



Vector Borne Disease 2024 Surveillance Report

Summit County Public Health
Report #4
Report Weeks 9 and 10 (July 14 to July 27, 2024)
MMWR Weeks 29 and 30



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

Reported Vector-borne diseases in 2024 (Table 1): As of July 27, there were 95 reported cases of Lyme disease; 8 were confirmed and 85 were suspected status. There was also 1 confirmed case of Babesiosis and 1 confirmed case of Malaria among Summit County residents.

Table 1: Vector-borne diseases reported in Summit County, 2024 cumulative totals				
	Confirmed	Probable	Suspected	Notes
Tick-borne diseases:				
Babesiosis	1	0	0	
Erlichiosis / anaplasmosis	0	0	0	
Lyme disease	8	2	85	
Powassan virus disease	0	0	0	
Rocky Mountain spotted fever	0	0	0	
Mosquito-borne diseases:				
Chikungunya	0	0	0	
Dengue	0	0	0	
Eastern equine encephalitis	0	0	0	
LaCrosse virus disease	0	0	0	
Malaria	1	0	0	
St. Louis encephalitis virus disease	0	0	0	
Zika virus infection	0	0	0	
West Nile virus infection	0	0	0	

Source: Ohio Disease Reporting System (ODRS); only confirmed, probable, and suspected cases are included.

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Data in Table 2 and Table 3 are based on the laboratory information submitted by participating Summit County Hospital Laboratories. While a test associated with West Nile Virus (WNV) may be positive, it does not directly confirm an active human case. More information regarding laboratory testing for WNV can be found here:

<https://www.cdc.gov/west-nile-virus/hcp/diagnosis-testing/index.html#:~:text=Patients%20with%20suspected%20West%20Nile,public%20health%20laboratory%20or%20CDC.>

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West Nile virus testing (Table 2): During surveillance period weeks 9 and 10, there were 7 tests for West Nile virus ordered by Summit County hospitals, all tests were negative.

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: 5/19 to 6/1	5	0	5	0	0.0%
Weeks 3 & 4: 6/2 to 6/15	2	0	7	0	0.0%
Weeks 5 & 6: 6/16 to 6/29	1	0	8	0	0.0%
Weeks 7 & 8: 6/30 to 7/13	5	0	13	0	0.0%
Weeks 9 & 10: 7/14 to 7/27	7	0	20	0	0.0%
Weeks 11 & 12: 7/28 to 8/10	-	-	-	-	-
Weeks 13 & 14: 8/11 to 8/24	-	-	-	-	-
Weeks 15 & 16: 8/25 to 9/7	-	-	-	-	-
Weeks 17 & 18: 9/8 to 9/21	-	-	-	-	-
Weeks 19 & 20: 9/22 to 10/5	-	-	-	-	-
Weeks 21 & 22: 10/6 to 10/19	-	-	-	-	-

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

Lyme disease testing (Table 3): There were 109 diagnostic test series performed for Lyme disease during Weeks 9 and 10, 34 tests were positive and 0 were indeterminate. For information about Diagnosis and Testing, visit this link: <https://www.cdc.gov/lyme/hcp/diagnosis-testing/index.html#:~:text=Most%20Lyme%20disease%20tests%20are,be%20used%20to%20determine%20cure.>

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: 5/19 to 6/1	61	26	61	26	42.6%
Weeks 3 & 4: 6/2 to 6/15	74	27	135	53	39.3%
Weeks 5 & 6: 6/16 to 6/29	129	58	264	111	42.1%
Weeks 7 & 8: 6/30 to 7/13	109	43	373	154	41.3%
Weeks 9 & 10: 7/14 to 7/27	109	34	482	188	39.0%
Weeks 11 & 12: 7/28 to 8/10	-	-	-	-	-
Weeks 13 & 14: 8/11 to 8/24	-	-	-	-	-
Weeks 15 & 16: 8/25 to 9/7	-	-	-	-	-
Weeks 17 & 18: 9/8 to 9/21	-	-	-	-	-
Weeks 19 & 20: 9/22 to 10/5	-	-	-	-	-
Weeks 21 & 22: 10/6 to 10/19	-	-	-	-	-

