



Department
of Health



Mosquito-borne Illness Annual Report

2024

**NYSDOH STATEWIDE MOSQUITO-BORNE DISEASE
ACTIVITY REPORT
December 24, 2024**

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 report. Data in this report reflects testing performed by both NYSDOH's Wadsworth Center Laboratories and the New York City Department of Health and Mental Hygiene's (NYCDOHMH) Public Health Laboratory.

Year to Date Summary
(01/01/2024 - 12/24/2024)

- West Nile Virus (WNV):
 - 589 WNV-positive mosquito pools¹ have been identified in NYS, outside of NYC².
 - 1578 WNV-positive mosquito pools have been reported from NYC counties.
 - 64 human cases of WNV infection have been reported, outside of NYC.
 - 36 human cases of WNV infection have been reported in NYC.
 - 8 equine cases of WNV infection have been reported.
 - 10 presumptive viremic donors³ have been reported, outside of NYC.
 - 6 presumptive viremic donors have been reported in NYC counties.
- Eastern Equine Encephalitis Virus (EEEV):
 - 44 EEEV-positive mosquito pools have been identified.
 - 2 human cases of EEEV infection have been reported.
 - 22 equine cases of EEEV infection have been reported.
 - 0 caprine cases of EEEV infection have been reported.
 - 2 ratite cases of EEEV infection have been reported.
- Chikungunya Virus (CHIKV), Dengue Virus (DENV), Zika Virus (ZIKV), and Malaria⁴:
 - 5 human cases of CHIKV infection have been reported. 0 cases of local mosquito-borne transmission⁵ (LMBT) have been identified.
 - 115 human cases of DENV infection have been reported. 0 cases of LMBT have been identified.
 - 64 human cases of malaria infection have been reported. 0 cases of LMBT have been identified.
 - 0 human cases of ZIKV infection have been reported. 0 cases of LMBT have been identified.
 - *Aedes albopictus* is considered established in 5 counties outside of NYC. *Aedes aegypti* has not been identified anywhere in the state. Refer to the map on page 6 of this report for details regarding their currently documented range in NYS.

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

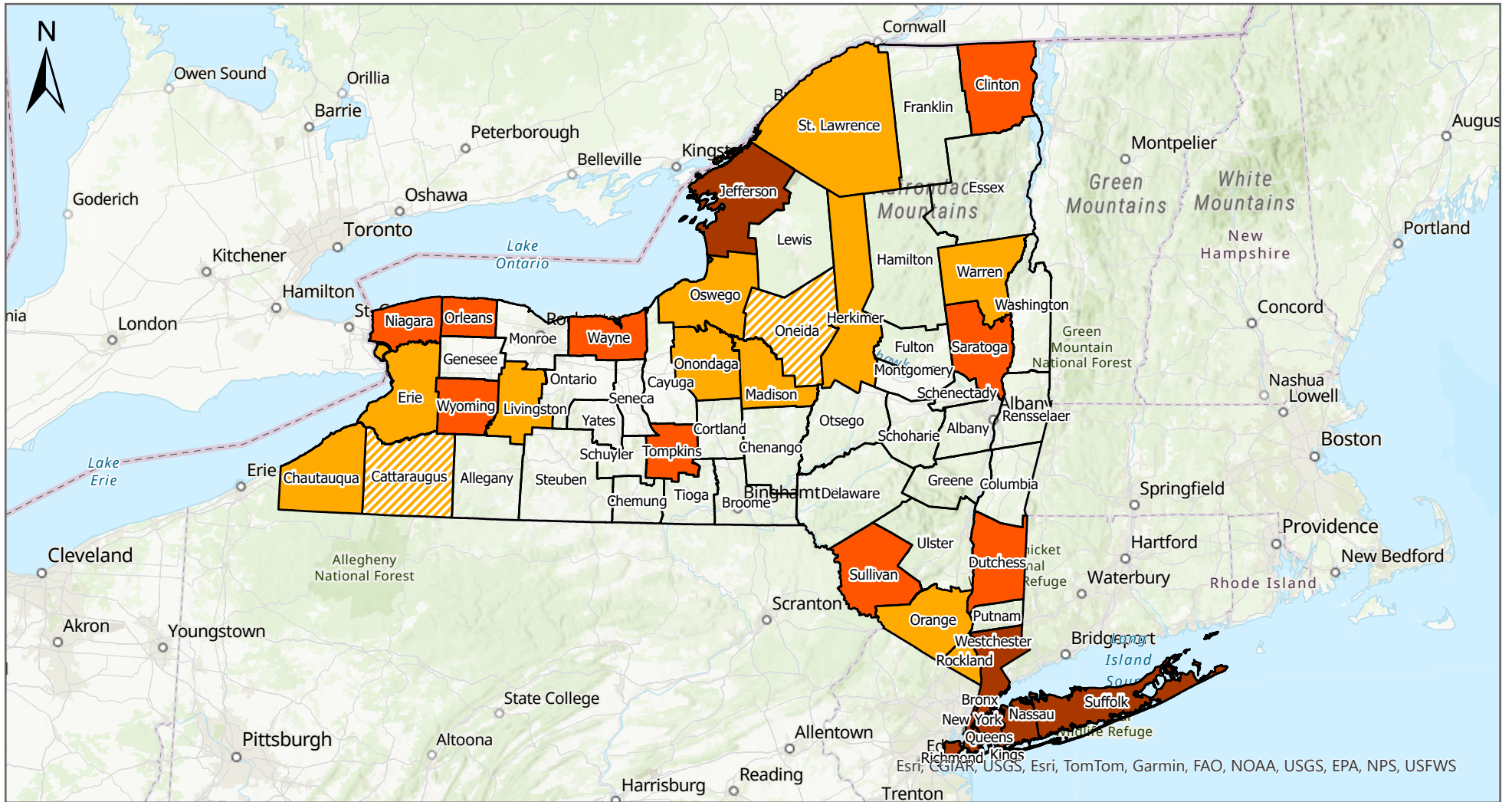
² Data pertaining to New York City municipalities in this report are derived from the NYC Department of Mental Health and Hygiene (NYCDOHMH) website (<https://www.nyc.gov/site/doh/health/health-topics/west-nile-virus.page>) and only reflect WNV+ mosquito pools. NYCDOHMH does not report the total number of pools collected or tested. 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 for West Nile virus. Some PVDs develop symptoms after donation, at which point they are included in human case counts.

