



Department
of Health



2023

Mosquito-borne Illness Annual Report

**NYSDOH STATEWIDE MOSQUITO-BORNE DISEASE
ACTIVITY REPORT
December 21, 2023**

The New York State Department of Health (NYSDOH) collects, compiles, and analyzes information on mosquito-borne disease activity in New York State (NYS) and produces this annual year-end report. Data in this report reflects testing performed by both NYSDOH's Wadsworth Center Laboratories (WC) and the New York City Department of Health and Mental Hygiene's (NYCDOHMH) Public Health Laboratory (PHL).

Year to Date Summary
(01/01/2023 - 12/20/2023)

- West Nile Virus (WNV):
 - 335 WNV-positive mosquito pools¹ have been identified in NYS, outside of NYC².
 - 1146 WNV-positive mosquito pools have been reported from NYC counties.
 - 32 human cases of WNV infection have been reported, outside of NYC.
 - 32 human cases of WNV infection have been reported from NYC.
 - 5 equine cases of WNV infection have been reported.
 - 1 presumptive viremic donor³ has been reported, outside of NYC.
 - 1 presumptive viremic donor has been reported from NYC counties.
- Eastern Equine Encephalitis Virus (EEEV):
 - 19 EEEV-positive mosquito pools have been identified.
 - 0 human cases of EEEV infection have been reported.
 - 9 equine cases of EEEV infection have been reported.
 - 0 caprine cases of EEEV infection have been reported.
 - 0 ratite cases of EEEV infection have been reported.
- Zika Virus (ZIKV):
 - *Aedes albopictus* has been identified in 4 counties outside of NYC. *Aedes aegypti* has not been identified anywhere in the state.
 - 0 mosquito pools have been positive for Zika virus.
 - 0 human cases of ZIKV infection have been reported to NYSDOH. No cases of local mosquito-borne transmission⁴ (LMBT) have been identified.
- Chikungunya Virus (CHIKV), Dengue Virus (DENV), and Malaria⁵:
 - 11 human cases of CHIKV infection have been reported to NYSDOH. 0 cases of LMBT have been identified.
 - 65 human cases of DENV infection have been reported to NYSDOH. 0 cases of LMBT have been identified.
 - 95 human cases of malaria infection have been reported to NYSDOH. 0 cases of LMBT have been identified.

¹ Mosquito specimens collected by county surveillance staff are grouped into one or more "pools" of specimens according to their collection location, collection date, and species. A positive pool refers to a mosquito pool in which at least one specimen was positive for a given pathogen.

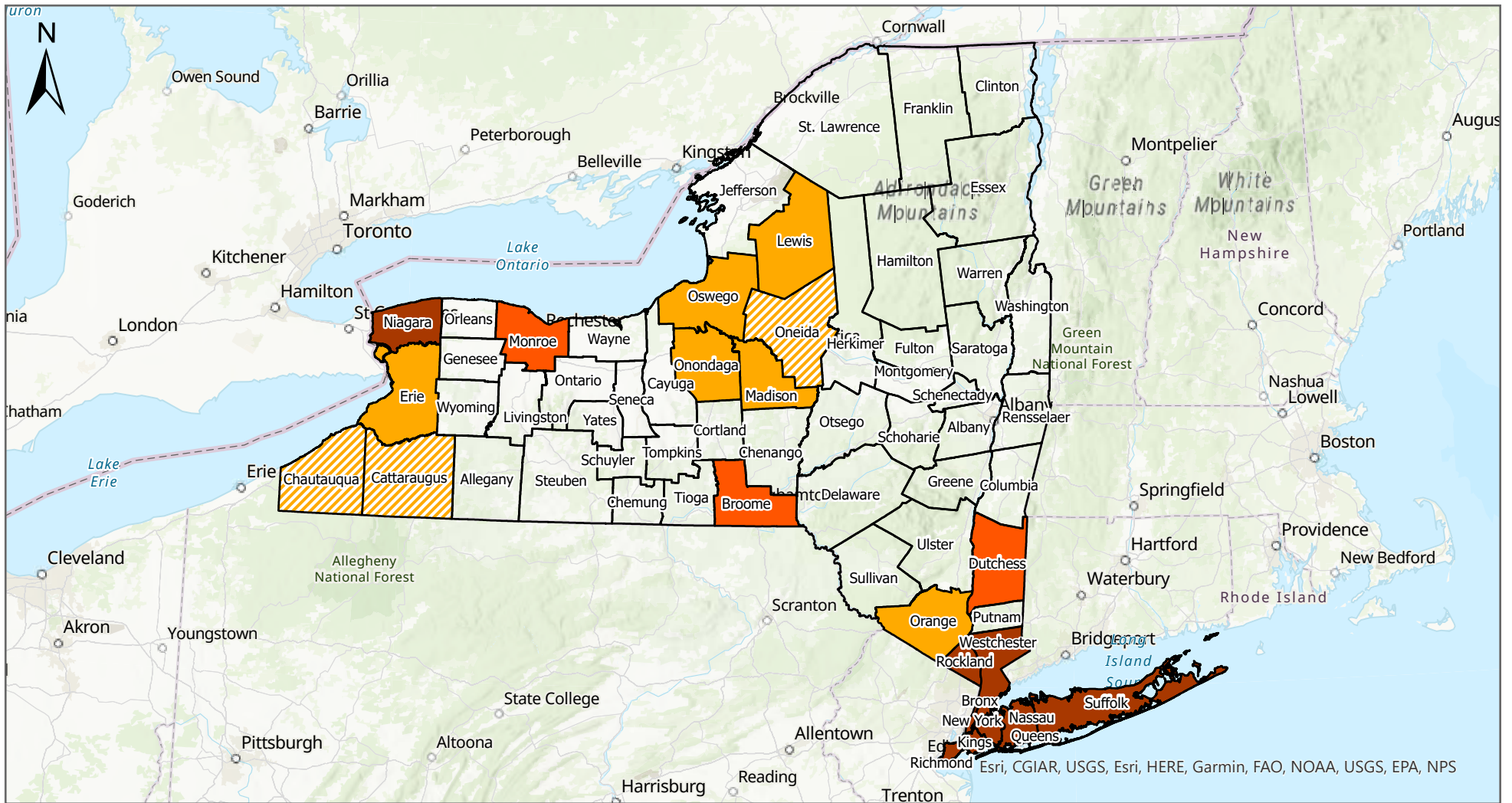
² Data pertaining to New York City municipalities in this report are derived from the NYC Department of Mental Health and Hygiene (NYCDOHMH) website (<https://www.nyc.gov/site/doh/health/health-topics/west-nile-virus.page>) and only reflect WNV+ mosquito pools. NYCDOHMH does not report the total number of pools collected. Consequently, some fields relating to NYC cannot be calculated and have been omitted from this report.

³ Presumptive viremic donors (PVDs) are people who had no symptoms at the time of donating blood (people with symptoms are deferred from donating) through a blood collection agency, but whose blood tested positive in preliminary tests when screened West Nile virus. Some PVDs develop symptoms after donation, at which point they would be included in the count of human cases by their state.

