



NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

Division of Public Health

North Carolina Mosquito Surveillance Update

Weeks 31 – 32: 08/02/2026 – 08/15/2026

Table 1. Mosquito Surveillance Summary

Key Points

- To date in 2026, North Carolina has reported two human cases of endemic mosquito-borne diseases (WNV and LACV) and 33 imported cases (malaria, CHIKV, and DENV).
- During the past two weeks, [two blood donation samples in NC tested positive for WNV](#), representing the first viremic WNV-positive blood donor identified in North Carolina since 2024.
- All malaria and DENV cases reported in 2026 have been associated with international travel. See page 3 for additional information.
- Out of 248 mosquito pools tested for WNV at the North Carolina State Laboratory of Public Health in the past two weeks, 17 were positive. See pages 4-5 for additional information.
- No human cases of EEE nor any equine cases of WNV or EEE, have been reported in 2026.
 - No human EEE cases have been reported in NC since 2024.
- No WNV-positive [wastewater samples](#) have been detected in NC since testing began in 2025. However, Kansas and Kentucky have reported positive samples since August 2nd.

Surveillance Measure	Weeks 31-32	Year-to-Date
West Nile virus (WNV) Neuroinvasive Cases	1	1
WNV-Positive Viremic Blood Donors	2	2
La Crosse virus (LACV) Neuroinvasive Cases	0	1
Eastern Equine Encephalitis (EEE) Cases	0	0
Imported Malaria Cases	2	24
Imported Dengue (DENV) Cases	1	7
Imported Chikungunya (CHIKV) Cases	0	2
WNV-Positive Horses	0	0
EEE-Positive Horses	0	0
Number of Mosquito Samples Tested (1-50 individual mosquitoes per sample)	248	500
WNV-Positive Mosquito Samples	17	26

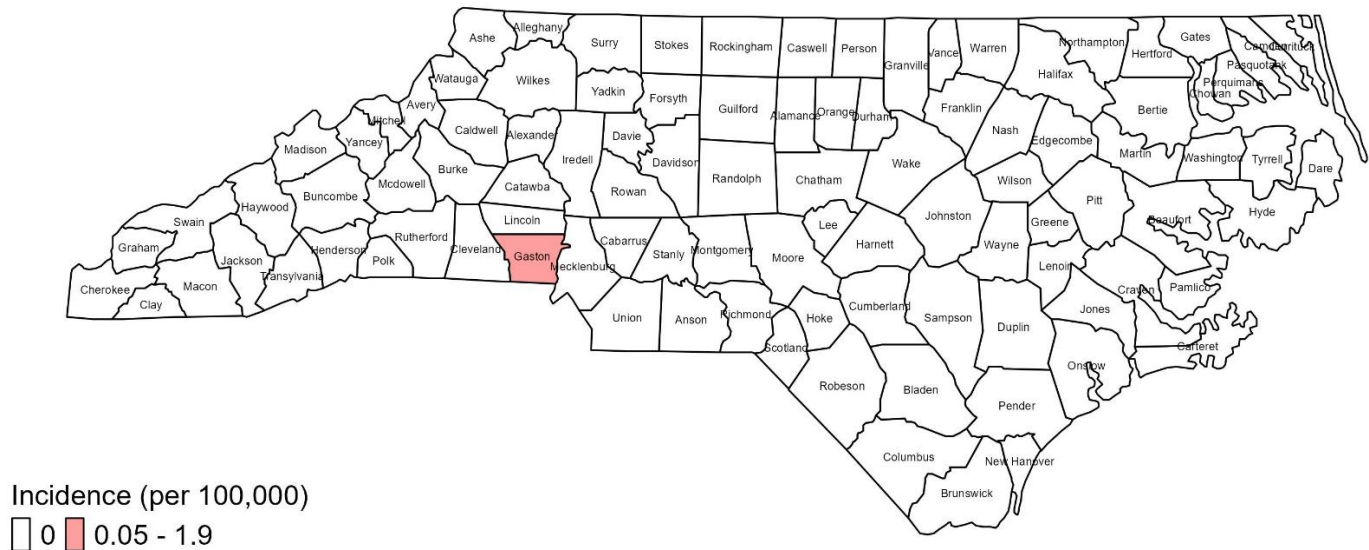
Report specifications:

- Abundance is measured as the total number of mosquitoes collected divided by the total number of trap nights. Local vector control programs funded by the State of North Carolina have 30 days to submit mosquito surveillance data, which may result in fluctuations in reported counts.
- NC reports only neuroinvasive disease caused by WNV, EEE, or LACV and therefore, total case numbers may not be directly comparable with other states that also report non-neuroinvasive disease.
- Cases include those classified as confirmed or probable, per the [surveillance case definitions](#), and are only among NC residents.
- County data are based on the patient's home address at the time of reporting, not necessarily the county or state where they were infected.
- Additional data can be found on the [North Carolina Disease Data Dashboard \(NCD3\)](#) and in [previous annual surveillance summaries](#).
- Annual North Carolina population estimates as of July 1, 2025, were obtained from the U.S. Census Bureau.
- Please note that case classification criteria are subject to change and counts may fluctuate based on these changes.
- Case counts are subject to change as cases remain under investigation. Case counts are assigned according to a hierarchy that uses the earliest available date: symptom onset date, specimen collection date, or the date of initial reporting to public health. As additional information becomes available, the total number of reported cases may increase from what is presented here.

Note: Refer to the appendix on page 13 for information on the medically important mosquito species of North Carolina, as well as distribution maps of mosquito disease vectors.

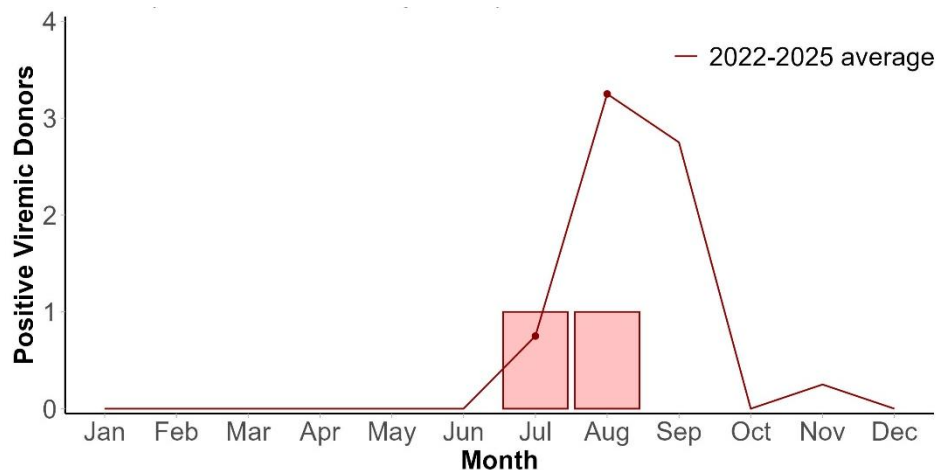
Mosquito-Borne Disease Cases

Neuroinvasive West Nile Virus (WNV) Incidence Rate* by County, NC, 2026



Neuroinvasive WNV cases have only been reported from Gaston County to date in 2026.

2026 NC Reported WNV-Positive Viremic Donors Compared to the 2022-2025 Average Monthly Count



Screening of all transfusion-intended blood and blood components for WNV is recommended by the FDA. In 2022, the NCDHHS Division of Public Health implemented reporting of WNV-positive blood donors by donation centers. Two WNV-positive viremic blood donors have been identified in NC in 2026, one from Guilford County and one from Mecklenburg County. Neither donor met the surveillance case definition for neuroinvasive WNV. One additional donor has been identified as of August 15th but remains under investigation. Please refer to the Association for the Advancement of Blood and Biotherapies' (AABB) [West Nile Virus Biovigilance Network](#) for additional information and real-time updates.

