



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

Report Weeks 13-14
CDC MMWR Weeks 34-35



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 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
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: 9-4 to 9-16					
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 13 and 14, there were 13 tests ordered for WNV by Summit County hospitals, and all results were negative (Table 1). To date there have been 8 reported cases of human WNV in Ohio, and one in Summit County on August 25, 2017.

During weeks 13 & 14, there was 1 suspect cases of Lyme disease. Year to date, there have also been 11 suspected cases of Lyme disease reported in Summit County and 2 confirmed. Area labs reported 29 tests for Lyme disease done during weeks 13 & 14. 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.

One case of travel related malaria was reported this year to date.

There were 2 reported case of aseptic meningitis in Weeks 13 and 14 in Summit County (Table 3).

Mosquito Testing in Summit County*

As of September 7, 2017

Mosquitoes identified	68, 036
Pooled samples tested	896
Positive WNV samples	286

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**	2	11
Malaria	1	0
Rocky Mountain spotted fever	0	1
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		
Week 17-18: 9-17 to 9-30		
Week 19-20: 10-1 to 10-14		
Week 21-22: 10-15 to 10-28		

***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.

West Nile Virus **		Notes
Ohio Counties with WNV activity reported	36	
Human WNV cases	8	6 females, 2 males ranging in age from 35-59 years (median: 45 years) from Clark (1), Clermont (1), Cuyahoga (1), Greene (1), Hamilton (2) Logan (1) and Summit counties
Asymptomatic blood donors	3	2 males, 1 female ranging in age from 19-63 years (median: 46 years) from Fairfield (1), Holmes (1) and Medina (1) counties
WNV veterinary cases	0	
Mosquitoes tested	357,651	Collected in 58 counties, pooled into 12,385 samples
WNV positive mosquito samples	1,316	Ashland (4), Ashtabula (3), Athens (1), Clark (3), Columbiana (4), Crawford (5), Cuyahoga (17), Delaware (3), Fairfield (1), Franklin (420), Greene (9), Hamilton (30), Hancock (15), Henry (3), Hocking (2), Knox (6), Lake (58), Licking (73), Lorain (54), Lucas (94), Madison (1), Mahoning (3), Medina (5), Meigs (13), Montgomery (30), Pickaway (15), Portage (130), Richland (38), Ross (2), Stark (29), Summit (234), Tuscarawas (5) and Wood (5) counties

The Ohio Department of Health confirmed the first West Nile virus death this year in the state.

A 74-year-old Defiance County man died, according to ODH. He had been hospitalized with encephalitis.

The Ohio Department of Health reported 10 human cases of West Nile across the state in various counties including Franklin.

In the past, Ohio reported 17 human West Nile Virus cases in 2016 with four deaths, 35 in 2015 with two deaths and 11 in 2014 with one death.

People usually get the West Nile virus from the bite of an infected mosquito, according to the department of health. Those who become infected do not usually show any symptoms. About one in five people who become infected get a fever, headache, body aches, joint pains, vomiting, diarrhea or rash.

“This time of the year, the risk of West Nile virus infection increases and individuals should take precautions to avoid mosquito bites and eliminate potential mosquito breeding sites. Mosquito season in Ohio lasts until the first freeze which is not usually until mid-October,” Ohio Department of Health State Epidemiologist and Bureau Chief of Infectious Diseases Sietske de Fijter said.

