



# Vector Borne Disease 2021 Surveillance Report

Summit County Public Health

Report Weeks 9 and 10 (July 18 to July 31, 2021)  
MMWR Weeks 29 and 30



**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**

| Reporting 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: 5/23 to 6/5      | 0                                  | 0                                   | 0   | 0  | --                           |
| Weeks 3 & 4: 6/6 to 6/19      | 4                                  | 0                                   | 4   | 0  | 0.0%                         |
| Weeks 5 & 6: 6/20 to 7/3      | 2                                  | 0                                   | 6   | 0  | 0.0%                         |
| Weeks 7 & 8: 7/4 to 7/17      | 7                                  | 0                                   | 13  | 0  | 0.0%                         |
| Weeks 9 & 10: 7/18 to 7/31    | 9                                  | 0                                   | 22  | 0  | 0.0%                         |
| Weeks 11 & 12: 8/1 to 8/14    |                                    |                                     |   |  |                              |
| Weeks 13 & 14: 8/15 to 8/28   |                                    |                                     |   |  |                              |
| Weeks 15 & 16: 8/29 to 9/11   |                                    |                                     |   |  |                              |
| Weeks 17 & 18: 9/12 to 9/25   |                                    |                                     |   |  |                              |
| Weeks 19 & 20: 9/26 to 10/9   |                                    |                                     |   |  |                              |
| Weeks 21 & 22: 10/10 to 10/23 |                                    |                                     |   |  |                              |

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

**West Nile virus testing (Table 1):** During surveillance Weeks 9 and 10, there were 9 tests for West Nile virus ordered by Summit County hospitals, none of which were positive.

**Lyme disease testing (Table 2):** There were 97 diagnostic test series performed for Lyme disease during Weeks 9 and 10, 27 tests were positive and 0 had indeterminate 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 only if the EIA/IFA and the immunoblot are both positive.

| Reporting week(s)             | # of Lyme tests ordered this period | # of positive Lyme tests this period | Cumulative # of tests ordered this season | Cumulative # of positive tests this season | Percentage of positive tests |
|-------------------------------|-------------------------------------|--------------------------------------|---|--|------------------------------|
| Weeks 1 & 2: 5/23 to 6/5      | 54                                  | 3                                    | 54  | 3  | 5.6%                         |
| Weeks 3 & 4: 6/6 to 6/19      | 84                                  | 13                                   | 138                                       | 16   | 11.6%                        |
| Weeks 5 & 6: 6/20 to 7/3      | 150                                 | 33                                   | 288                                       | 49   | 17.0%                        |
| Weeks 7 & 8: 7/4 to 7/17      | 89                                  | 23                                   | 377                                       | 72   | 19.1%                        |
| Weeks 9 & 10: 7/18 to 7/31    | 97                                  | 27                                   | 474                                       | 99   | 20.9%                        |
| Weeks 11 & 12: 8/1 to 8/14    |                                     |                                      |   |  |                              |
| Weeks 13 & 14: 8/15 to 8/28   |                                     |                                      |   |  |                              |
| Weeks 15 & 16: 8/29 to 9/11   |                                     |                                      |   |  |                              |
| Weeks 17 & 18: 9/12 to 9/25   |                                     |                                      |   |  |                              |
| Weeks 19 & 20: 9/26 to 10/9   |                                     |                                      |   |  |                              |
| Weeks 21 & 22: 10/10 to 10/23 |                                     |                                      |   |  |                              |

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

**Reported vector-borne diseases in 2021 (Table 3):** As of July 31, there were 55 reported cases of Lyme disease; 19 were confirmed, 4 was probable and 32 were suspected status. There were also one suspected case of spotted fever rickettsiosis (Rocky Mountain spotted fever), two cases of Lacrosse virus disease (1 confirmed, 1 suspected), one suspected case of ehrlichiosis, one suspected case of babesiosis, and one confirmed case of malaria among Summit County residents.