⁴ NYCDOHMH directly reports human cases of mosquito-borne infections to CDC.

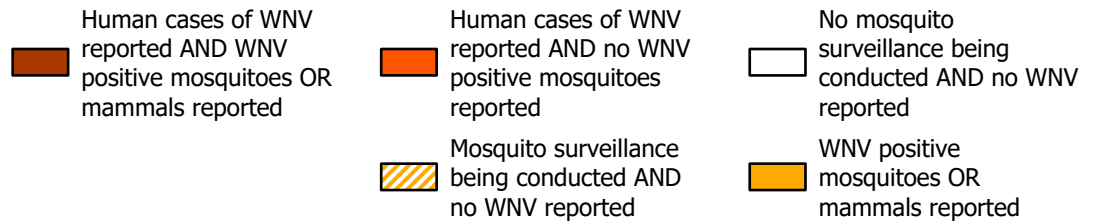
⁵ Local mosquito-borne transmission is defined by the absence of the following epidemiological risk factors: recent travel to a country or region with known active mosquito-borne transmission of the associated pathogen; recent blood transfusion; recent laboratory exposure; or mother-to-child transmission during pregnancy for pathogens in which vertical transmission is possible.

2024 West Nile Virus Surveillance Summary

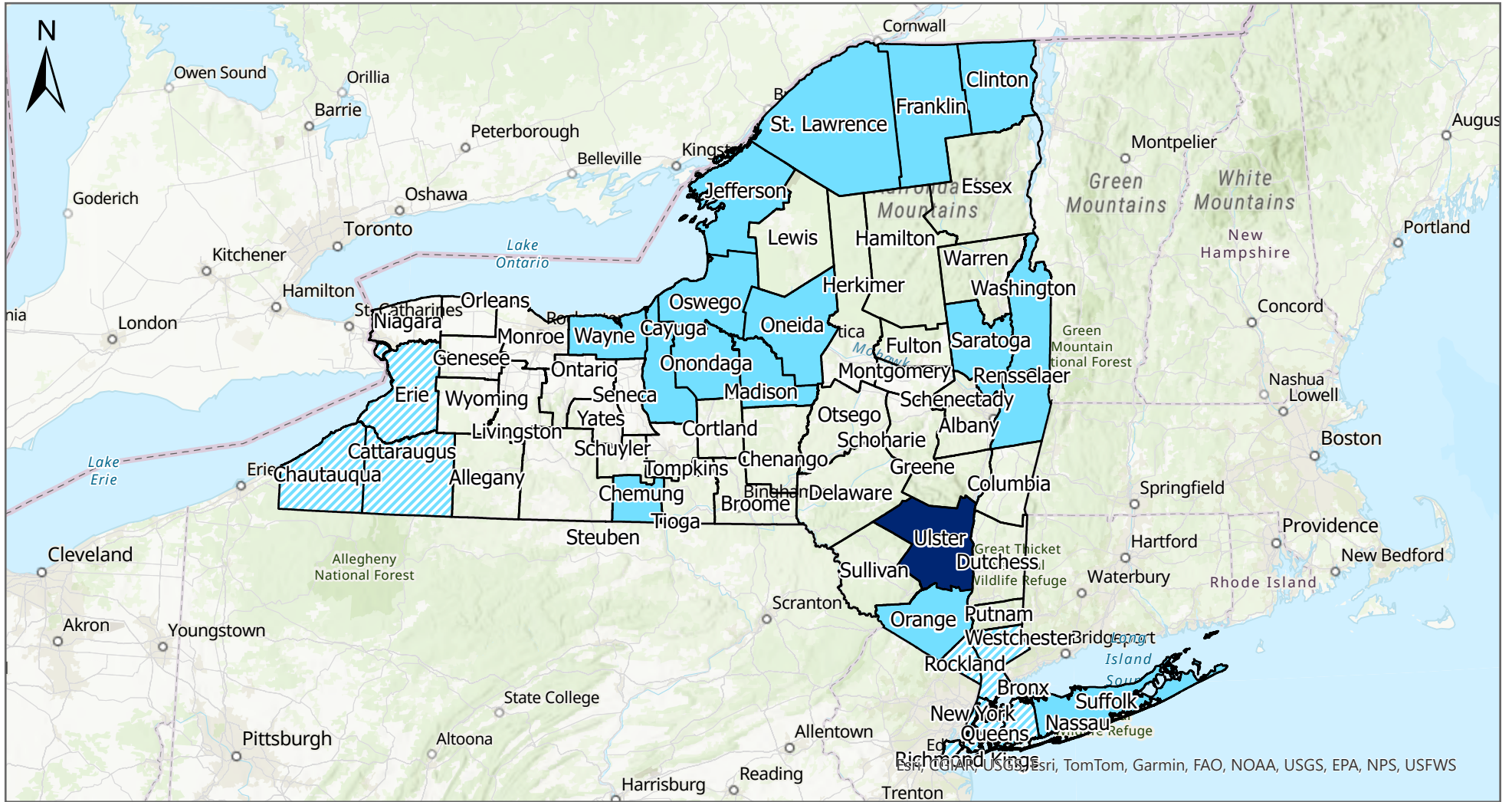


*The number of WNV positive mosquitoes, mammal infections, or human cases depends, in part, on the amount of surveillance and testing performed in each county, and is not necessarily associated with the degree of WNV infection risk.
 -- Map shows results reported through date range indicated.

