

Virginia State Report



Virginia's Board



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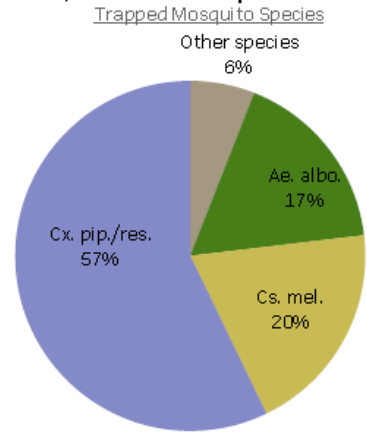
VDH Monthly Mosquito Activity Report

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Surveillance of mosquitoes that transmit disease allows public health officials to identify high risk situations and target interventions when mosquito populations or infection rates are higher than expected. Mosquitoes are trapped, identified, and pooled into groups of ~50 mosquitoes of a single species and tested for West Nile Virus (WNV) or Eastern Equine Encephalitis (EEE).

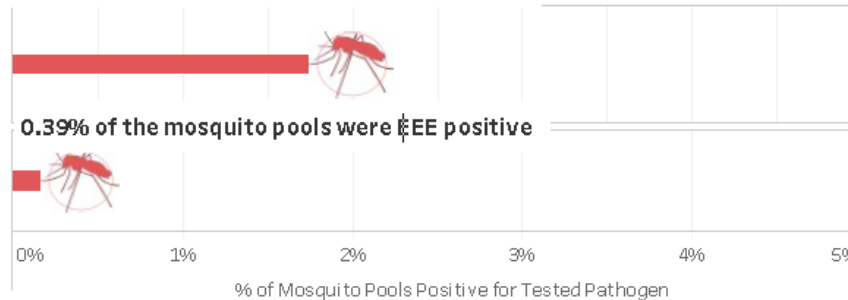
The VDH Monthly Mosquito Activity Report describes routine mosquito surveillance conducted by local mosquito control jurisdictions and the state public health laboratory in Virginia, as compiled and reported by the Virginia Department of Health (VDH).

316,021 mosquitoes trapped in 9,166 pools from April 30, 2019 to October 31, 2019



- *Culex pipiens* [Cx. pip.], the Northern house mosquito, is the primary vector of WNV in VA. It is often grouped together with *Culex restuans* [Cx. res.].
- *Culiseta melanura* [Cs. mel.], the black tailed mosquito, is the primary vector of EEE in VA.
- *Aedes albopictus* [Ae. albo.], the Asian tiger mosquito, is known to transmit WNV as well as Chikungunya, Dengue, Zika virus, La Crosse virus, and other viruses.
- Other trapped and tested mosquitoes include *Aedes japonicus*, *Aedes triseriatus*, *Aedes vexans*, *Anopheles quadrimaculatus*, *Culex erraticus*, and *Culex salinarius*.

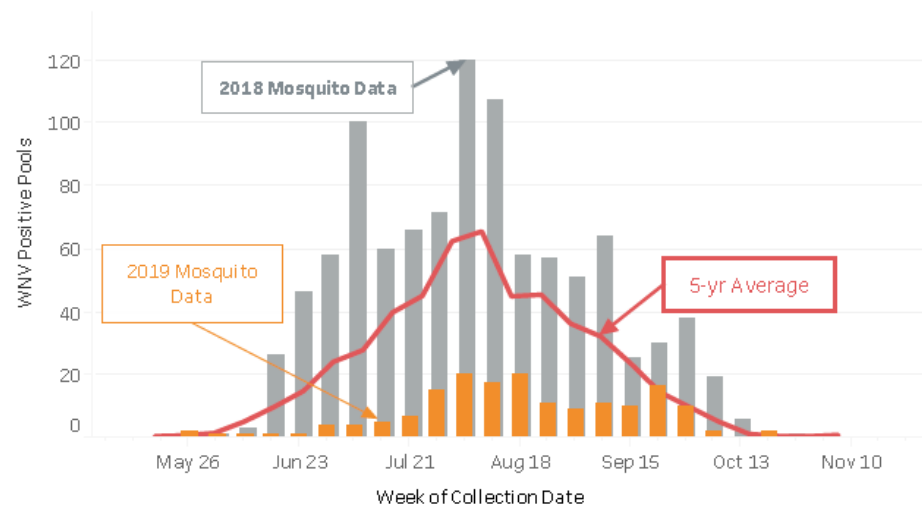
1.99% of mosquito pools were WNV positive