|                                      | Confirmed or Probable | Suspected | Notes   |
|--------------------------------------|-----------------------|-----------|---|
| <b>Tick-borne diseases:</b>          |                       |           |   |
| Babesiosis                           | 0                     | 1         |   |
| Ehrlichiosis / anaplasmosis          | 0                     | 1         |   |
| Lyme disease                         | 23                    | 32        |   |
| Powassan virus disease               | 0                     | 0         |   |
| Spotted fever rickettsiosis          | 0                     | 1         |   |
|                                      |                       |           |   |
| <b>Mosquito-borne diseases:</b>      |                       |           |   |
| Chikungunya                          | 0                     | 0         |   |
| Dengue                               | 0                     | 0         |   |
| Eastern equine encephalitis          | 0                     | 0         |   |
| LaCrosse virus disease               | 1                     | 1         |   |
| Malaria                              | 1                     | 0         | Case was associated with international travel |
| 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                          | Summit County | Ohio |
|--------------------------------|--|---------------|------|
| <b>Mosquito species</b>        |  |               |      |
| <i>Aedes albopictus</i>        | Chikungunya, dengue fever, yellow fever      | 1             | 699  |
| <i>Aedes triseriatus</i>       | La Crosse encephalitis                       | 332           | 1262 |
| <i>Coquilleidia perturbans</i> | Eastern equine encephalitis, West Nile virus | 96            | 403  |
| <b>Tick species</b>            |  |               |      |
| <i>Amblyomma americanum</i>    | Ehrlichiosis, tularemia, red meat allergy    | 0             | 89   |
| <i>Dermacentor variabilis</i>  | Rocky Mountain spotted fever, tularemia      | 31            | 1385 |
| <i>Ixodes scapularis</i>       | Lyme disease, babesiosis, anaplasmosis       | 1             | 312  |

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

| Reporting Week(s)  | Cases reported this period | Cumulative cases for the season |
|--|----------------------------|---------------------------------|
| Aseptic meningitis cases reported prior to season (1/1 to 5/22/2021) | 4                          | -                               |
| Weeks 1 & 2: 5/23 to 6/5   | 0                          | 0                               |
| Weeks 3 & 4: 6/6 to 6/19   | 0                          | 0                               |
| Weeks 5 & 6: 6/20 to 7/3   | 0                          | 0                               |
| Weeks 7 & 8: 7/4 to 7/17   | 0                          | 0                               |
| Weeks 9 & 10: 7/18 to 7/31   | 1                          | 1                               |
| Weeks 11 & 12: 8/1 to 8/14   |                            |                                 |
| Weeks 13 & 14: 8/15 to 8/28  |                            |                                 |
| Weeks 15 & 16: 8/29 to 9/11  |                            |                                 |
| Weeks 17 & 18: 9/12 to 9/25  |                            |                                 |
| Weeks 19 & 20: 9/26 to 10/9  |                            |                                 |
| Weeks 21 & 22: 10/10 to 10/23  |                            |                                 |

