



Vector Borne Disease 2020 Surveillance Report

Summit County Public Health



Report Weeks 15 and 16 (August 30 to August 12, 2020)
MMWR Weeks 36 and 37

Public Health
Prevent. Promote. Protect.

This report will be issued from June through October of each year (or later if West Nile Virus disease is still a concern). Surveillance will include human and veterinary cases and testing of mosquito pools in Summit County. It will also include updates from Ohio and around the nation. It will include vector-borne diseases besides West Nile Virus.

SUMMIT COUNTY SURVEILLANCE

Table 1: West Nile virus (WNV) tests ordered in Summit County hospitals

| Week(s) | # of WNV tests ordered this period | # of positive WNV tests this period | Cumulative # of tests ordered this season | Cumulative # of positive tests this season | Percentage of positive tests |
|-------------------------------|------------------------------------|-------------------------------------|---|--|------------------------------|
| Weeks 1 & 2: 5/24 to 6/6 | 3 | 0 | 3 | 0 | 0.0% |
| Weeks 3 & 4: 6/7 to 6/20 | 9 | 1 | 12 | 1 | 8.3% |
| Weeks 5 & 6: 6/21 to 7/4 | 6 | 0 | 18 | 1 | 5.6% |
| Weeks 7 & 8: 7/5 to 7/18 | 7 | 0 | 25 | 1 | 4.0% |
| Weeks 9 & 10: 7/19 to 8/1 | 8 | 1 | 33 | 2 | 6.1% |
| Weeks 11 & 12: 8/2 to 8/15 | 8 | 1 | 41 | 3 | 7.3% |
| Weeks 13 & 14: 8/16 to 8/29 | 6 | 0 | 47 | 3 | 6.5% |
| Weeks 15 & 16: 8/30 to 9/12 | 9 | 0 | 56 | 3 | 5.4% |
| Weeks 17 & 18: 9/13 to 9/26 | | | | | |
| Weeks 19 & 20: 9/27 to 10/10 | | | | | |
| Weeks 21 & 22: 10/11 to 10/24 | | | | | |

Note: Reporting may not be completed each week. Numbers will be updated when reports are received

West Nile virus testing (Table 1): During surveillance period Weeks 15 and 16, there were 6 tests for West Nile virus ordered by Summit County hospitals, none were positive. So far this season, there have been 3 positive results for IgG antibody only for the West Nile virus, which is an indication of immunity due to a past exposure and were not active infections.

Lyme disease testing (Table 2): There were 35 diagnostic test series performed for Lyme disease during Weeks 15 and 16, with 4 positive or indeterminate test results. The CDC currently recommends a two-step process when testing blood for evidence of antibodies against the Lyme disease bacteria (*Borrelia burgdorferi*). Both steps can be done using the same blood sample. The first step uses a testing procedure called "EIA" (enzyme immunoassay) or rarely, an "IFA" (indirect immunofluorescence assay). If this first step is negative, no further testing of the specimen is recommended. If the first step is positive or indeterminate (sometimes called "equivocal"), then the second step should be performed. The second step uses a test called an immunoblot test, commonly, a "Western blot" test. Results are considered positive and the case is confirmed only if the EIA/IFA and the immunoblot are both positive.

Table 2. Lyme Disease Tests Ordered in Summit County Hospitals

| Week(s) | # of Lyme tests ordered this period | # of positive or indeterminate Lyme tests this period | Cumulative # of tests ordered this season | Cumulative # of positive or indeterminate tests this season | Percentage of positive or indeterminate tests |
|-------------------------------|-------------------------------------|---|---|---|---|
| Weeks 1 & 2: 5/24 to 6/6 | 41 | 5 | 41 | 5 | 12.2% |
| Weeks 3 & 4: 6/7 to 6/20 | 48 | 11 | 89 | 16 | 18.0% |
| Weeks 5 & 6: 6/21 to 7/4 | 76 | 13 | 165 | 29 | 17.6% |
| Weeks 7 & 8: 7/5 to 7/18 | 81 | 21 | 246 | 50 | 20.3% |
| Weeks 9 & 10: 7/19 to 8/1 | 57 | 14 | 303 | 64 | 21.1% |
| Weeks 11 & 12: 8/2 to 8/15 | 62 | 6 | 365 | 69 | 18.9% |
| Weeks 13 & 14: 8/16 to 8/29 | 54 | 10 | 419 | 79 | 18.9% |
| Weeks 15 & 16: 8/30 to 9/12 | 35 | 4 | 454 | 83 | 18.3% |
| Weeks 17 & 18: 9/13 to 9/26 | | | | | |
| Weeks 19 & 20: 9/27 to 10/10 | | | | | |
| Weeks 21 & 22: 10/11 to 10/24 | | | | | |