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

Species name	Diseases associated	Summit County	Ohio
Mosquito species			
<i>Aedes albopictus</i>	Chikungunya, dengue fever, yellow fever	10	2,271
<i>Aedes triseriatus</i>	La Crosse encephalitis	271	1,504
<i>Coquillettidia perturbans</i>	Eastern equine encephalitis, West Nile virus	702	1,688
Tick species			
<i>Amblyomma americanum</i>	Ehrlichiosis, tularemia, red meat allergy	Not Available	105
<i>Dermacentor variabilis</i>	Rocky Mountain spotted fever, tularemia	Not Available	516
<i>Ixodes scapularis</i>	Lyme disease, babesiosis, anaplasmosis	18	714

Source: Ohio Department of Health (Identification via mailed specimens, emailed photos and iNaturalist observations)
 **Tick species related data was last updated on July 11, 2024 based on available information.

Reporting Week(s)	Cases reported this period	Cumulative cases for the season
Aseptic meningitis cases reported prior to season (1/1 to 5/18/2024)	1	-
Weeks 1 & 2: 5/19 to 6/1	0	0
Weeks 3 & 4: 6/2 to 6/15	0	0
Weeks 5 & 6: 6/16 to 6/29	0	0
Weeks 7 & 8: 6/30 to 7/13	1	1
Weeks 9 & 10: 7/14 to 7/27	0	1
Weeks 11 & 12: 7/28 to 8/10	-	-
Weeks 13 & 14: 8/11 to 8/24	-	-
Weeks 15 & 16: 8/25 to 9/7	-	-
Weeks 17 & 18: 9/8 to 9/21	-	-
Weeks 19 & 20: 9/22 to 10/5	-	-
Weeks 21 & 22: 10/6 to 10/19	-	-

Source: Ohio Disease Reporting System (ODRS)

Reported aseptic/viral meningitis cases (Table 5): Prior to the reporting season, there was 1 reported case of aseptic meningitis, and 1 confirmed case was reported up to week 10 of the surveillance season. 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 25, 2024, 41,954 mosquitoes were collected as 896 pooled samples throughout Summit County. 14 of the pooled samples are positive for West Nile Virus.

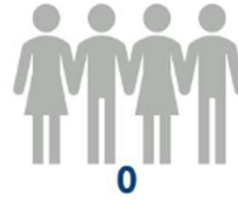
Mosquitoes identified	41,954
Pooled samples tested	896
Positive WNV pooled samples	14

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



Mosquitoes tested from 64 agencies in 54 counties, pooled into 7,229* samples.

Human surveillance:



West Nile virus human cases.

