



Vector Borne Disease 2020 Surveillance Report

Summit County Public Health

Report Weeks 3 and 4 (June 7 to June 20, 2020)
MMWR Weeks 24 and 25



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

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: 5/24 to 6/6	0	0	0	0	--
Weeks 3 & 4: 6/7 to 6/20	9	1	9	1	11.1%
Weeks 5 & 6: 6/21 to 7/4					
Weeks 7 & 8: 7/5 to 7/18					
Weeks 9 & 10: 7/19 to 8/1					
Weeks 11 & 12: 8/2 to 8/15					
Weeks 13 & 14: 8/16 to 8/29					
Weeks 15 & 16: 8/30 to 9/12					
Weeks 17 & 18: 9/13 to 9/26					
Weeks 19 & 20: 9/27 to 10/10					
Weeks 21 & 22: 10/11 to 10/24					

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 3 and 4, there were 9 tests for West Nile virus ordered by Summit County hospitals. So far this season, there has been 1 positive result, which was likely to be indication of immunity due to a past exposure and were not active infections (Table 1).

Lyme Disease testing (Table 2): There were 42 diagnostic test series performed for Lyme disease during Weeks 3 and 4, with 9 positive or indeterminate test 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 and the case is confirmed only if the EIA/IFA and the immunoblot are both positive.

Table 2. Lyme Disease Tests Ordered in Summit County Hospitals

Week(s)	# of Lyme tests ordered this period	# of positive or indeterminate Lyme tests this period	Cumulative # of tests ordered this season	Cumulative # of positive or indeterminate tests this season	Percentage of positive or indeterminate tests
Weeks 1 & 2: 5/24 to 6/6	17	1	17	1	5.9%
Weeks 3 & 4: 6/7 to 6/20	42	9	59	10	16.9
Weeks 5 & 6: 6/21 to 7/4					
Weeks 7 & 8: 7/5 to 7/18					
Weeks 9 & 10: 7/19 to 8/1					
Weeks 11 & 12: 8/2 to 8/15					
Weeks 13 & 14: 8/16 to 8/29					
Weeks 15 & 16: 8/30 to 9/12					
Weeks 17 & 18: 9/13 to 9/26					
Weeks 19 & 20: 9/27 to 10/10					
Weeks 21 & 22: 10/11 to 10/24					

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

Reported Vector-borne diseases in 2020 (Table 3): As of June 25, there were 11 reported cases of Lyme disease; all were suspected. There was also one suspected case of Ehrlichiosis and one suspected case of babesiosis.

Table 3: Vector-borne diseases reported in Summit County, 2020 cumulative totals

	Confirmed	Suspected	Notes
Tick-borne diseases:			
Babesiosis	0	1	
Ehrlichiosis / anaplasmosis	0	1	
Lyme disease	0	8	
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	0	0	
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.

Table 4. Notable mosquito and tick species identifications in Summit County (as of June 25, 2020)

Species name	Diseases associated	# identified
Mosquito species		
<i>Aedes albopictus</i>	Chikungunya, dengue fever, yellow fever	0
<i>Aedes triseriatus</i>	La Crosse encephalitis	0
Tick species		
<i>Ixodes scapularis</i>	Lyme disease, babesiosis, anaplasmosis	12

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

Table 5. Reported Aseptic/viral Meningitis Cases in Summit County (confirmed & probable)

Week(s)	Cases reported this period	Cumulative cases for the season
Aseptic meningitis cases reported prior to season (1/1 to 5/23/2020)	5	-
Weeks 1 & 2: 5/24 to 6/6	1	1
Weeks 3 & 4: 6/7 to 6/20	0	1
Weeks 5 & 6: 6/21 to 7/4		
Weeks 7 & 8: 7/5 to 7/18		
Weeks 9 & 10: 7/19 to 8/1		
Weeks 11 & 12: 8/2 to 8/15		
Weeks 13 & 14: 8/16 to 8/29		
Weeks 15 & 16: 8/30 to 9/12		
Weeks 17 & 18: 9/13 to 9/26		
Weeks 19 & 20: 9/27 to 10/10		
Weeks 21 & 22: 10/11 to 10/24		

Source: Ohio Disease Reporting System (ODRS)

Reported aseptic/viral meningitis cases (Table 5): Prior to the reporting season, there were 5 reported cases of aseptic meningitis, and no cases were reported during Weeks 3 and 4, keeping the season total at 1. 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.