Note: Reporting may not be completed each week. Numbers will be updated when reports are received

Reported Vector-borne diseases in 2020 for Summit County residents (Table 3): As of September 12, there were 28 reported cases of Lyme disease; one was confirmed and the remaining 27 were suspected. Also reported were one confirmed case of LaCrosse virus disease, one suspected case of Ehrlichiosis and one suspected case of babesiosis.

Table 3: Vector-borne diseases reported in Summit County, 2020 cumulative totals

| | Confirmed | Suspected | Notes |
|--------------------------------------|-----------|-----------|-------|
| Tick-borne diseases: | | | |
| Babesiosis | 0 | 1 | |
| Ehrlichiosis / anaplasmosis | 0 | 1 | |
| Lyme disease | 1 | 27 | |
| Powassan virus disease | 0 | 0 | |
| Rocky Mountain spotted fever | 0 | 0 | |
| Mosquito-borne diseases: | | | |
| Chikungunya | 0 | 0 | |
| Dengue | 0 | 0 | |
| Eastern equine encephalitis | 0 | 0 | |
| LaCrosse virus disease | 1 | 0 | |
| Malaria | 0 | 0 | |
| St. Louis encephalitis virus disease | 0 | 0 | |
| Zika virus infection | 0 | 0 | |
| West Nile virus infection | 0 | 0 | |

Source: Ohio Disease Reporting System (ODRS); only confirmed, probable, and suspected cases are included.

| Species name | Diseases associated | # identified |
|----------------------------------|--|--------------|
| Mosquito species | | |
| <i>Aedes albopictus</i> | Chikungunya, dengue fever, yellow fever | 0 |
| <i>Aedes triseriatus</i> | La Crosse encephalitis | 23 |
| <i>Coquillettidia perturbans</i> | Eastern equine encephalitis, West Nile virus | 20 |
| Tick species | | |
| <i>Amblyomma americanum</i> | Ehrlichiosis, tularemia, red meat allergy | 1 |
| <i>Dermacentor variabilis</i> | Rocky Mountain spotted fever, tularemia | 31 |
| <i>Ixodes scapularis</i> | Lyme disease, babesiosis, anaplasmosis | 12 |

Source: Ohio Department of Health (Identification via mailed specimens, emailed photos and iNaturalist observations)

| Week(s) | Cases reported this period | Cumulative cases for the season |
|--|----------------------------|---------------------------------|
| Aseptic meningitis cases reported prior to season (1/1 to 5/23/2020) | 5 | - |
| Weeks 1 & 2: 5/24 to 6/6 | 1 | 1 |
| Weeks 3 & 4: 6/7 to 6/20 | 0 | 1 |
| Weeks 5 & 6: 6/21 to 7/4 | 1 | 2 |
| Weeks 7 & 8: 7/5 to 7/18 | 0 | 2 |
| Weeks 9 & 10: 7/19 to 8/1 | 2 | 4 |
| Weeks 11 & 12: 8/2 to 8/15 | 0 | 4 |
| Weeks 13 & 14: 8/16 to 8/29 | 0 | 4 |
| Weeks 15 & 16: 8/30 to 9/12 | 0 | 4 |
| Weeks 17 & 18: 9/13 to 9/26 | | |
| Weeks 19 & 20: 9/27 to 10/10 | | |
| Weeks 21 & 22: 10/11 to 10/24 | | |

Source: Ohio Disease Reporting System (ODRS)