Surveillance Summary (01/01/2024 - 12/24/2024)

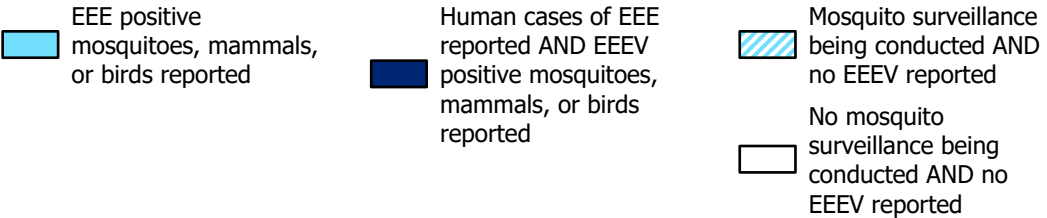


2024 Eastern Equine Encephalitis Virus Surveillance Summary

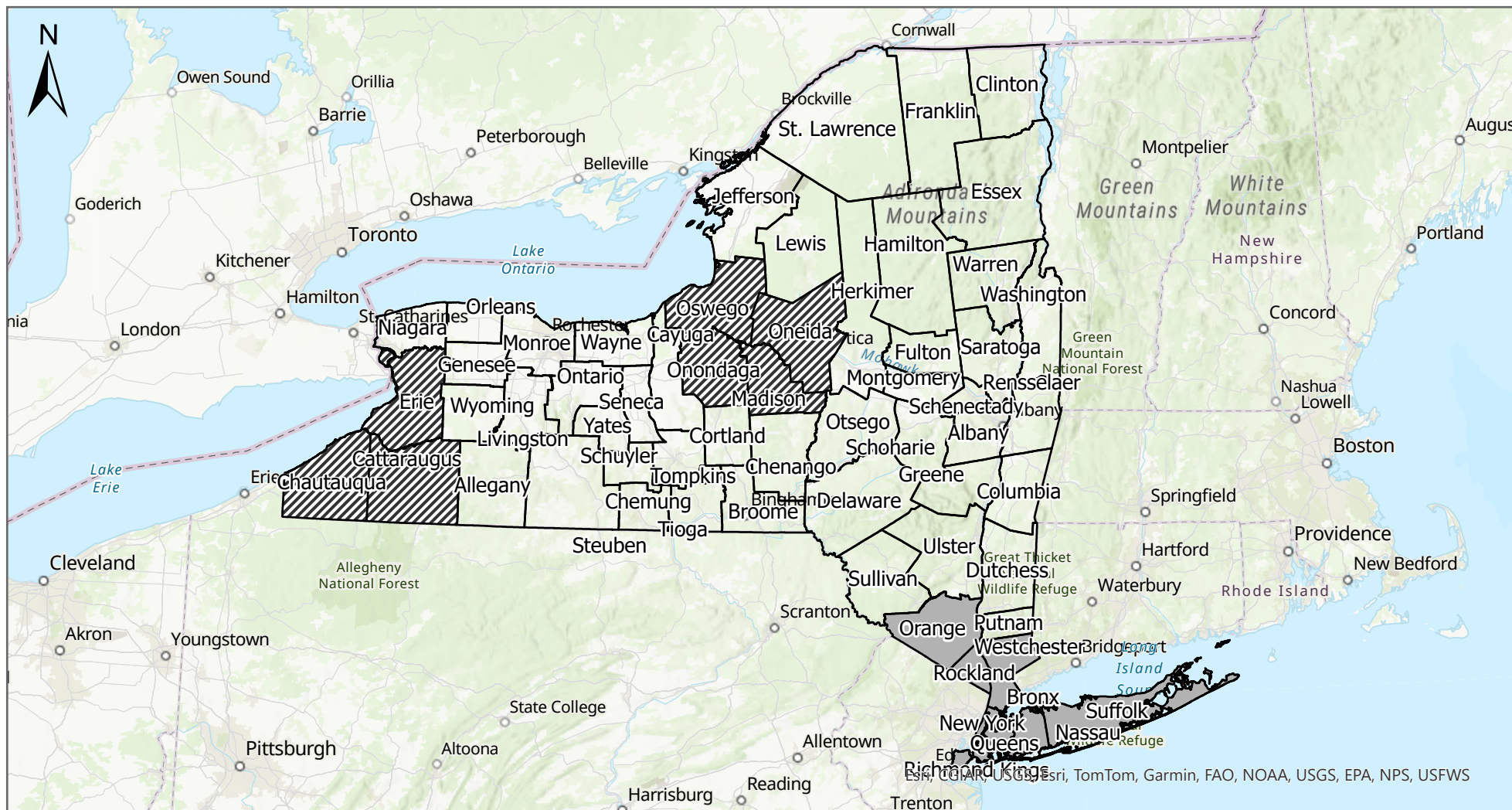


*The number of EEEV positive mosquitoes, mammal infections, or human cases depends, in part, on the amount of surveillance and testing performed in each county, and is not necessarily associated with the degree of EEE infection risk.
 -- Map shows results reported through date range indicated.

Surveillance Summary (01/01/2024 - 12/24/2024)



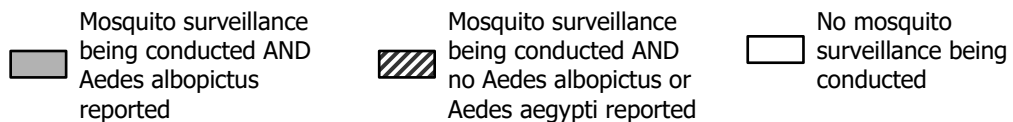
2024 Established *Aedes aegypti*/*albopictus* Populations