*Rate calculated per 100,000 residents

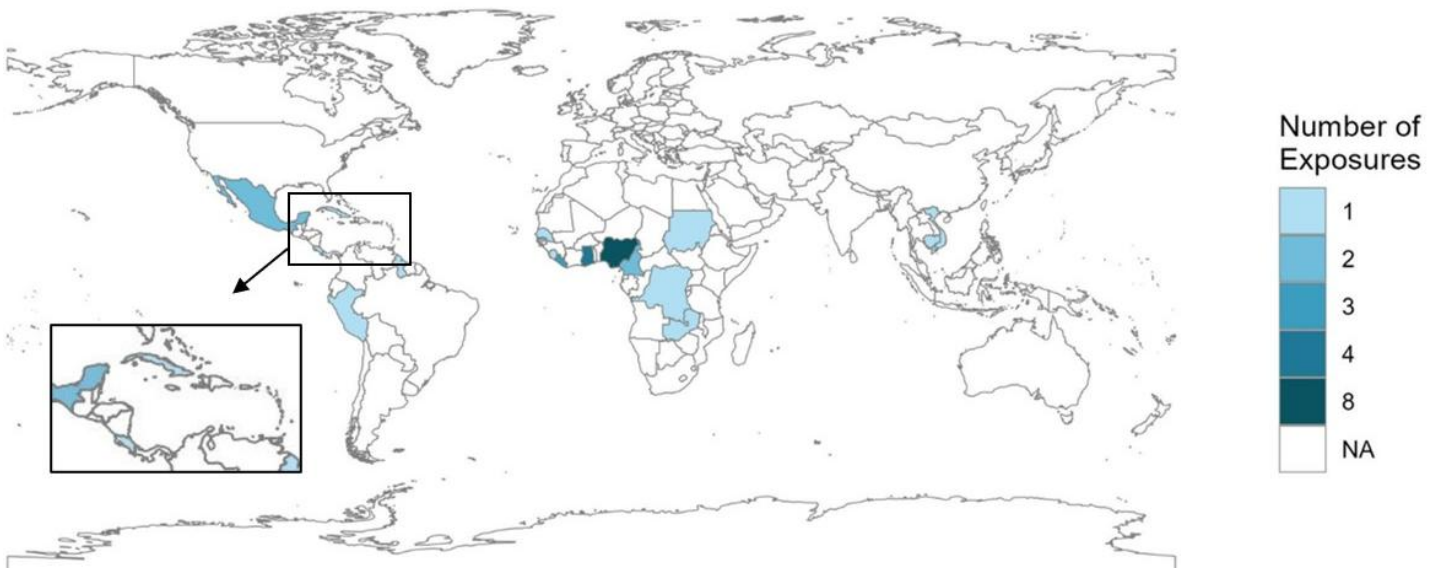
Mosquito-Borne Disease Cases

Neuroinvasive La Crosse Virus (LACV) Incidence Rate* by County, NC, 2026



Neuroinvasive LACV cases have only been reported from Transylvania County to date in 2026. There were no LACV cases reported in NC during the past two weeks. Swain, Transylvania and Jackson counties have the three [highest LACV incidence rates* in the country](#) between 2003 and 2025. Most NC cases occur in southwest counties along the Tennessee and Georgia borders where the virus is amplified through [transmission between mosquitoes and wildlife reservoirs](#), such as squirrels and chipmunks.

Imported Disease Exposure Countries, NC Cases, 2026

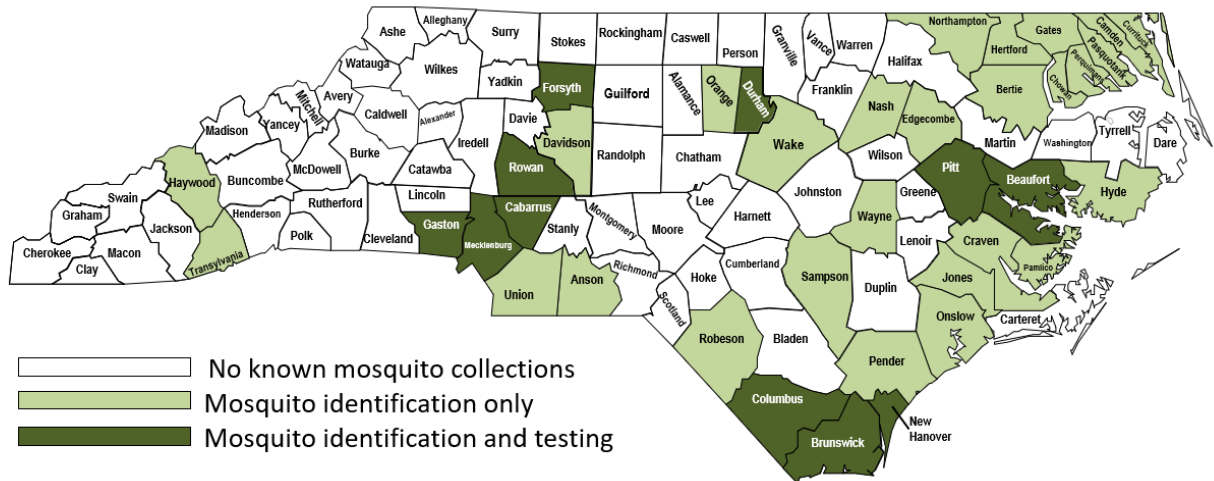


All malaria, dengue virus (DENV), and Chikungunya virus (CHIKV) cases reported in 2026 have been associated with international travel. Five imported mosquito-borne disease cases in NC were finalized over the past two weeks. Mexico has been the primary exposure location for DENV cases (n=2), whereas Nigeria has been the predominant exposure location for malaria cases (n=8). The two CHIKV cases in North Carolina report exposure in Vietnam and Costa Rica. [A CHIKV outbreak](#) has been reported in Costa Rica while no countries have met the criteria for [high transmission of DENV](#).

*Rate calculated per 100,000 residents

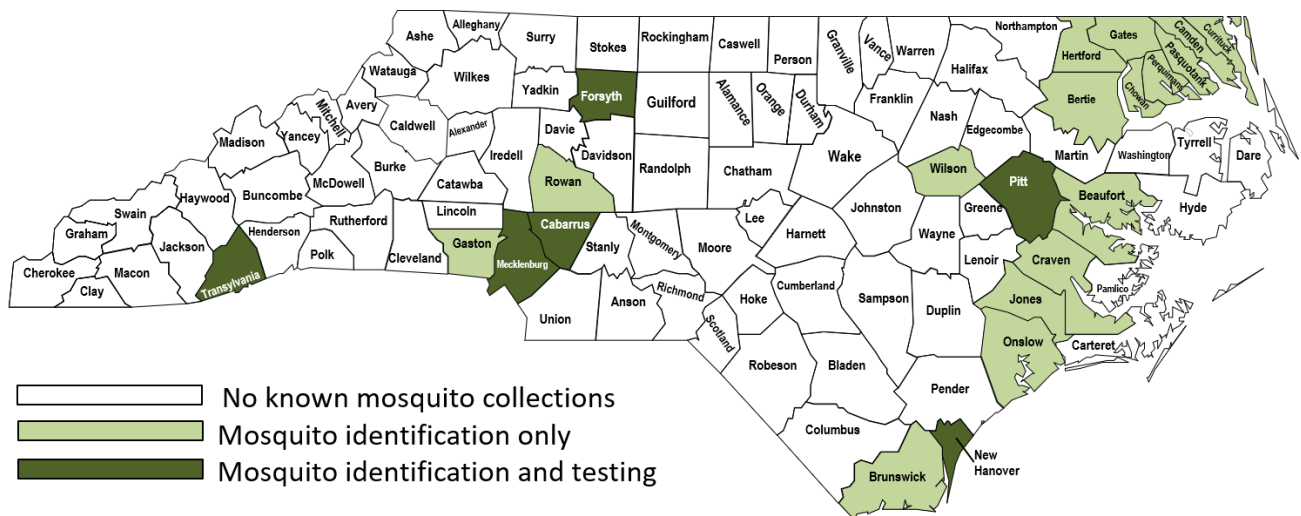
Mosquito Surveillance

NC Counties Collecting Mosquito Surveillance Data, 2021-2025



Mosquito identification is primarily done by counties with established vector control programs, but surveillance is also done on a case-by-case basis during disease outbreaks. Counties may receive state funding to collect and identify mosquitoes each month. State and federal funding also supports mosquito testing at the North Carolina State Laboratory of Public Health (NCSLPH); the number of counties that participate in this activity and the number of mosquitoes tested each year varies. All mosquito samples submitted to the NCSLPH are tested for West Nile Virus (WNV). Testing for additional pathogens (such as LACV and Eastern Equine Encephalitis [EEE]) is performed only at the request of the Local Health Department.

