

Report Highlights:

- **NJDOH is reporting three additional human cases of West Nile virus (WNV) including one additional death (Bergen). The new cases were in Bergen (2) and Burlington counties. To date, there have been 32 reported WNV cases, including five deaths and six presumptive viremic donors (PVDs) including one that met the case definition. Ninety-one percent of WNV cases were hospitalized. An additional 11 mosquito pools tested positive for WNV since last report, including 7 this week (additional tests pending) for a total of 972 WNV positive pools in 2024.**
- **To date, there has been one human EEE case from Atlantic County and four horses from Atlantic, Ocean (2), and Salem counties that tested positive for EEE. One additional mosquito pool tested positive for EEE since last report from Somerset County, for a total of 17 EEE positive pools in 2024.**
- **No new human cases of Jamestown Canyon virus (JCV) or mosquito detections are reported this week. To date, there has been one human case of JCV in Sussex County and detections in three mosquito pools in Cumberland and Monmouth counties.**
- **Three additional travel-associated dengue cases are reported this week, for a total of 100 cases in 2024 compared to 64 cases during the same timeframe in 2023. Cases are associated with outbreaks in several Latin American countries.**
- **The number of Lyme disease cases is slightly below average this week. The number of tick-related emergency department visits decreased this week and is lower than average.**

Human Vector-borne Disease Cases

N.J.A.C. 8:57 mandates public health reporting of communicable diseases. 2024 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 (except for Lyme disease) may be significantly lower than actual counts and should be interpreted with caution. Lyme disease surveillance transitioned to laboratory-based surveillance in 2022. All 2024 numbers are preliminary and subject to change. Some cases are considered “presumptive positive” and may be pending additional testing. Case counts for 2023 reflect the annual total for that year.

	Mosquito-borne diseases		Tickborne Diseases/Conditions		
	2024	2023		2024	2023
Chikungunya	7	13	Alpha-gal syndrome	174	360
Dengue	100	98	Anaplasmosis	111	195
Eastern equine encephalitis	1	-	Babesiosis	208	407
Jamestown Canyon	1	1	<i>Borrelia miyamotoi</i>	12	18
Malaria	55	102	Ehrlichiosis	71	109
West Nile	32	14	Lyme disease	5,144	7,225
Zika	-	-	Powassan	1	-
			Spotted fever group rickettsioses	10	24
			Tularemia	2	2

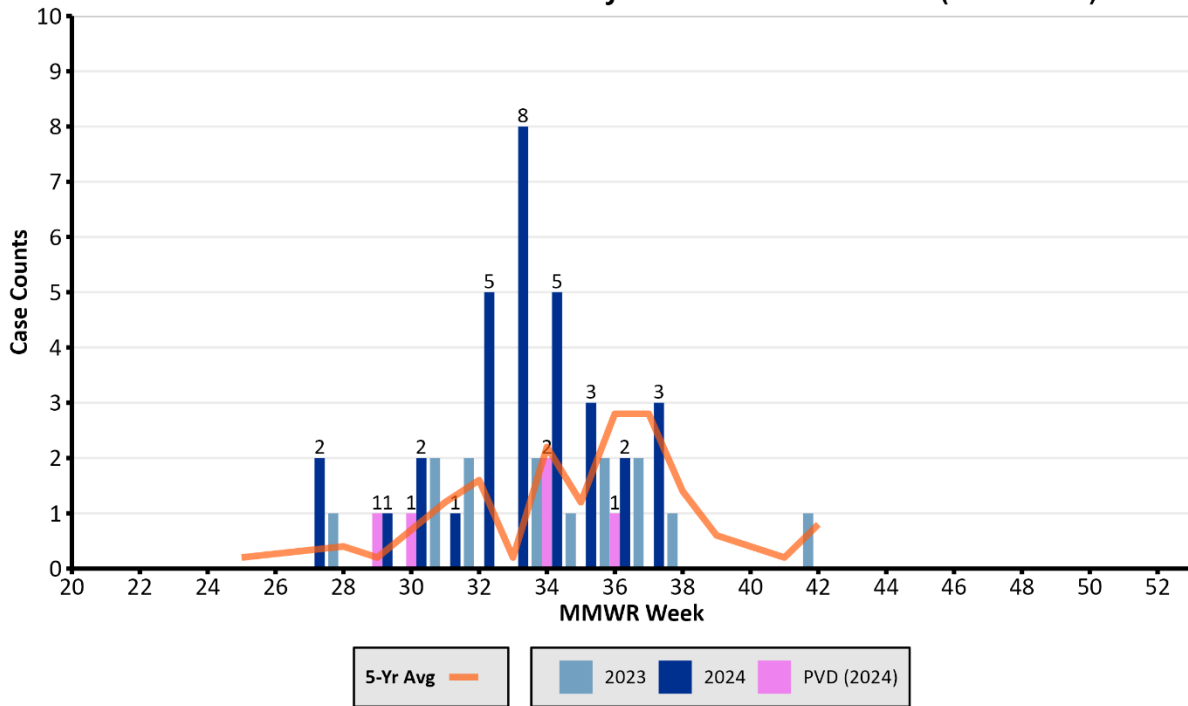
Mosquito-borne Disease Activity*

*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on October 10, 2024.

West Nile Virus

- Thirty-two human cases of WNV have been reported in 2024 from Bergen (6), Burlington (2), Camden (3), Cape May, Cumberland (2), Essex (2), Hudson, Mercer (2), Middlesex (3), Monmouth (4), Ocean (3), Union (2), and Warren counties. There were five deaths reported in Bergen, Cumberland, Mercer, Middlesex, and Monmouth counties. There have been six PVDs in Bergen, Camden (2), Essex, Passaic, and Somerset counties including one that met the case definition.
- One emu tested positive for WNV in week 36 from Monmouth County. Three red-tailed hawks tested positive for WNV in week 28 in Essex and Morris counties.
- Out of 11,371 mosquito pools submitted for testing, 972 mosquito pools have tested positive for WNV this year with 7 pools positive in week 40 (additional tests pending). The most WNV positive pools have been detected in *Culex pipiens/restuans/salinarius* (820), *Cx. pipiens* (63), and *Ae. albopictus* (40) mosquitoes.
- The earliest WNV positive mosquito pools (*Cx. pipiens/restuans/salinarius*) were detected in week 18 from Gloucester County (2), considerably earlier than 2023, when WNV was initially detected in week 24 from Bergen County.