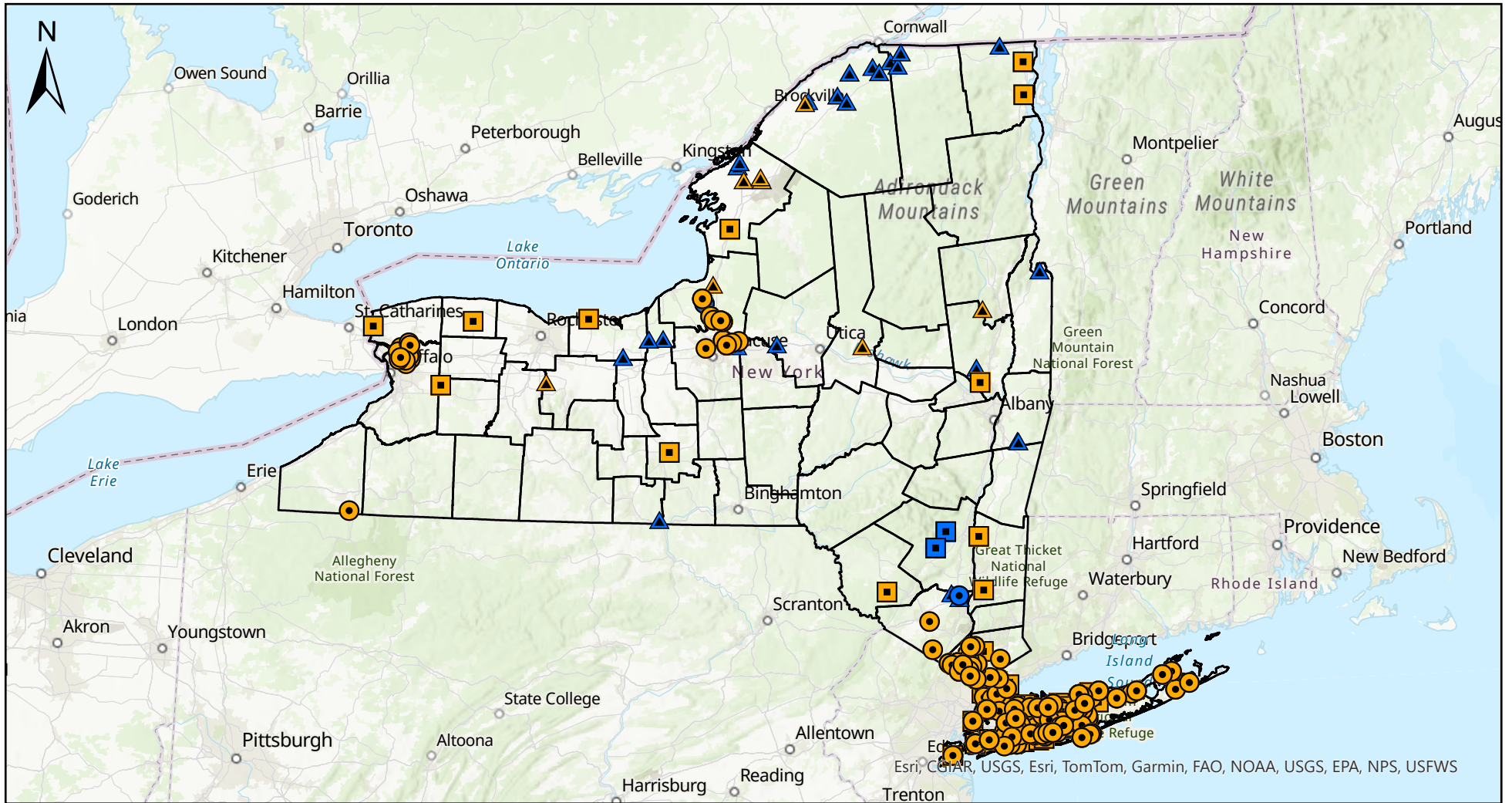
*The total number of *Aedes aegypti* or *albopictus* identified within a county depends on the amount of surveillance performed in each county, and is not necessarily associated with degree of arboviral disease risk.

*Counties classified as having established *A. albopictus* or *A. aegypti* populations are identified as such based on collection of the associated species within a given county for at least two consecutive years.

Surveillance Summary (01/01/2024 - 12/24/2024)



2024 Mosquito-borne Illness Surveillance



-- NYC positive human cases are placed at the centroid of the patient's county of residence.
 -- Map shows results reported through date range indicated.
 -- Symbols indicating human cases of WNV and EEE outside of NYC are an approximation of case locality

Surveillance Summary (01/01/2024 - 12/24/2024)

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

New York State Arboviral Surveillance Summary (01/01/2024 - 12/24/2024)

Jurisdiction	West Nile Virus				
	Cases		Mosquito Pools		
	Human	Equine	WNV+ Pools	Total Pools	% Positivity
Albany	0	0	--	--	--
Allegany	0	0	--	--	--
Bronx *	3	0	244	--	--
Broome	0	0	--	--	--
Cattaraugus *	0	0	0	154	0.0
Cayuga	0	0	--	--	--
Chautauqua *	0	0	1	84	1.2
Chemung	0	0	--	--	--
Chenango	0	0	--	--	--
Clinton	2	0	--	--	--
Columbia	0	0	--	--	--
Cortland	0	0	--	--	--
Delaware	0	0	--	--	--
Dutchess	2	0	--	--	--
Erie *	0	0	18	246	7.3
Essex	0	0	--	--	--
Franklin	0	0	--	--	--
Fulton	0	0	--	--	--
Genesee	0	0	--	--	--
Greene	0	0	--	--	--
Hamilton	0	0	--	--	--
Herkimer	0	1	--	--	--
Jefferson	1	3	--	--	--
Kings *	12	0	301	--	--
Lewis	0	0	--	--	--
Livingston	0	1	--	--	--
Madison *	0	0	1	177	0.6
Monroe	0	0	--	--	--
Montgomery	0	0	--	--	--
Nassau *	20	0	62	467	13.3
New York *	7	0	109	--	--
Niagara	1	0	--	--	--
Oneida *	0	0	0	147	0.0
Onondaga *	0	0	15	606	2.5
Ontario	0	0	--	--	--
Orange *	0	0	2	238	0.8
Orleans	1	0	--	--	--
Oswego *	0	1	18	714	2.5
Otsego	0	0	--	--	--
Putnam	0	0	--	--	--
Queens *	12	0	575	--	--
Rensselaer	0	0	--	--	--
Richmond *	2	0	349	--	--
Rockland *	0	0	214	719	29.8
Saratoga	1	0	--	--	--
Schenectady	0	0	--	--	--
Schoharie	0	0	--	--	--
Schuyler	0	0	--	--	--
Seneca	0	0	--	--	--
St. Lawrence	0	1	--	--	--
Steuben	0	0	--	--	--
Suffolk *	20	0	235	1875	12.5
Sullivan	1	0	--	--	--
Tioga	0	0	--	--	--
Tompkins	1	0	--	--	--
Ulster	0	0	--	--	--
Warren	0	1	--	--	--
Washington	0	0	--	--	--
Wayne	1	0	--	--	--
Westchester *	12	0	23	146	15.8
Wyoming	1	0	--	--	--
Yates	0	0	--	--	--
NYS (excluding NYC) Total	64	8	589	5573	10.6
NYC*† Total	36	--	1578	--	--
NYS Total	100	8	2167	5573	--