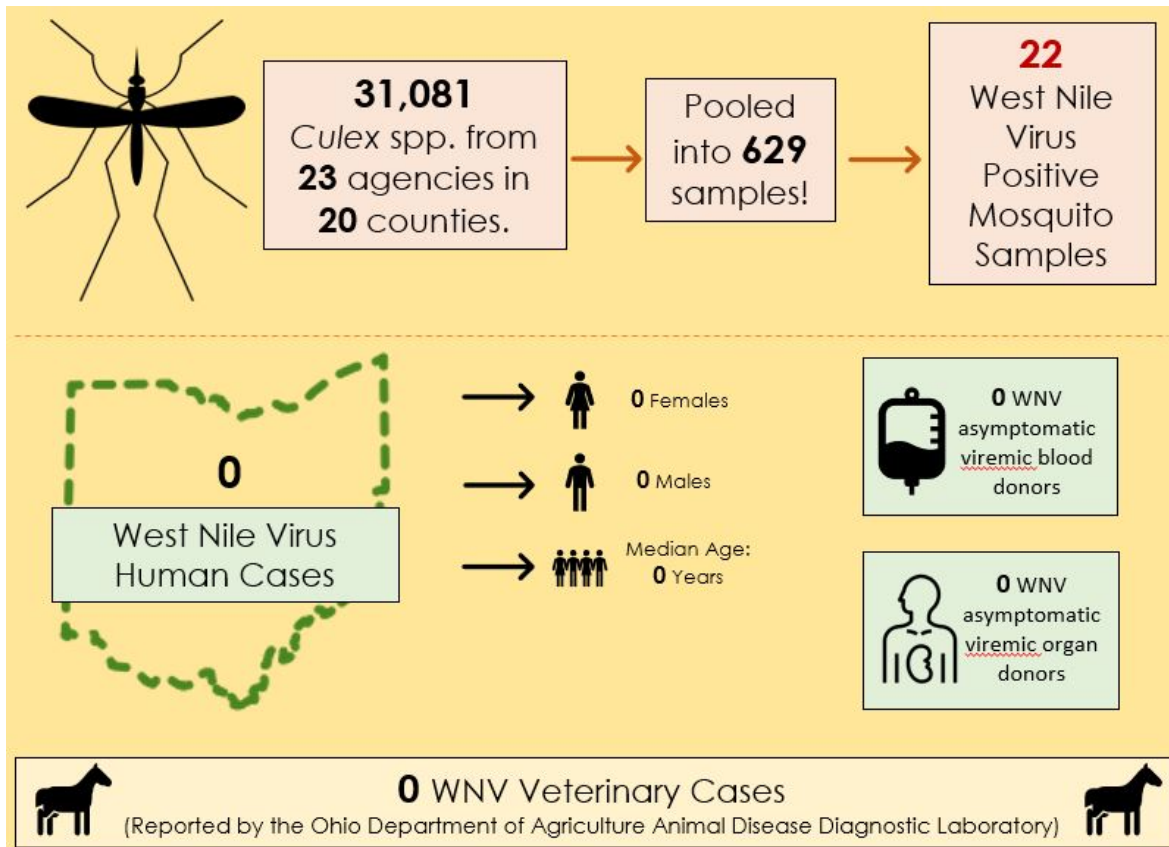
Mosquito testing (Table 6): Based on the ODH mosquito testing summary released on June 25, 1,559 mosquitoes were collected as 809 pooled samples throughout Summit County. None of the pooled samples have yet been tested for West Nile virus.