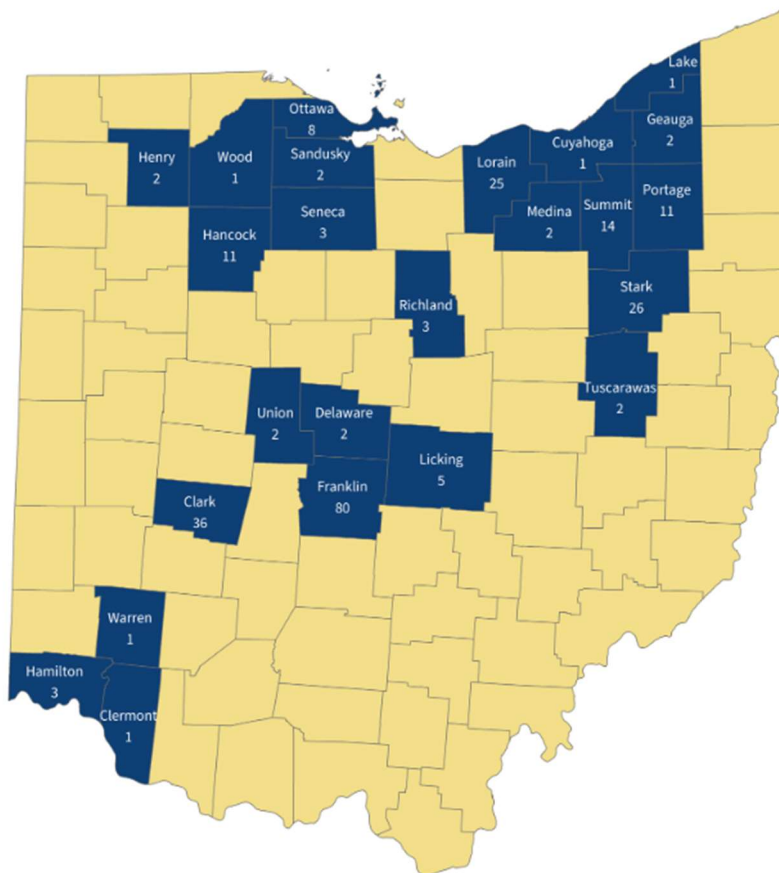


West Nile virus positive mosquito pools from 24 counties:

Veterinary surveillance:



West Nile virus equine cases.



Clark (0), Clermont (1), Cuyahoga (1), Delaware (2), Franklin (80), Geauga (2), Hamilton (3), Hancock (11), Henry (2), Lake (1), Licking (5), Lorain (25), Medina (2), Ottawa (8), Portage (11), Richland (3), Sandusky (2), Seneca (3), Stark (26), Summit (14), Tuscarawas (2), Union (2), Warren (1), Wood (1).

* In addition to samples tested by the Ohio Department of Health, Franklin County Public Health, Columbus Public Health, and Licking County Health Department test some of their samples.



Blacklegged ticks identified.

Human cases of Associated Tick-borne Diseases:

- 254 Human Cases of Lyme- Ashland (1), Ashtabula (3), Athens (12), Butler (5), Carroll (2), Clark (2), Columbiana (3), Coshocton (1), Cuyahoga (5), Delaware (1), Erie (1), Fairfield (24), Fayette (1), Franklin (53), Gallia (1), Geauga (1), Greene (5), Guernsey (57), Hamilton (4), Harrison (34), Highland (1), Hocking (15), Holmes (195), Huron (1), Jefferson (2), Knox (1), Licking (165), Logan (1), Lorain (1), Mahoning (1), Medina (4), Meigs (1), Monroe (3), Muskingum (16), Noble (133), Perry (26), Portage (1), Richland (2), Scioto (1), Shelby (1), Stark (9), Summit (18), Tuscarawas (32), Washington (2), Wayne (2), unknown county (1).
- 1 Babesiosis - Summit (1).



American dog ticks identified.

Human cases of Associated Tick-borne Diseases:

- 5 Rocky Mountain spotted fever (RMSF) - Athens (1), Jackson (4).



Lone Star ticks identified.

Human cases of Associated Tick-borne Diseases:

- 8 Ehrlichiosis - Gallia (1), Harrison (1), Jackson (2), Meigs (1), Scioto (1), Union (1), Warren (1).

Source: <https://odh.ohio.gov/know-our-programs/zoonotic-disease-program/news/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.