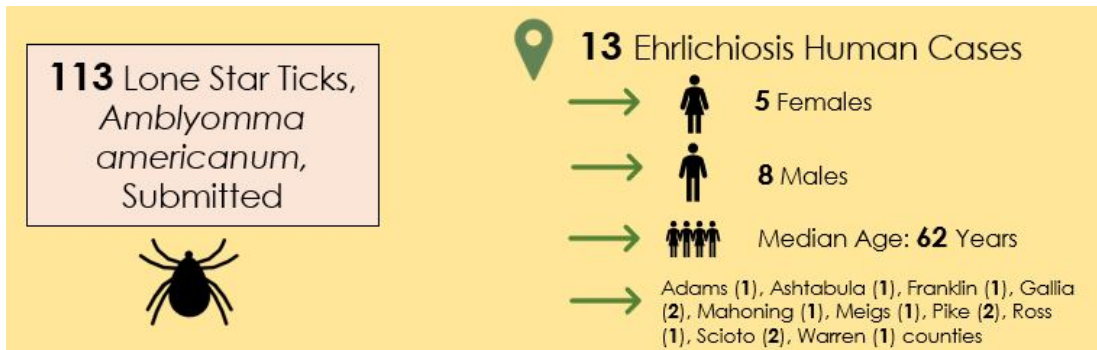
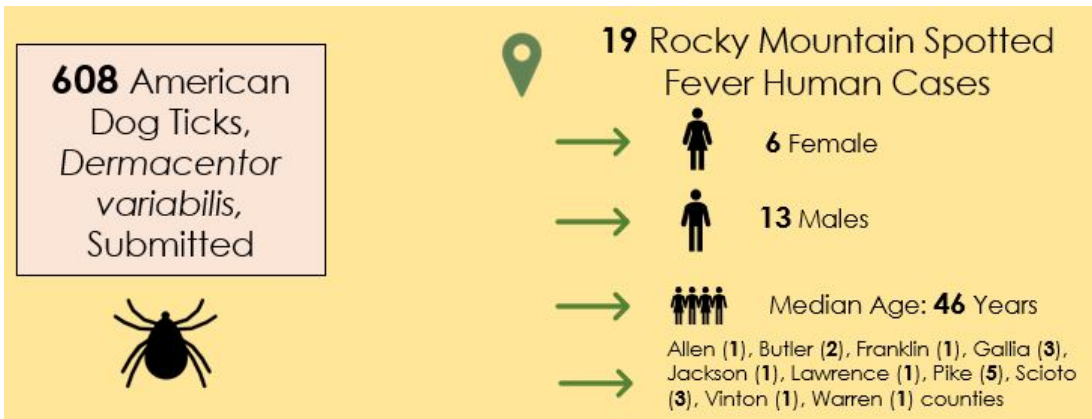
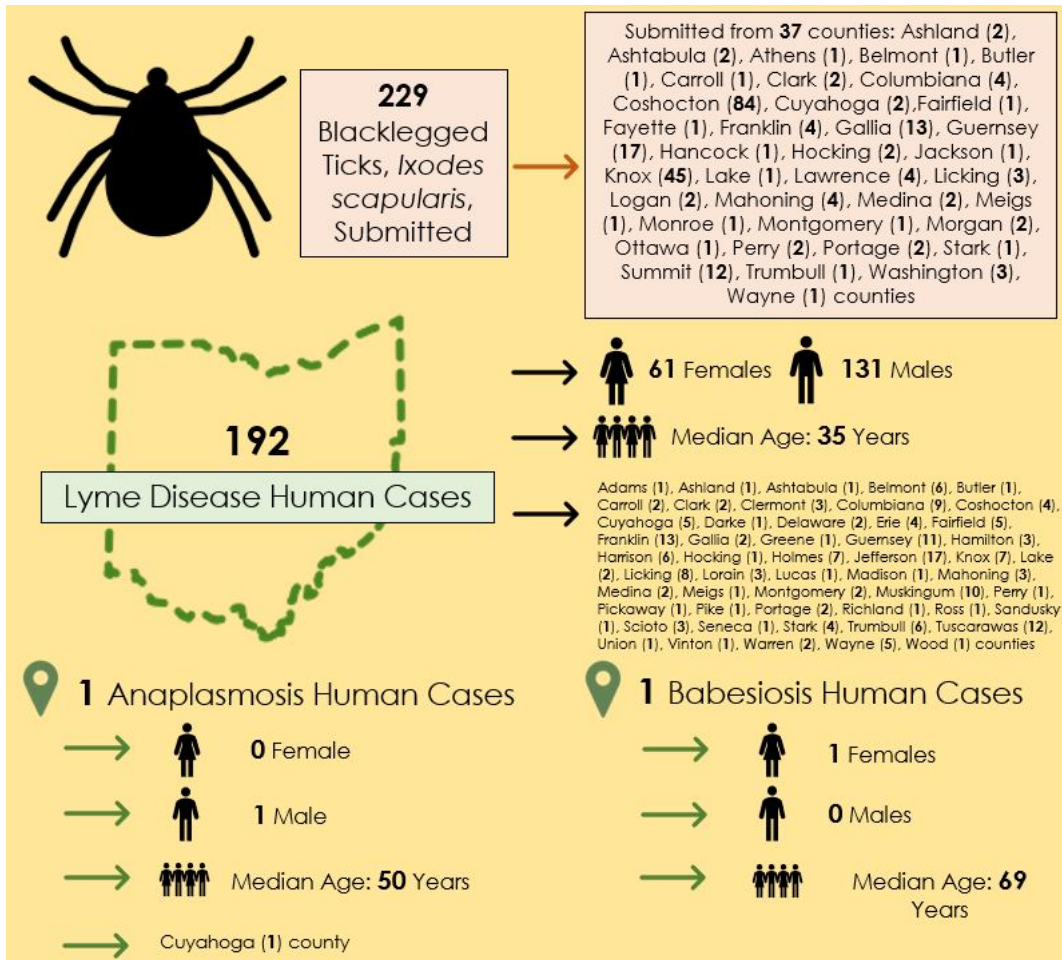
Reported aseptic/viral meningitis cases (Table 5): Prior to the reporting season, there were 5 reported cases of aseptic meningitis, and 0 cases were reported during Weeks 15 and 16, keeping the season total at 4. Aseptic/viral meningitis is the most common type of meningitis and occurs predominately in the summer and fall. While most aseptic/viral meningitis cases are due to gastrointestinal or respiratory viruses, similar symptoms may be present with arthropod-borne diseases.