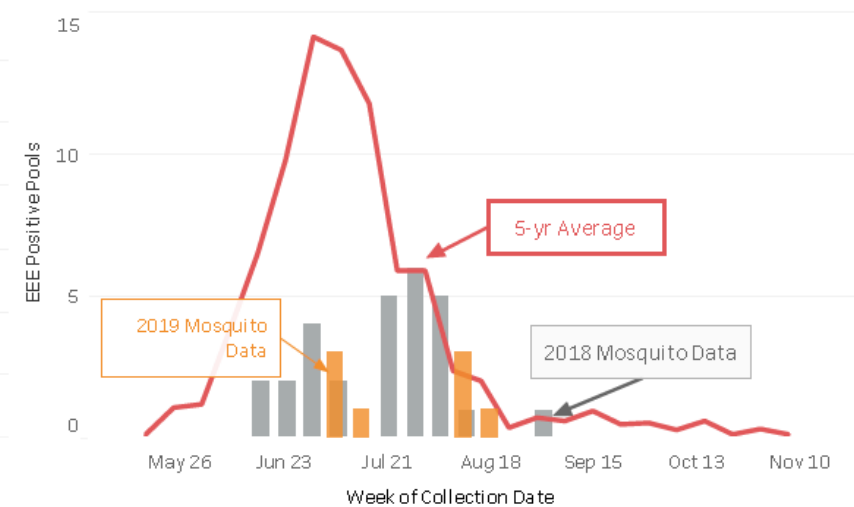
*Pools may be tested for both WNV and EEE.

^A mosquito pool is a group of ~50 mosquitoes of a single species. A positive pool indicates at least one mosquito in the pool was infected with the pathogen.