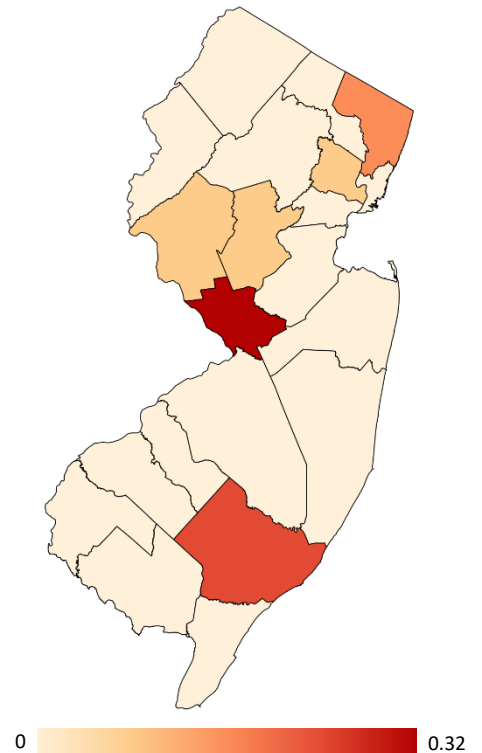
West Nile Virus Human Cases by Week of Illness Onset (2023-2024)



WNV Mosquito Pool Testing

County	WEEK 40 Positive Pools		Cumulative Pos. Total* (WEEK 40)		# Pools Tested*	WEEK 40 Vector Index	
	2024	2023	2024	2023		2024	2024 [†]
Bergen ^a	1		124	116	376	0.14	(↓)
Middlesex			95	67	361	0.00	(↓)
Hudson			91	80	309	0.00	(↓)
Union			86	57	291	0.00	(-)
Hunterdon	1	2	61	64	372	0.05	(↓)
Somerset	1	6	60	63	301	0.09	(↓)
Cape May	1	2	58	26	3,667	0.01	(↑)
Morris		2	51	41	414	0.00	(-)
Passaic			51	26	262	0.00	(-)
Monmouth			46	33	462	0.00	(-)
Mercer	1	4	40	53	422	0.32	(↑)
Essex	1	2	35	7	420	0.09	(↑)
Gloucester		2	32	46	635	0.00	(-)
Sussex		1	32	30	400	0.00	(-)
Warren			28	29	408	0.00	(-)
Burlington		1	26	27	298	0.00	(-)
Atlantic	1		25	27	435	0.27	(↑)
Camden		2	12	20	248	0.00	(-)
Ocean			11	20	381	0.00	(-)
Salem			6	6	509	0.00	(-)
Cumberland			2	1	400	0.00	(-)
Total	7	24	972	839	11,371	-	

WNV Vector Index, WEEK 40[†]



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

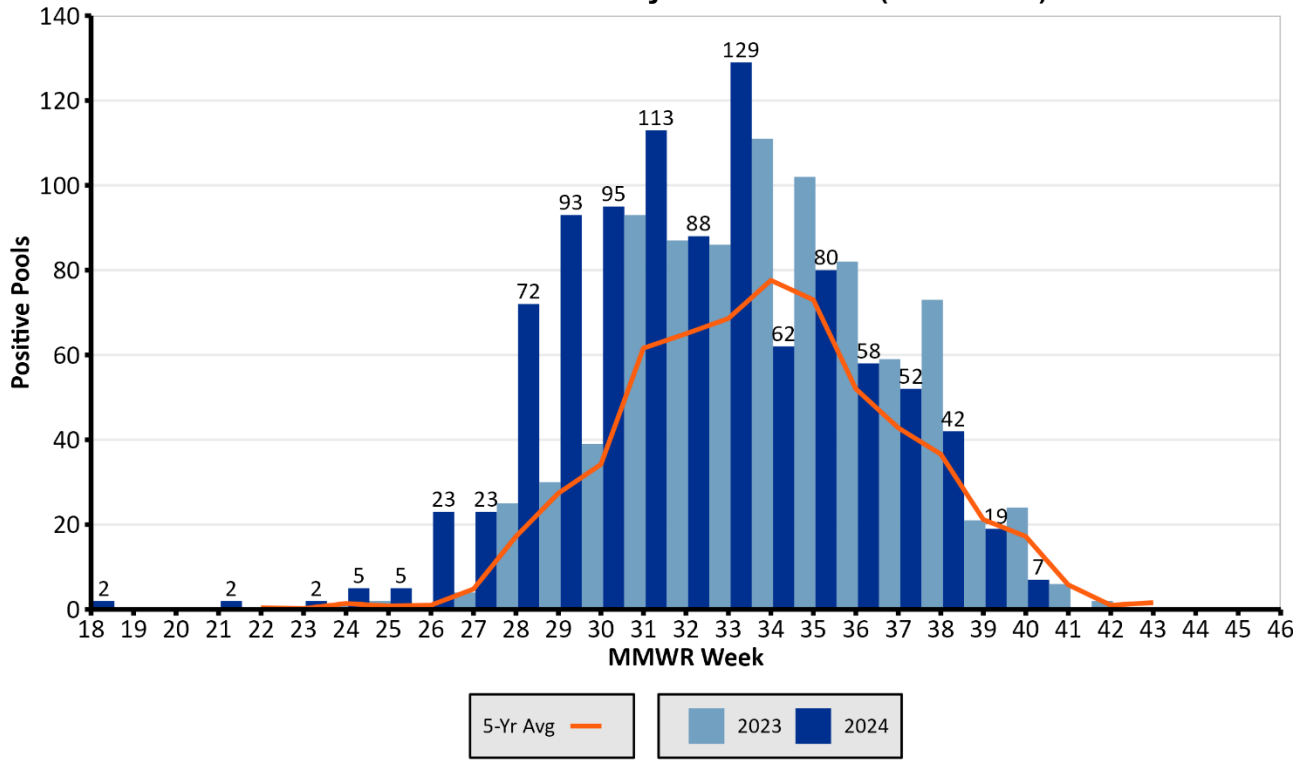
WEEK 40: Oct 1 - 7, 2023; Sep 29 - Oct 5, 2024.

