



**Vector Borne Disease  
Surveillance Report**  
Summit County Public Health

**Report Weeks 15-16**  
**CDC MMWR Weeks 36-37**



**Public Health**  
Prevent. Promote. Protect.

This report will run from June through October of each year (or later if West Nile Virus disease is still a concern). Surveillance will include mosquitoes, horses, and humans. It will also include updates from Ohio and around the nation. It will include vector-borne diseases besides West Nile virus. The year 2017 report will include updates on Zika virus.

**SUMMIT COUNTY**

**Table 1: West Nile Virus Tests Processed by Summit County Hospital Labs**

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
Week 1-2: 5-28 to 6-10	2	0	2	0	0%
Week 3-4: 6-11 to 6-24	1	0	3	0	0%
Week 5-6: 6-25 to 7-8	5	0	8	0	0%
Week 7-8: 7-9 to 7-22	7	0	15	0	0%
Week 9-10: 7-23 to 8-5	4	0	19	0	0%
Week 11-12: 8-6 to 8-19	13	0	32	0	0%
Week 13-14: 8-20 to 9-2	4	1	36	1	2.7%
Week 15-16: 9-03 to 9-16	2	0	38	1	2.6%
Week 17-18: 9-17 to 9-30					
Week 19-20: 10-1 to 10-14					
Week 21-22: 10-15 to 10-28					

During the surveillance period Week 15 and 16, there were 2 tests ordered for WNV by Summit County hospitals, and all results were negative (Table 1). To date there have been 18 reported cases of human WNV in Ohio, and one in Summit County on August 25, 2017. The Summit County case was neuro-invasive but is recovering.

During weeks 15 & 16, there were 2 suspect cases of Lyme disease. Year to date, there have also been 12 suspected cases of Lyme disease reported in Summit County and 3 confirmed. Area labs reported 29 tests for Lyme disease done during weeks 15& 16. Read more about confirmatory testing for Lyme Disease after Table 2.

Year-to-date there remains one case of Zika, reported in Summit County (January, 2017). This case was travel related.

Two cases of travel related malaria were reported this year to date. The most recent case reported September 4, 2017 was related to travel to Liberia.

There were 2 reported cases of aseptic meningitis in Weeks 15 and 16 in Summit County (Table 3).

## Mosquito Testing in Summit County\*

As of September 21, 2017

<b>Mosquitoes identified</b>	<b>68,036</b>
<b>Pooled samples tested</b>	<b>896</b>
<b>Positive WNV samples</b>	<b>313</b>

\*Final results for the 2017 season - trapping has stopped and ODH has tested all mosquitoes.

Table 2: Other Vector-borne Diseases Reported in Summit County, Year-to-date 2017 \*

	<b>Confirmed</b>	<b>Suspected</b>
<b>Babesiosis</b>	<b>0</b>	<b>1</b>
<b>Chikungunya</b>	<b>0</b>	<b>0</b>
<b>Dengue</b>	<b>0</b>	<b>0</b>
<b>Ehrlichiosis</b>	<b>0</b>	<b>1</b>
<b>Lyme**</b>	<b>3</b>	<b>12</b>
<b>Malaria</b>	<b>2</b>	<b>0</b>
<b>Rocky Mountain spotted fever</b>	<b>0</b>	<b>1</b>
<b>Zika</b>	<b>1</b>	<b>0</b>

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

\*\*CDC currently recommends a two-step process when testing blood for evidence of antibodies against the Lyme disease bacteria. 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

**Table 3: Reported Aseptic Meningitis Cases in Summit County (confirmed & suspected)**

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<b>Week(s)</b>	<b>Cases reported this period</b>	<b>Cumulative cases for the season (5-28 to 10-28-17)</b>
<b>Week 1-2: 5-28 to 6-10</b>	<b>0</b>	<b>0</b>
<b>Week 3-4: 6-11 to 6-24</b>	<b>1</b>	<b>1</b>
<b>Week 5-6: 6-25 to 7-8</b>	<b>3</b>	<b>4</b>
<b>Week 7-8: 7-9 to 7-22</b>	<b>1</b>	<b>5</b>
<b>Week 9-10: 7-23 to 8-5</b>	<b>2</b>	<b>7</b>
<b>Week 11-12: 8-6 to 8-19</b>	<b>2</b>	<b>9</b>
<b>Week 13-14: 8-20 to 9-2</b>	<b>2</b>	<b>11</b>
<b>Week 15-16: 9-3 to 9-16</b>	<b>2</b>	<b>13</b>
<b>Week 17-18: 9-17 to 9-30</b>		
<b>Week 19-20: 10-1 to 10-14</b>		
<b>Week 21-22: 10-15 to 10-28</b>		

\*\*\*Aseptic (viral) meningitis is the most common type of meningitis and occurs predominantly during summer and fall. While most aseptic meningitis cases are due to gastrointestinal or respiratory viruses, similar symptoms may be present with arthropod-borne diseases. Reference: <https://www.cdc.gov/meningitis/clinical-resources.html>

For this report, the WNV surveillance season will start in mid-June and stop at the end of October. This data comes from the weekly report that the Ohio Department of Health sends to the Centers of Disease Control and Prevention.