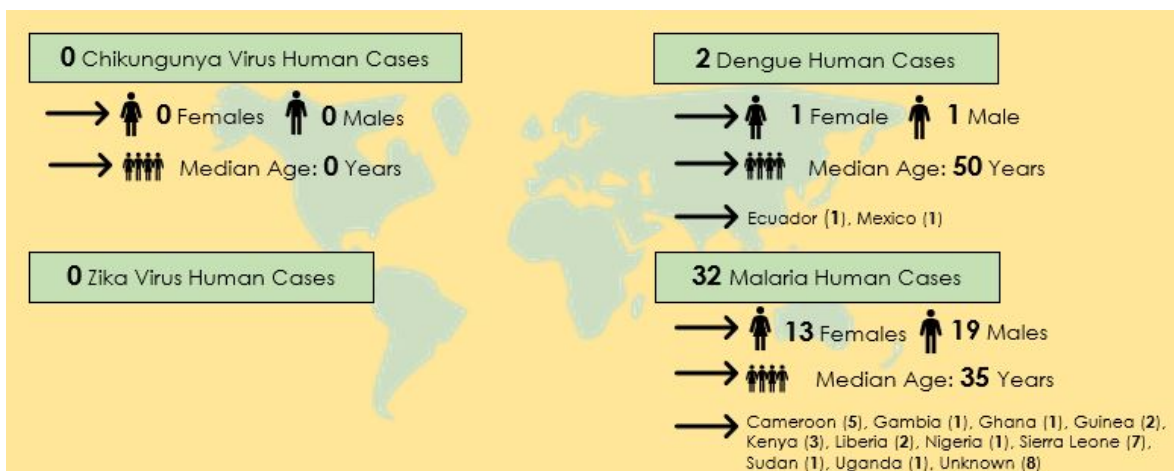
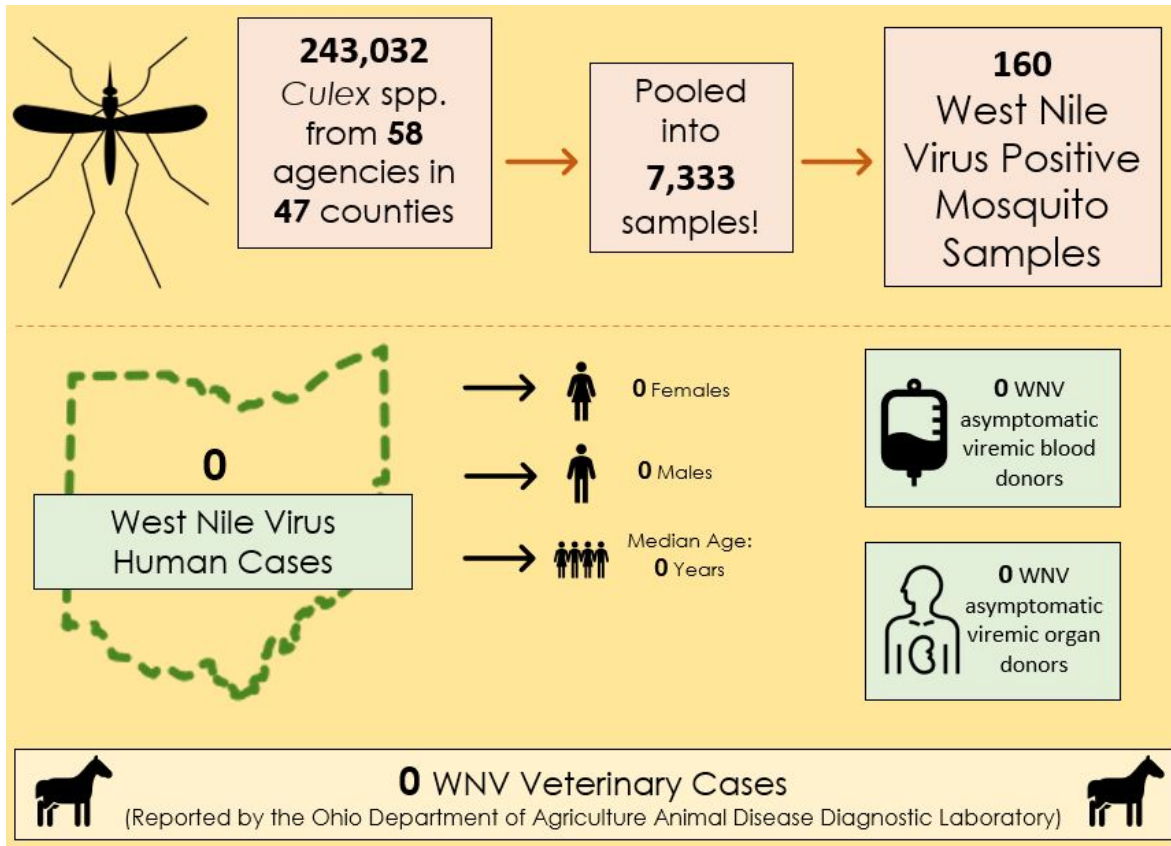
Source: Ohio Disease Reporting System (ODRS)