* 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 (01/01/2024 - 12/24/2024)

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	154	0.0
Cayuga	0	2	0	0	--	--	--
Chautauqua *	0	0	0	0	0	84	0.0
Chemung	0	1	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	246	0.0
Essex	0	0	0	0	--	--	--
Franklin	0	3	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	2	0	0	--	--	--
Kings *	0	0	0	0	0	--	--
Lewis	0	0	0	0	--	--	--
Livingston	0	0	0	0	--	--	--
Madison *	0	1	0	0	0	177	0.0
Monroe	0	0	0	0	--	--	--
Montgomery	0	0	0	0	--	--	--
Nassau *	0	0	0	0	0	467	0.0
New York *	0	0	0	0	0	--	--
Niagara	0	0	0	0	--	--	--
Oneida *	0	1	0	0	0	147	0.0
Onondaga *	0	0	0	0	24	606	4.0
Ontario	0	0	0	0	--	--	--
Orange *	0	1	0	0	1	238	0.4
Orleans	0	0	0	0	--	--	--
Oswego *	0	0	0	0	18	714	2.5
Otsego	0	0	0	0	--	--	--
Putnam	0	0	0	0	--	--	--
Queens *	0	0	0	0	0	--	--
Rensselaer	0	0	0	2	--	--	--
Richmond *	0	0	0	0	0	--	--
Rockland *	0	0	0	0	0	719	0.0
Saratoga	0	1	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	6	0	0	--	--	--
Steuben	0	0	0	0	--	--	--
Suffolk *	0	0	0	0	1	1875	0.1
Sullivan	0	0	0	0	--	--	--
Tioga	0	0	0	0	--	--	--
Tompkins	0	0	0	0	--	--	--
Ulster	2	1	0	0	--	--	--
Warren	0	0	0	0	--	--	--
Washington	0	1	0	0	--	--	--
Wayne	0	1	0	0	--	--	--
Westchester *	0	0	0	0	0	146	0.0
Wyoming	0	0	0	0	--	--	--
Yates	0	0	0	0	--	--	--
NYS (excluding NYC) Total	2	22	0	2	44	5573	0.8
NYC* Total	--	--	--	--	--	--	--
NYS Total	2	22	0	2	44	5573	--

* 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

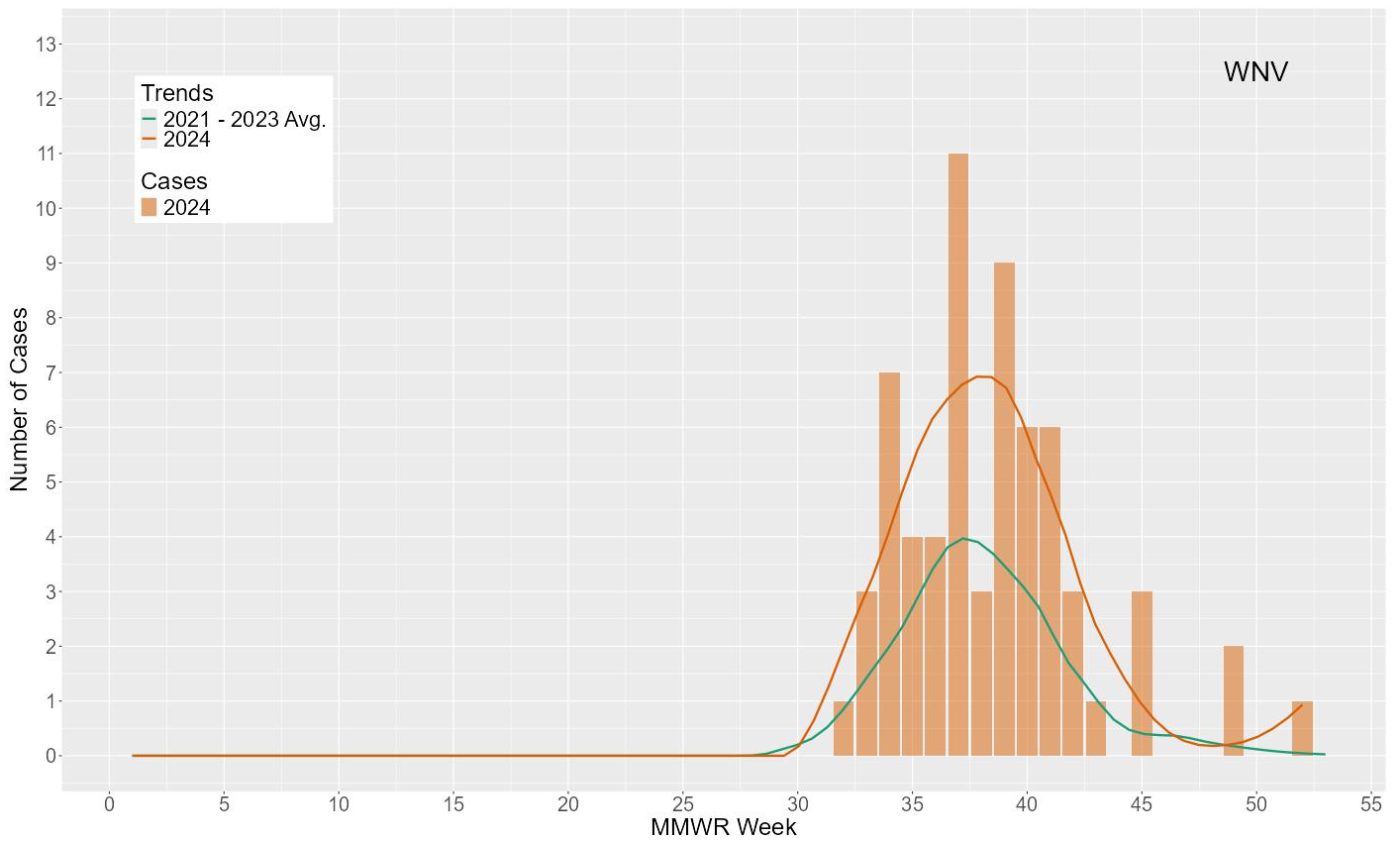


Fig 1. Human WNV cases (excluding NYC) by week reported. Trend lines are plotted with a LOESS smoother for comparison of the current year to the previous 3-yr average and should not be used to discern exact case numbers for a given week.

