pools Tested	Cumulative MFIR
	2023	2022	2023	2022	2023	2023
Cumberland			1		329	0.180
Salem			1		363	0.151
Sussex			1	1	561	0.059
Atlantic					330	
Bergen				2	297	
Burlington					237	
Camden					242	
Cape May					431	
Essex					246	
Gloucester					633	
Hudson					235	
Hunterdon					338	
Mercer					342	
Middlesex					284	
Monmouth					374	
Morris					378	
Ocean					340	
Passaic					200	
Somerset					241	
Union					187	
Warren					352	
Total	0	0	3	3	6940	-

Cumulative JCV MFIR, 2023



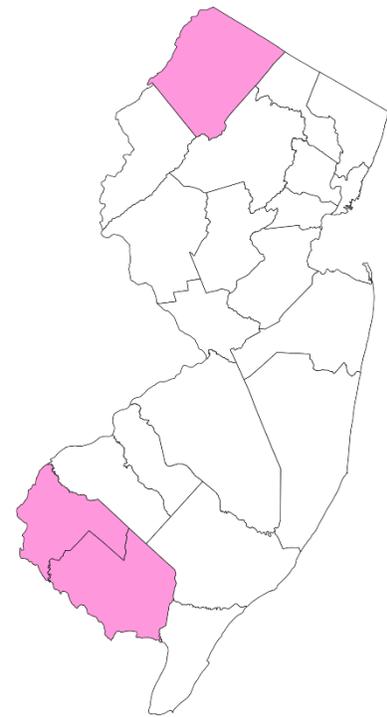
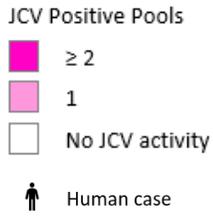
WEEK 37: Sep 11 - 17, 2022; Sep 10 - 16, 2023 *includes early season pools from 9 counties

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	330		4		3		3		3	
Bergen	297				3		3		3	
Burlington	237		5		2		2		2	
Camden	260		11		3		3		3	
Cape May	996		28		159				159	
Cumberland	329									
Essex	246									
Gloucester	636		5							
Hudson	235									
Hunterdon	338		3							
Mercer	342		13		8		8		8	
Middlesex	284				2		2		2	
Monmouth	374				2		2		2	
Morris	378				8		8		8	
Ocean	340		6		1		1		1	
Passaic	200		10							
Salem	374		21		1		1		1	
Somerset	241									
Sussex	561		15							
Union	187									
Warren	352		23							
Total	7537	-	144	-	192	-	33	-	192	-

^a St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)

