



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

Report Weeks 21-22
October 15-28, 2017
CDC MMWR Weeks 42-43



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	7	0	45	1	2.2%
Week 19-20: 10-1 to 10-14	1	0	46	1	2.1%
Week 21-22: 10-15 to 10-28	10	0	56	1	1.7%

During the surveillance period Week 21 and 22, there were 10 tests ordered for WNV by Summit County hospitals, and all results were negative for Summit County residents (Table 1). To date there have been 21 reported cases of human WNV in Ohio, and one in Summit County on August 25, 2017.

During weeks 21 & 22, there were 2 suspect cases of Lyme disease in Summit County, bringing the year to date total to 17 suspected cases of Lyme disease reported in Summit County and 7 confirmed. Area labs reported 36 tests for Lyme disease done during weeks 21 & 22. Read more about Tick-borne Disease on pages 5&6 of this report.

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 was 1 reported case of aseptic meningitis in Weeks 21 and 22 in Summit County (Table 3).

Mosquito Testing in Summit County*

Final Data for 2017

Mosquitoes identified	68, 036
Pooled samples tested	896
Positive WNV samples	313

*Final results for the 2017 season: trapping has stopped and ODH has discontinued testing mosquitoes for the season.

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

	Confirmed	Suspected
Babesiosis	0	1
Chikungunya	0	0
Dengue	0	0
Ehrlichiosis	0	1
Lyme**	7	17
Malaria	2	0
Rocky Mountain spotted fever	0	2
Zika	1	0

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)

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

*** 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

UNITED STATES SURVEILLANCE

Table 4: Reported Vector Borne Disease in the United States*		
Disease	Current Week(s) Weeks 21-22 10/15—10/28/2017	2017 Cumulative
West Nile Virus		
Neuroinvasive	3	1036
Non neuroinvasive	2	593
Babesiosis	13	1,477
Chikungunya	1	69
Dengue	0	201
Eastern Equine Encephalitis	0	1
La Crosse Virus	0	36
Malaria	20	1,441
Spotted Fever Rickettsiosis	1	173
St Louis Encephalitis	0	3
Zika	1	373

Source: 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 November 2, 2017.

CDC Vector Borne Disease FY-2018 President's Budget Request \$49.5 Million

The United States has seen an increase in the number and spread of vector-borne diseases. In the United States, the most common vector-borne diseases causing regular outbreaks include mosquito-borne West Nile and dengue viruses; tickborne Lyme disease and Rocky Mountain spotted fever; and flea-borne plague. More vector-borne diseases continue to be discovered; in the last decade alone, CDC has discovered five new tickborne pathogens in the United States.

Detecting and Preventing Vector-Borne Diseases

To address existing and new vector-borne disease threats such as Zika Virus, CDC will continue to build comprehensive vector programs to:

- Develop of a skilled vector workforce that can respond to the full variety of pathogens and the vectors that transmit them
- Support selected states to expand expertise in laboratory, case and outbreak investigation, and vector control

CDC will work to advance innovation and discovery in vector control and management and specifically in Zika Virus to:

- Develop priority cutting edge diagnostic tools for fast and accurate detection of vector-borne infections
- Identify new and emerging vector-borne diseases and increase understanding of the magnitude of existing vector-borne threats
- Conduct priority research and development by government, universities, and industry to develop ways to monitor and prevent insecticide resistance and foster new vector control technologies

In FY 2018, CDC will provide enhanced support for up to 9 states at the greatest risk for vector-borne disease outbreaks. Each vector program would include increasing state entomological expertise, as well as support for:

- Laboratory activities, including the ability to test for current and past vector-borne disease infections in people and the ability to test for vector-borne disease in mosquitoes and animals
- Case and outbreak investigation activities, including the ability of healthcare providers to recognize symptoms and the ability of the state to investigate and surveil vector-borne diseases
- Vector control and management activities, including the ability to conduct surveillance and insecticide resistance testing, to collect and use data to make vector control decisions, and to conduct and evaluate routine vector control through an integrated pest management approach

Reference: <https://www.cdc.gov/ncezid/who-we-are/budget.html>