*184 mosquito pools submitted by 8 counties were collected prior to Week 20.

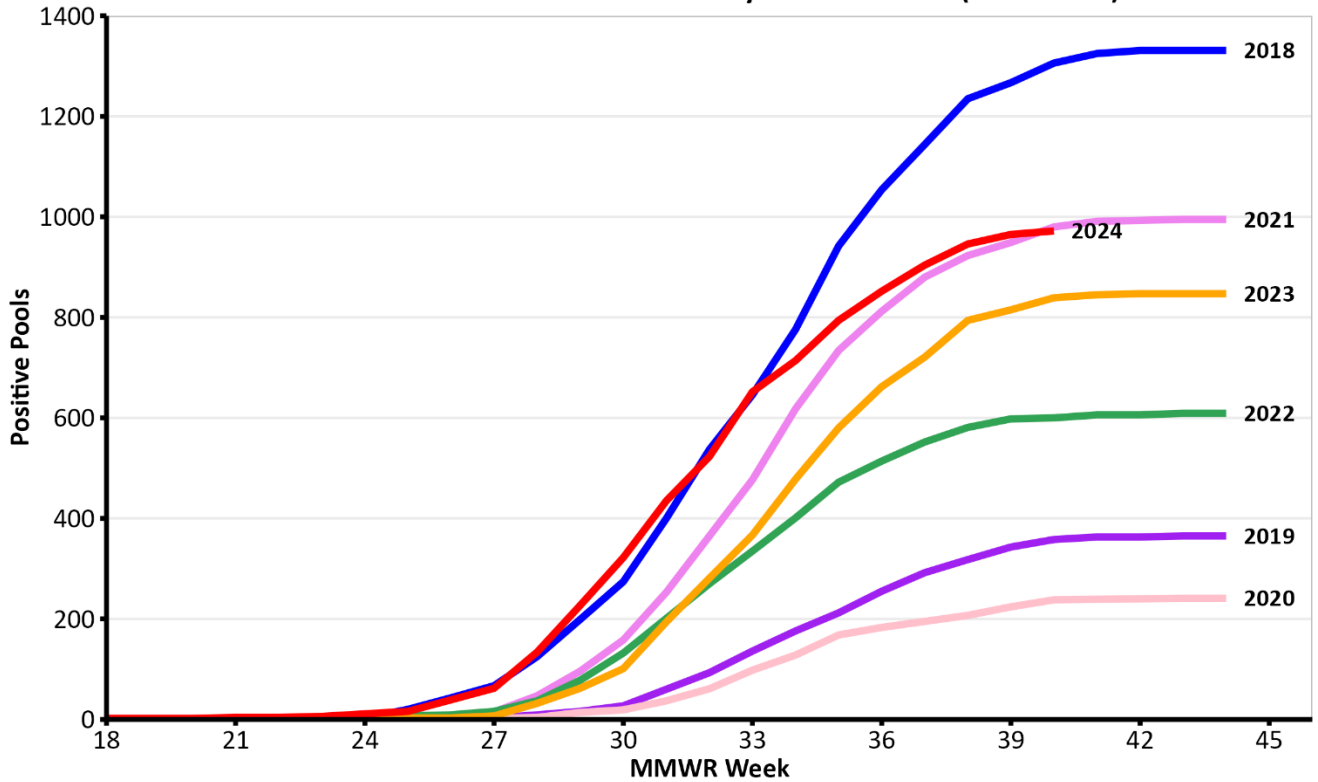
*Vector Index cannot be calculated because all tested pools were positive. In these situations, the county is shown on the map with red stripes to indicate elevated activity.

^a Past reports included results from rapid tests for Bergen County. Numbers have been amended to exclude these test results.

WNV Positive Pools by MMWR Week (2023-2024)



WNV Cumulative Positive Pools by MMWR Week (2018-2024)

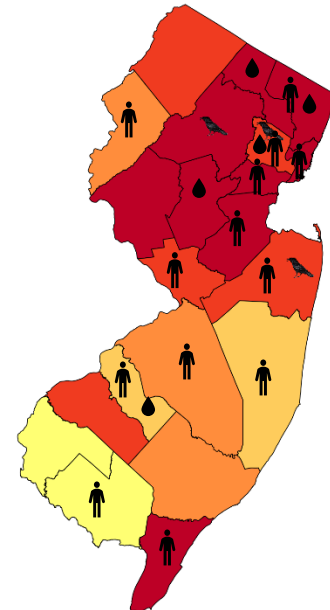
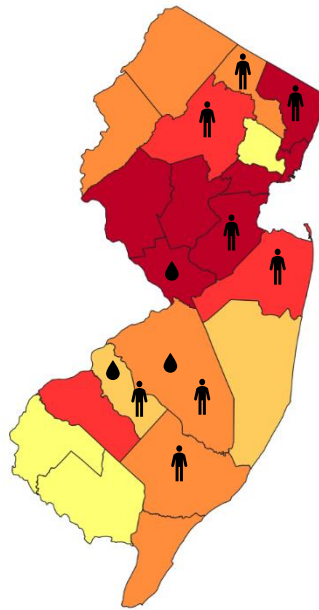


2023 WNV Activity

Cumulative WNV Activity, 2024

WNV Positive Pools

- > 50
- ≤ 50
- ≤ 30
- ≤ 20
- < 10
- 0
- ≥ 1 WNV human case
- ≥ 1 WNV presumptive viremic donor
- ≥ 1 WNV avian case



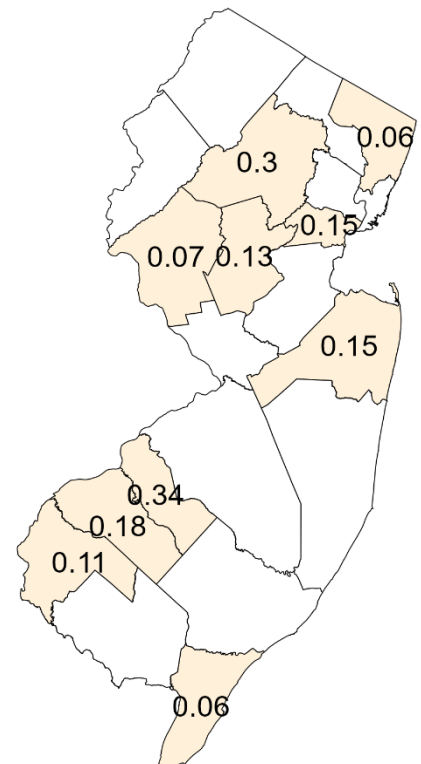
Eastern Equine Encephalitis (EEE)