⁴ Local mosquito-borne transmission is defined by the absence of the following epidemiological risk factors: recent travel to a country or region with known active ZIKV transmission OR sexual contact with a recent traveler from these areas; recent blood transfusion; recent laboratory exposure to ZIKV; or mother-to-child transmission during pregnancy. NYCDOHMH directly reports human cases of ZIKV infection to CDC.

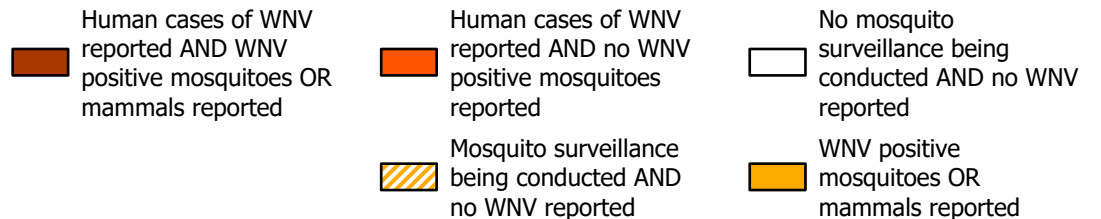
⁵ NYCDOHMH directly reports human cases of CHIKV, DENV and malaria infection to CDC.

2023 West Nile Virus Surveillance Summary

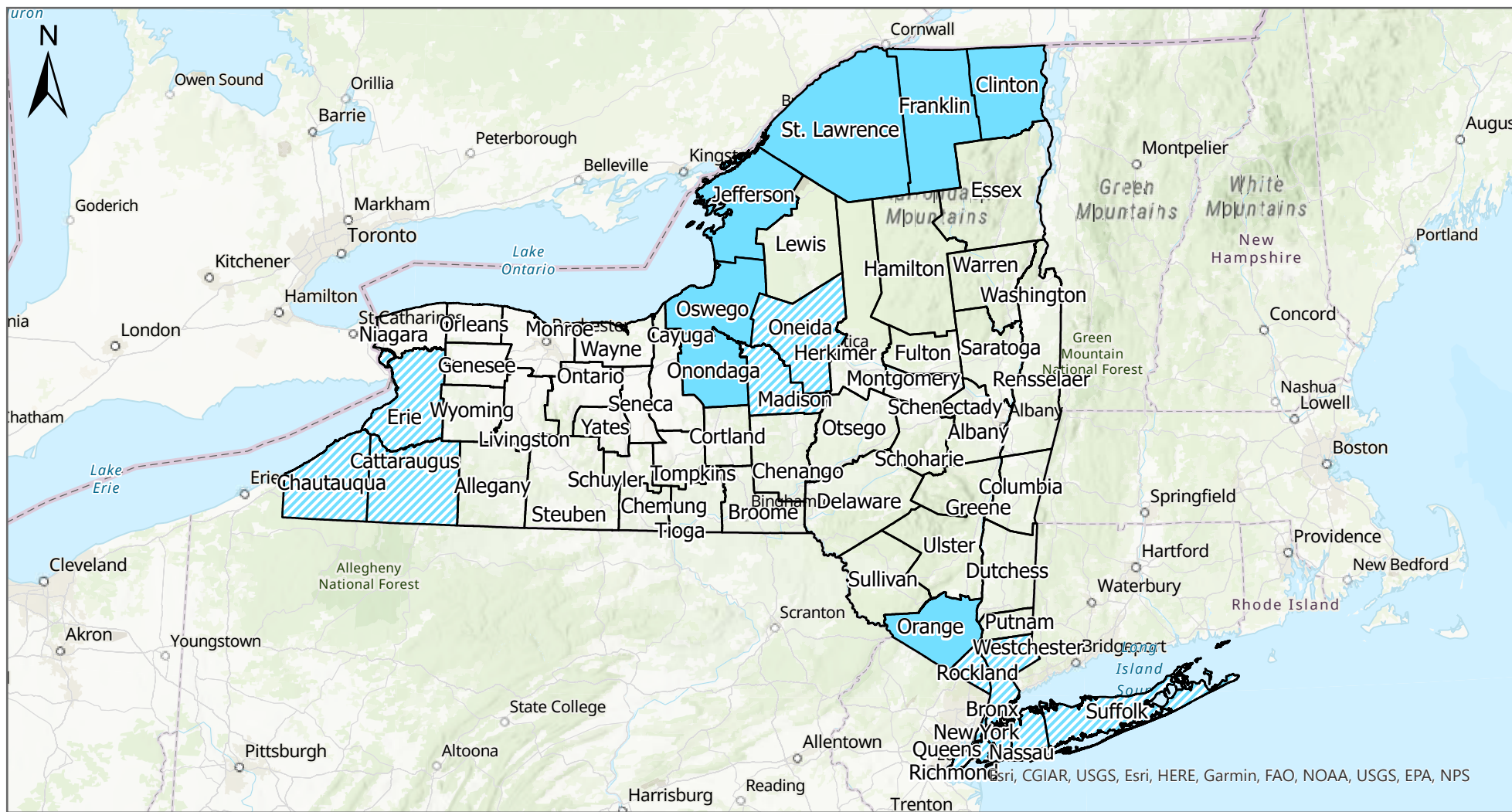


*The number of WNV positive mosquitoes, mammal infections, or human cases depends, in part, on the amount of surveillance and testing performed in each county, and is not necessarily associated with the degree of WNV infection risk.
 -- Map shows results reported through date range indicated.

Surveillance Summary (01/01/2023 - 12/21/2023)