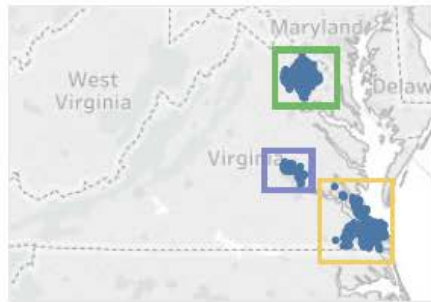
West Nile Virus Positive Mosquito Pools



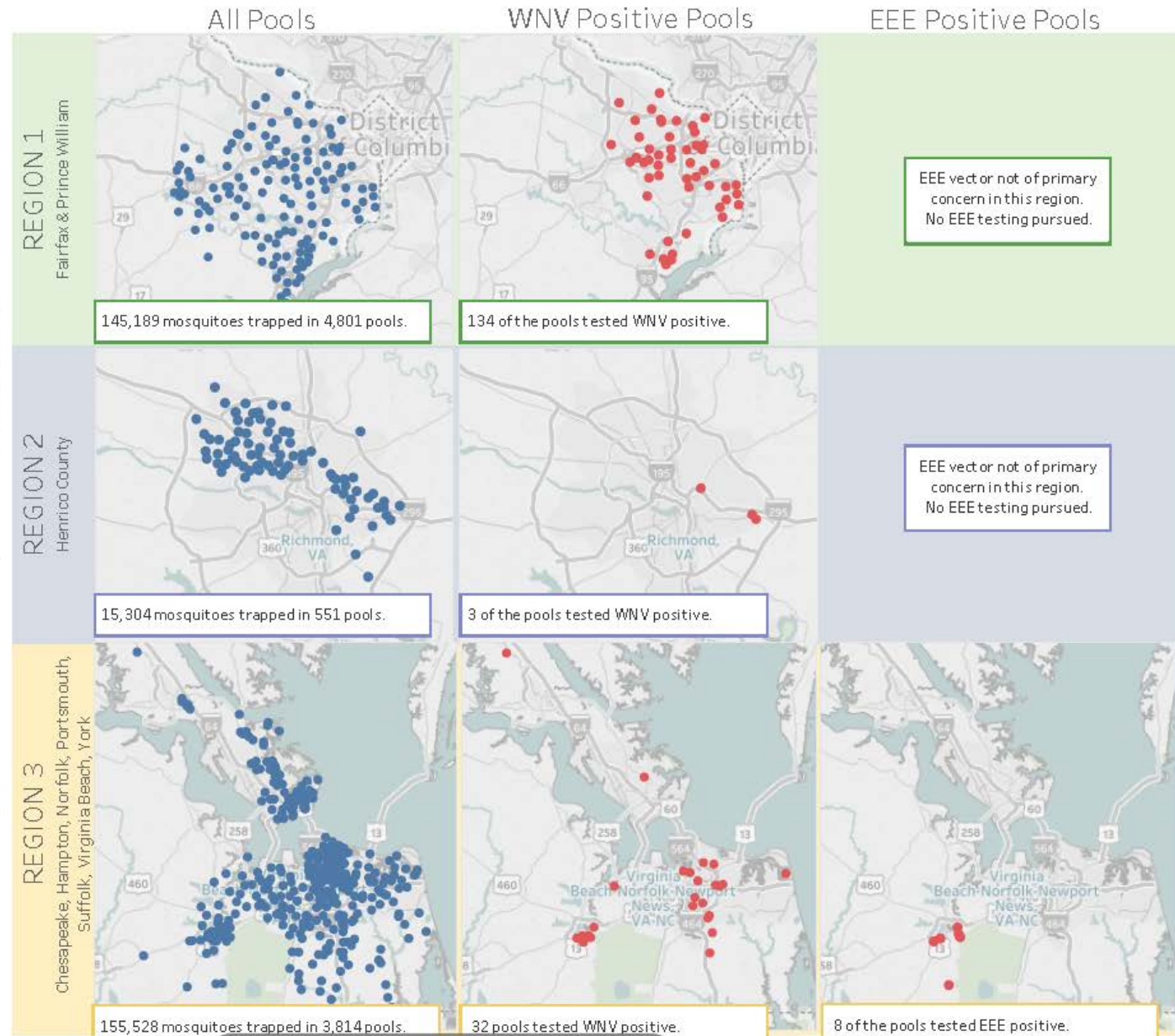
Eastern Equine Encephalitis Positive Mosquito Pools









In Virginia, there are **10 active mosquito control** jurisdictions that trap and test mosquitoes.



There have been **316,021** mosquitoes trapped and tested in **9,166** pools during 2019 surveillance season.



VA Human Infections from Arboviral Diseases

Arboviral Condition	2019	3 yr avg. trend	3 yr avg.	2018	2017	2016
La Crosse virus, neuroinvasive	0		1	2	0	0
West Nile infection, neuroinvasive	4		19	38	12	6
West Nile infection, non-neuroinvasive	2		5	10	1	2
Chikungunya virus diseases	9		5	3	5	6
Dengue virus	19		16	8	12	27
Zika virus, disease	1		39	1	6	109
Grand Total	62			73	44	172

West Nile Virus in US in 2019

As of Jan 7th, 917 WNV human cases found in 43 states and DC.

- Over 60% decrease from 2018 cases
- 66% classified as neuroinvasive (meningitis or encephalitis)
- 34% classified as non-neuroinvasive (febrile illness)
- 100 WNV presumptive viremic donors reported from 23 states
- 51 fatalities (5.5% CFR) reported from 35 states

