



Vector Borne Disease 2021 Surveillance Report

Summit County Public Health

Report Weeks 5 and 6 (June 20 to July 3, 2021)
MMWR Weeks 25 and 26



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					
Weeks 9 & 10: 7/18 to 7/31					
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 period Weeks 5 and 6, there were 2 tests for West Nile virus ordered by Summit County hospitals, none of which were positive.

Lyme Disease testing (Table 2): There were 138 diagnostic test series performed for Lyme disease during Weeks 5 and 6, 29 tests were positive and 5 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	138	29	276	45	16.3%
Weeks 7 & 8: 7/4 to 7/17					
Weeks 9 & 10: 7/18 to 7/31					
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					

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Reported vector-borne diseases in 2021 (Table 3): As of July 3, there were 36 reported cases of Lyme disease; 12 were confirmed, 1 was probable and 23 were suspected status. There were also 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
Tick-borne diseases:			
Babesiosis	0	1	
Ehrlichiosis / anaplasmosis	0	1	
Lyme disease	13	23	
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	0	0	
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
Mosquito species			
<i>Aedes albopictus</i>	Chikungunya, dengue fever, yellow fever	0	99
<i>Aedes triseriatus</i>	La Crosse encephalitis	83	280
<i>Coquilleidia perturbans</i>	Eastern equine encephalitis, West Nile virus	13	182
Tick species			
<i>Amblyomma americanum</i>	Ehrlichiosis, tularemia, red meat allergy	0	52
<i>Dermacentor variabilis</i>	Rocky Mountain spotted fever, tularemia	22	216
<i>Ixodes scapularis</i>	Lyme disease, babesiosis, anaplasmosis	1	67