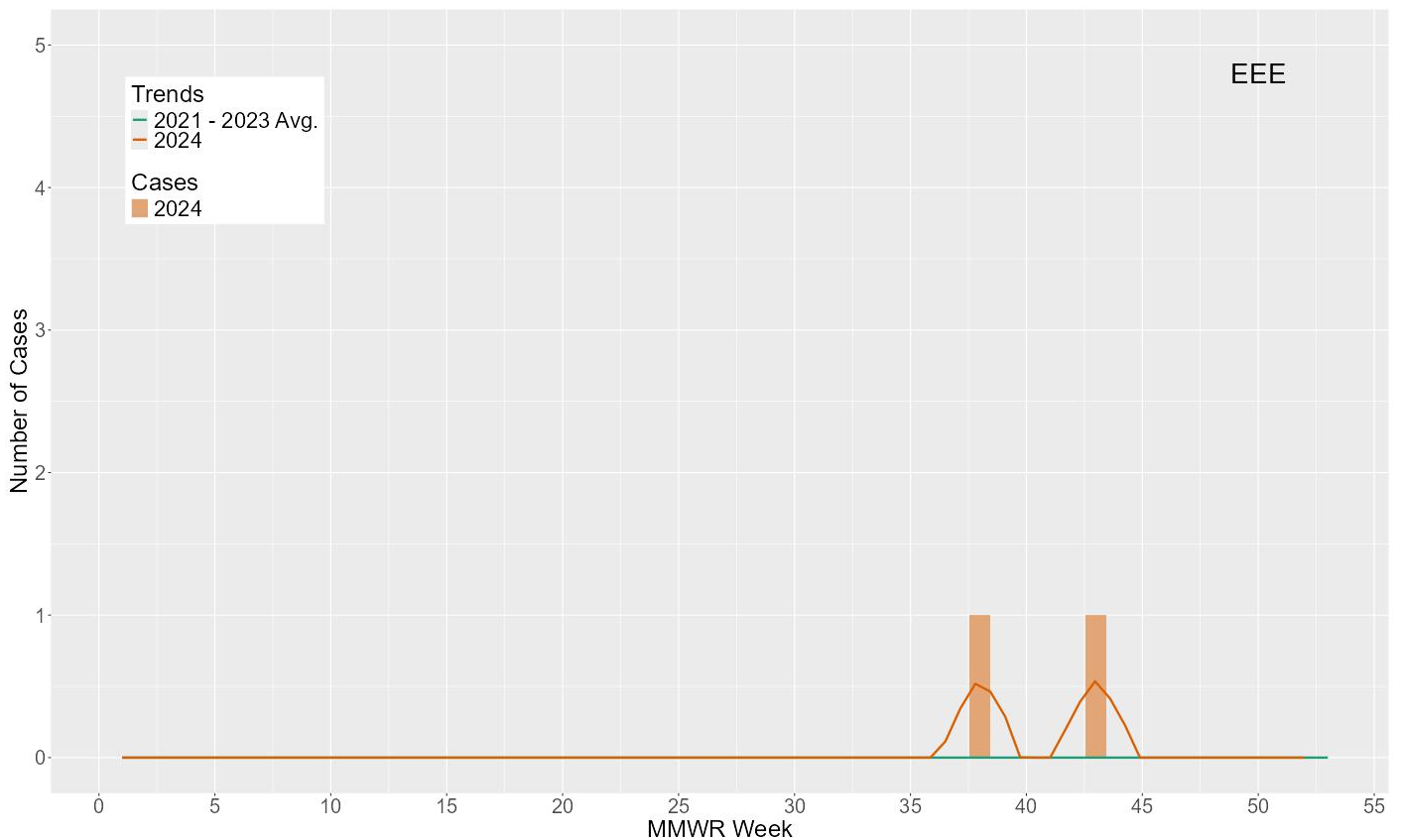


Fig 2. Human EEE cases (excluding NYC) by week reported. Trend lines are plotted with a LOESS smoother for comparison of the current year to the previous 3-yr average and should not be used to discern exact case numbers for a given week.

New York State Arboviral Surveillance Summary (01/01/2024 - 12/24/2024)

Jurisdiction	Chikungunya		Dengue		Malaria		Zika	
	Human Cases		Human Cases		Human Cases		Human Cases	
	Travel Associated	LMBT	Travel Associated	LMBT	Travel Associated	LMBT	Travel Associated	LMBT
Albany	0	0	2	0	4	0	0	0
Allegany	0	0	1	0	0	0	0	0
Bronx	0	0	0	0	0	0	0	0
Broome	0	0	0	0	0	0	0	0
Cattaraugus	0	0	0	0	0	0	0	0
Cayuga	0	0	1	0	0	0	0	0
Chautauqua	0	0	0	0	0	0	0	0
Chemung	0	0	0	0	0	0	0	0
Chenango	0	0	1	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0
Columbia	0	0	1	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	2	0	0	0
Erie	1	0	4	0	1	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	1	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	0	0	0	0
Kings	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
Monroe	0	0	2	0	9	0	0	0
Montgomery	0	0	0	0	0	0	0	0
Nassau	1	0	19	0	8	0	0	0
New York	0	0	0	0	0	0	0	0
Niagara	0	0	0	0	0	0	0	0
Oneida	0	0	0	0	4	0	0	0
Onondaga	0	0	2	0	5	0	0	0
Ontario	0	0	1	0	0	0	0	0
Orange	0	0	3	0	5	0	0	0
Orleans	0	0	0	0	0	0	0	0
Oswego	0	0	1	0	0	0	0	0
Otsego	0	0	1	0	0	0	0	0
Putnam	0	0	2	0	0	0	0	0
Queens	0	0	0	0	0	0	0	0
Rensselaer	0	0	1	0	1	0	0	0
Richmond	0	0	0	0	0	0	0	0
Rockland	0	0	4	0	0	0	0	0
Saratoga	0	0	0	0	0	0	0	0
Schenectady	0	0	0	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	0	0	0	0
Suffolk	2	0	26	0	7	0	0	0
Sullivan	0	0	1	0	0	0	0	0
Tioga	0	0	0	0	0	0	0	0
Tompkins	0	0	5	0	1	0	0	0
Ulster	0	0	5	0	1	0	0	0
Warren	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0
Wayne	0	0	1	0	0	0	0	0
Westchester	1	0	29	0	15	0	0	0
Wyoming	0	0	0	0	0	0	0	0
Yates	0	0	1	0	0	0	0	0
NYS (excluding NYC) Total	5	0	115	0	64	0	0	0
NYC*† Total	--	--	--	--	--	--	--	--
NYS Total	5	0	115	0	64	0	0	0