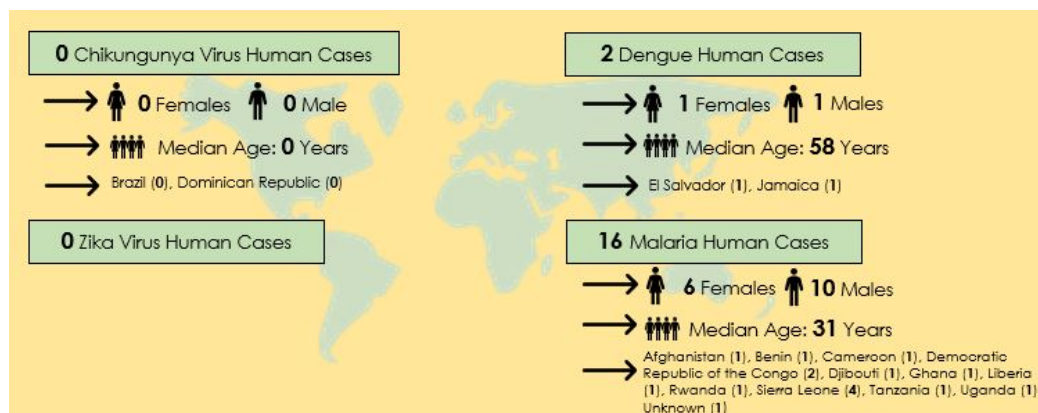
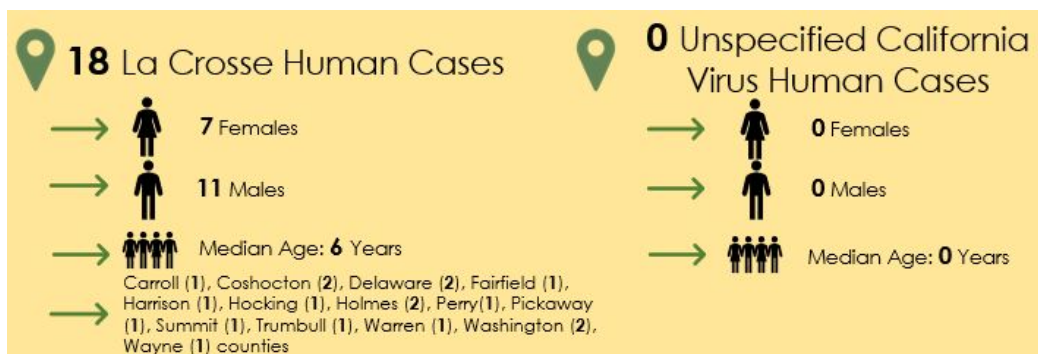
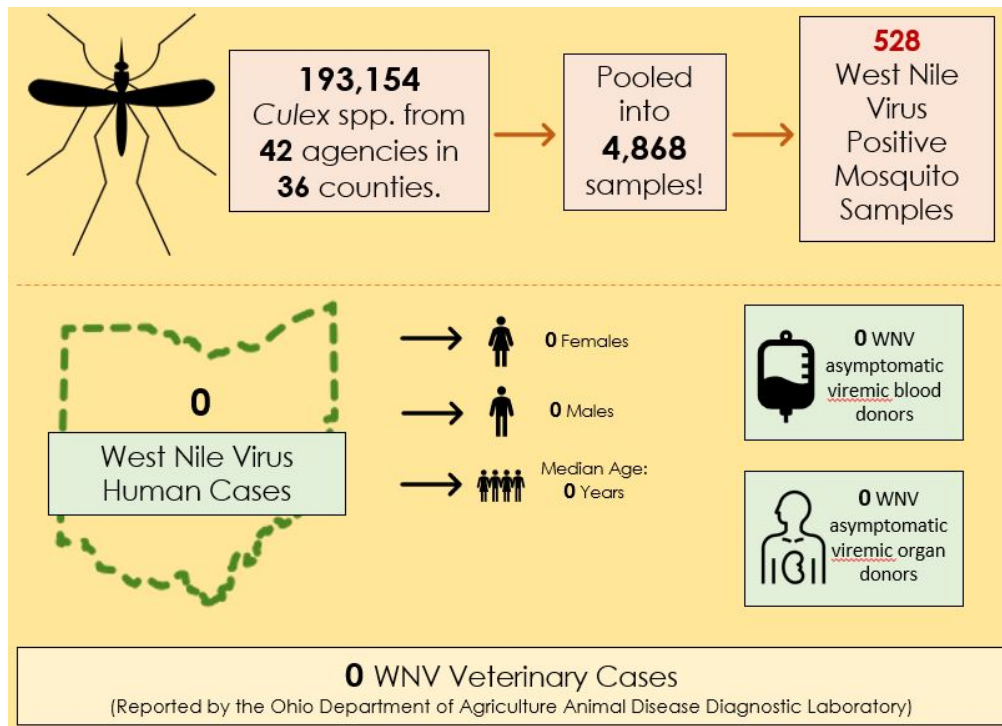
Mosquito testing (Table 6): Based on the ODH mosquito testing summary released on September 11, 6,057 mosquitoes were collected throughout Summit County, and 2,157 *Culex* spp. were combined as pooled samples. Fifty-eight of the pooled samples were tested (29 samples are pending) for West Nile virus, and none were positive.