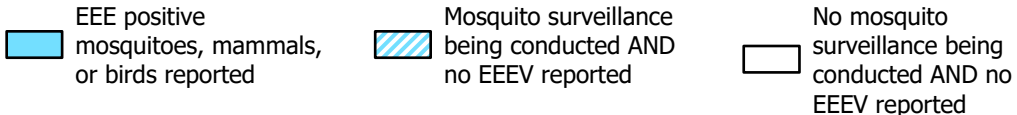


2023 Eastern Equine Encephalitis Virus Surveillance Summary

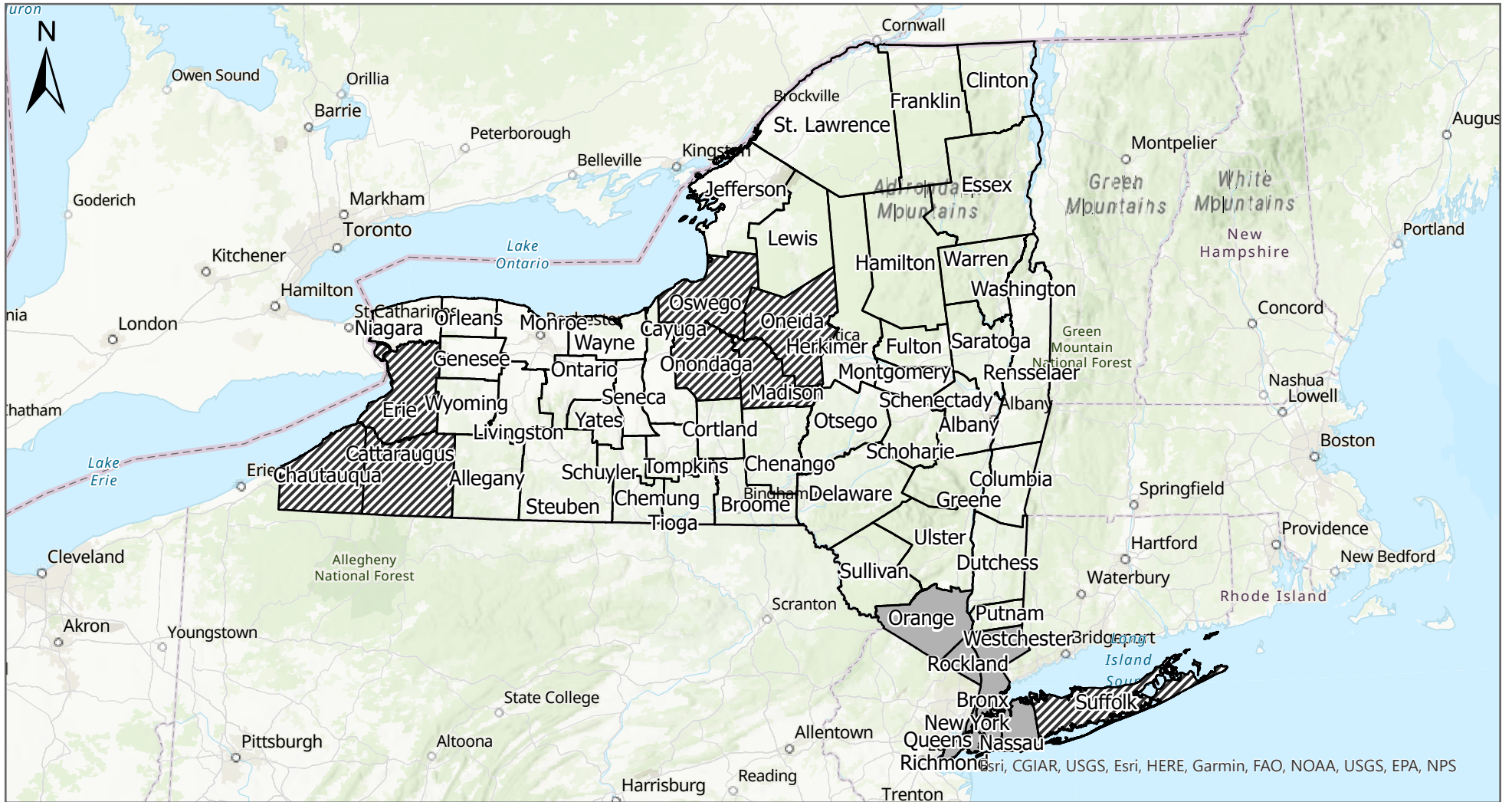


*The number of EEEV positive mosquitoes, mammal infections, or human cases depends, in part, on the amount of surveillance and testing performed in each county, and is not necessarily associated with the degree of EEE infection risk.
 -- Map shows results reported through date range indicated.

Surveillance Summary (01/01/2023 - 12/21/2023)



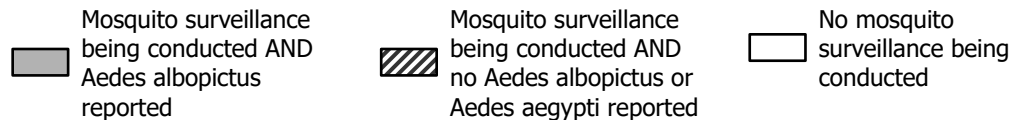
2023 Aedes aegypti/albopictus Surveillance Summary



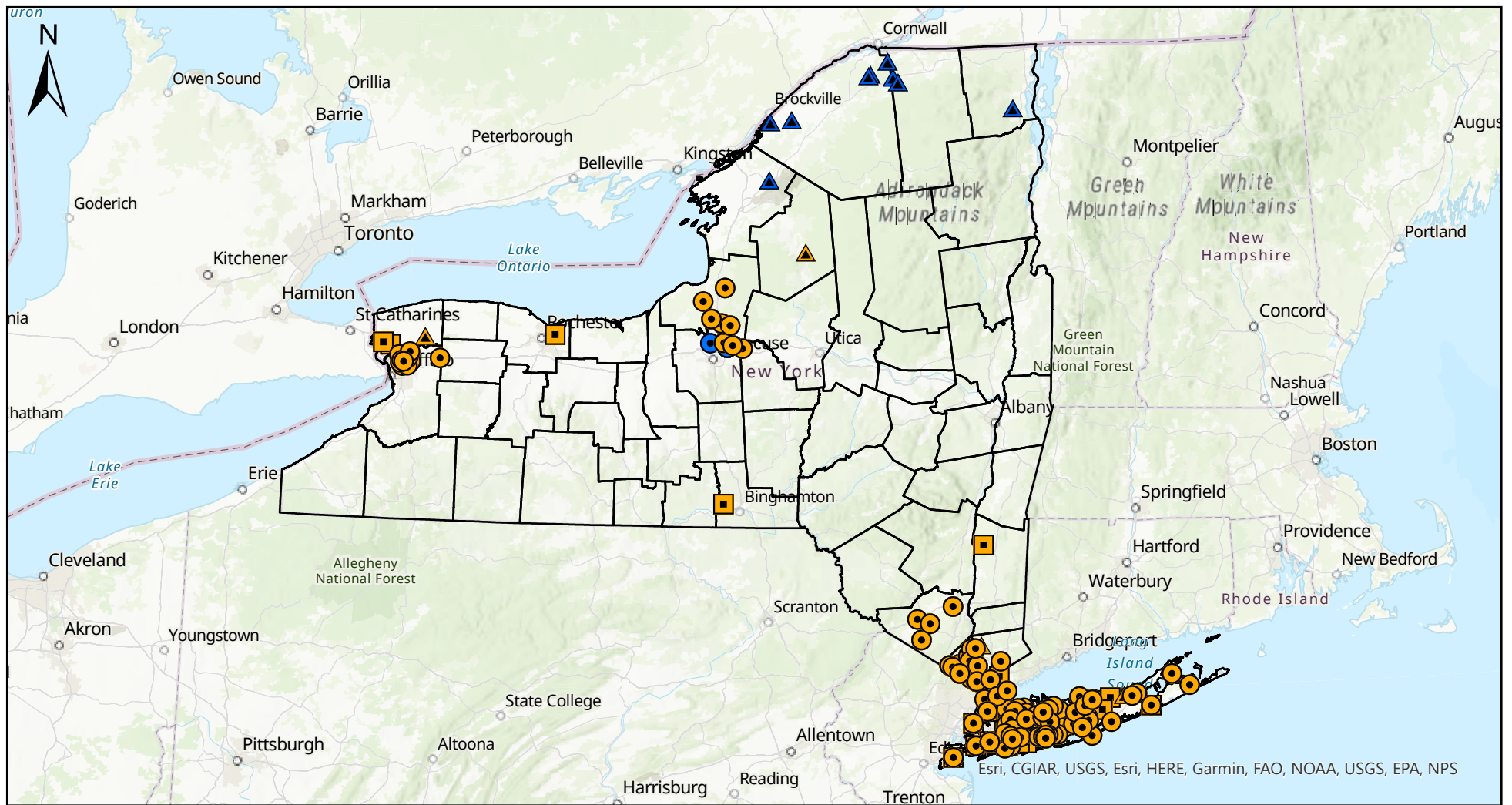
*The total number of Aedes aegypti or albopictus identified within a county depends on the amount of surveillance performed in each county, and is not necessarily associated with degree of Zika risk.