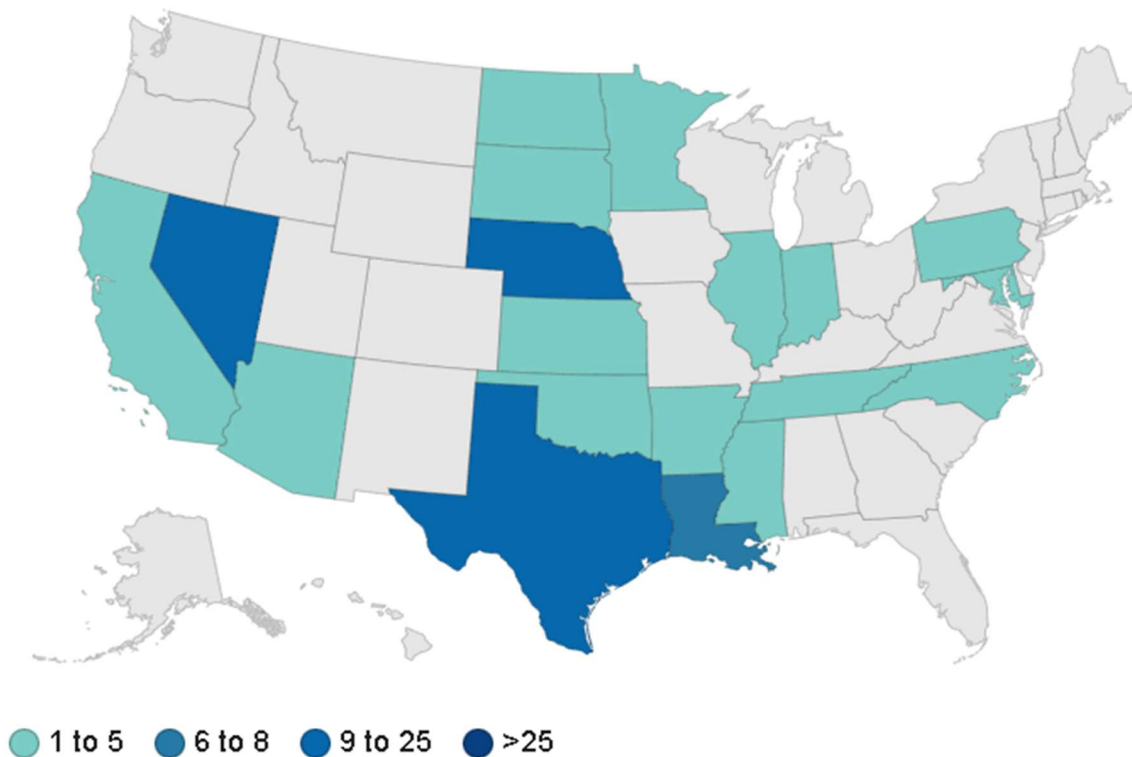
UNITED STATES SURVEILLANCE

Table 7. Reported Vector Borne disease in the United States, 2024

Disease	Weeks 9 and 10 (7/14 to 7/27)	2024 (as of 7/27) Cumulative
Babesiosis	126	1,096
Chikungunya	0	56
Dengue (includes dengue-like illness)	7	995
Eastern equine encephalitis	0	0
Ehrlichiosis / anaplasmosis	Not reported weekly by CDC	
Jamestown Canyon virus disease	0	3
LaCrosse virus disease	0	0
Lyme Disease	Not reported weekly by CDC	
Malaria	18	903
Powassan virus disease	0	26
Spotted fever rickettsiosis	Not reported weekly by CDC	
St. Louis encephalitis virus disease	0	1
West Nile virus infection	4	71
Zika virus infection, non-congenital	1	7
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, 2024 (as of July 30, 2024)