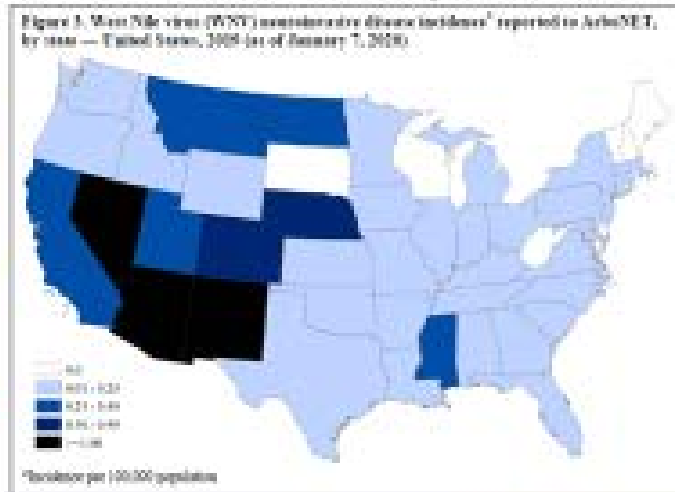
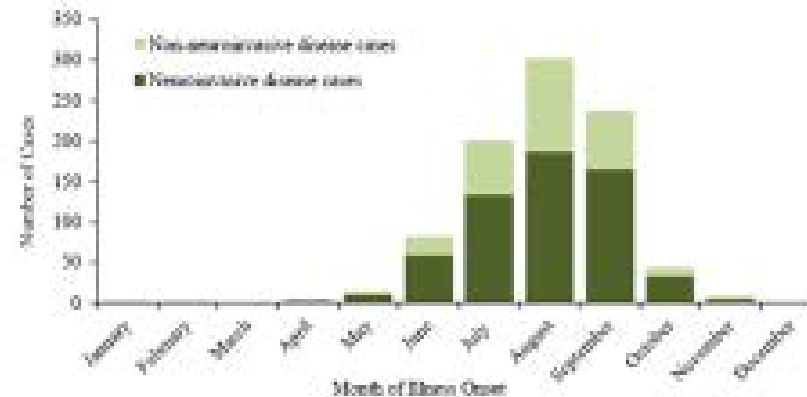


Figure 2. West Nile virus disease cases reported to ArboNET, by month of onset* — United States, 2019 (as of January 7, 2020)



*Cases missing onset date (n=13)