-- Map shows results reported through date range indicated.

Surveillance Summary (01/01/2023 - 12/21/2023)



2023 Mosquito-borne Illness Surveillance



Current week positives are highlighted with a yellow halo around the respective specimen symbols.
 -- Human cases represent local mosquito-borne transmission (LMBT). Travel associated cases are not included.
 -- NYC positive human cases are placed at the centroid of the patient's county of residence.
 -- Map shows results reported through date range indicated.

Surveillance Summary (01/01/2023 - 12/21/2023)

- | | |
|---|---|
| ■ WNV Human Cases | ● EEE Positive Mosquitoes |
| ○ WNV Positive Mosquitoes | ▲ WNV Positive Equine |
| | ▲ EEE Positive Equine |

New York State Arboviral Surveillance Summary (01/01/2023 - 12/20/2023)

Jurisdiction	West Nile Virus				
	Cases		Mosquito Pools		
	Human	Equine	WNV+ Pools	Total Pools	% Positivity
Albany	0	0	--	--	--
Allegany	0	0	--	--	--
Bronx *	2	0	139	--	--
Broome	1	0	--	--	--
Cattaraugus *	0	0	0	91	0.0
Cayuga	0	0	--	--	--
Chautauqua *	0	0	0	37	0.0
Chemung	0	0	--	--	--
Chenango	0	0	--	--	--
Clinton	0	0	--	--	--
Columbia	0	0	--	--	--
Cortland	0	0	--	--	--
Delaware	0	0	--	--	--
Dutchess	1	0	--	--	--
Erie *	0	0	14	325	4.3
Essex	0	0	--	--	--
Franklin	0	0	--	--	--
Fulton	0	0	--	--	--
Genesee	0	0	--	--	--
Greene	0	0	--	--	--
Hamilton	0	0	--	--	--
Herkimer	0	0	--	--	--
Jefferson	0	0	--	--	--
Kings *	8	0	232	--	--
Lewis	0	1	--	--	--
Livingston	0	0	--	--	--
Madison *	0	0	1	207	0.5
Monroe	1	0	--	--	--
Montgomery	0	0	--	--	--
Nassau *	16	0	52	477	10.9
New York *	5	0	58	--	--
Niagara	2	1	--	--	--
Oneida *	0	0	0	66	0.0
Onondaga *	0	0	4	512	0.8
Ontario	0	0	--	--	--
Orange *	0	0	10	374	2.7
Orleans	0	0	--	--	--
Oswego *	0	0	12	587	2.0
Otsego	0	0	--	--	--
Putnam	0	0	--	--	--
Queens *	9	0	470	--	--
Rensselaer	0	0	--	--	--
Richmond *	8	0	247	--	--
Rockland *	2	0	136	729	18.7
Saratoga	0	0	--	--	--
Schenectady	0	0	--	--	--
Schoharie	0	0	--	--	--
Schuyler	0	0	--	--	--
Seneca	0	0	--	--	--
St. Lawrence	0	0	--	--	--
Steuben	0	0	--	--	--
Suffolk *	4	2	99	1379	7.2
Sullivan	0	0	--	--	--
Tioga	0	0	--	--	--
Tompkins	0	0	--	--	--
Ulster	0	0	--	--	--
Warren	0	0	--	--	--
Washington	0	0	--	--	--
Wayne	0	0	--	--	--
Westchester *	5	1	7	182	3.8
Wyoming	0	0	--	--	--
Yates	0	0	--	--	--
NYS (excluding NYC) TOTAL	32	5	335	4966	6.7
NYC*† TOTAL	32	--	1146	--	--
NYS TOTAL	64	5	1481	4966	--

* Jurisdiction conducting mosquito surveillance

† NYCDOHMH mosquito pools represent positive totals only; number of total pools collected and tested not available

New York State Arboviral Surveillance Summary (01/01/2023 - 12/20/2023)

Jurisdiction	Eastern Equine Encephalitis						
	Cases				Mosquito Pools		
	Human	Equine	Caprine**	Ratite***	EEEV+ Pools	Total Pools	% Positivity
Albany	0	0	0	0	--	--	--
Allegany	0	0	0	0	--	--	--
Bronx *	0	0	0	0	0	--	--
Broome	0	0	0	0	--	--	--
Cattaraugus *	0	0	0	0	0	91	0.0
Cayuga	0	0	0	0	--	--	--
Chautauqua *	0	0	0	0	0	37	0.0
Chemung	0	0	0	0	--	--	--
Chenango	0	0	0	0	--	--	--
Clinton	0	1	0	0	--	--	--
Columbia	0	0	0	0	--	--	--
Cortland	0	0	0	0	--	--	--
Delaware	0	0	0	0	--	--	--
Dutchess	0	0	0	0	--	--	--
Erie *	0	0	0	0	0	325	0.0
Essex	0	0	0	0	--	--	--
Franklin	0	2	0	0	--	--	--
Fulton	0	0	0	0	--	--	--
Genesee	0	0	0	0	--	--	--
Greene	0	0	0	0	--	--	--
Hamilton	0	0	0	0	--	--	--
Herkimer	0	0	0	0	--	--	--
Jefferson	0	1	0	0	--	--	--
Kings *	0	0	0	0	0	--	--
Lewis	0	0	0	0	--	--	--
Livingston	0	0	0	0	--	--	--
Madison *	0	0	0	0	0	207	0.0
Monroe	0	0	0	0	--	--	--
Montgomery	0	0	0	0	--	--	--
Nassau *	0	0	0	0	0	477	0.0
New York *	0	0	0	0	0	--	--
Niagara	0	0	0	0	--	--	--
Oneida *	0	0	0	0	0	66	0.0
Onondaga *	0	0	0	0	15	512	2.9
Ontario	0	0	0	0	--	--	--
Orange *	0	0	0	0	1	374	0.3
Orleans	0	0	0	0	--	--	--
Oswego *	0	0	0	0	3	587	0.5
Otsego	0	0	0	0	--	--	--
Putnam	0	0	0	0	--	--	--
Queens *	0	0	0	0	0	--	--
Rensselaer	0	0	0	0	--	--	--
Richmond *	0	0	0	0	0	--	--
Rockland *	0	0	0	0	0	729	0.0
Saratoga	0	0	0	0	--	--	--
Schenectady	0	0	0	0	--	--	--
Schoharie	0	0	0	0	--	--	--
Schuyler	0	0	0	0	--	--	--
Seneca	0	0	0	0	--	--	--
St. Lawrence	0	5	0	0	--	--	--
Steuben	0	0	0	0	--	--	--
Suffolk *	0	0	0	0	0	1379	0.0
Sullivan	0	0	0	0	--	--	--
Tioga	0	0	0	0	--	--	--
Tompkins	0	0	0	0	--	--	--
Ulster	0	0	0	0	--	--	--
Warren	0	0	0	0	--	--	--
Washington	0	0	0	0	--	--	--
Wayne	0	0	0	0	--	--	--
Westchester *	0	0	0	0	0	182	0.0
Wyoming	0	0	0	0	--	--	--
Yates	0	0	0	0	--	--	--
NYS (excluding NYC) TOTAL	0	9	0	0	19	4966	0.4
NYC*† TOTAL	--	--	--	--	0	--	--
NYS TOTAL	0	9	0	0	19	4966	--