Source: <https://www.cdc.gov/west-nile-virus/data-maps/current-year-data.html>

TRENDS IN VECTOR BORNE DISEASE IN SUMMIT COUNTY, 2013 - 2023

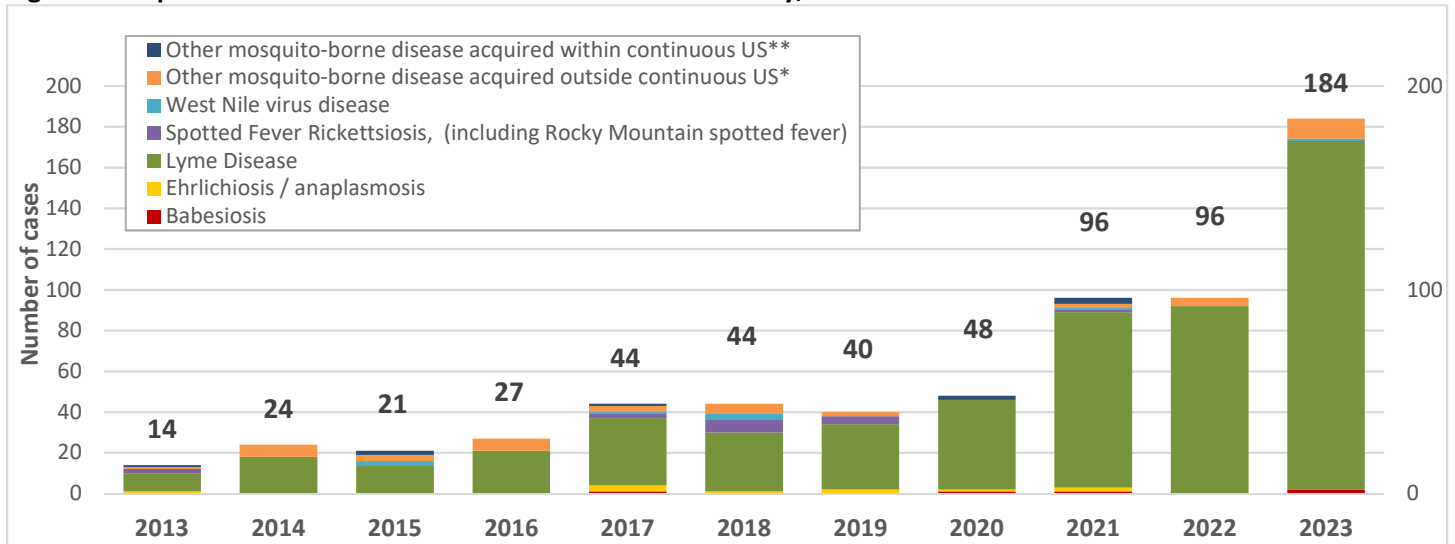
Table 8 provides data on the vector borne disease that were reported in Summit County from 2013 to 2023. The vector for Lyme disease, the blacklegged tick (*Ixodes scapularis*), was first identified in Ohio in 1989, but populations did not begin to increase dramatically until 2009. The blacklegged tick is now established throughout eastern and southern Ohio, and has been collected in all of Ohio's 88 counties.

Other notable events in vector borne disease surveillance were the increase in Chikungunya cases in 2014 (reported as other arthropod-borne diseases) and the Zika virus disease epidemic of 2016. Increases in Ehrlichiosis and spotted fever rickettsiosis were observed from 2017 to 2019. The incidence of other vector-borne diseases, including West Nile virus disease and other tick-borne illness have remained consistently low.

Table 8. Reported vector-borne disease cases in Summit County, 1/1/2013 - 12/31/2023

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Babesiosis	0	0	0	0	1	0	0	1	1	0	2
Ehrlichiosis / anaplasmosis	1	0	0	0	3	1	2	1	2	0	0
Lyme Disease	9	18	14	21	33	29	32	44	86	92	171
Spotted Fever Rickettsiosis, (including Rocky Mountain spotted fever)	2	0	0	0	2	6	4	0	1	0	0
West Nile virus disease	0	0	2	0	1	3	0	0	1	0	1
Other mosquito-borne disease acquired outside continuous US*	1	6	3	6	3	5	2	0	2	4	10
Other mosquito-borne disease acquired within continuous US**	1	0	2	0	1	0	0	2	3	0	0
	14	24	21	27	44	44	40	48	96	96	184

Figure 2. Reported vector-borne disease cases in Summit County, 2013 – 2023



Notes: * Includes imported cases of malaria, chikungunya, dengue, and Zika virus infection
 ** Includes LaCrosse virus disease and St. Louis encephalitis virus disease

Data Source: Ohio Disease Reporting System

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 Julie Zidones (JZidones@sched.org) or the Summit County Public Health Communicable Disease Unit (330-375-2662). This report was issued on **August 2, 2024**.