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		
Weeks 9 & 10: 7/18 to 7/31		
Weeks 11 & 12: 8/1 to 8/14		
Weeks 13 & 14: 8/15 to 8/28		
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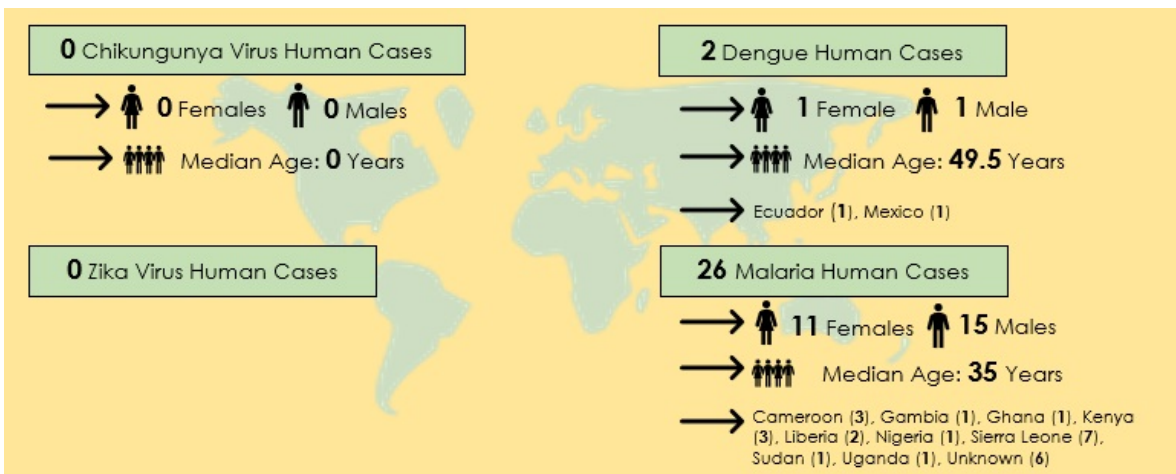
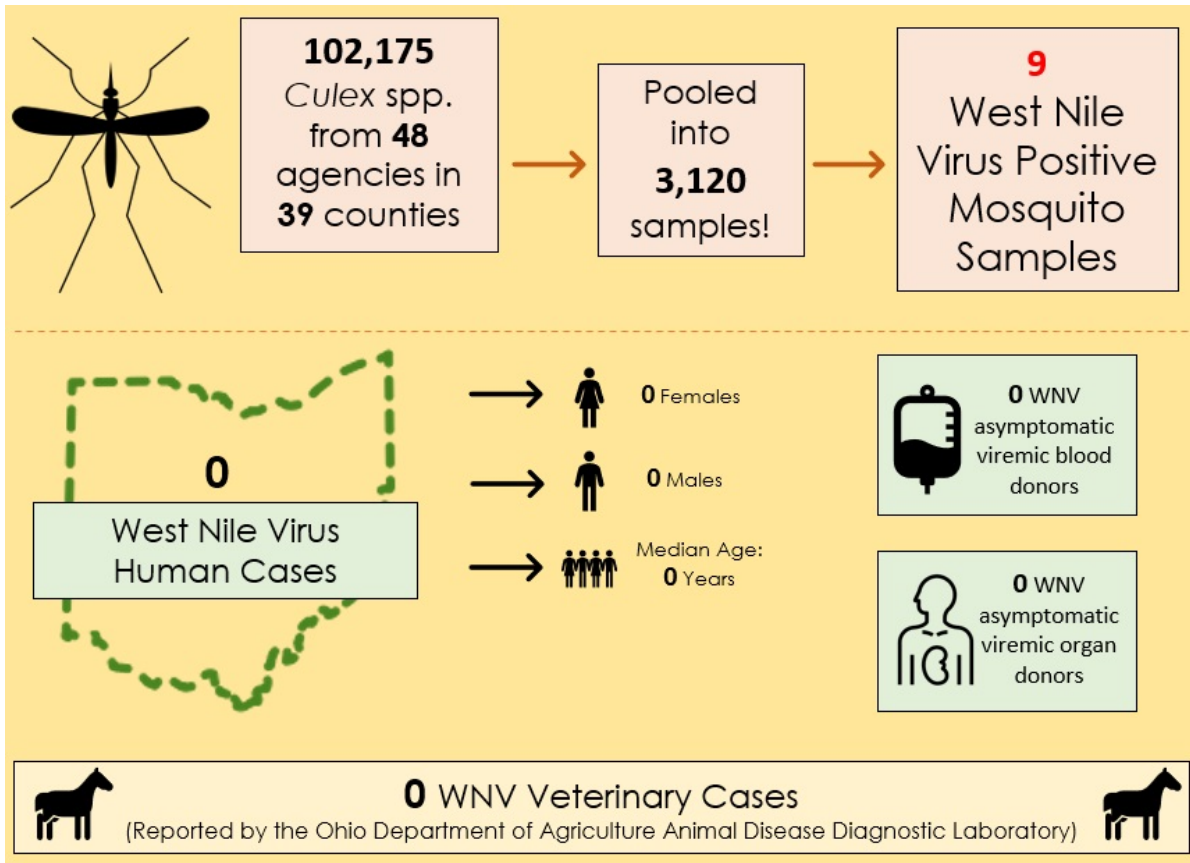
Source: Ohio Disease Reporting System (ODRS)