* Jurisdiction conducting mosquito surveillance

** Caprine - of, relating to, or being a goat

*** Ratite - (of a bird) having a flat breastbone without a keel, and so unable to fly

† NYCDOHMH mosquito pools represent positive totals only; number of total pools collected and tested not available

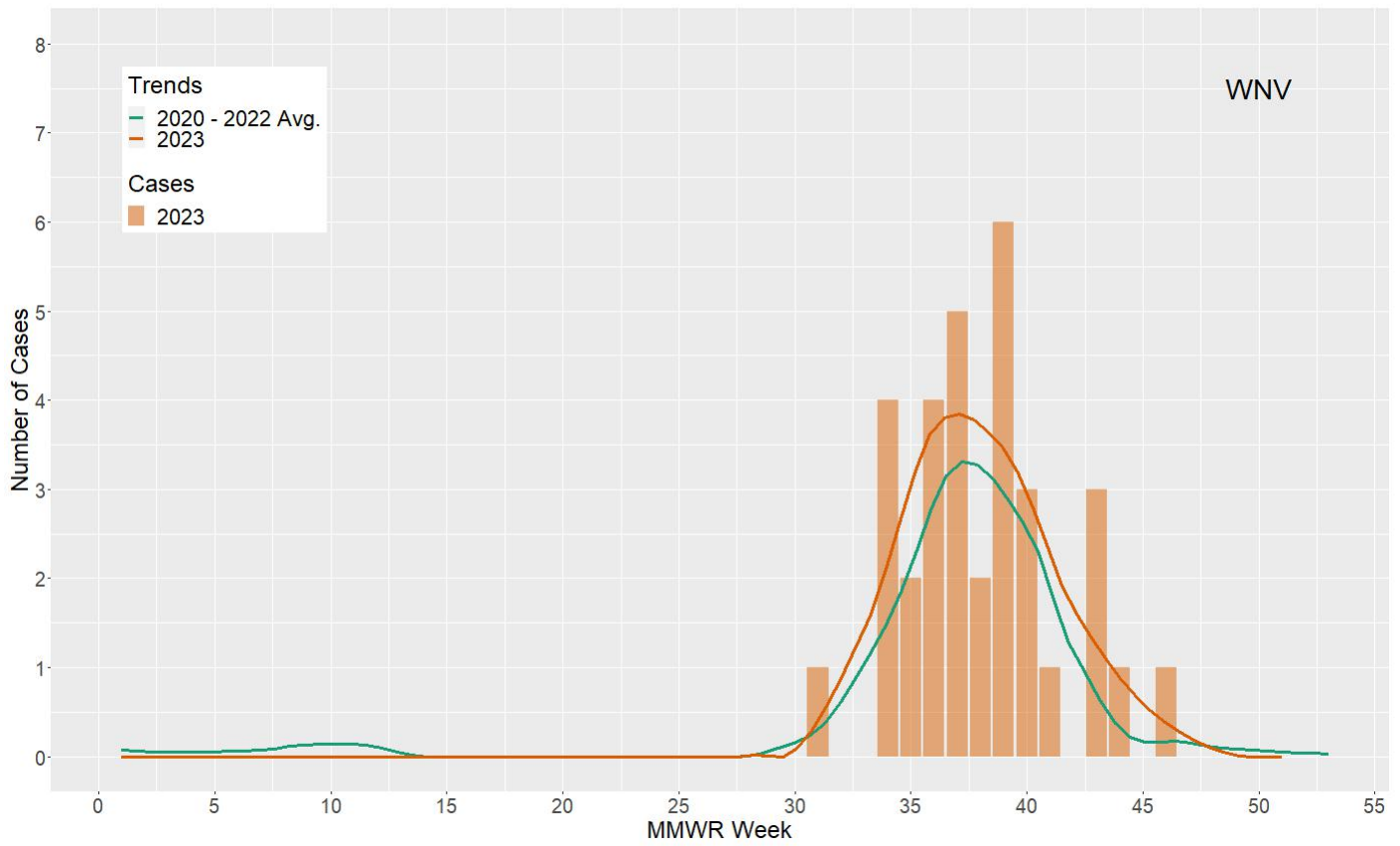


Fig 1. Current year and trend data for human WNV cases (excluding NYC). Trend lines are plotted with a LOESS smoother for comparison of the current year to the previous 3-yr average and should not be used to discern exact case numbers for a given week.