NC Counties Conducting Mosquito Surveillance, 2026

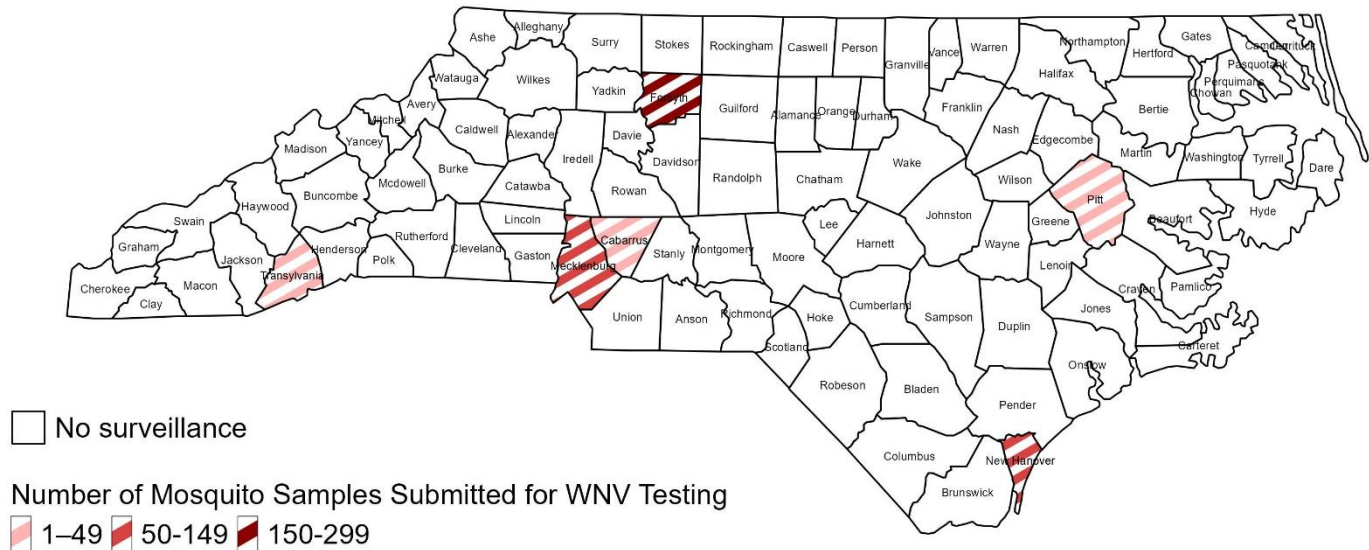


Mosquito testing for the 2026 season began in July at the NCSLPH. To date, five counties have submitted samples for testing at NCSLPH, while 16 others have collected mosquitoes only for identification. Transylvania County has submitted samples for testing to Western Carolina University (WCU). During the past two weeks, Gaston County initiated mosquito identification efforts.

Source: NCDHHS

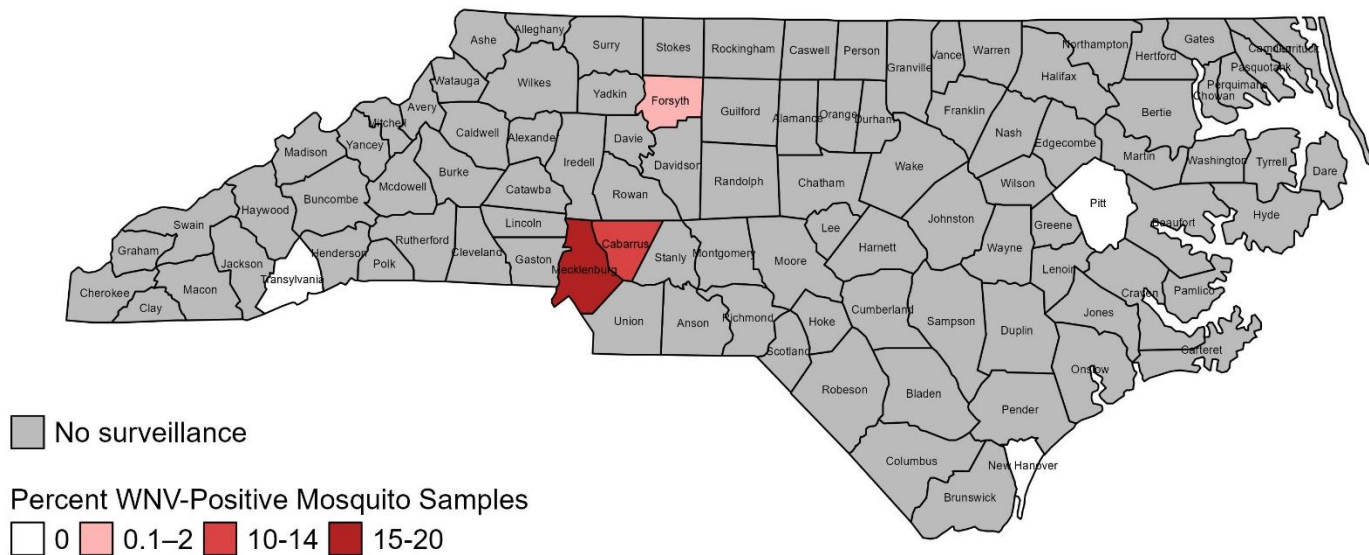
Mosquito Surveillance

WNV Mosquito Surveillance Testing Submissions, NC, 2026



Five-hundred samples (each containing 1-50 mosquitoes) have been tested for WNV, with five tested at WCU, and the remaining samples processed at the NCSLPH. Tested mosquitoes were collected from June 2, 2026, through August 11, 2026. Forsyth County has submitted the highest number of samples so far this year for WNV testing (n=244).

WNV Mosquito Surveillance Testing Results, NC, 2026



Mecklenburg County has the highest proportion of WNV-positive mosquito samples to date in 2026 with 16% of 111 samples testing positive. The statewide* year-to-date WNV positivity rate of 5.2% suggests elevated vector infection activity compared with the 2021-2025 statewide* year-to-date positivity rate range of 0% in 2022-2023 to 3.5% in 2025. However, a greater number of mosquito samples have been tested in 2026 compared with previous years (456 samples tested at this point in 2025). The table below provides the collection/test dates, species, and trap types for each mosquito sample that has tested positive for WNV so far in 2026.

* Refer to the maps on page 3 for the corresponding counties included.

Mosquito Surveillance

Positive WNV Mosquito Samples by County, NC, 2026

County	Site Code	Collection Date	Test Date	Trap Type	Species	Mosquitoes in Sample
Cabarrus	000068	7/8/2026	7/30/2026	GRVD-CDC	Culex	1
Cabarrus	000046	7/16/2026	7/30/2026	GRVD-CDC	Aedes albopictus	5
Cabarrus	000046	7/16/2026	7/30/2026	GRVD-CDC	Culex	3
Cabarrus	000025	7/20/2026	7/30/2026	GRVD-CDC	Aedes albopictus	7
Forsyth	670027	7/15/2026	7/24/2026	GRVD-RC	Culex pipiens/quinqüefasciatus	9
Forsyth	671175	8/4/2026	8/6/2026	GRVD-RC	Culex pipiens/quinqüefasciatus	4
Forsyth	670027	8/11/2026	8/13/2026	GRVD-RC	Culex restuans	31
Forsyth	670027	8/11/2026	8/13/2026	GRVD-RC	Culex pipiens/quinqüefasciatus	18
Mecklenburg	000001	7/14/2026	7/17/2026	BGSENT	Culex pipiens	13
Mecklenburg	000001	7/17/2026	7/30/2026	GRVD-CDC	Culex pipiens	2
Mecklenburg	000002	7/28/2026	7/30/2026	GRVD-CDC	Culex pipiens	31
Mecklenburg	000001	7/28/2026	7/30/2026	BGSENT	Culex pipiens	2
Mecklenburg	000001	7/29/2026	8/6/2026	GRVD-CDC	Culex pipiens	50
Mecklenburg	000001	7/29/2026	8/6/2026	GRVD-CDC	Culex pipiens	34
Mecklenburg	000001	7/30/2026	8/6/2026	GRVD-CDC	Culex pipiens	50
Mecklenburg	000001	7/30/2026	8/6/2026	GRVD-CDC	Culex pipiens	50
Mecklenburg	000001	7/30/2026	8/6/2026	GRVD-CDC	Culex pipiens	32
Mecklenburg	000001	7/31/2026	8/6/2026	GRVD-CDC	Culex pipiens	50
Mecklenburg	000001	7/31/2026	8/6/2026	GRVD-CDC	Culex pipiens	50
Mecklenburg	000001	7/31/2026	8/6/2026	GRVD-CDC	Culex pipiens	23
Mecklenburg	000001	8/4/2026	8/6/2026	BGSENT	Culex pipiens	12
Mecklenburg	000001	8/4/2026	8/6/2026	GRVD-CDC	Culex pipiens	31
Mecklenburg	000001	8/5/2026	8/13/2026	GRVD-CDC	Culex pipiens	25
Mecklenburg	000001	8/6/2026	8/13/2026	GRVD-CDC	Culex pipiens	1
Mecklenburg	000001	8/7/2026	8/13/2026	GRVD-CDC	Culex pipiens	10
Mecklenburg	000001	8/11/2026	8/13/2026	GRVD-CDC	Culex pipiens	38

The highlighted rows indicate the newly identified WNV-positive mosquito samples since the previous update. Recent press releases are provided below for reference.