**Ohio Mosquito-borne Disease 2017 Numbers-At-A-Glance as of September 14, 2017:**

<b>West Nile Virus **</b>		<b>Notes</b>
Mosquitoes tested	403,513	Collected in 59 counties, pooled into 14,277 samples
Ohio Counties with WNV activity reported	45	include counties with WNV positive mosquitoes, equine WNV cases, human WNV cases and human WNV viremic asymptomatic blood donors
WNV positive mosquito samples	1,945	Ashland (12), Ashtabula (5), Athens (2), Butler (1), Clark (10), Columbiana (4), Coshocton (2), Crawford (6), Cuyahoga (20), Delaware (14), Fairfield (2), Franklin (588), Greene (20), Hamilton (41), Hancock (27), Henry (3), Hocking (14), Huron (1), Jackson (1), Knox (6), Lake (81), Licking (73), Lorain (79), Lucas (149), Madison (1), Mahoning (4), Medina (11), Meigs (13), Montgomery (54), Pickaway (20), Portage (181), Richland (50), Ross (12), Stark (37), Summit (348), Tuscarawas (16), Warren (1), Washington (3) and Wood (30) counties
WNV Veterinary Cases	5	5 equine cases in Ashtabula (1), Holmes (1), Tuscarawas (1) and Wayne (2) counties with onsets between 8/24 - 9/5/17.
WNV Asymptomatic Viremic Blood Donors	7	4 females, 3 males ranging in age from 19-67 years (median: 48 years) from Fairfield (1), Franklin (2), Hamilton (1), Holmes (1), Medina (1) and Starke (1) counties
WNV Human Cases	18	11 females, 7 males ranging in age from 35-77 years (median: 56 years) from Butler (1), Clark (1), Clermont (2), Cuyahoga (2), Defiance (1), Franklin (1), Greene (1), Hamilton (2), Huron (1), Lake (1), Logan (1), Lucas (1), Stark (1), Summit (1) and Tuscarawas (1) counties
<b>Other locally acquired mosquito-borne diseases **</b>		<b>Notes</b>
La Crosse / California serogroup virus - Human Cases	11	5 females, 6 males ranging in age from 4-65 years (median 9 years) from Allen (1), Ashland (2), Delaware (1), Holmes (1), Knox (1), Medina (1), Muskingum (1), Preble (1), Ross (1) and Summit (1) counties
Eastern equine encephalitis virus - Veterinary Cases	1	1 equine case, a 7 year old gelding, in Ashtabula County with and onset of neurologic disease on 7/25/17. The horse was euthanized.
<b>Travel associated mosquito-borne diseases **</b>		<b>Notes</b>
Chikungunya Human Cases*	3	2 females, 1 male ranging in age from 16 and 59 years with travel to India and Mexico
Dengue Human Cases	3	1 female, 2 males ranging in age from 17-60 years (median 27 years) with travel to Asian countries
Zika Human Cases*	4	2 males, 2 females ranging in age from 12-59 years (median 34.5 years) with travel to Caribbean islands
Malaria Human Cases	44	19 females, 25 males ranging in age from 1-77 years (median 28 years) with travel to African countries, Afghanistan and Guatemala