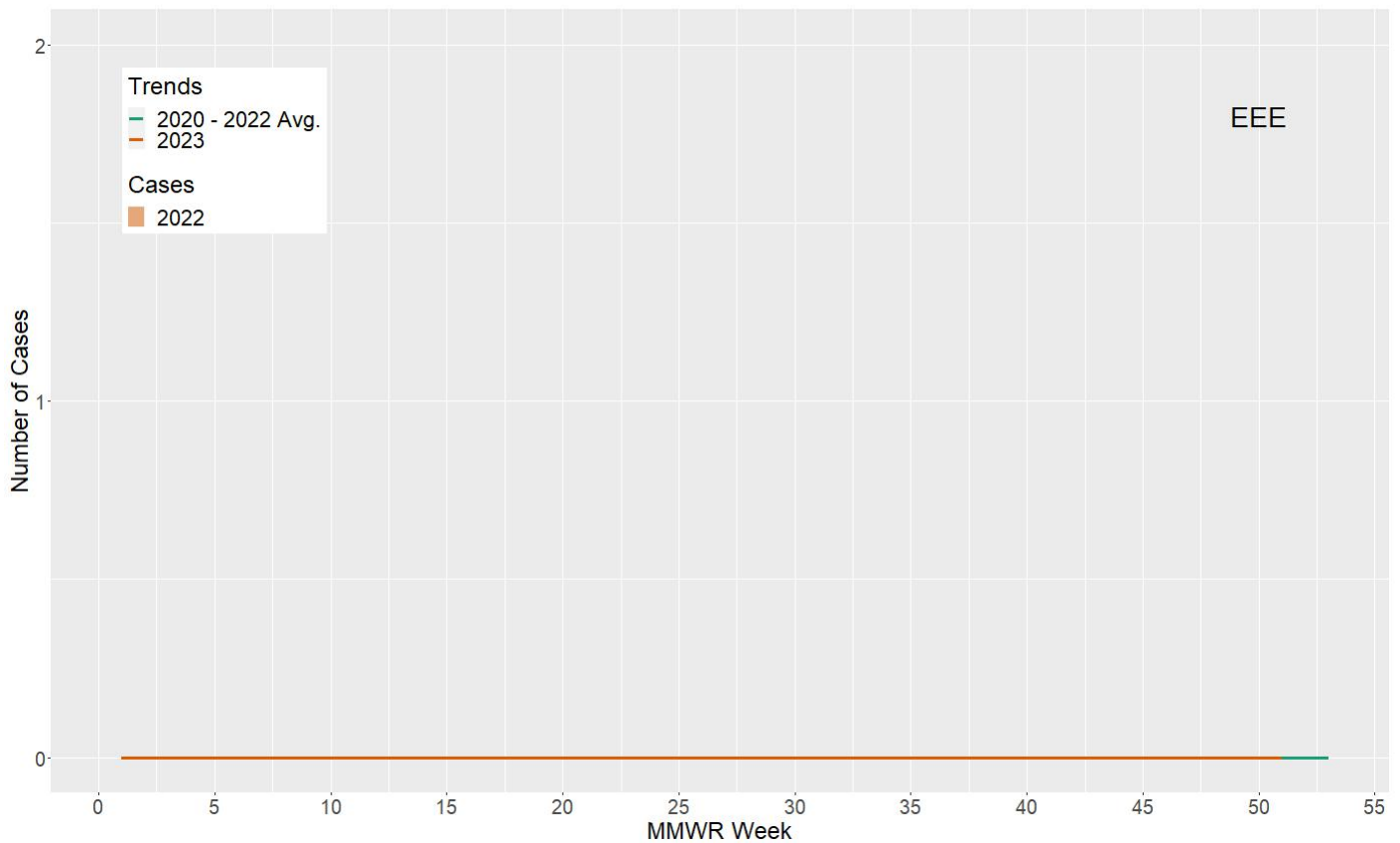


Fig 2. Current year and trend data for human EEE cases (excluding NYC). Trend lines are plotted with a LOESS smoother for comparison of the current year to the previous 3-yr average and should not be used to discern exact case numbers for a given week.

New York State Arboviral Surveillance Summary (01/01/2023 - 12/20/2023)

Jurisdiction	Chikungunya			Dengue			Malaria			Zika		
	Human Cases		Positive Mosquito	Human Cases		Positive Mosquito	Human Cases		Positive Mosquito	Human Cases		Positive Mosquito
	Travel Associated	LMBT	Pools	Travel Associated	LMBT	Pools	Travel Associated	LMBT	Pools	Travel Associated	LMBT	Pools
Albany	0	0	--	1	0	--	6	0	--	0	0	--
Allegany	0	0	--	1	0	--	0	0	--	0	0	--
Bronx *	0	0	0	0	0	0	0	0	0	0	0	0
Broome	1	0	--	1	0	--	1	0	--	0	0	--
Cattaraugus *	0	0	0	0	0	0	0	0	0	0	0	0
Cayuga	0	0	--	0	0	--	0	0	--	0	0	--
Chautauqua *	0	0	0	0	0	0	0	0	0	0	0	0
Chemung	0	0	--	0	0	--	0	0	--	0	0	--
Chenango	0	0	--	0	0	--	0	0	--	0	0	--
Clinton	0	0	--	0	0	--	0	0	--	0	0	--
Columbia	0	0	--	3	0	--	0	0	--	0	0	--
Cortland	0	0	--	0	0	--	0	0	--	0	0	--
Delaware	0	0	--	0	0	--	0	0	--	0	0	--
Dutchess	0	0	--	1	0	--	4	0	--	0	0	--
Erie *	0	0	0	1	0	0	9	0	0	0	0	0
Essex	0	0	--	0	0	--	0	0	--	0	0	--
Franklin	0	0	--	0	0	--	0	0	--	0	0	--
Fulton	0	0	--	0	0	--	0	0	--	0	0	--
Genesee	0	0	--	0	0	--	0	0	--	0	0	--
Greene	0	0	--	0	0	--	0	0	--	0	0	--
Hamilton	0	0	--	0	0	--	0	0	--	0	0	--
Herkimer	0	0	--	0	0	--	0	0	--	0	0	--
Jefferson	0	0	--	0	0	--	3	0	--	0	0	--
Kings *	0	0	0	0	0	0	0	0	0	0	0	0
Lewis	0	0	--	0	0	--	0	0	--	0	0	--
Livingston	0	0	--	0	0	--	0	0	--	0	0	--
Madison *	0	0	0	0	0	0	0	0	0	0	0	0
Monroe	0	0	--	1	0	--	6	0	--	0	0	--
Montgomery	1	0	--	0	0	--	0	0	--	0	0	--
Nassau *	2	0	0	24	0	0	15	0	0	0	0	0
New York *	0	0	0	0	0	0	0	0	0	0	0	0
Niagara	0	0	--	0	0	--	1	0	--	0	0	--
Oneida *	0	0	0	0	0	0	2	0	0	0	0	0
Onondaga *	0	0	0	3	0	0	18	0	0	0	0	0
Ontario	0	0	--	0	0	--	0	0	--	0	0	--
Orange *	0	0	0	4	0	0	3	0	0	0	0	0
Orleans	0	0	--	0	0	--	0	0	--	0	0	--
Oswego *	0	0	0	0	0	0	0	0	0	0	0	0
Otsego	0	0	--	0	0	--	0	0	--	0	0	--
Putnam	0	0	--	2	0	--	0	0	--	0	0	--
Queens *	0	0	0	0	0	0	0	0	0	0	0	0
Rensselaer	0	0	--	0	0	--	2	0	--	0	0	--
Richmond *	0	0	0	0	0	0	0	0	0	0	0	0
Rockland *	0	0	0	2	0	0	1	0	0	0	0	0
Saratoga	1	0	--	0	0	--	0	0	--	0	0	--
Schenectady	0	0	--	1	0	--	0	0	--	0	0	--
Schoharie	0	0	--	0	0	--	0	0	--	0	0	--
Schuyler	0	0	--	0	0	--	0	0	--	0	0	--
Seneca	0	0	--	0	0	--	0	0	--	0	0	--
St. Lawrence	0	0	--	0	0	--	0	0	--	0	0	--
Steuben	0	0	--	0	0	--	1	0	--	0	0	--
Suffolk *	0	0	0	6	0	0	5	0	0	0	0	0
Sullivan	0	0	--	0	0	--	0	0	--	0	0	--
Tioga	0	0	--	0	0	--	0	0	--	0	0	--
Tompkins	1	0	--	0	0	--	2	0	--	0	0	--
Ulster	0	0	--	0	0	--	0	0	--	0	0	--
Warren	0	0	--	0	0	--	0	0	--	0	0	--
Washington	0	0	--	0	0	--	0	0	--	0	0	--
Wayne	0	0	--	0	0	--	0	0	--	0	0	--
Westchester *	5	0	0	14	0	0	16	0	0	0	0	0
Wyoming	0	0	--	0	0	--	0	0	--	0	0	--
Yates	0	0	--	0	0	--	0	0	--	0	0	--
NYS (excluding NYC) TOTAL	11	0	0	65	0	0	95	0	0	0	0	0
NYC*† TOTAL	--	--	0	--	--	0	--	--	0	--	--	0
NYS TOTAL	11	0	0	65	0	0	95	0	0	0	0	0