[Public Health Urges Precaution after West Nile Virus Detected in Mecklenburg County](#)

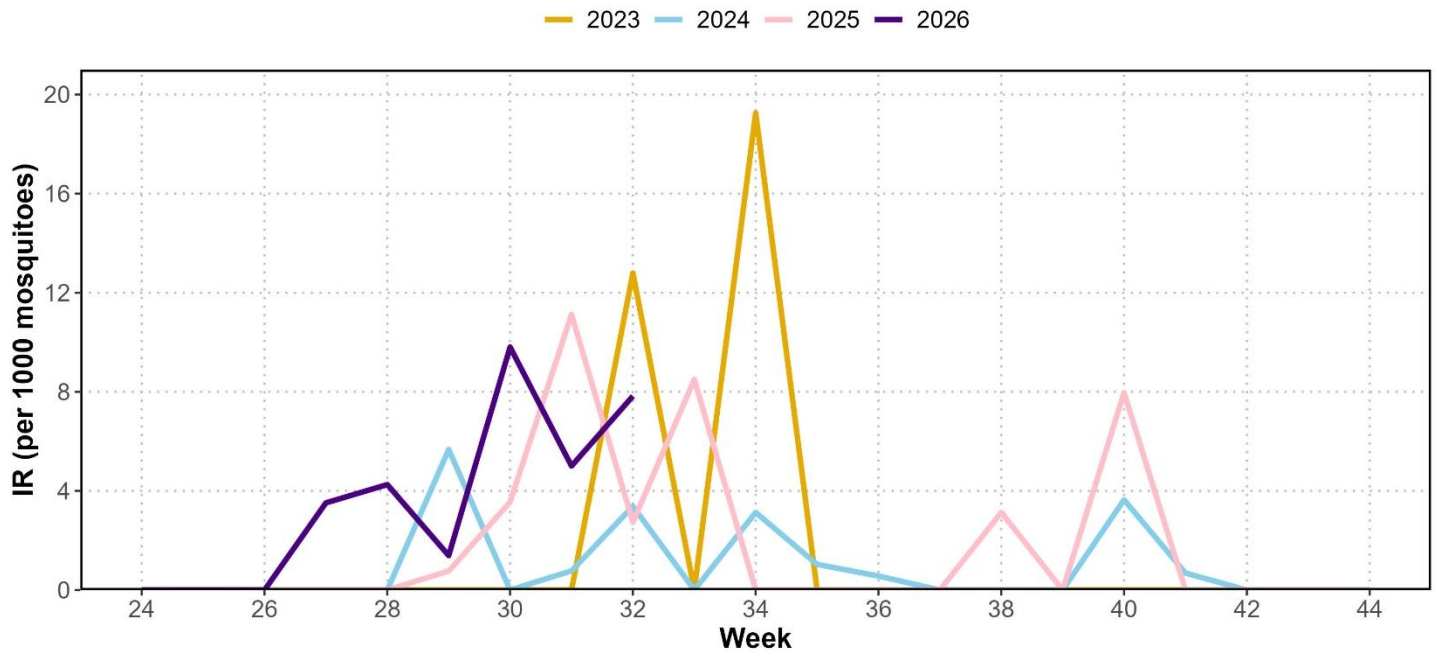
NEW [Precautions urged after West Nile virus found in Cabarrus County](#)

NEW [NCDHHS Announces First West Nile Virus Case of 2026](#)

NEW [Guilford County Department of Public Health Reminds Residents to Protect Against West Nile Virus](#)

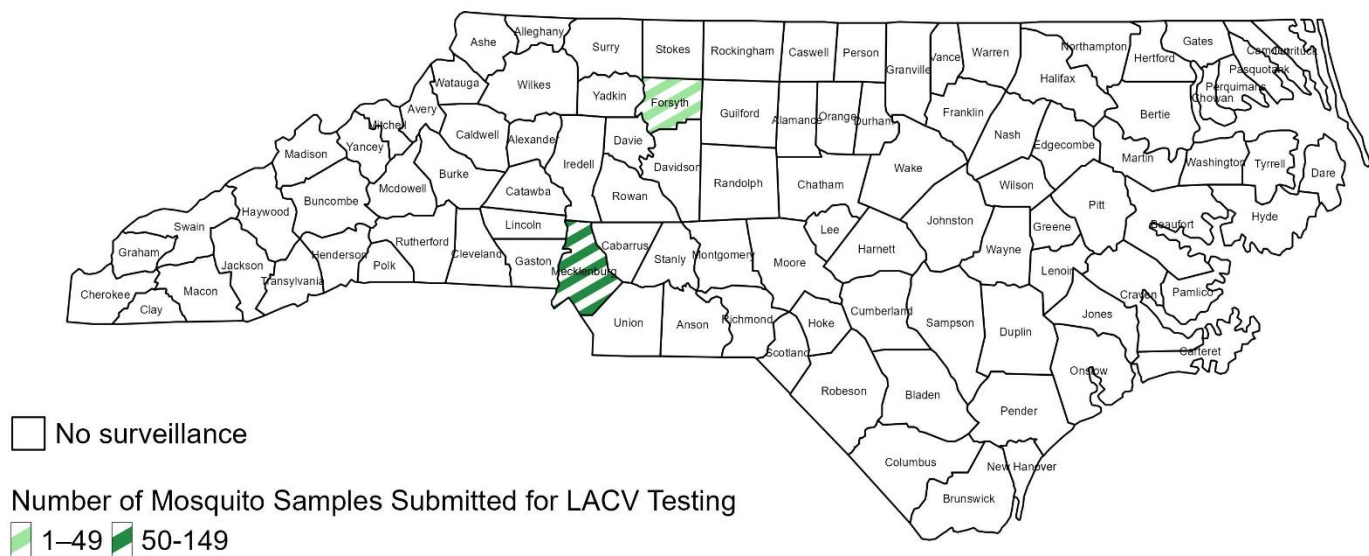
Mosquito Surveillance

NC Statewide* WNV MLE Infection Rate by Week, 2023-2026



The first positive sample collected on July 8, 2026, is the earliest recorded WNV-positive sample in NC since 2003. Prior to 2026, the earliest recorded positive was collected on July 11, 2017. The statewide* infection rate (IR) represents the number of mosquitoes that are expected to test positive for WNV per 1,000 tested mosquitoes. The IR for 2026 has been the highest observed since 2023 in weeks 27, 28, and 30, and the second highest during all other weeks. This graph is limited to weeks 24-44 because WNV-positive samples have never been detected outside this period. [Bias-corrected maximum likelihood estimates \(MLE\)](#) were used for IR calculations.

LACV Mosquito Surveillance Testing Submissions and Results, NC, 2026

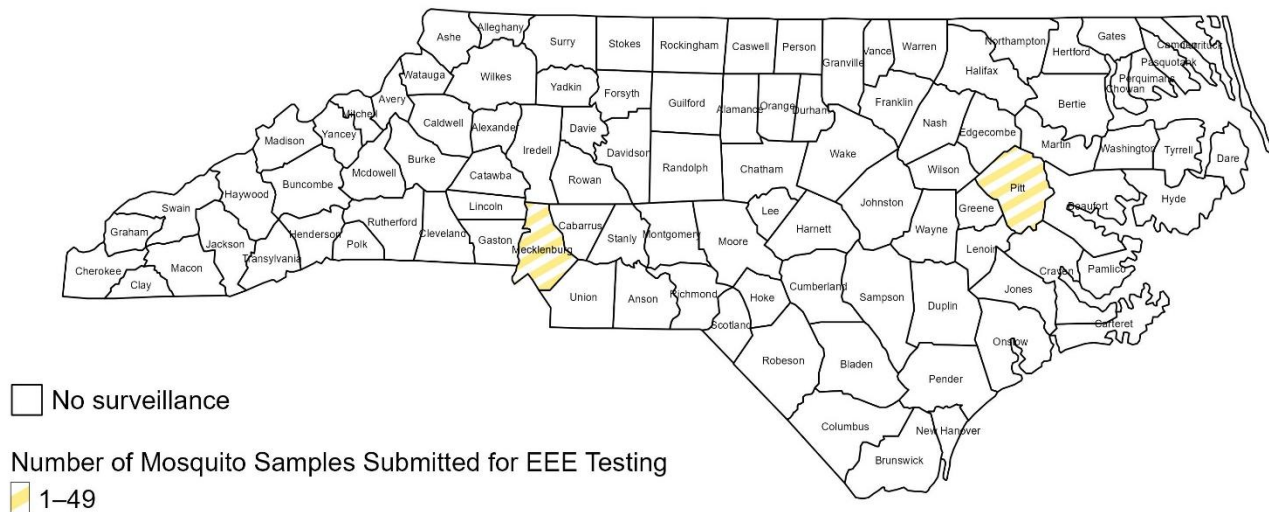


To date in 2026, 75 mosquito samples (1-50 individual mosquitoes per sample) have been tested at the NCSLPH for LACV, including 15 samples during the past two weeks. No LACV-positive mosquito samples have been detected. This result is expected given that LACV infection rates in mosquitoes are typically below 0.1% statewide*.