| | |
|-----------------------------|-------|
| Mosquitoes identified | 6,057 |
| Pooled samples tested | 58 |
| Positive WNV pooled samples | 0 |

Note: All mosquitoes pools tested were *Culex* spp.

OHIO (GRAPHICS AS OF 9/11/2020) AND UNITED STATES SURVEILLANCE





Source: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/zoonotic-disease-program/news-and-events/vectorborne-disease-update>

Special note for travelers:

Ohioans traveling to areas where local transmission is occurring should be aware of the ongoing situation and make every effort to avoid mosquito bites. Additional information can be found from the [Centers for Disease Control and Prevention \(CDC\)'s Travelers' Health](#) and [Pan-American Health Organization](#) websites.

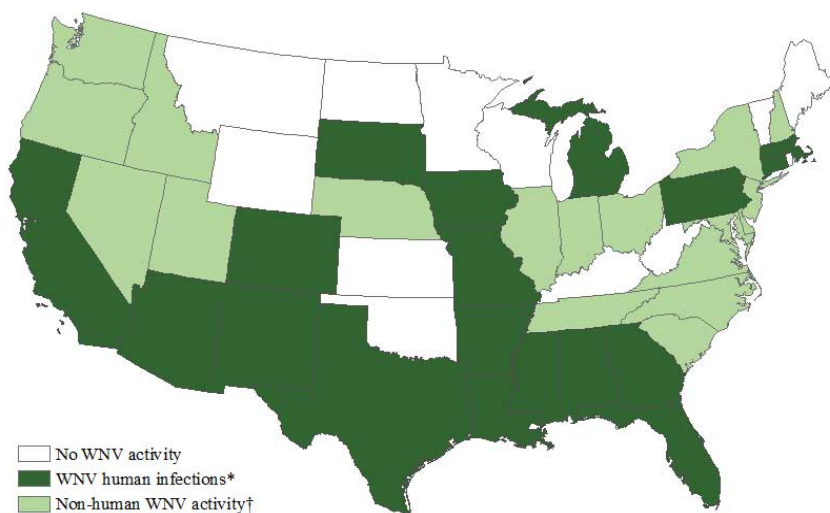
Table 7. Reported Vector Borne disease in Ohio and the United States, 2020

| Disease | OHIO | UNITED STATES | |
|---------------------------------------|------------------------------|--------------------------------|------------------------------|
| | 2020 (as of 9/12) cumulative | Weeks 15 and 16 (8/30 to 9/12) | 2020 (as of 9/12) Cumulative |
| Babesiosis | 7 | 35 | 1125 |
| Chikungunya | 1 | 0 | 17 |
| Dengue (includes dengue-like illness) | 2 | 3 | 208 |
| Eastern equine encephalitis | 0 | 0 | 5 |
| Erlchiosis / anaplasmosis | 32 | 86 | 3159 |
| Jamestown Canyon virus disease | 0 | 0 | 5 |
| LaCrosse virus disease | 18 | 1 | 30 |
| Lyme Disease | 1102 | Not reported weekly by CDC | |
| Malaria | 19 | 5 | 293 |
| Powassan virus disease | 0 | 0 | 12 |
| Spotted fever rickettsiosis | 122 | Not reported weekly by CDC | |
| St. Louis encephalitis virus disease | 0 | 0 | 5 |
| West Nile virus infection | 0 | 6 | 148 |
| Zika virus infection, non-congenital | 0 | 0 | 1 |

Note: Data is provisional and subject to change

Source: https://wonder.cdc.gov/nndss/nndss_weekly_tables_menu.asp and Ohio Disease Reporting System (ODRS)

Figure 1. West Nile virus activity by state – United States, 2020 (as of September 9, 2020)



Ohio has not yet reported West Nile virus activity in humans or non-humans. Human cases of West Nile virus infection have been reported to CDC ArboNET from the following states: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Iowa, Louisiana, Massachusetts, Michigan, Mississippi, Missouri, New Mexico, Pennsylvania, South Dakota, and Texas.

*WNV human disease cases or presumptive viremic blood donors. Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.

†WNV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals.

Source: <https://www.cdc.gov/westnile/statsmaps/preliminarymapsdata2020/activitybystate2020.html>

About this report: Reporting agencies include Summit County hospital laboratories and the Ohio Department of Health. Vector-borne disease case data for Summit County are obtained from the Ohio Disease Reporting System.

Many thanks to all agencies who report vector-borne disease data weekly.

Reporting from participants may not be complete each week. Numbers may change as updated reports are received. For questions, please contact Joan Hall (jhall@schd.org) or the Summit County Public Health Communicable Disease Unit (330-375-2662). This report was issued on **September 18, 2020**.