West Nile in VA in 2019

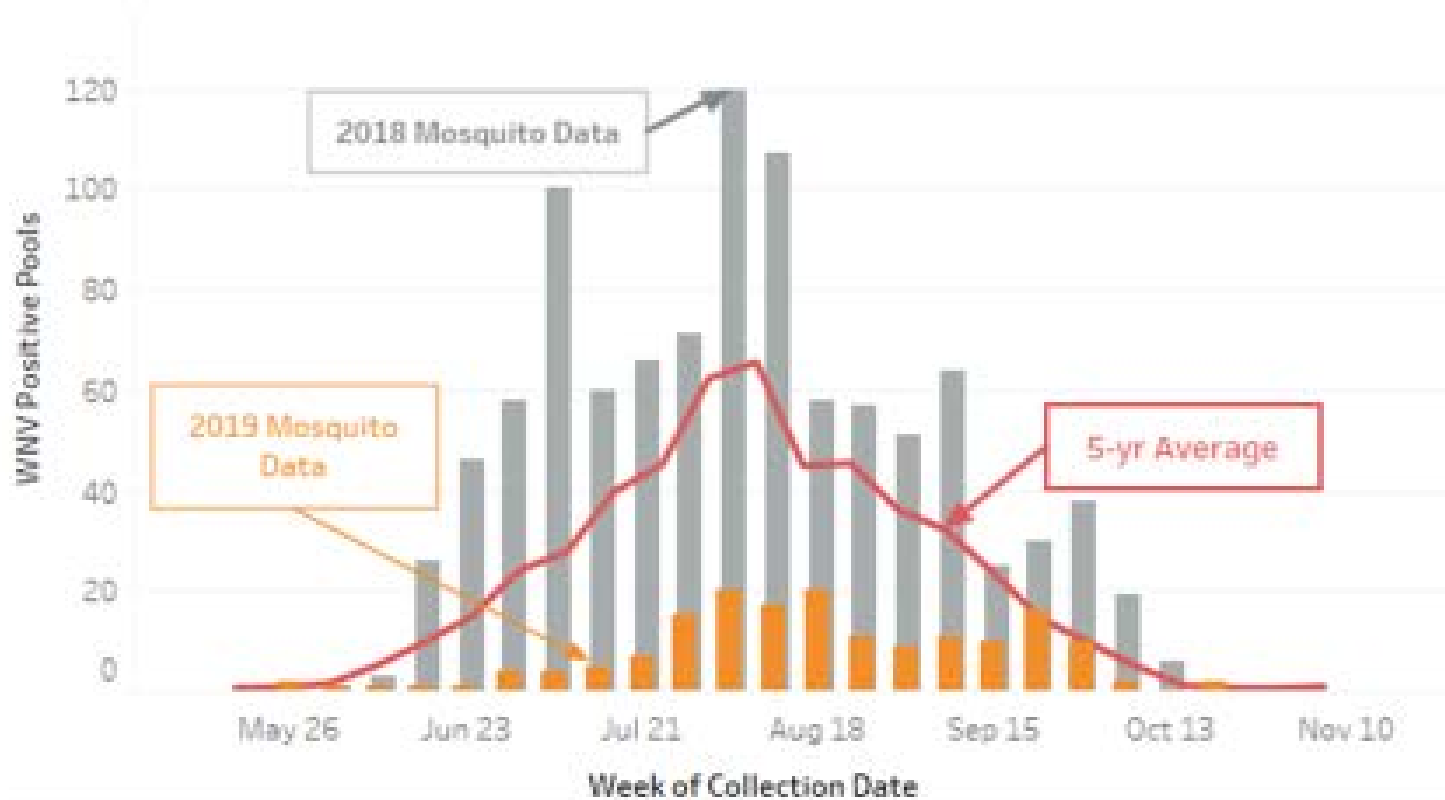
6 WNV human cases in 4 jurisdictions

- 66% (4 cases) neuroinvasive
- 33% (2 cases) non-neuroinvasive
- 1 fatality reported



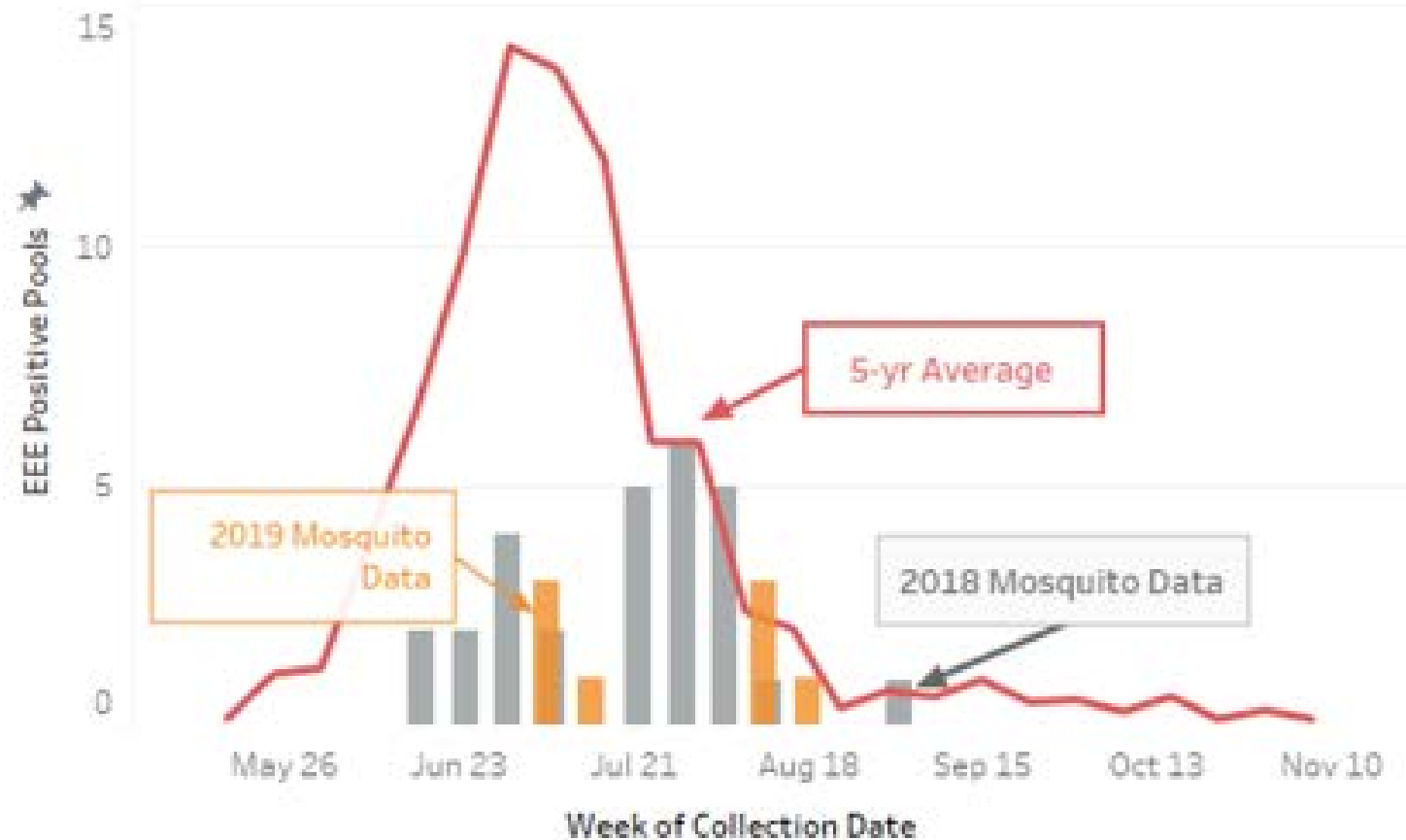
Of 8,501 pools, 1.99% (n=169 pools) were WNV positive.