* Refer to the maps on page 3 for the corresponding counties included.

Mosquito Surveillance

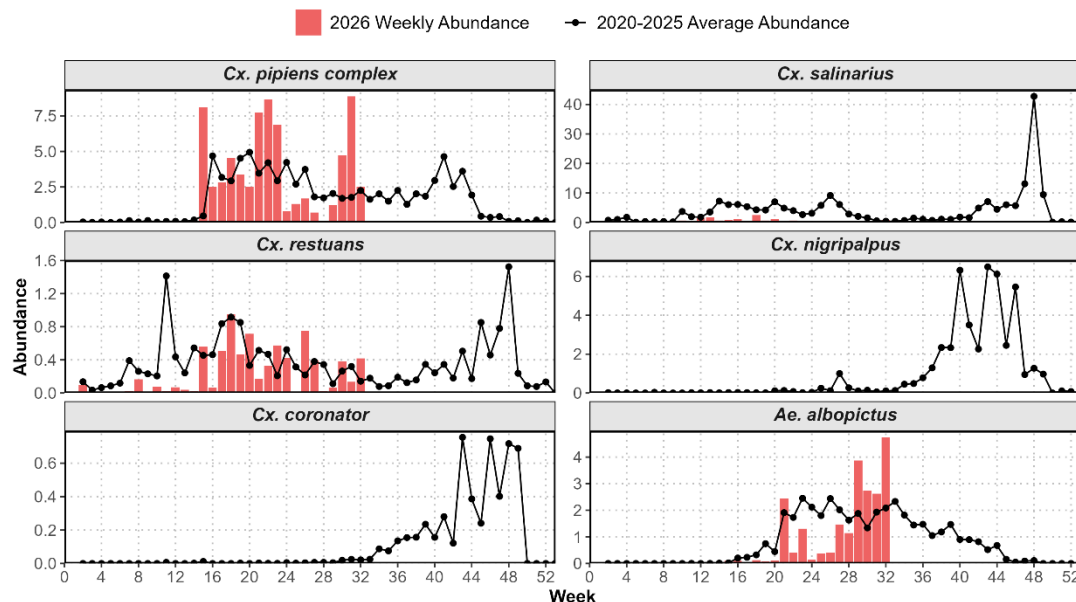
EEE Mosquito Surveillance Testing Submissions and Results, NC, 2026



To date in 2026, 80 mosquito samples (1-50 individual mosquitoes per sample) have been tested at the NCSLPH for EEE, including 8 samples during the past two weeks. Most of these samples were submitted by Mecklenburg County (n=49), while Pitt County has contributed 31 samples. No EEE-positive mosquito samples have been detected. This result is expected given that the most recent EEE-positive sample was reported in 2021.

Disease-Specific Endemic Mosquito Species

NC Statewide* Weekly and 5-Year Average Abundance of WNV Vector Mosquitoes

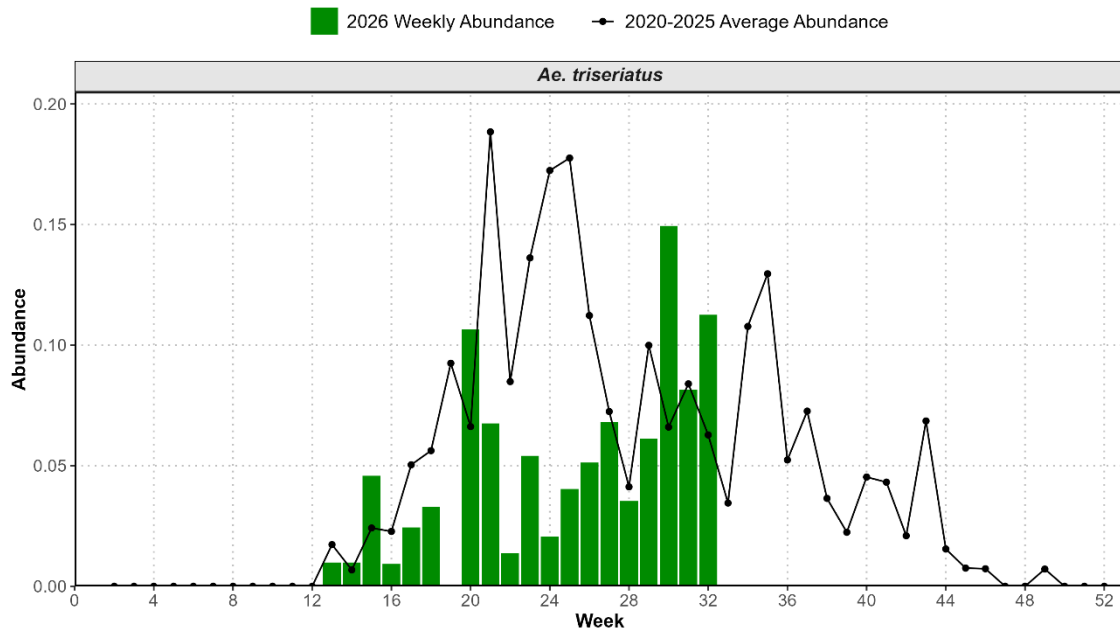


Year-to-date collections (may or may not be tested) suggest decreased activity among most WNV vector species in NC compared with the past five years, except for *Culex pipiens* complex, which shows increased activity. During weeks 31 and 32 of 2026, mosquito abundance (mosquitoes collected per trap night) was at or below the five-year average for *Cx. coronator*, *Cx. salinarius*, and *Cx. nigripalpus*. *Ae. albopictus* and *Cx. pipiens* complex abundance was at or above average in both weeks, while above-average abundance for *Cx. restuans* occurred only in week 32.

* Refer to the maps on page 3 for the corresponding counties included.

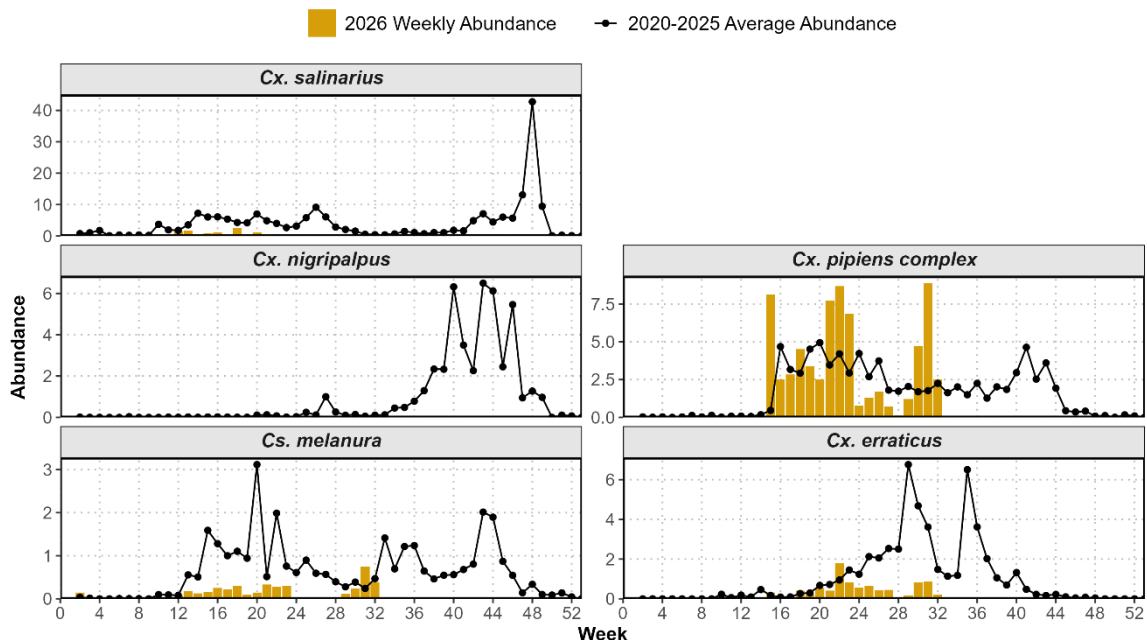
Disease-Specific Endemic Mosquito Species

NC Statewide* Weekly and 5-Year Average Abundance of LACV Vector Mosquitoes



Year-to-date collections (may or may not be tested) of the LACV vector, *Aedes triseriatus*, suggest decreased activity compared with the previous five years. In 2026, mosquito abundance was slightly below average in week 31 but rose to above-average levels in week 32.