LMBT - Local Mosquito-borne Transmission

* Jurisdiction conducting mosquito surveillance

† NYCDOHM directly reports human cases of ZIKV infection to CDC

Arboviral Mosquito Pool Positivity by Species

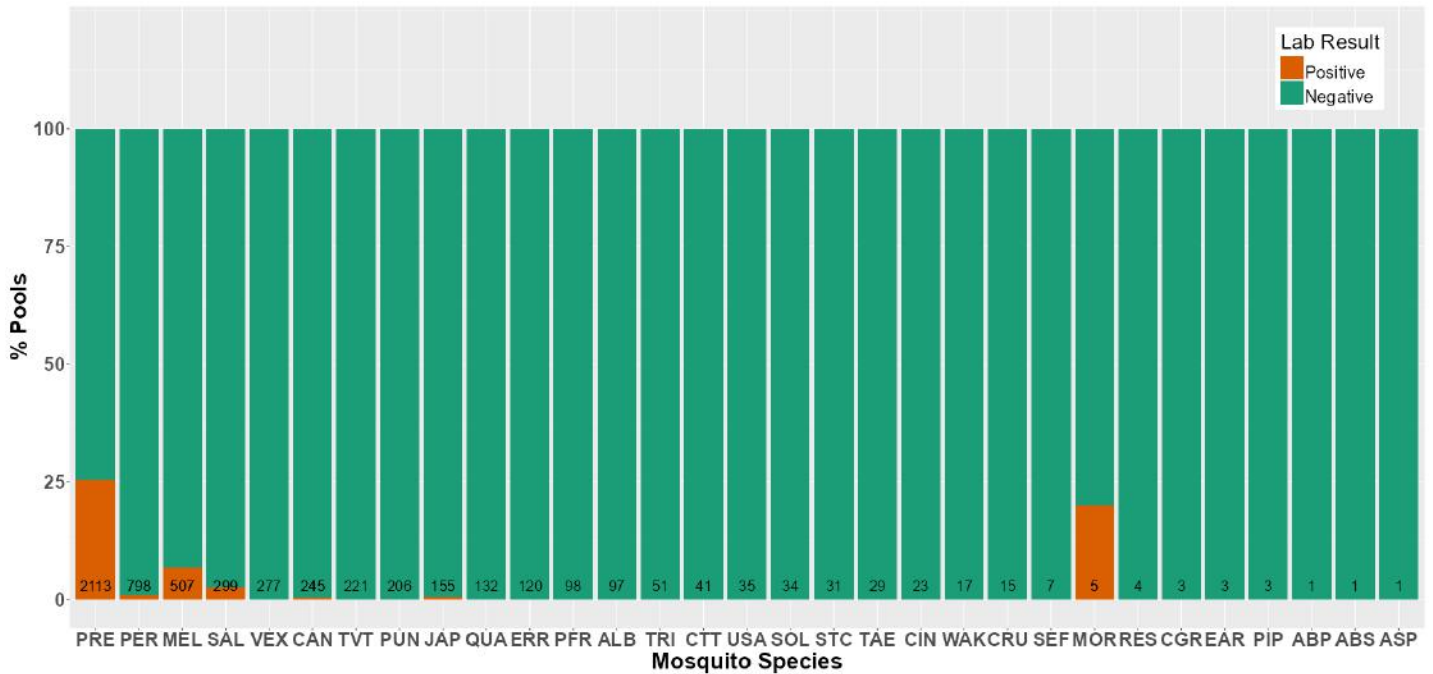


Fig 3. Year-to-date summary of West Nile virus positivity by mosquito species. Numbers within each bar represent the number of total pools tested.