**Arboviral Activity Updates from Neighboring States:**

Indiana: <http://www.in.gov/isdh/23592.htm>

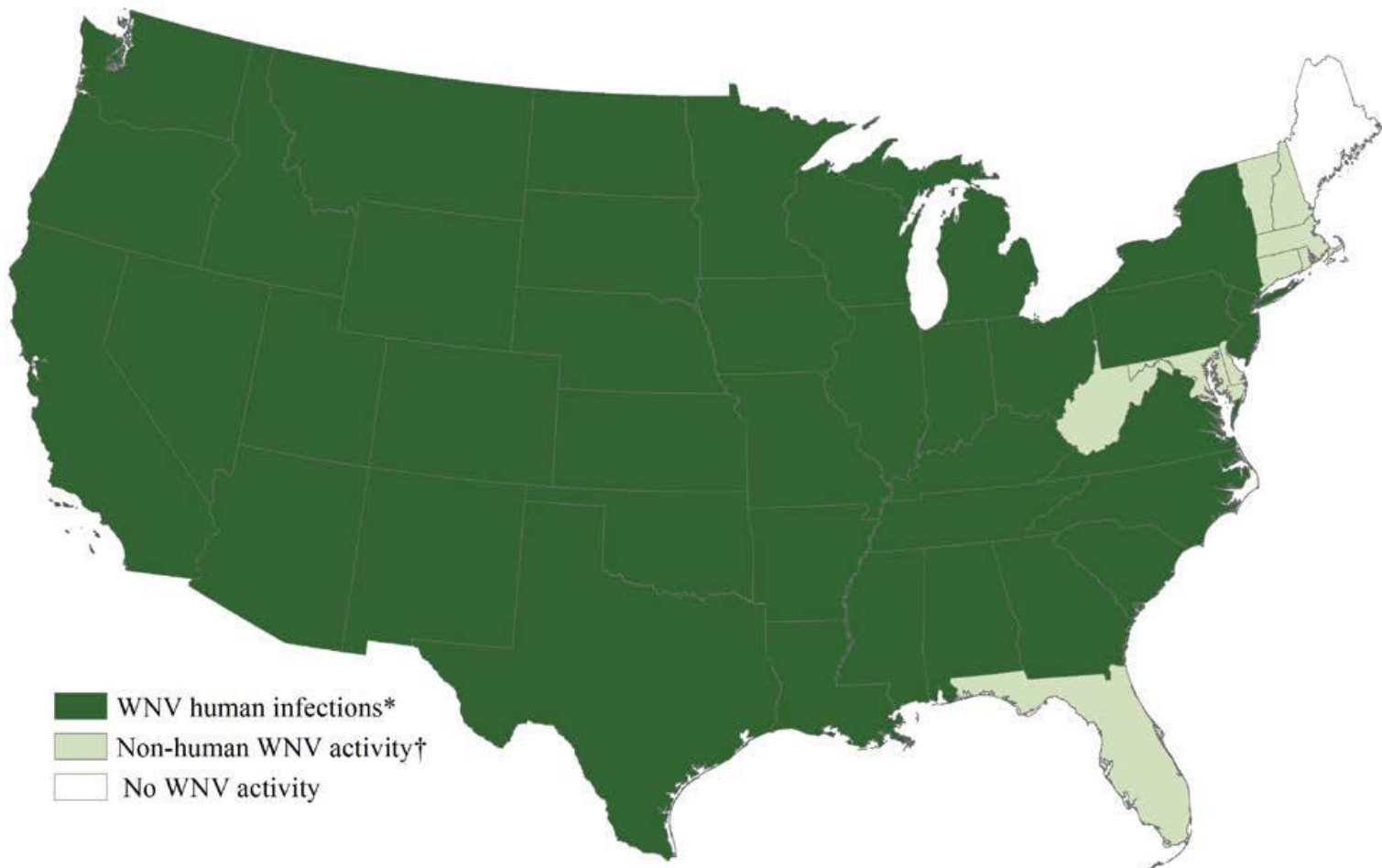
Illinois: <http://www.dph.illinois.gov/topics-services/diseases-and-conditions/west-nile-virus/surveillance>

Michigan: [http://www.michigan.gov/emergingdiseases/0,4579,7-186-25805\\_26531---,00.html](http://www.michigan.gov/emergingdiseases/0,4579,7-186-25805_26531---,00.html)

Pennsylvania: <http://www.westnile.state.pa.us/surv.htm>

West Virginia: <http://www.dhhr.wv.gov/oeps/disease/Zoonosis/Mosquito/Pages/default.aspx>

## West Nile virus (WNV) activity reported to ArboNET, by state — United States, 2017 (as of September 12, 2017)



### TO PREVENT WEST NILE VIRUS AND OTHER VECTOR BORNE ILLNESS :

Avoid mosquito bites. It is important to prioritize personal protection to prevent mosquito bites.

- Wear EPA-registered mosquito repellents whenever mosquitoes are present and follow label instructions.
- Find the Insect Repellent that is right for you at <https://www.epa.gov/insect-repellents/find-repellent-right-you>
- Wear long, loose, light-colored clothing.
- Install or repair screens on windows and doors to keep mosquitoes outside.

Help reduce mosquito breeding around your home. Get rid of potential mosquito breeding sites to help prevent mosquito-borne diseases.

- Empty standing water from flowerpots, gutters, buckets, pool covers, pet water dishes, discarded tires, and birdbaths.
- Consider using products containing *Bacillus thuringiensis israelensis* (Bti), available at many garden and home improvement stores, to control mosquito larvae in containers that are too large to empty. Follow the label instructions.

## UNITED STATES SURVEILLANCE

Table 4: Reported Vector Borne Disease in the United States*		
Disease	Current Week(s) Weeks 15-16 09/03-09/16/2017	2017 Cumulative
<b>West Nile Virus</b>		
Neuroinvasive	13	450
Non neuroinvasive	4	303
<b>Babesiosis</b>	20	1,148
<b>Chikungunya</b>	1	46
<b>Dengue</b>	1	133
<b>Eastern Equine Encephalitis</b>	0	0
<b>La Crosse Virus</b>	0	27
<b>Malaria</b>	28	1.168
<b>St Louis Encephalitis</b>	0	2
<b>Zika</b>	1	301

Source: [https://www.cdc.gov/mmwr/volumes/66/wr/mm6634md.htm?s\\_cid=mm6634md\\_w](https://www.cdc.gov/mmwr/volumes/66/wr/mm6634md.htm?s_cid=mm6634md_w)

\*Case counts for reporting years 2016 and 2017 from the CDC are provisional and subject to change.

The CDC's website for WNV is: <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

The CDC's website for MMWR reporting is: <https://www.cdc.gov/mmwr/index2017.html> and the reader should select Notifiable Diseases under the week of inquiry.

The CDC's website for Zika updates: <http://www.cdc.gov/zika/>

This report was issued on September 21, 2017.