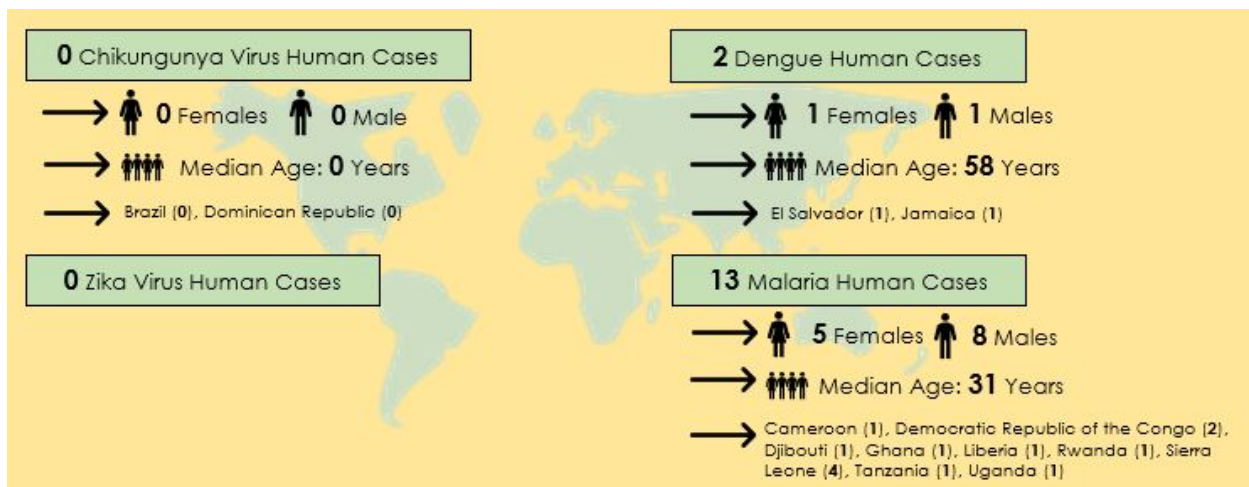
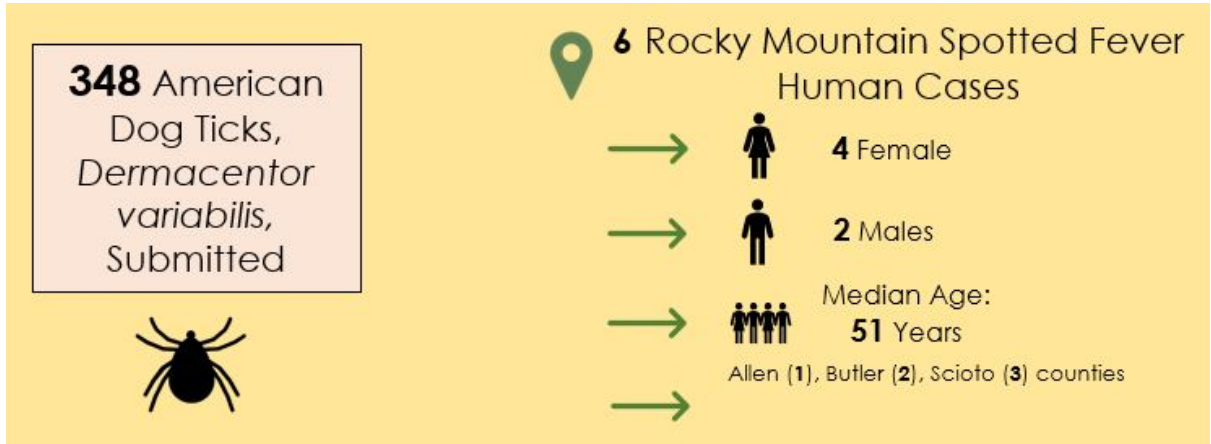
Table 6. Mosquito Testing in Summit County (samples processed by noon on 6/25/2020)

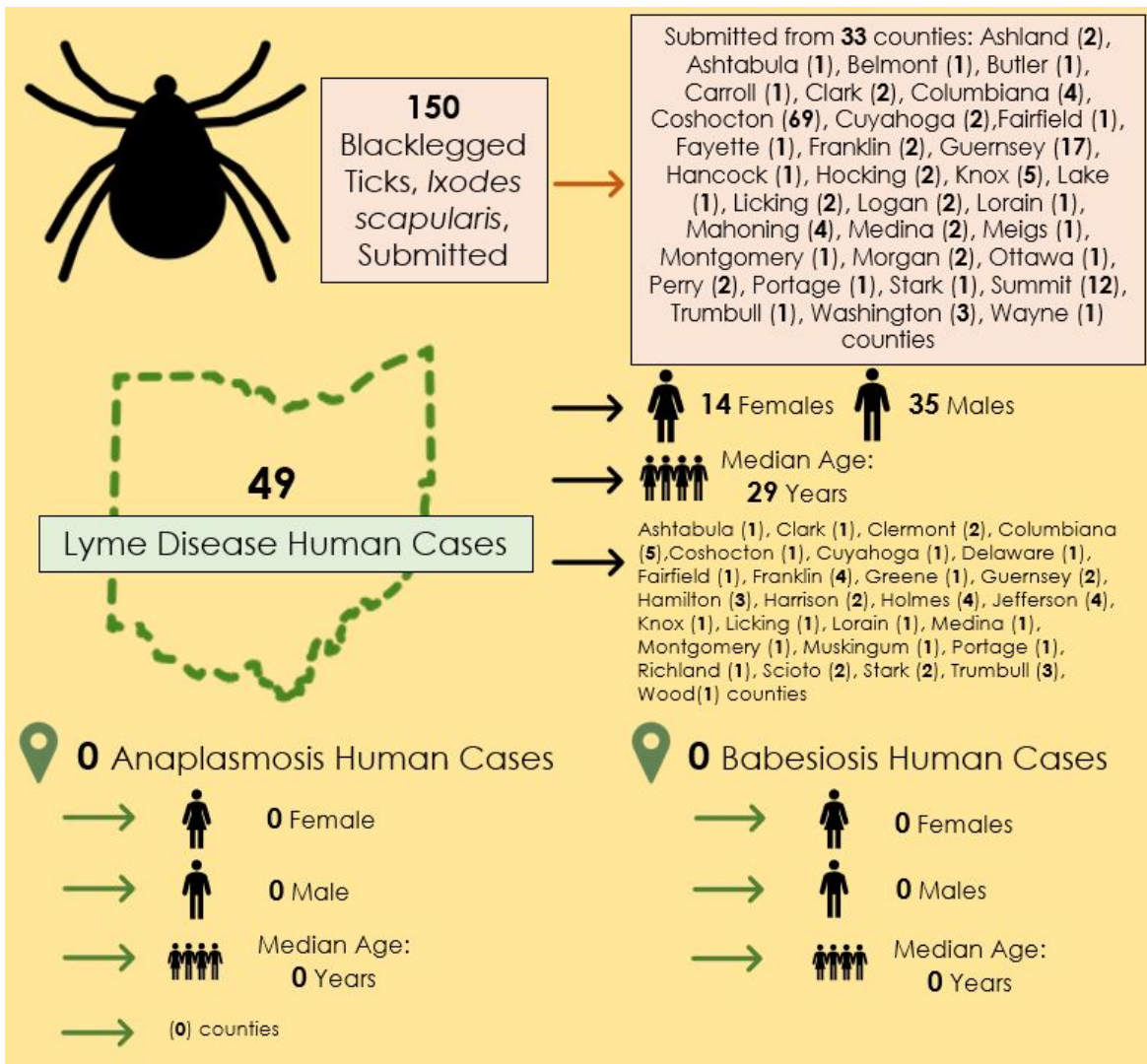
Mosquitoes identified	1,559
Pooled samples tested	NA
Positive WNV pooled samples	NA