NC Statewide* Weekly and 5-Year Average Abundance of EEE Vector Mosquitoes

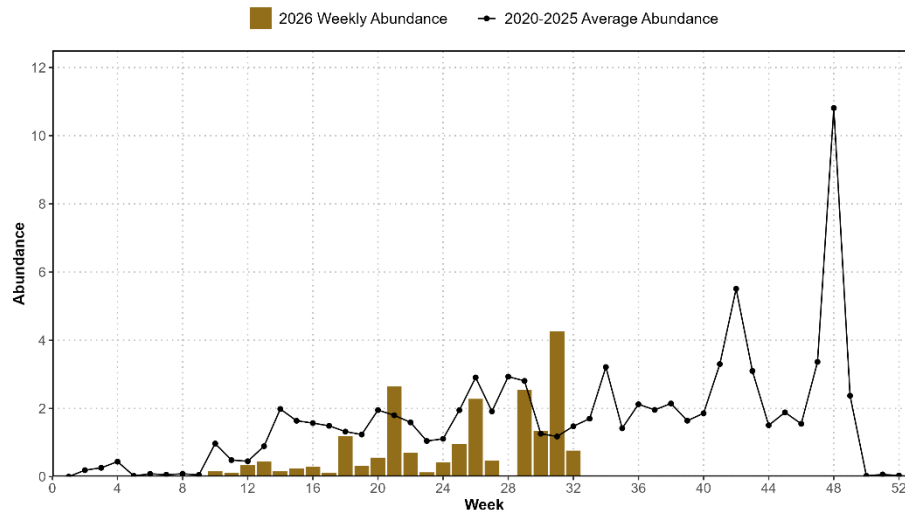


Year-to-date collections (may or may not be tested) suggest decreased activity among most EEE vector species in NC compared with the past five years, except for *Culex pipiens* complex, which shows increased activity. During weeks 31 and 32 of 2026, mosquito abundance (mosquitoes collected per trap night) was at or below the five-year average for *Cx. salinarius*, *Cx. nigripalpus*, and *Cx. erraticus*. *Cx. pipiens* complex abundance was at or above average in both weeks, while above-average abundance for *Cs. melanura* occurred only in week 31.

* Refer to the maps on page 3 for the corresponding counties included.

Habitat-Specific Endemic Mosquito Species

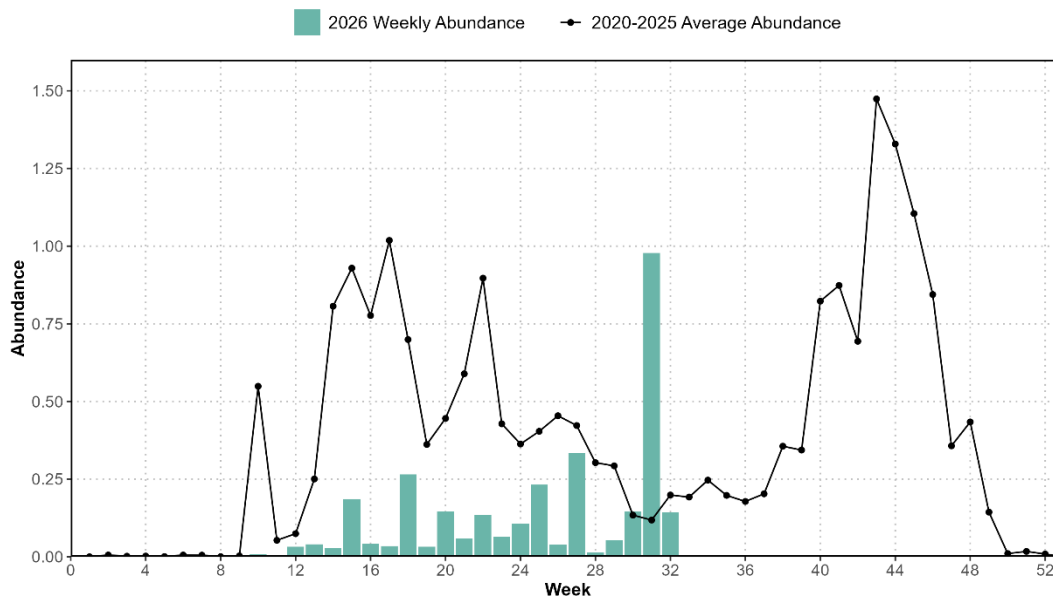
NC Statewide* Weekly and 5-Year Average Abundance of Saltmarsh Habitat Mosquitoes



Saltmarsh Habitat Species:
<i>Ae. cantator</i>
<i>Ae. sollicitans</i>
<i>Ae. taeniorhynchus</i>
<i>An. bradleyi</i>
<i>Cx. salinarius</i>

[Salt marshes](#) are coastal wetlands that flood and drain with ocean tides. Saltmarsh mosquitoes were first collected in week two in the previous five years, while they were first collected in week 10 in 2026. Saltmarsh mosquito abundance in week 31 of 2026 was more than double the average, whereas abundance in week 32 was lower-than-average. Saltmarsh mosquito abundance has remained low in 2026 compared with the previous five years. The increase in the five-year average between weeks 40 and 48 coincides with the Atlantic hurricane season.

NC Statewide* Weekly and 5-Year Average Abundance of Floodwater Habitat Mosquitoes



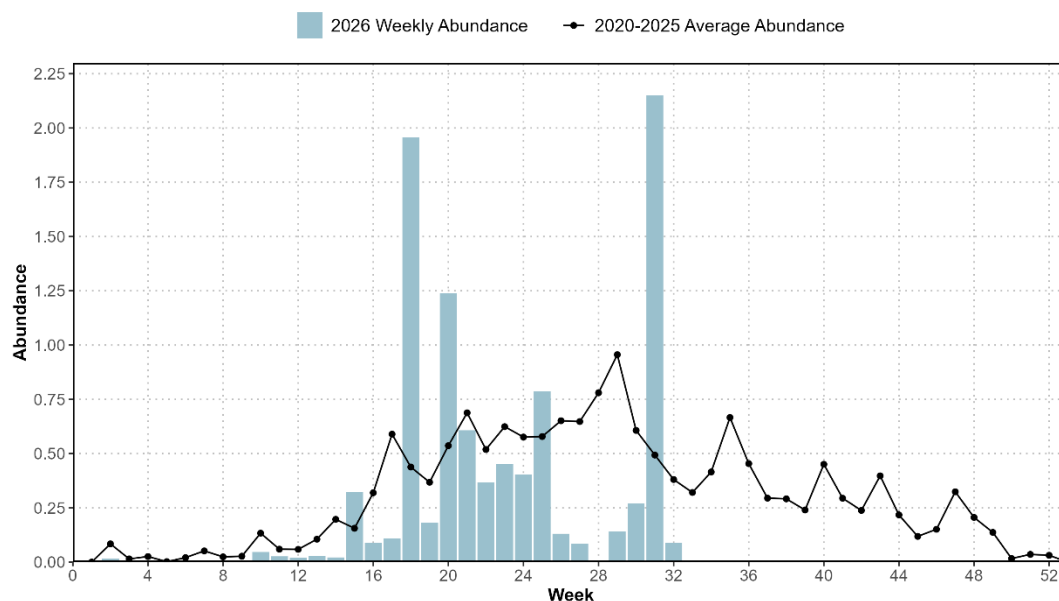
Floodwater Habitat Species:
<i>Ae. mitchellae</i>
<i>Ae. sticticus</i>
<i>Ae. trivittatus</i>
<i>Ae. vexans</i>
<i>An. diluvialis</i>
<i>Cx. nigripalpus</i>
<i>Ps. ciliata</i>
<i>Ps. columbiae</i>
<i>Ps. cyanescens</i>
<i>Ps. discolor</i>
<i>Ps. howardii</i>

[Floodwater habitats](#) are flat to uneven landscapes, such as pastures, roadside ditches and neighborhood detention basins, that often flood. Floodwater mosquito abundance in week 32 was lower than average in 2026, while abundance in week 31 substantially exceeded average levels. Floodwater habitat mosquitoes did not exhibit a typical spring peak in 2026, likely due to drought conditions experienced across the state. The increase in the five-year average between weeks 40 and 48 coincides with the Atlantic hurricane season.