- One human case of EEE was reported in week 27 in Atlantic County. EEE human cases were last reported in 2019 (4 cases).
- Four horses tested positive for EEE in week 31 in Atlantic County, week 33 in Ocean County (2), and in week 36 in Salem County. None of the horses were vaccinated.
- Out of 11,287 mosquito pools tested for EEE, 17 pools have tested positive in 2024. The positive pools were found in *Coquillettidia perturbans* (1), *Cx. restuans* (1), *Culiseta melanura* (9), *Culiseta morsitans* (1), and *Cx. pipiens/restuans/salinarius* (5) mosquitoes.
- The earliest EEE positive mosquito pool (*Cx. restuans*) was detected in week 27 from Cape May County. In 2023, the first EEE positive pool was detected in week 30 from Cumberland County.

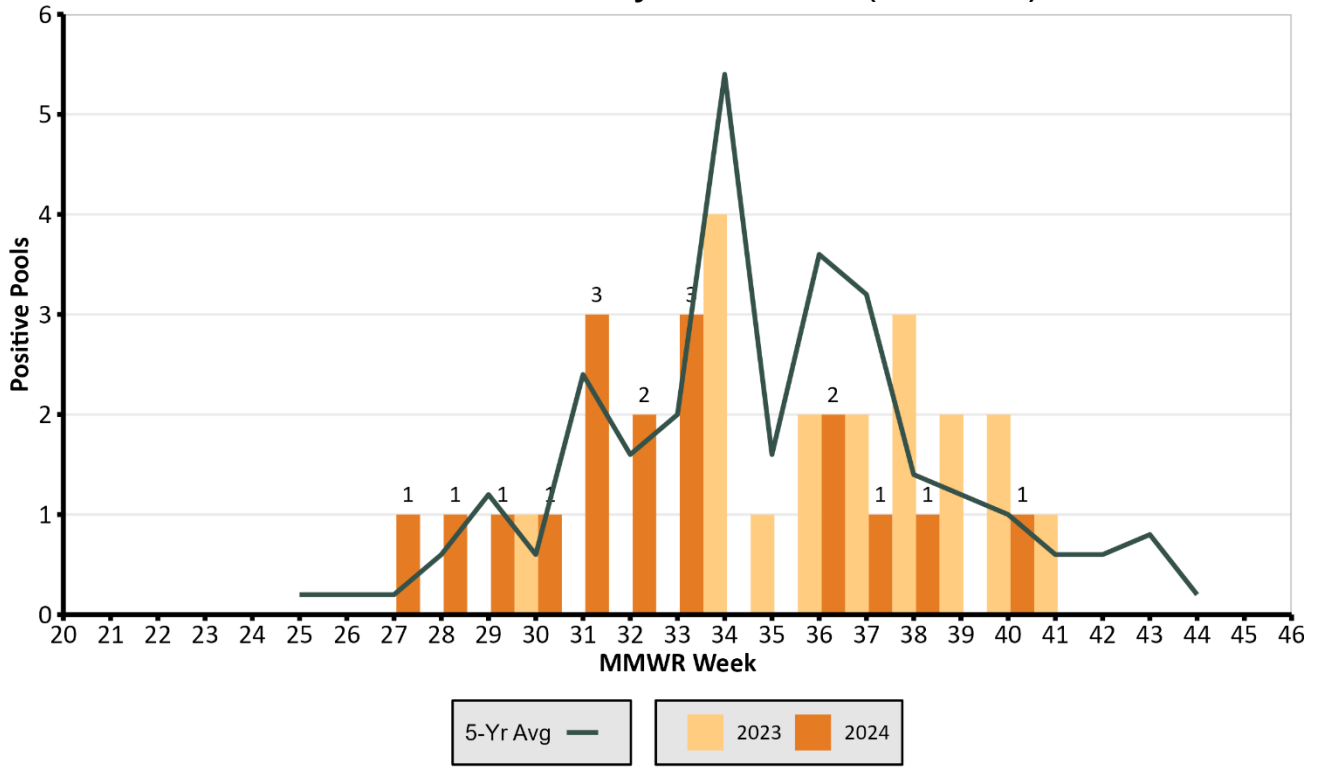
EEE Mosquito Pool Testing

County	WEEK 40 Positive Pools		Cumulative Pos. Total* (WEEK 40)		# Pools Tested	Cumulative MFIR
	2024	2023	2024	2023		
Morris			4	1	414	0.30
Cape May			2	1	3,667	0.06
Gloucester			2		635	0.18
Monmouth			2		462	0.15
Union			2		291	0.15
Bergen			1		376	0.06
Camden			1	2	239	0.34
Hunterdon			1	1	369	0.07
Salem			1		509	0.11
Somerset	1		1	1	301	0.13
Atlantic				3	435	
Burlington				3	295	
Cumberland				3	400	
Essex					420	
Hudson					309	
Mercer					420	
Middlesex					355	
Ocean					379	
Passaic					262	
Sussex		2		2	362	
Warren					387	
Total	1	2	17	17	11,287	-

Cumulative EEE MFIR, 2024



EEE Positive Pools by MMWR Week (2023-2024)