LMBT - Local Mosquito-borne Transmission

* Jurisdiction conducting mosquito surveillance

† NYCDOHMH directly reports human cases of ZIKV infection to CDC

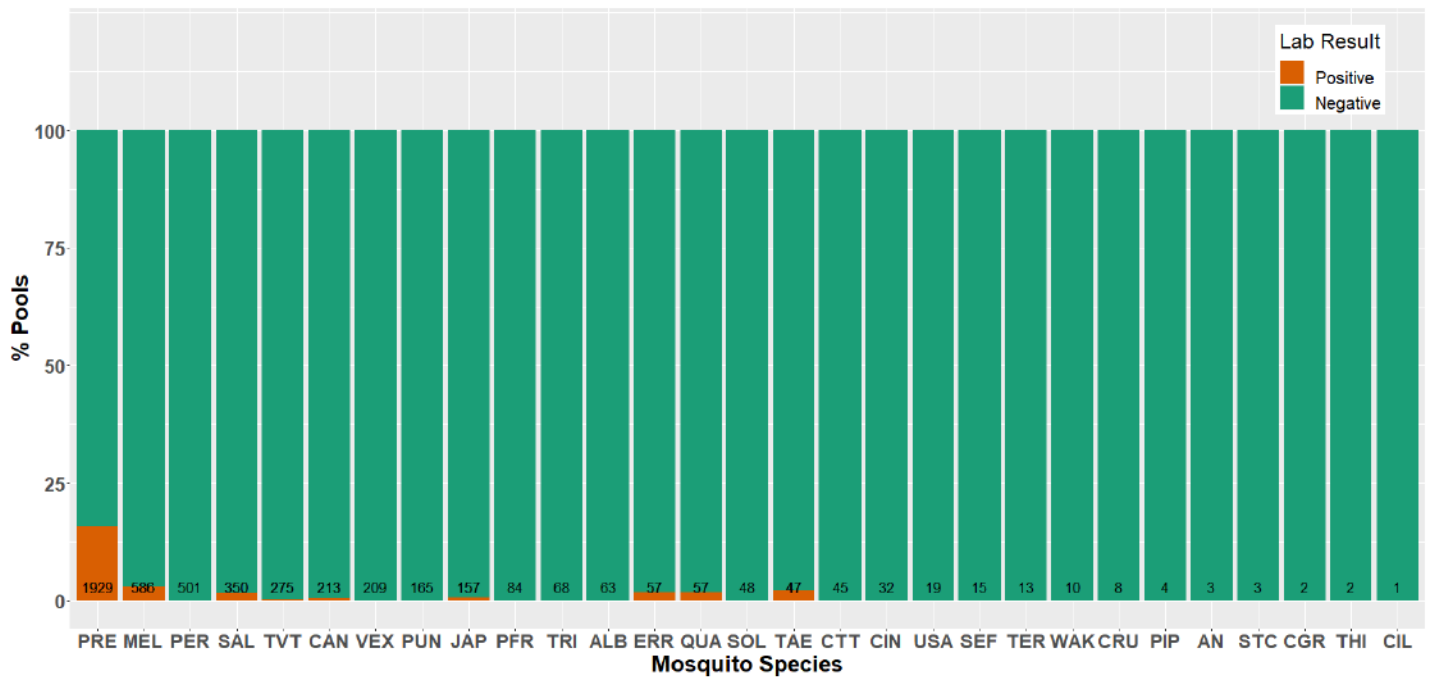


Fig 3. Year-to-date summary of West Nile virus positivity by mosquito species. Numbers within each bar represent the number of total pools tested.

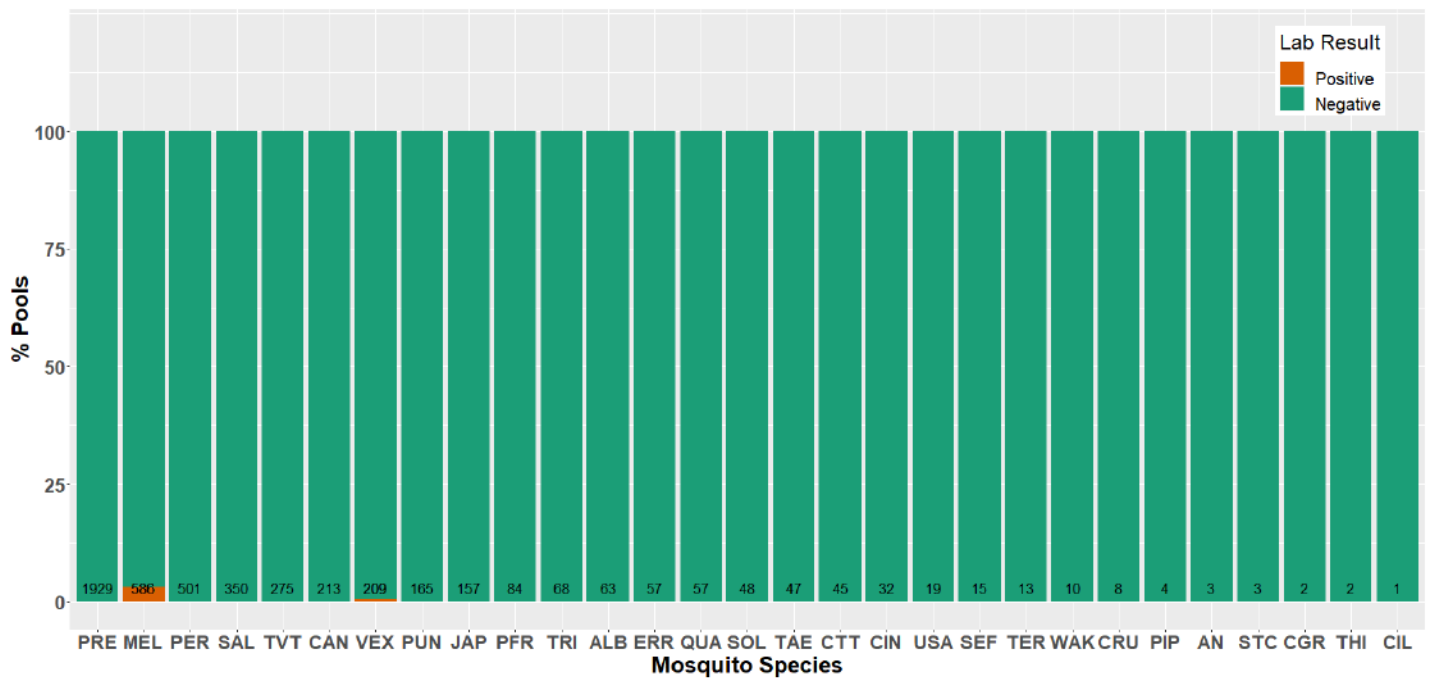


Fig 4. Year-to-date summary of eastern equine encephalitis virus positivity by mosquito species. Numbers within each bar represent the number of total pools tested.