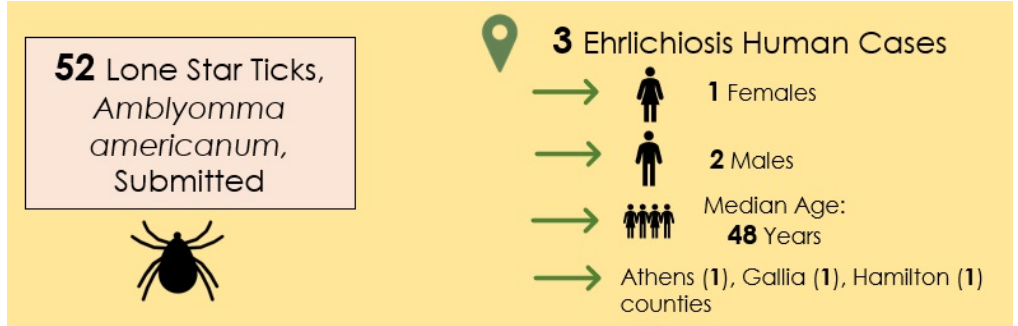
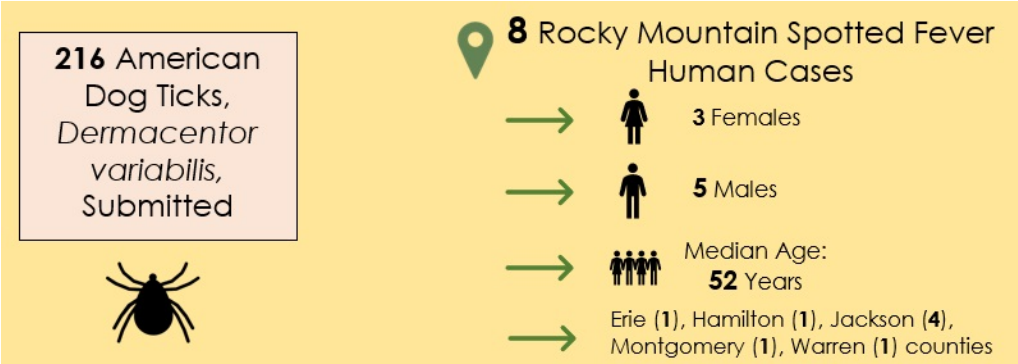
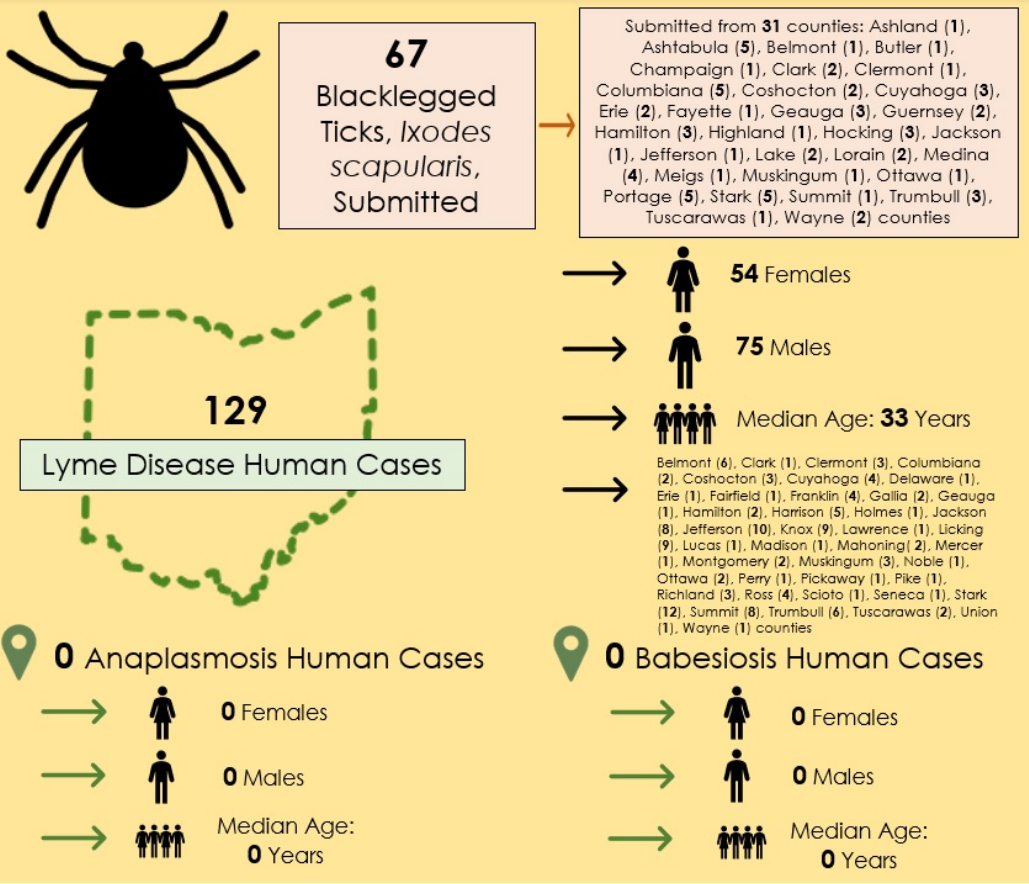
Reported aseptic/viral meningitis cases (Table 5): Prior to the reporting season, there were 4 reported cases of aseptic meningitis, and no cases were reported during Weeks 5 and 6. Aseptic/viral meningitis is the most common type of meningitis and occurs predominately in the summer and fall. While most 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 July 8, 2021, 12,222 mosquitoes have been collected in 2021 throughout Summit County. These mosquitoes were identified, and 9,451 *Culex* spp. mosquitos were submitted for testing to ODH as 388 pooled samples. 352 pooled samples were tested, none were positive for the West Nile Virus. 36 pooled samples are currently pending.