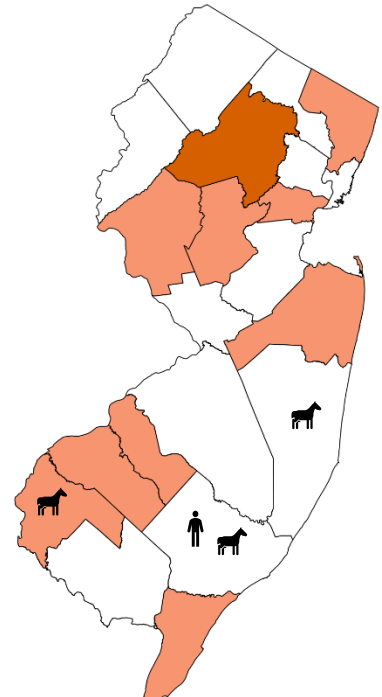
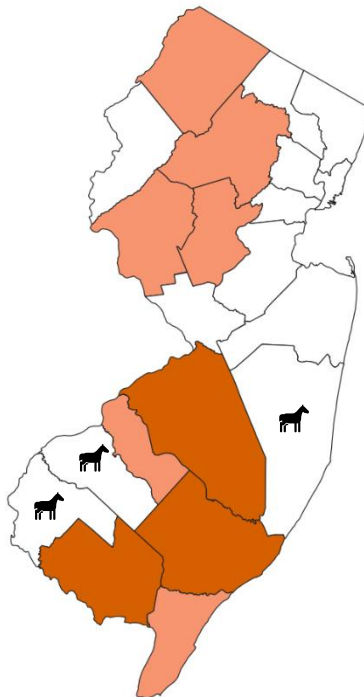


2023 EEE Activity

Cumulative EEE Activity, 2024

EEE Positive Pools

- > 10
- ≤ 10
- ≤ 6
- ≤ 2
- No EEE activity
- ≥ 1 EEE human case
- ≥ 1 EEE equine case



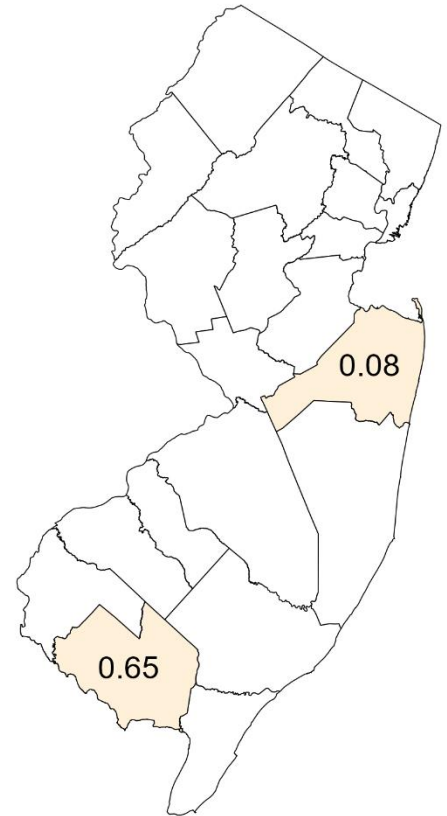
Jamestown Canyon Virus (JCV)

- There was one human case of JCV reported in New Jersey in 2024 in week 19 in Sussex County. In 2023, there was one human case of JCV in week 42 in Sussex County.
- Out of 11,287 mosquito pools tested for JCV, 3 pools have tested positive in 2024. The positive pools were found in *Aedes cantator* (1), *Cx. salinarius* (1), and *Psorophora columbiae* (1) mosquitoes.
- In 2023, the first JCV positive pool was detected in week 23 from Cumberland County.

JCV Mosquito Pool Testing

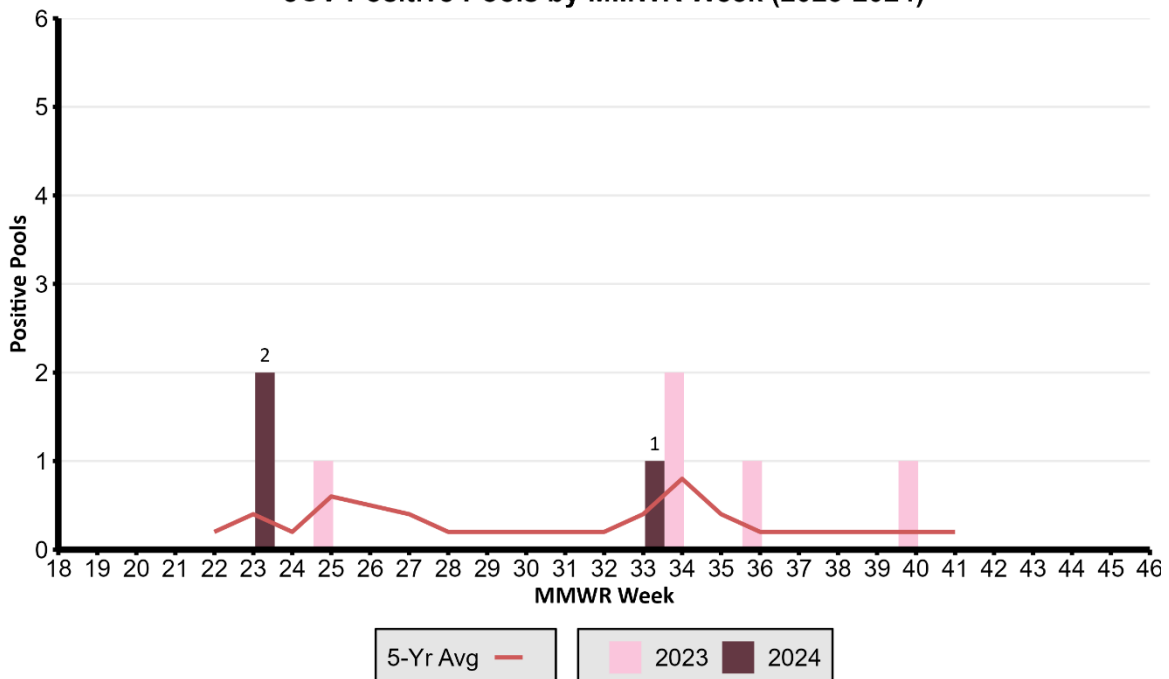
County	WEEK 40 Positive Pools		Cumulative Pos. Total* (WEEK 40)		# Pools Tested	Cumulative MFIR
	2024	2023	2024	2023		
Cumberland			2	1	400	0.65
Monmouth			1		462	0.08
Atlantic					435	
Bergen					376	
Burlington					295	
Camden					239	
Cape May					3,667	
Essex					420	
Gloucester				1	635	
Hudson					309	
Hunterdon					369	
Mercer					420	
Middlesex					355	
Morris					414	
Ocean					379	
Passaic					262	
Salem				1	509	
Somerset					301	
Sussex	1		2		362	
Union					291	
Warren					387	
Total	0	1	3	5	11,287	-