Abbreviation	Species	Abbreviation	Species	Abbreviation	Species
ALB	<i>Ae. albopictus</i>	ERR	<i>Cx. erraticus</i>	STC	<i>Ae. sticticus</i>
CIN	<i>Ae. cinereus</i>	PIP	<i>Cx. pipiens</i>	SEF	<i>Ae. stimulans</i> gr.
VEX	<i>Ae. vexans</i>	PRE	<i>Cx. pipiens-restuans</i>	TAE	<i>Ae. taeniorhynchus</i>
CRU	<i>An. crucians</i>	SAL	<i>Cx. salinarius</i>	TRI	<i>Ae. triseriatus</i>
PUN	<i>An. punctipennis</i>	TER	<i>Cx. territans</i>	TVT	<i>Ae. trivittatus</i>
QUA	<i>An. quadrimaculatus</i>	CAN	<i>Ae. canadensis</i>	CIL	<i>Ps. ciliata</i>
AN	<i>An. species</i>	CTT	<i>Ae. cantator</i>	PFR	<i>Ps. ferox</i>
WAK	<i>An. walkeri</i>	CGR	<i>Ae. communis</i> gr.	USA	<i>Ur. sapphirina</i>
PER	<i>Cq. perturbans</i>	JAP	<i>Ae. japonicus</i>	THI	<i>Ae. thibaulti</i>
MEL	<i>Cs. melanura</i>	SOL	<i>Ae. sollicitans</i>		

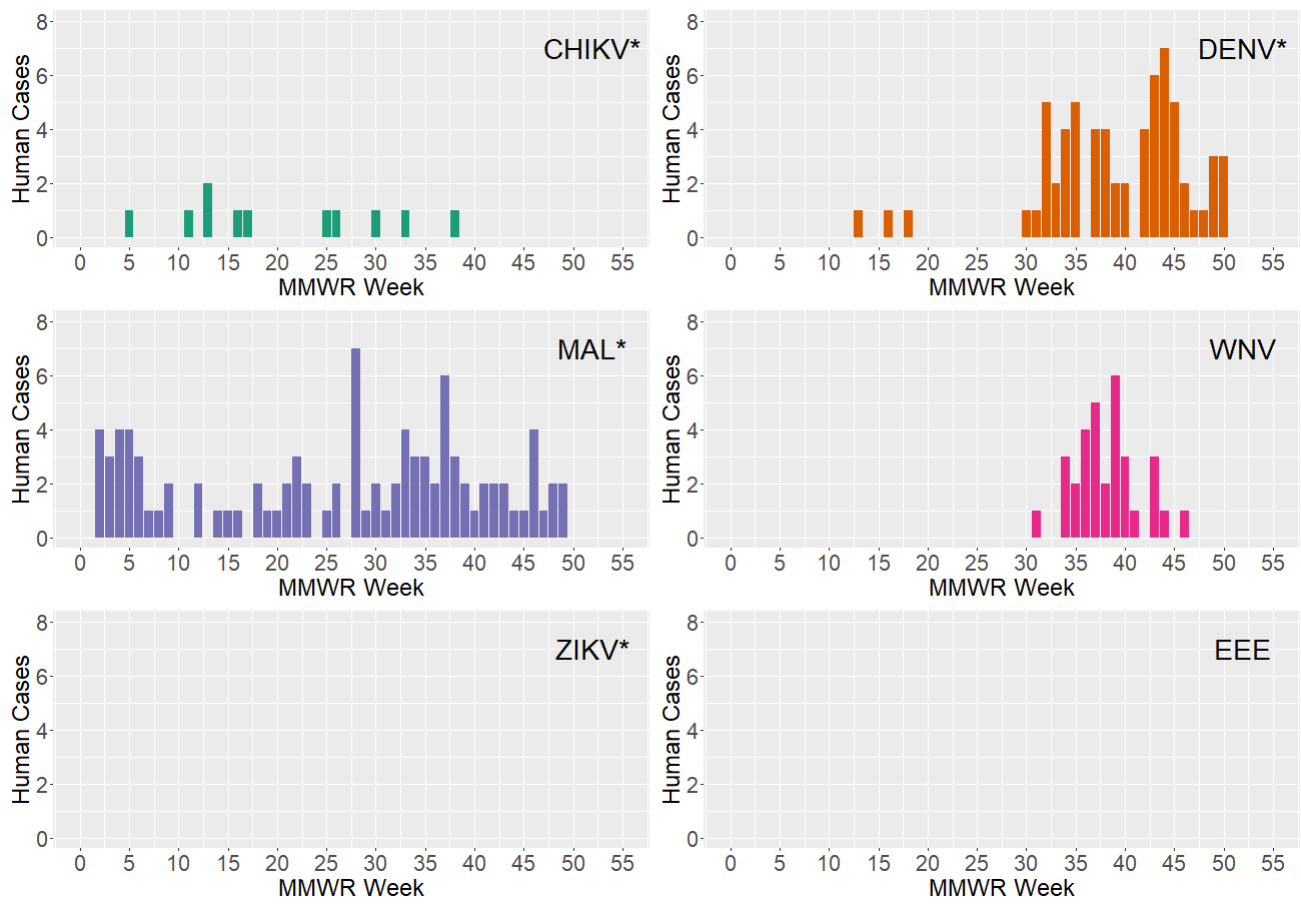


Fig 5. Seasonal patterns of human vector-borne disease cases (excluding NYC)

* No cases of local mosquito-borne transmission; all cases to date are travel-related.

United States Mosquito-borne Disease Surveillance and Other Information

Current and historic nationwide surveillance information on mosquito-borne illnesses in the United States can be found at: (<https://www.cdc.gov/fight-the-bite/at-risk/index.html>)

- Specific information about WNV, including statistics and maps, can be found at: (<http://www.cdc.gov/westnile/>)
- Specific information about EEEV, including statistics and maps, can be found at: (<http://www.cdc.gov/EasternEquineEncephalitis>)
- Specific information about Zika virus, including statistics and maps of areas with active mosquito-borne transmission of Zika virus can be found at: (<http://www.cdc.gov/zika/>)
- Specific information about chikungunya virus, including statistics and maps, can be found at: (<http://www.cdc.gov/chikungunya/>)
- Specific information about dengue fever, including statistics and maps, can be found at can be at: (<http://www.cdc.gov/dengue/>)
- Specific information about malaria, including statistics and maps, can be found here at: (<http://www.cdc.gov/malaria/>)