Mosquitoes identified	12,222
Pooled samples tested	352
Positive WNV pooled samples	0

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.

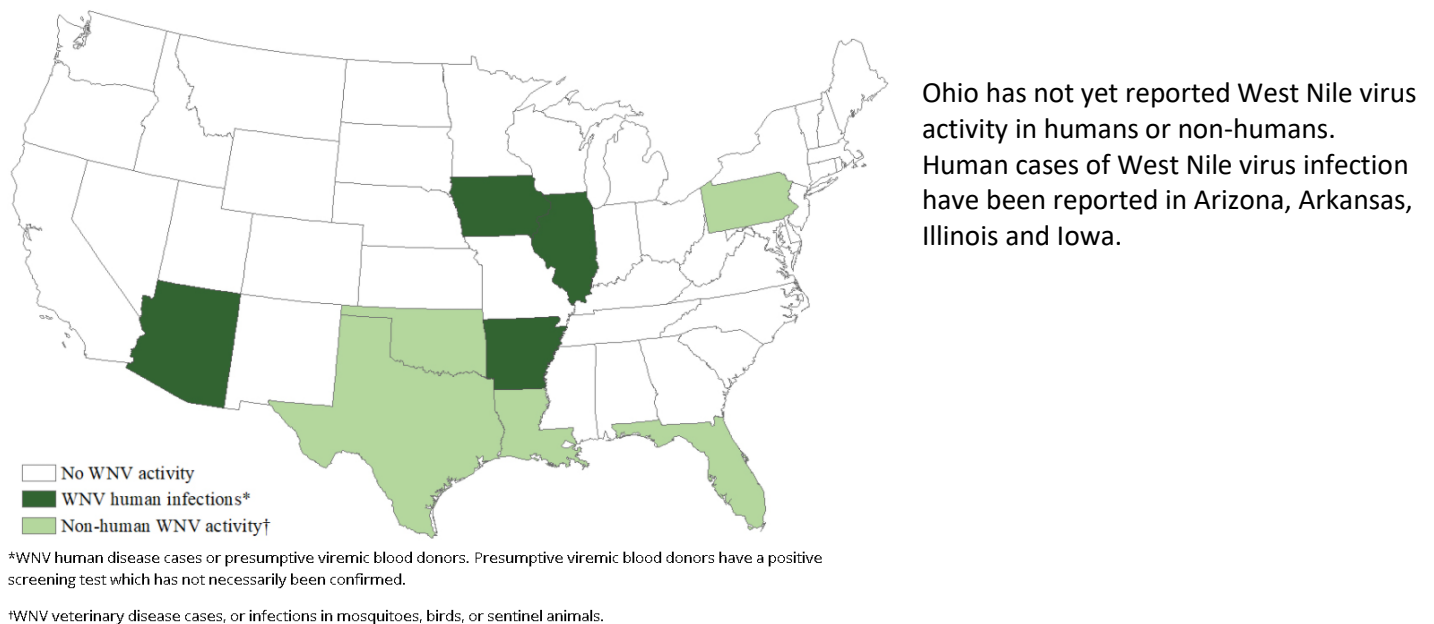
UNITED STATES SURVEILLANCE

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

Disease	Weeks 5 and 6 (6/20 to 7/3)	2021 (as of 7/3) Cumulative
Babesiosis	69	317
Chikungunya	0	2
Dengue (includes dengue-like illness)	0	17
Eastern equine encephalitis	0	0
Erlchiosis / anaplasmosis	457	2086
Jamestown Canyon virus disease	0	3
LaCrosse virus disease	0	0
Lyme Disease	Not reported weekly by CDC	
Malaria	20	353
Powassan virus disease	1	7
Spotted fever rickettsiosis	Not reported weekly by CDC	
St. Louis encephalitis virus disease	0	0
West Nile virus infection	1	10
Zika virus infection, non congenital	0	0
Note: Data is provisional and subject to change		

Source: https://wonder.cdc.gov/nndss/nndss_weekly_tables_menu.asp

Figure 1. West Nile virus activity by state – United States, 2021 (as of June 15, 2021)



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 **July 9, 2021**.