* Refer to the maps on page 3 for the corresponding counties included.

Habitat-Specific Endemic Mosquito Species

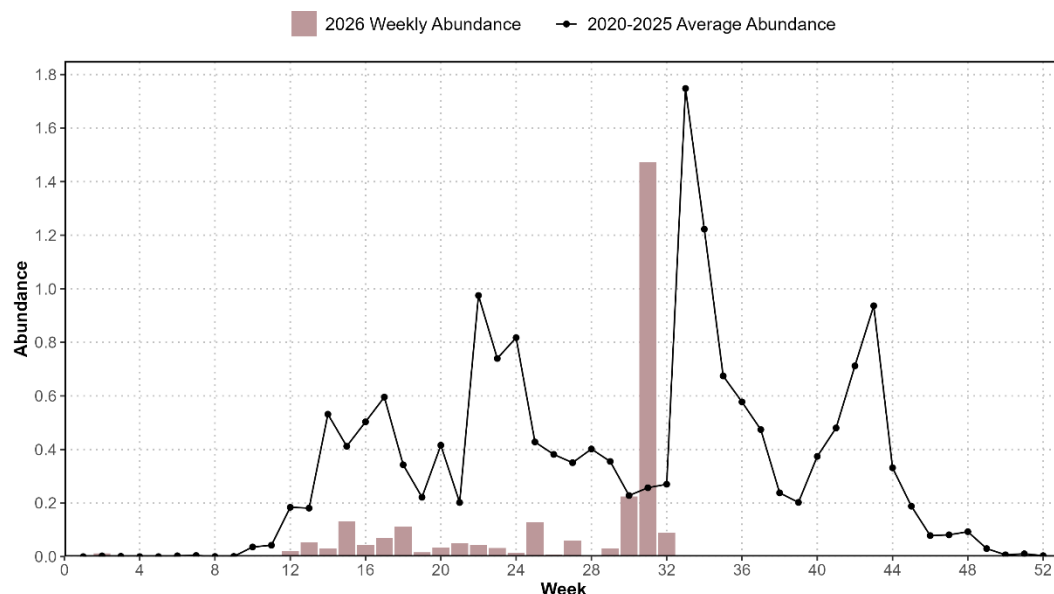
NC Statewide* Weekly and 5-Year Average Abundance of Standing Water Habitat Mosquitoes



Standing Water Habitat Species:
<i>Ae. cinereus</i>
<i>An. atropos</i>
<i>An. crucians</i>
<i>An. georgianus</i>
<i>An. maverlius</i>
<i>An. punctipennis</i>
<i>An. quadrimaculatus</i>
<i>An. smaragdinus</i>
<i>An. walkeri</i>
<i>Cq. perturbans</i>
<i>Cs. inornata</i>
<i>Cx. coronator</i>
<i>Cx. erraticus</i>
<i>Cx. peccator</i>
<i>Cx. pilosus</i>
<i>Cx. territans</i>
<i>Ur. lowii</i>
<i>Ur. sapphirina</i>

[Standing water habitats](#) are permanent or semi-permanent stagnant bodies of water. Standing water habitat mosquitoes were first collected in week two of 2026, as in the previous five years. Mosquito abundance in week 31 was substantially higher than average in 2026, while abundance in week 32 was lower-than-average. Despite atypical surges in weeks 18 and 31, standing water mosquito abundance in 2026 has remained lower than the five-year average.

NC Statewide* Weekly and 5-Year Average Abundance of Woodland Pool Habitat Mosquitoes



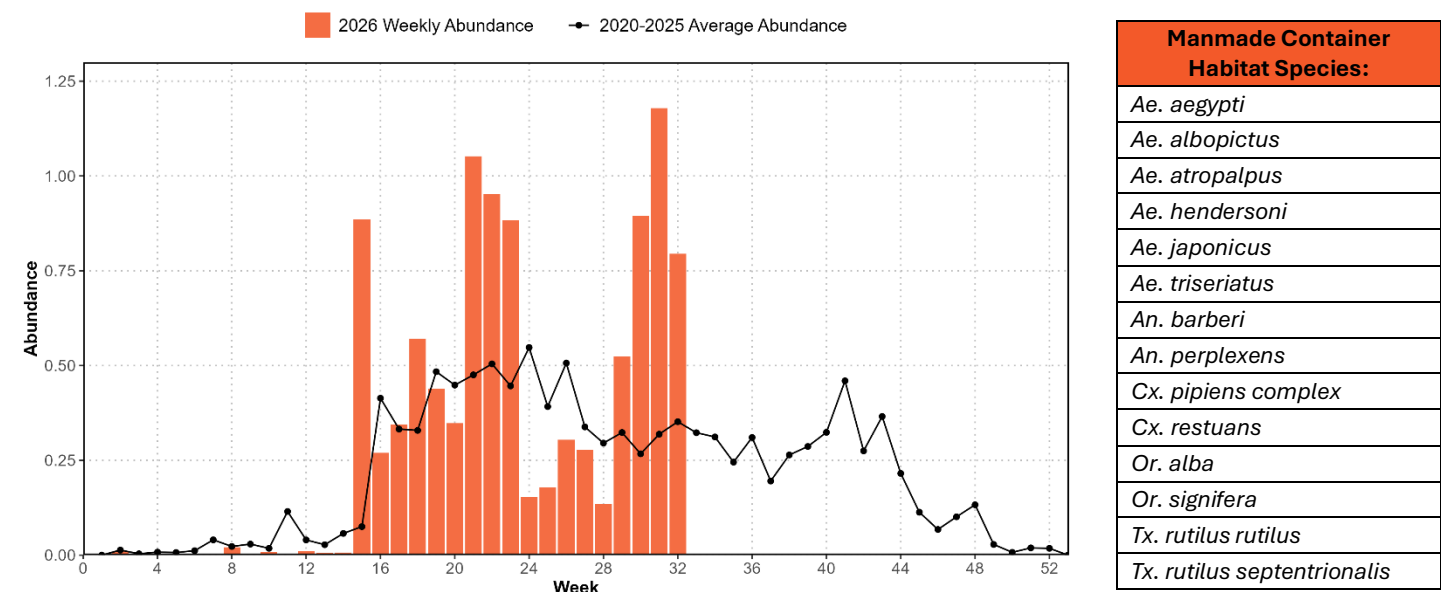
Woodland Pool Habitat Species:
<i>Ae. atlanticus</i>
<i>Ae. atlanticus/tormentor</i>
<i>Ae. aurifer</i>
<i>Ae. canadensis</i>
<i>Ae. dupreei</i>
<i>Ae. fulvus pallens</i>
<i>Ae. grossbecki</i>
<i>Ae. infirmatus</i>
<i>Ae. thibaulti</i>
<i>Ae. tormentor</i>
<i>Cs. melanura</i>
<i>Ps. ferox</i>
<i>Ps. horrida</i>
<i>Ps. mathesoni</i>

[Woodland pools](#) are small, seasonal forest wetlands that hold water in spring or fall but usually dry by late summer or during droughts. Surveillance first collected these mosquitoes in week two of 2026 compared to week seven in the previous five years. This year's woodland pool habitat mosquito abundance has been substantially lower than average, likely due to drought conditions experienced across the state. The week 31 surge occurred two weeks earlier than the five-year average peak and is the first week in 2026 in which woodland pool mosquito abundance was higher than average.

* Refer to the maps on page 3 for the corresponding counties included.

Habitat-Specific Endemic Mosquito Species

NC Statewide* Weekly and 5-Year Average Abundance of Manmade Container Habitat Mosquitoes



Container habitats include natural or man-made containers commonly found in residential areas. Container habitat mosquitoes were first collected in week two of 2026, as in the previous five years. Mosquito abundance in both weeks 31 and 32 substantially exceeded the average. The year-to-date container mosquito abundance in 2026 has been slightly higher than the five-year average.