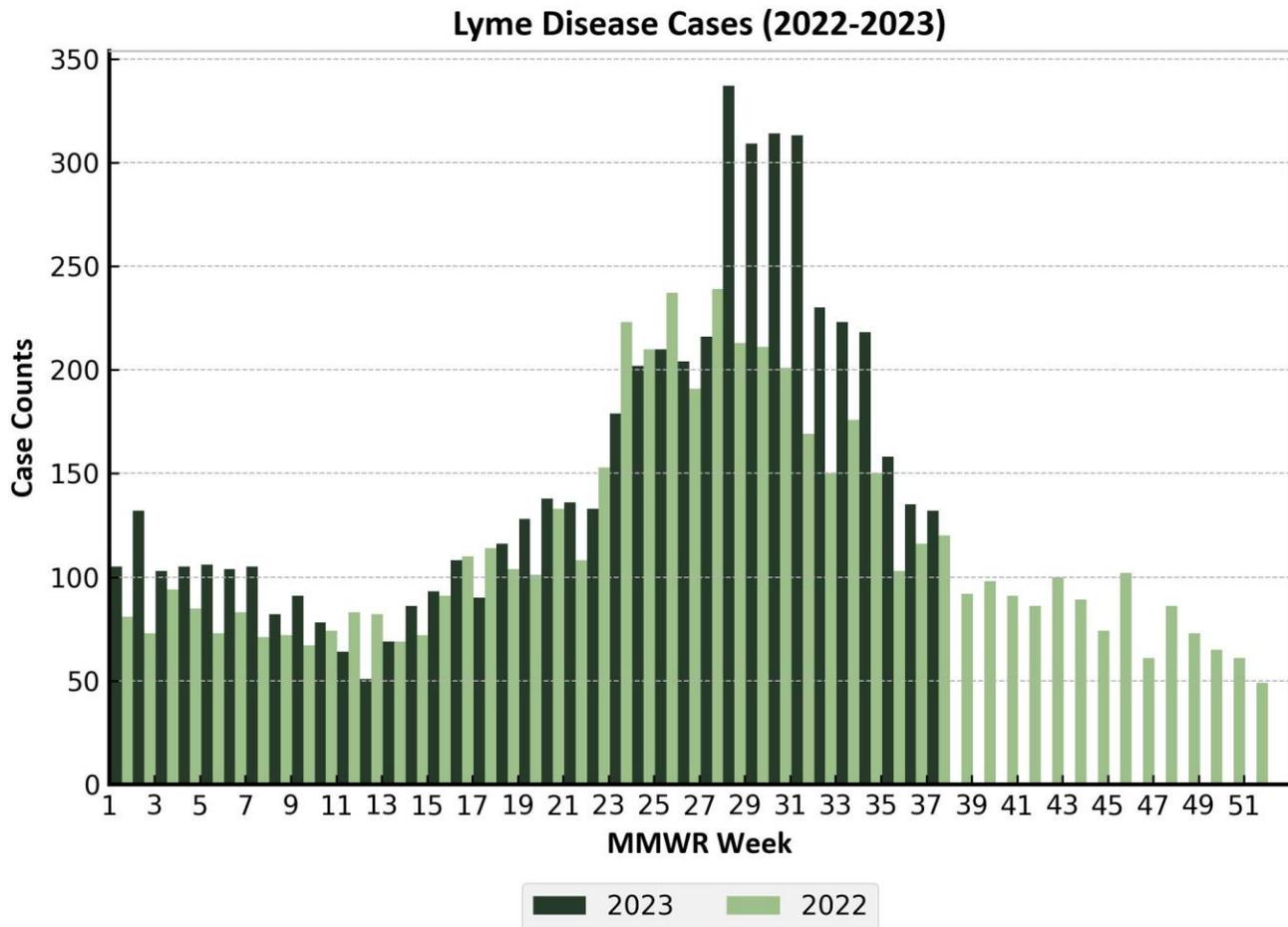
Numbers in white columns represent number of pools tested to date in 2023