Cumulative JCV MFIR, 2024



WEEK 40: Oct 1 - 7, 2023; Sep 29 - Oct 5, 2024

JCV Positive Pools by MMWR Week (2023-2024)

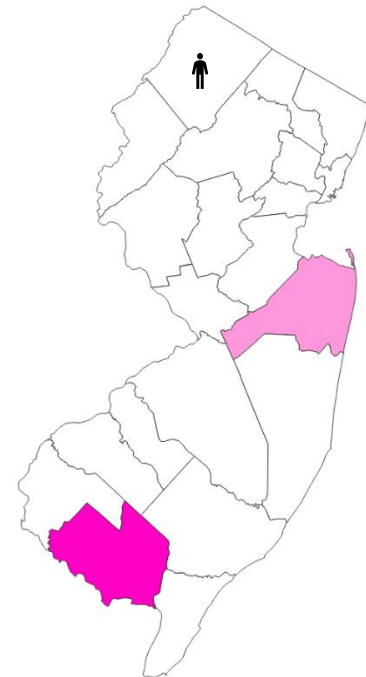
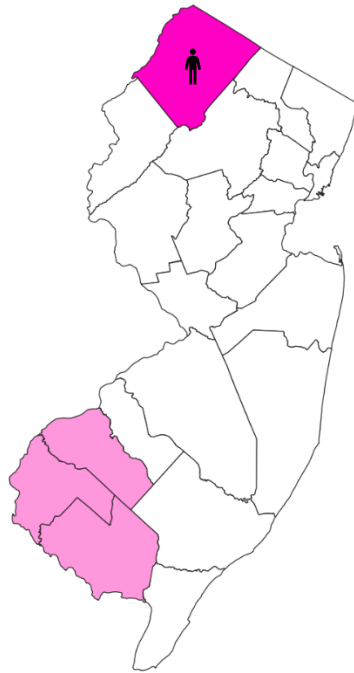


2023 JCV Activity

Cumulative JCV Activity, 2024

JCV Positive Pools

- ≥ 2
- 1
- No JCV activity
- ≥ 1 JCV human case



Other Mosquito-borne Viruses

- Mosquito pools have been tested for other arboviruses with no positive results.

Cumulative 2024 Mosquito Pool Testing (Other Viruses^a)

County	SLE		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	435				5		5		5	
Bergen	376		9		11		11		11	
Burlington	295		3							
Camden	239		9		5		5		5	
Cape May	3,667		217		242		242		242	
Cumberland	400									
Essex	420				1		1		1	
Gloucester	635				7		7		7	
Hudson	309									
Hunterdon	369		3		3		3		3	
Mercer	420		2		3		3		3	
Middlesex	355		6		5		5		5	
Monmouth	462									
Morris	414				6		6		6	
Ocean	379		2		1		1		1	
Passaic	262		3							
Salem	509		19							
Somerset	301									
Sussex	362		38							
Union	291									
Warren	387		21		3		3		3	
Total	11,287	-	332	-	292	-	292	-	292	-

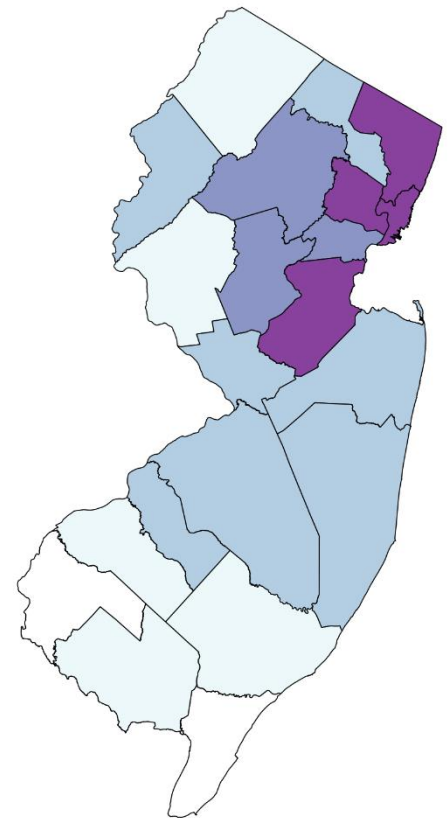
^a St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)
 Numbers in white columns represent number of pools tested to date in 2024
 Number in green shaded columns represent positive pools in 2024