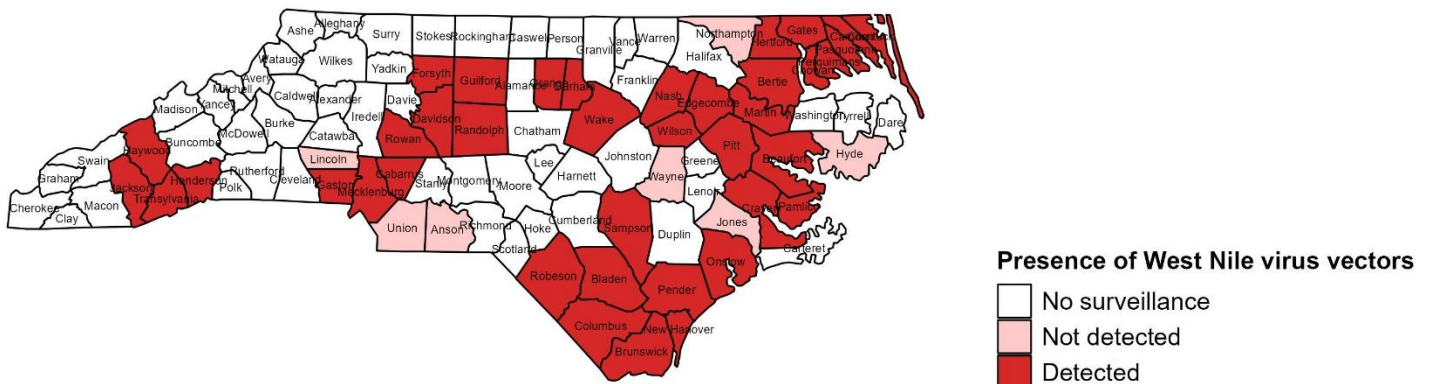
* Refer to the maps on page 3 for the corresponding counties included.

Appendix

Medically Important Mosquito Species of NC

Mosquito Species	Disease(s)	Primary Hosts	Adult Habitat	Larval Habitat	Biting Time
Eastern Treehole Mosquito (<i>Aedes triseriatus</i>)	LACV	Small mammals, humans	Hardwood forest & residential	Treeholes & small man-made containers	Daytime
Asian Tiger Mosquito (<i>Aedes albopictus</i>)	WNV & LACV	Humans, birds, mammals & other (opportunistic)	Thick vegetation; urban to rural	Small natural and man-made containers	Daytime
Northern and Southern House Mosquito (<i>Culex pipiens complex</i>)	WNV & EEE	Birds, mammals, and humans	Urban; suburban; homes	Small stagnant pools; Man-made containers	Dusk & night
Florida SLE Mosquito (<i>Culex nigripalpus</i>)	WNV & EEE	Birds, mammals, humans, & reptiles	Thick vegetation; urban to rural	Large stagnant vegetated pools	Dusk to dawn
Unbanded Saltmarsh Mosquito (<i>Culex salinarius</i>)	WNV & EEE	Birds, humans, mammals & other	Lowland forest, open marshes; homes	Large fresh to brackish pools and marshes	Sunset to early night
<i>Culex erraticus</i>	WNV & EEE	Birds in spring; mammals and humans in late summer and fall	Thick vegetation; urban to rural	Large stagnant pools with heavy vegetation	Dusk to dawn
Black-tailed Mosquito (<i>Culiseta melanura</i>)	EEE	Passerine birds	Hardwood swamps	Acidic stagnant pools in swamps or bogs	Sunset to sunrise
White-dotted Mosquito (<i>Culex restuans</i>)	WNV	Birds in spring; mammals and humans in late summer and fall	Hardwood forest & residential	Shaded stagnant water with decaying vegetation	Two hours past dusk to dawn

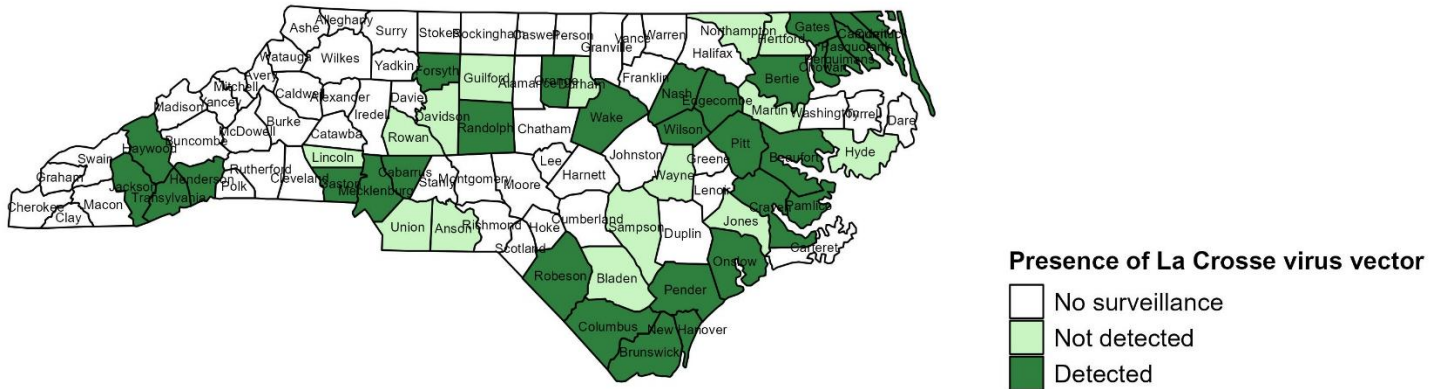
NC Distribution of WNV Mosquito Vectors, 2017-2025



Mosquito species capable of transmitting WNV to humans, consisting of *Aedes albopictus*, *Cx. pipiens complex*, *Cx. nigripalpus*, *Cx. salinarius*, *Cx. coronator*, and *Cx. restuans*, have been documented statewide in reports published through 2010. Since 2017, at least one of these species has been detected in 39 of the 46 counties conducting active surveillance.

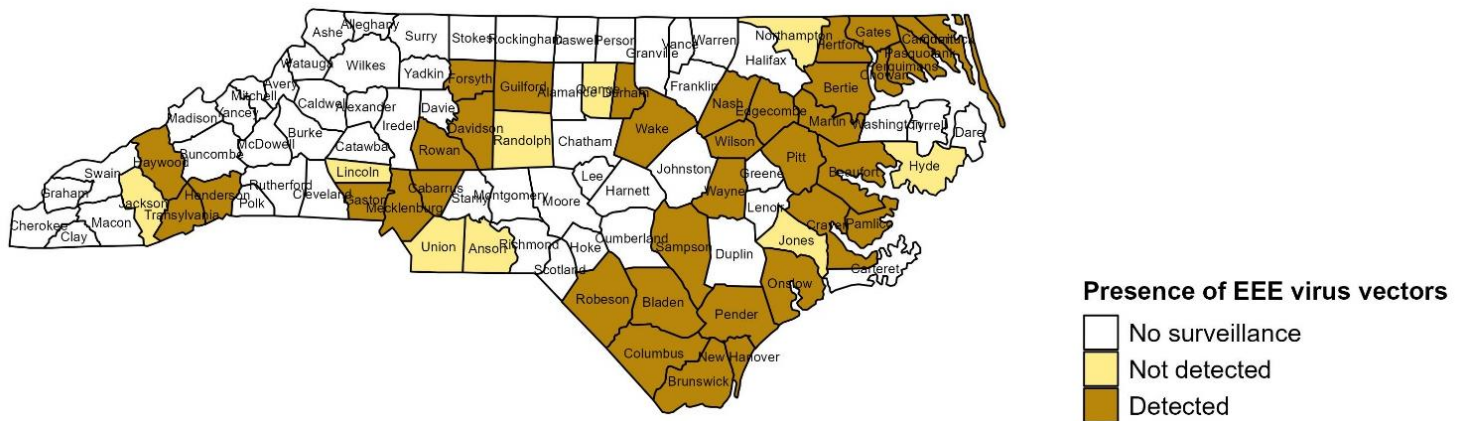
Medically Important Mosquito Species of NC

NC Distribution of LACV Mosquito Vectors, 2017-2025



The primary LACV mosquito vector (*Aedes triseriatus*) has been detected in every region of the state since 2017. However, mosquitoes from western NC counties with the highest LACV human disease rates are not routinely collected or tested because county-level vector surveillance programs are limited in this region.

NC Distribution of EEE Mosquito Vectors, 2017-2025



Mosquito species capable of transmitting EEE in humans, consisting of *Culex erraticus*, *Cx. nigripalpus*, *Cx. pipiens complex*, *Cx. salinarius*, and *Culiseta melanura* (primary vector), have been detected in 37 of the 46 counties conducting active surveillance from 2017 to 2025. The virus primarily affects the Tidewater and Inner Coastal Plain regions, where favorable habitats support viral amplification in local bird populations.