Number in blue shaded columns represent positive pools in 2023

Tick-borne Disease Activity

Lyme Disease

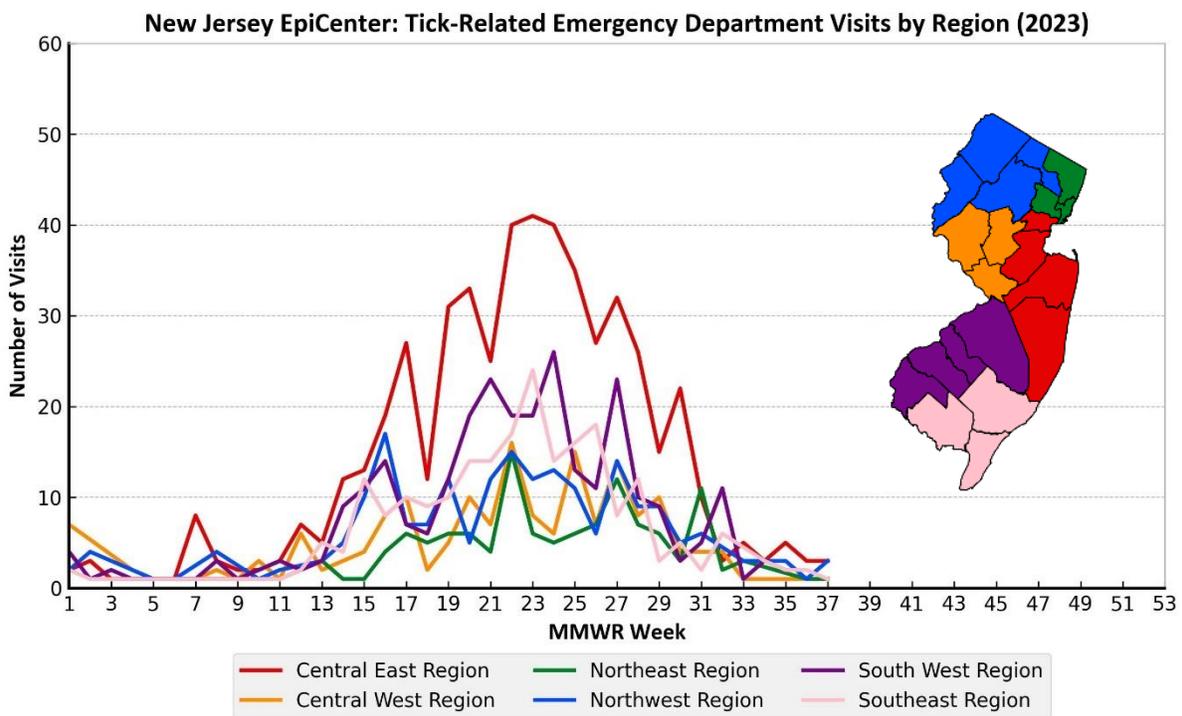
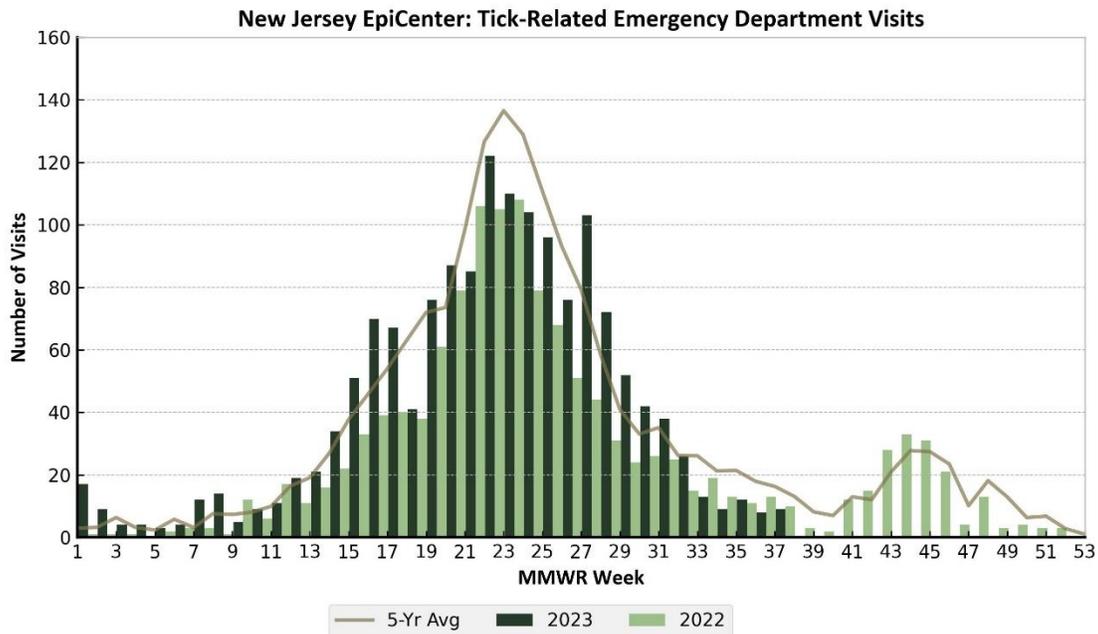
- There have been 5,598 cases of Lyme disease reported in New Jersey in 2023 in 21 counties.
- The number of cases in Week 37 is similar to last week and is above the amount this week last year.



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 37, the number of tick-related ED visits remained at low levels and is below the 5-year average.



Data reflects ED visits downloaded from EpiCenter as of Sep 20, 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
- 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/>