Human Dengue Virus Cases

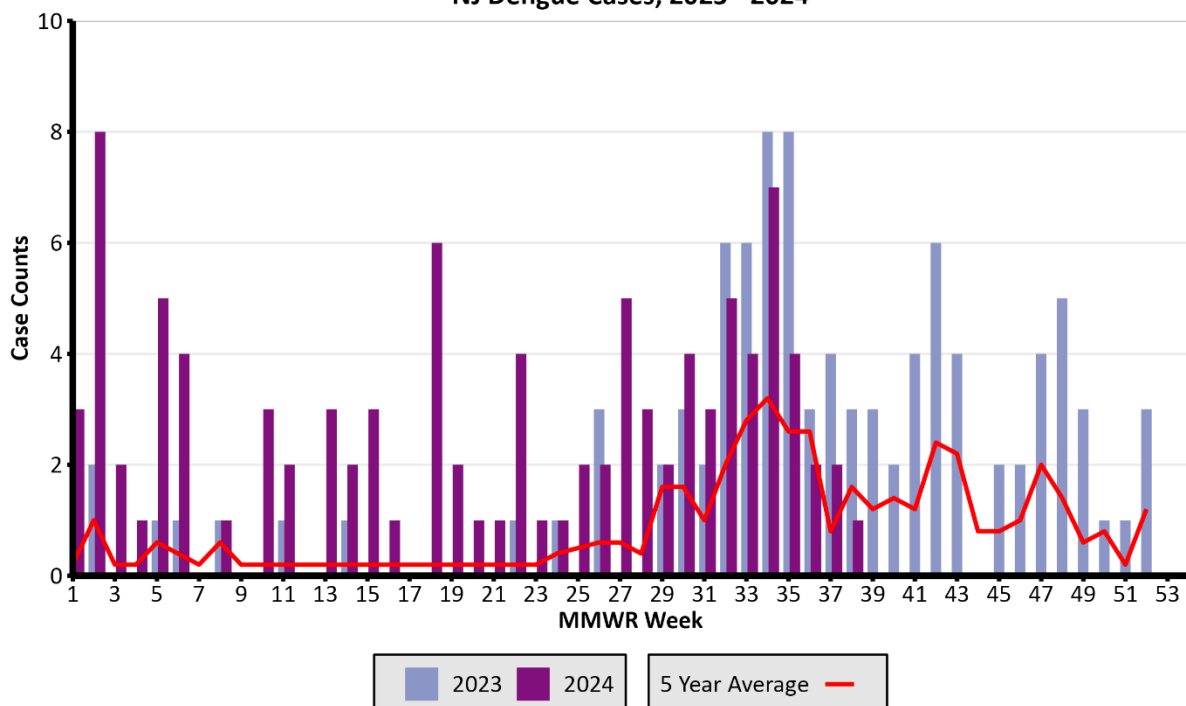
- There have been 100 cases of dengue virus reported to date in 2024, which is considerably higher than the number reported this time last year (64).
- All dengue cases are travel-associated, and the high case count is driven by outbreaks in several Latin American countries. Most NJ cases reported travel to a country or US territory in Latin America or the Caribbean.
- Many of the NJ cases are concentrated in the northeast region, with most cases residing in Bergen (15), Middlesex (13), and Essex (11) counties.

Travel Destination(s) of Dengue Cases	
Country/U.S. Territory of Travel	Count
Puerto Rico	14
Dominican Republic	12
Colombia	9
Guatemala	9
Mexico	8
Brazil	7
India	6
El Salvador	5
Honduras	4
Trinidad & Tobago	4
U.S. Virgin Islands	4
Ecuador	3
Aruba	2
Costa Rica	2
Grenada	2
Guyana	2
Martinique	2
Peru	2
Antigua and Barbuda	1
Cuba	1
Indonesia	1
Paraguay	1

Dengue Cases



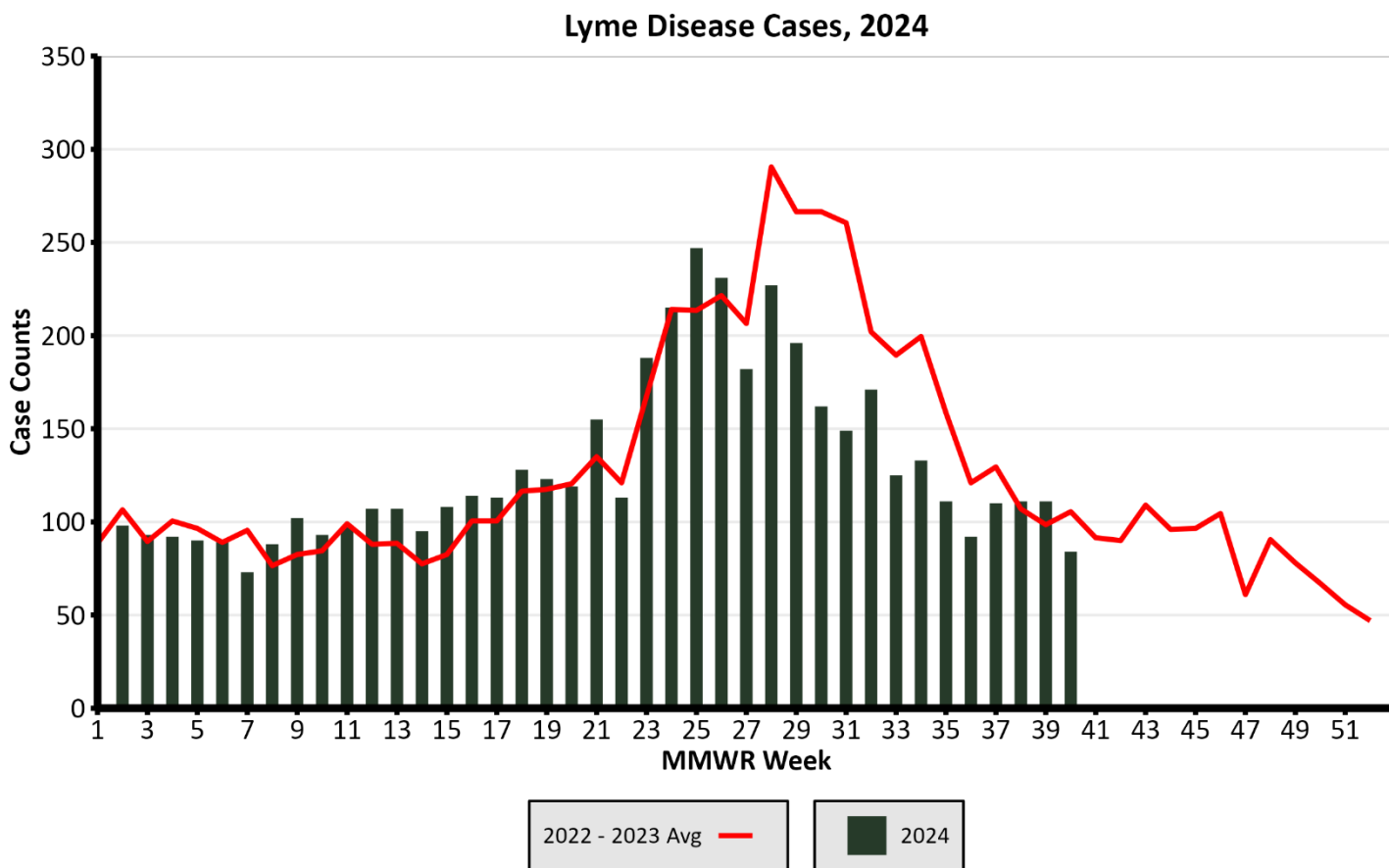
NJ Dengue Cases, 2023 - 2024



Tickborne Disease Activity

Lyme Disease

- There have been 5,144 cases of Lyme disease reported in New Jersey in 2024.
- The number of cases in Week 40 decreased slightly and is below the average number of cases reported this week.