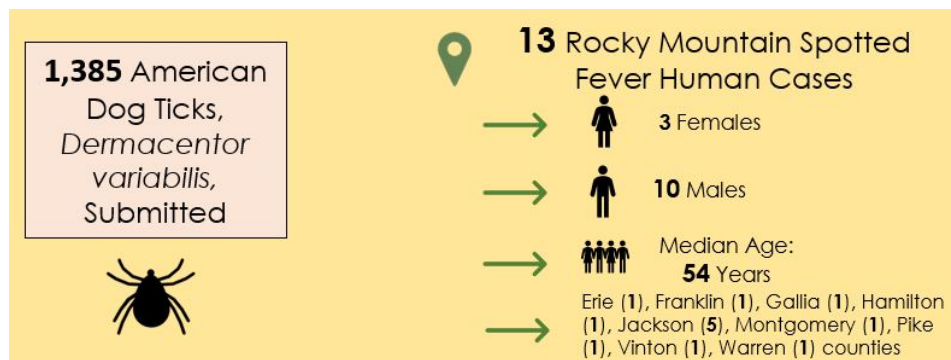
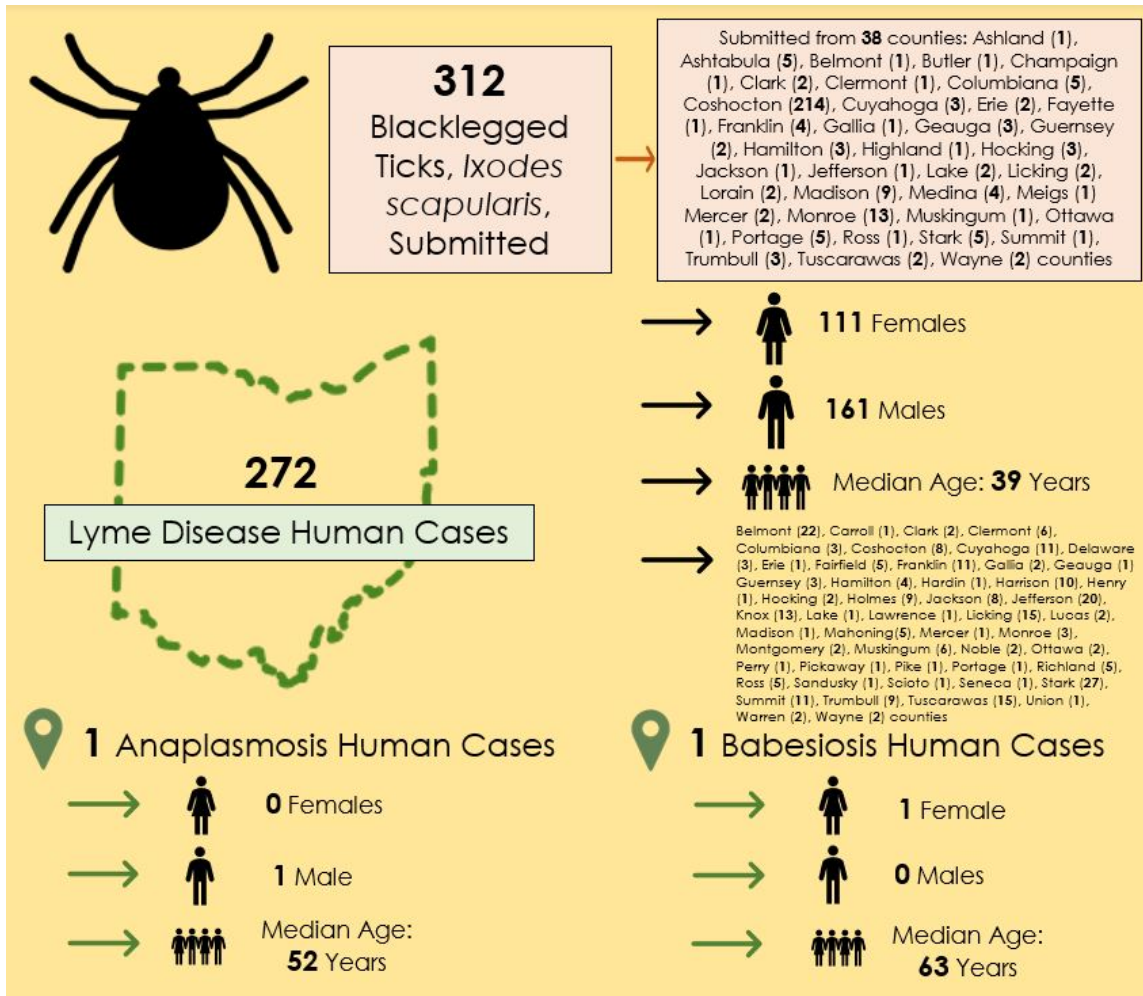
**Reported aseptic/viral meningitis cases (Table 5):** Prior to the reporting season, there were 4 reported cases of aseptic meningitis, and one case was reported during Weeks 9 and 10. Aseptic/viral meningitis is the most common type of meningitis and occurs predominately in the summer and fall. While most aseptic/viral meningitis cases are due to gastrointestinal or respiratory viruses, similar symptoms may be present with arthropod-borne diseases.