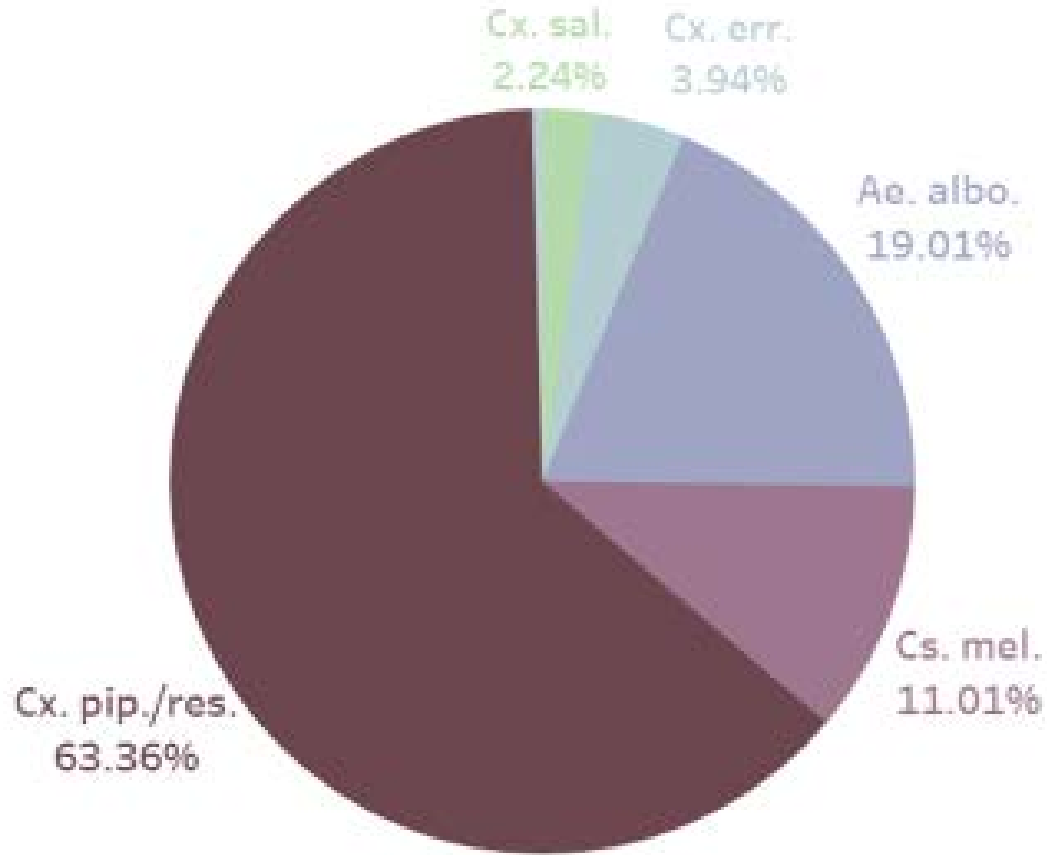
West Nile Virus Positive Mosquito Pools



Of 2,051 pools, 0.39% (n=8 pools) were EEE positive.