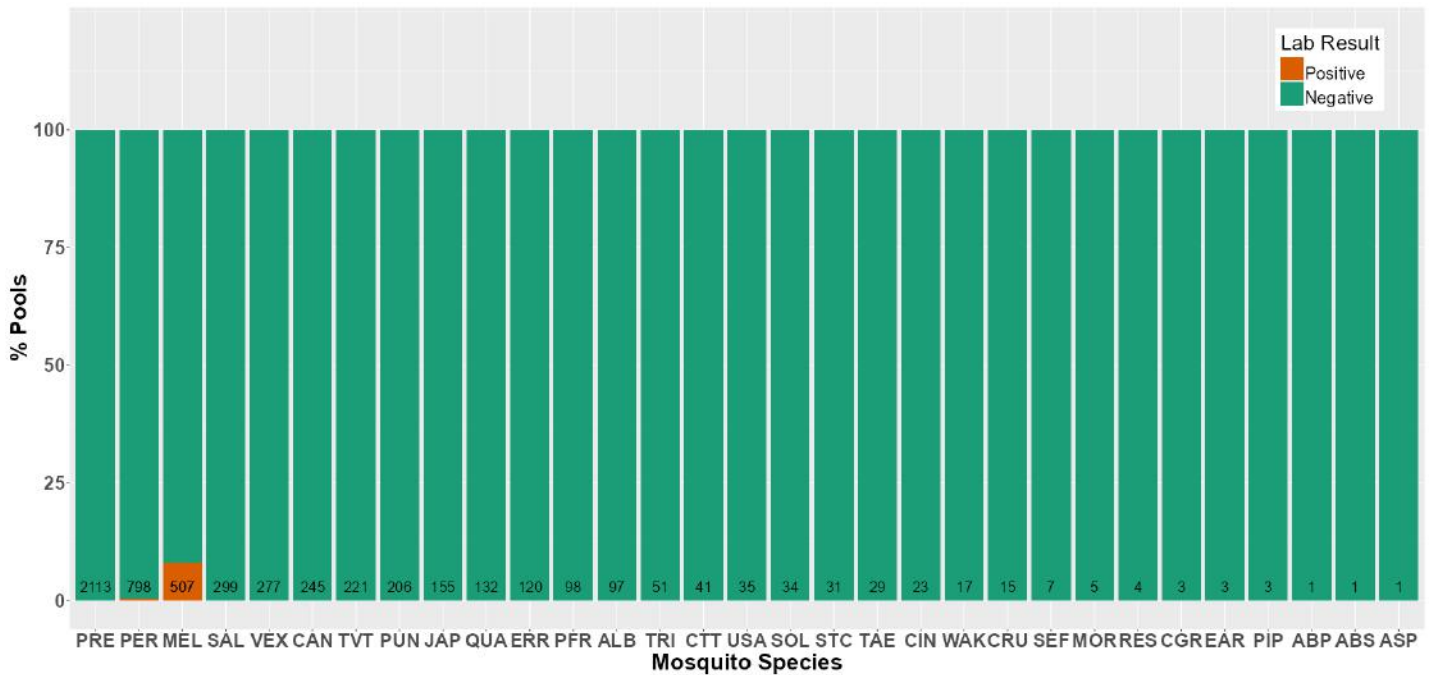


Fig 4. Year-to-date summary of eastern equine encephalitis virus positivity by mosquito species. Numbers within each bar represent the number of total pools tested.

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

Seasonality of Human Cases

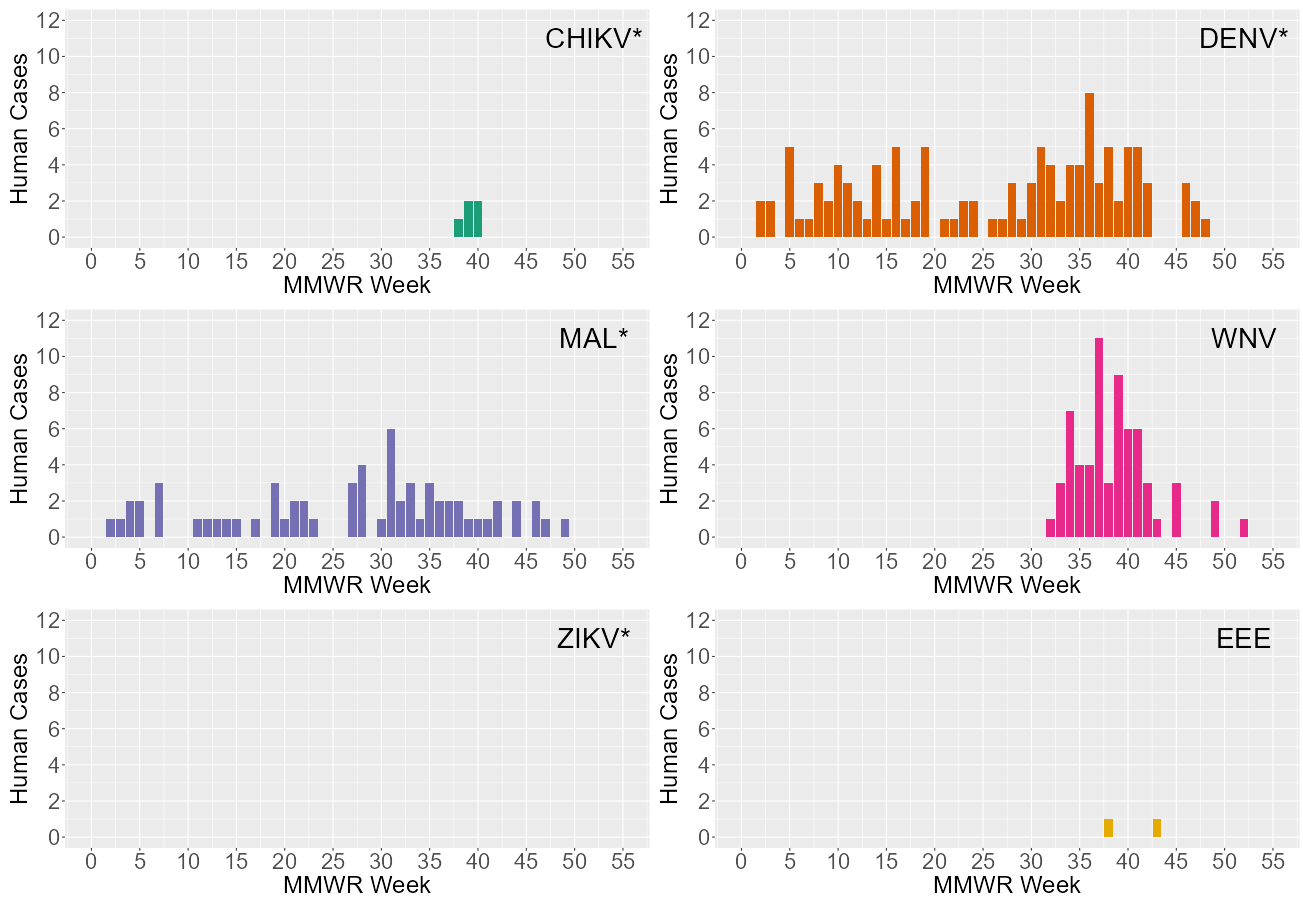


Fig 5. Seasonal patterns of human vector-borne disease cases (excluding NYC)

* 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/>)