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

OHIO AND UNITED STATES SURVEILLANCE







Source: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/zoonotic-disease-program/news-and-events/vectorborne-disease-update>

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.

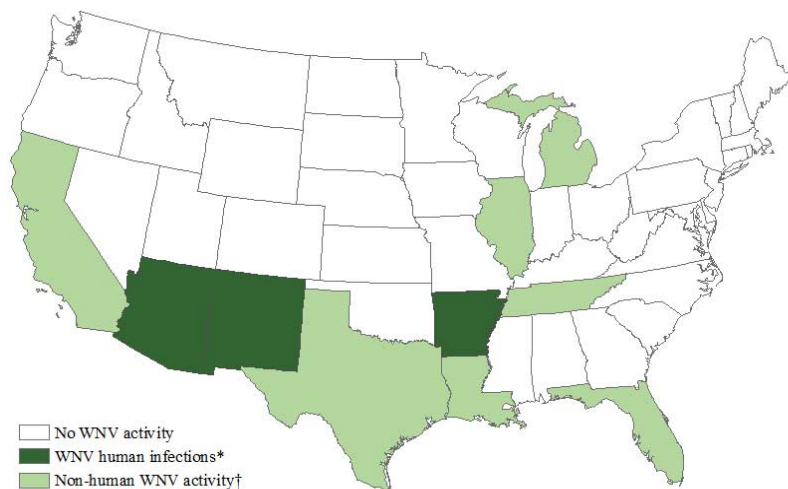
Table 7. Reported Vector Borne disease in Ohio and the United States, 2020

Disease	OHIO	UNITED STATES	
	2019 (as of 6/20) cumulative	Weeks 3 and 4 (6/7 to 6/20)	2019 (as of 6/20) Cumulative
Babesiosis	2	15	96
Chikungunya	1	0	11
Dengue (includes dengue-like illness)	2	0	133
Eastern equine encephalitis	0	0	0
Erlichiosis / anaplasmosis	14	229	874
Jamestown Canyon virus disease	0	0	0
LaCrosse virus disease	0	0	1
Lyme Disease	256	Not reported weekly by CDC	
Malaria	16	3	225
Powassan virus disease	0	0	0
Spotted fever rickettsiosis	44	Not reported weekly by CDC	
St. Louis encephalitis virus disease	0	0	1
West Nile virus infection	0	0	9
Zika virus infection, non congenital	0	0	1

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, 2020 (as of June 16, 2020)



Ohio has not yet reported West Nile virus activity in humans or non-humans. Human cases of West Nile virus infection have been reported in Arkansas, Arizona, and New Mexico.

Source:

*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.

<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@schd.org) or the Summit County Public Health Communicable Disease Unit (330-375-2662). This report was issued on **June 26, 2020**.