Eastern Equine Encephalitis Positive Mosquito Pools



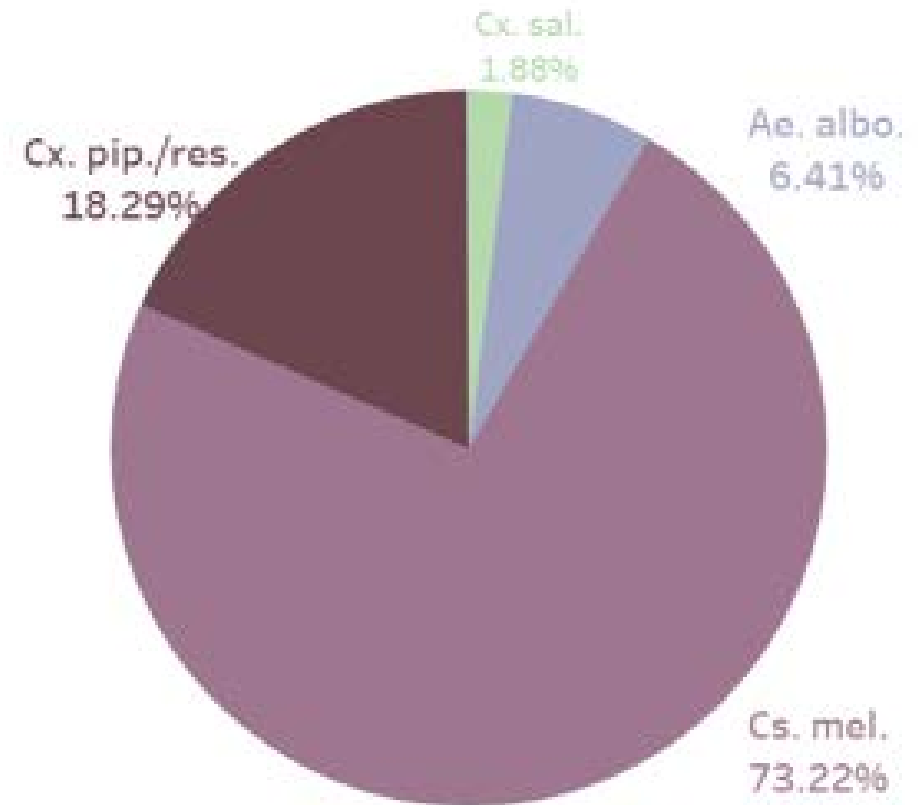


MOSQUITO SPECIES TESTED FOR WNV

(2019, n=8,501 pools)

165 *Cx. pip./res.* pools WNV+

4 *Cs. mel.* pools WNV+



MOSQUITO SPECIES TESTED FOR EEE

(2019, n=2,051 pools)

8 *Cs. mel.* pools WNV+

Many Thanks To:

- West Nile Virus Northern VA Managers Meeting
- TRAST
- VMCA
- Chesapeake Mosquito Control
- Fairfax County Dept. of Health- Vector Borne Diseases Program
- Hampton Mosquito Control
- Henrico County Mosquito Control
- Norfolk Dept. of Health Vector Control
- Suffolk Mosquito Control
- Virginia Beach Mosquito Control
- Portsmouth Mosquito Control
- York County Mosquito Control
- Prince William County Vector Control
- The Virginia Division of Consolidated Laboratory Services (DCLS)
- Fairfax County Dept. of Health Laboratory
- The Virginia Dept. of Agriculture and Consumer Services (VDACS) Veterinary Laboratories
- Alex Ciota & New York Health Dept. Wadsworth Lab
- VDH- Vector-borne Team
- VDH- Regional and District Epidemiology Staff

Question?