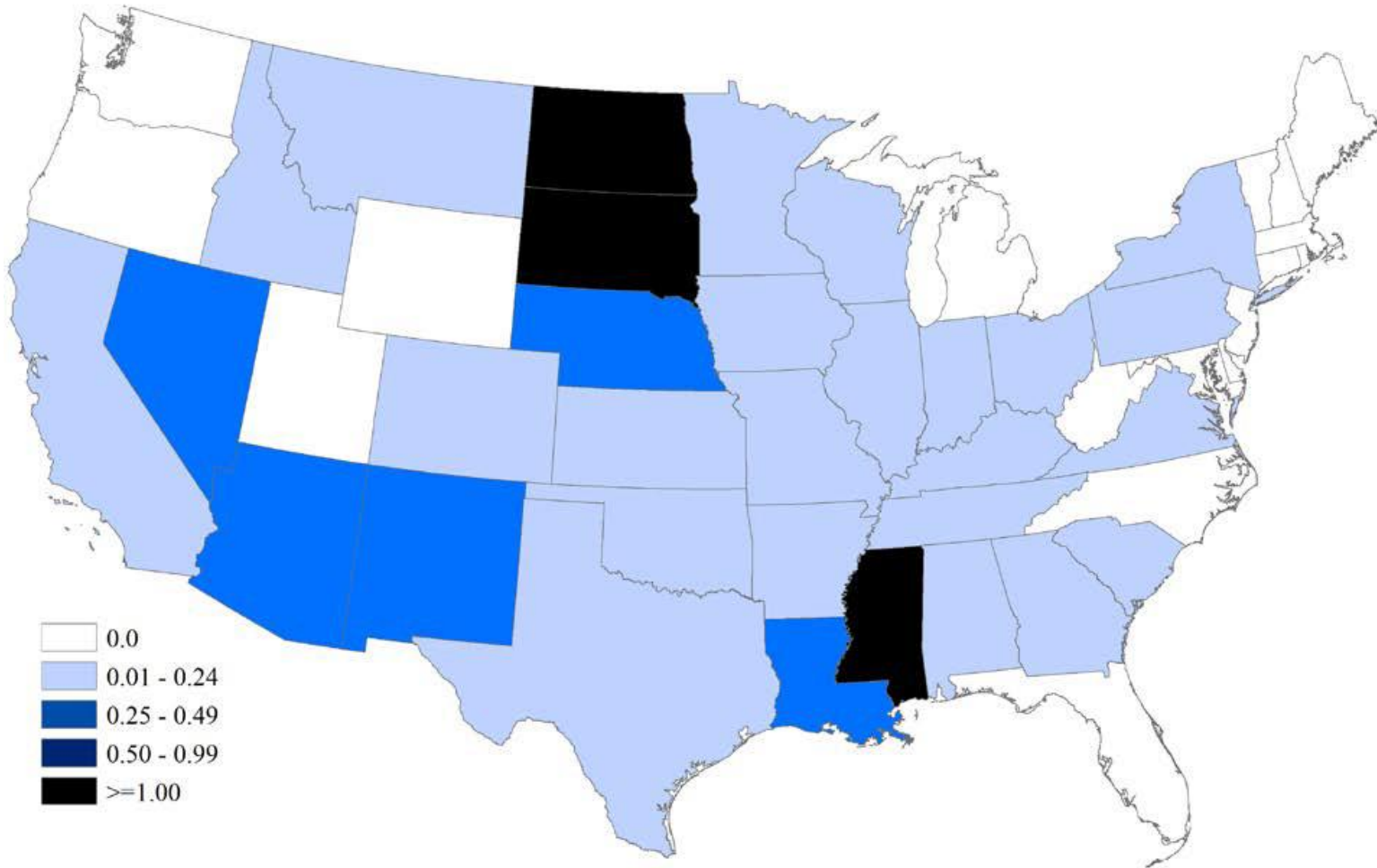
Other locally acquired mosquito-borne diseases **		Notes
La Crosse / California serogroup virus - Human Cases	8	5 males, 3 females ranging in age from 4-65 years (median 8 years) from Allen (1), Ashland (1), Delaware (1), Knox (1), Medina (1), Muskingum (1), Preble (1) and Ross (1) counties
Eastern equine encephalitis virus - Veterinary Cases	1	1 equine case, a 7 year old gelding, in Astabula County with and onset of neurologic disease on 7/25/17. The horse was euthanized.
Travel associated mosquito-borne diseases **		Notes
Chikungunya Virus Human Cases*	2	1 male, 1 female ages 16 and 39 years with travel to Mexico
Dengue Human Cases	3	2 males, 1 female 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	43	22 males, 17 females ranging in age from 1-77 years (median 29 years) with travel to African countries, Afghanistan and Guatemala

Michigan: 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) neuroinvasive disease incidence* reported to ArboNET, by state — United States, 2017 (as of August 29, 2017)



*Incidence per 100,000 population

Center for Disease Control and Prevention, Arboviral Diseases Branch

UNITED STATES SURVEILLANCE

Table 4: Reported Vector Borne Disease in the United States*		
Disease	Current Week(s) Weeks 13-14 8/20 to 9/02	2017 Cumulative
West Nile Virus		
Neuroinvasive	5	274
Non neuroinvasive	7	195
Babesiosis	34	1,066
Chikungunya	0	30
Dengue	2	107
Eastern Equine Encephalitis	0	0
La Crosse Virus	0	23
Malaria	35	1.039
St Louis Encephalitis	0	2
Zika	2	272

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 September 7, 2017.