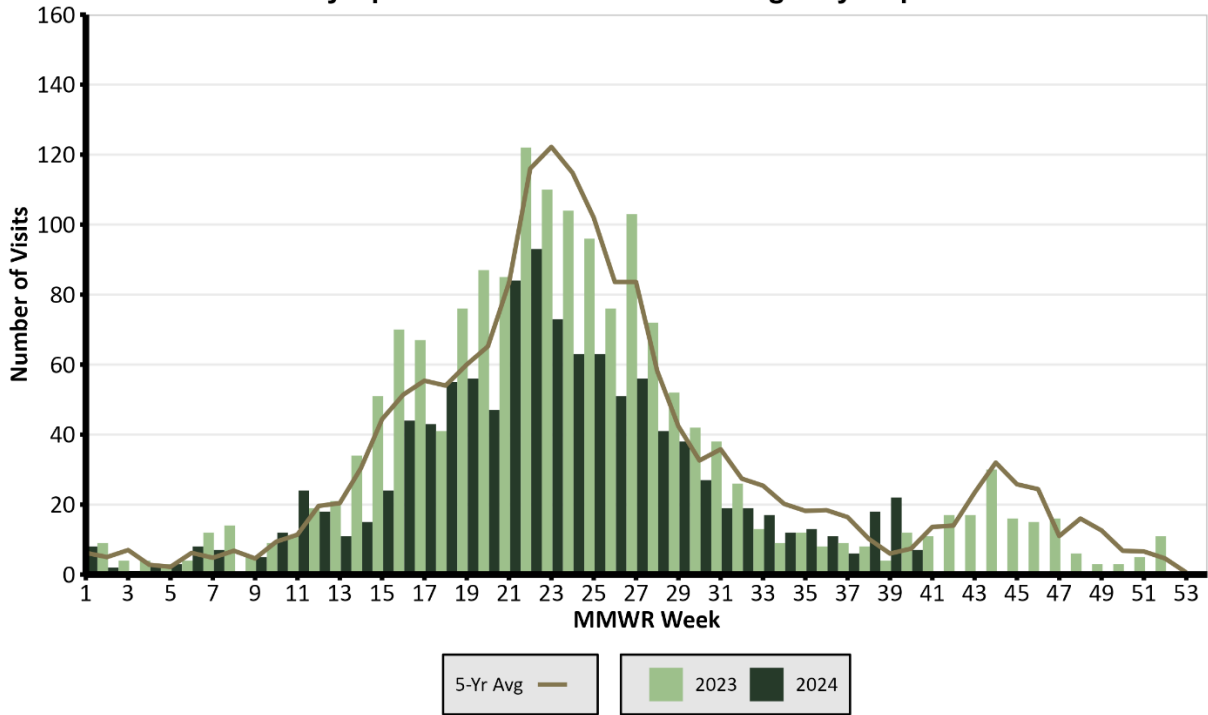


Tick-related Emergency Department Visits

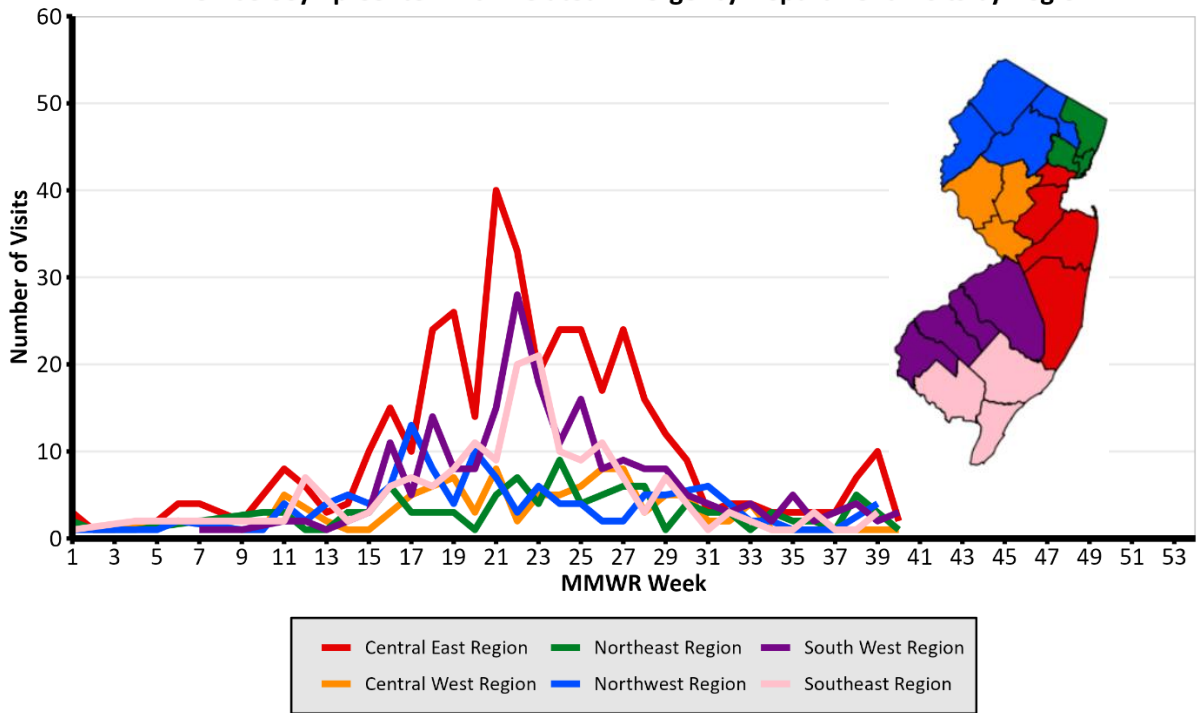
New Jersey's syndromic surveillance system, known as EpiCenter, receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing 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 40, the number of tick-related ED visits decreased and is below the 5-year average.

New Jersey EpiCenter: Tick-Related Emergency Department Visits



New Jersey EpiCenter: Tick-Related Emergency Department Visits by Region



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/>