**Mosquito testing by the Ohio Department of Health:** Based on the ODH mosquito testing summary released on August 5, 2021, 28,396 mosquitoes have been collected in 2021 throughout Summit County. These mosquitoes were identified, and 23,279 *Culex spp.* mosquitoes were submitted for testing to ODH as 813 pooled samples. All pooled samples were tested, and three pools were positive for the West Nile virus.

|                             |        |
|-----------------------------|--------|
| Mosquitoes identified       | 28,396 |
| Pooled samples tested       | 813    |
| Positive WNV pooled samples | 3      |

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





**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.

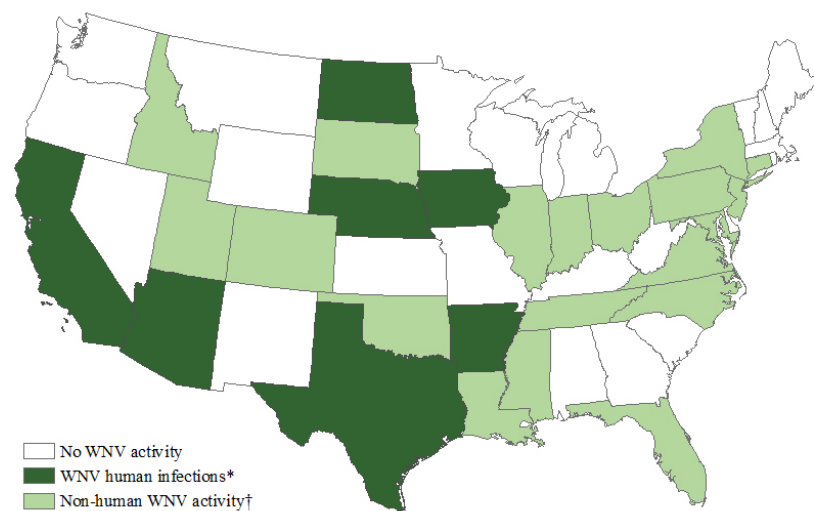
# UNITED STATES SURVEILLANCE

**Table 7. Reported Vector Borne disease in the United States, 2021**

| Disease  | Weeks 9 and 10<br>(7/17 to 7/31) | 2021 (as of 7/31)<br>Cumulative |
|--|----------------------------------|---------------------------------|
| Babesiosis   | 197                              | 1010                            |
| Chikungunya  | 0                                | 5                               |
| Dengue (includes dengue-like illness)                  | 3                                | 28                              |
| Eastern equine encephalitis                            | 0                                | 0                               |
| Erlchiosis / anaplasmosis                              | 401                              | 3731                            |
| Jamestown Canyon virus disease                         | 0                                | 2                               |
| LaCrosse virus disease                                 | 0                                | 3                               |
| Lyme Disease   | Not reported weekly by CDC       |                                 |
| Malaria  | 17                               | 464                             |
| Powassan virus disease                                 | 1                                | 9                               |
| Spotted fever rickettsiosis                            | Not reported weekly by CDC       |                                 |
| St. Louis encephalitis virus disease                   | 0                                | 0                               |
| West Nile virus infection                              | 3                                | 32                              |
| Zika virus infection, non congenital                   | 0                                | 0                               |
| <b>Note:</b> Data is provisional and subject to change |                                  |                                 |

Source: [https://wonder.cdc.gov/nndss/nndss\\_weekly\\_tables\\_menu.asp](https://wonder.cdc.gov/nndss/nndss_weekly_tables_menu.asp)

**Figure 1. West Nile virus activity by state – United States, 2021 (as of July 27, 2021)**



WNV infections in mosquitoes, birds, sentinel animals, or veterinary animals have been reported to CDC ArboNET from the following states for 2021: Arizona, California, Colorado, Connecticut, Florida, Idaho, Illinois, Indiana, Iowa, Nebraska, Louisiana, Maryland, Mississippi, New York, New Jersey, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, and Virginia.

West Nile virus infections in humans have been reported to CDC ArboNET from the following states: Arizona, Arkansas, California, Iowa, Nebraska, North 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@sched.org) or the SCPH Communicable Disease Unit (330-375-2662). This report was issued on **August 6, 2021**.