

# Utah Arboviral Surveillance weekly report

MMWR Week 39, September 25–October 1 2022



This report contains preliminary data through the week ending **October 1, 2022**.

**Background:** West Nile virus (WNV) is carried by mosquitoes and commonly found in Africa, West Asia, and the Middle East. WNV can cause disease in humans, birds, horses, and some other mammals. The virus first appeared in the U.S. in 1999 and in Utah in August 2003. WNV is most commonly spread through the bite of an infected mosquito. Most people (70–80%) who become infected with WNV do not develop any symptoms. Symptoms include headache, body aches, joint pain, vomiting, diarrhea, or rash. Fewer than 1% of people infected will develop a serious neurologic illness, such as meningitis

Data presented in this report are based on currently available data and are subject to change. Local health districts (LHDs) and mosquito abatement districts (MADs) report positive WNV results to the Utah Department of Health & Human Services (DHSS) by end of day Friday each MMWR week. However, testing varies by county and not all counties actively test for WNV in mosquitoes and animals. Therefore, these data should not be used to assess the current risk of contracting WNV in any particular location.

## Testing protocols:

### **Human cases**

West Nile virus is a reportable disease to the Utah Department of Health & Human Services. Health care providers across the state submit human samples to both the Utah Public Health Laboratory (UPHL) and private laboratories. The 3 major blood banks serving Utah (American Red Cross, ARUP, and Mountain Star) coordinate screening of donated blood for identification of viremic donors. All LHDs in Utah are involved in dissemination, investigation, and response to surveillance data indicative of local WNV activity.

### **Horse cases**

West Nile virus is also a reportable to the Utah Department of Agriculture and Food (UDAF) in veterinary cases in the state of Utah. All laboratory reports of positive cases are sent to the state veterinarian at UDAF, who shares the cases with DHHS to report out statewide WNV activity.

### **Bird cases**

Even though routine sentinel chicken surveillance is no longer funded statewide, a few MADs continue to maintain this surveillance activity and report the positive chickens identified through this method to DHHS. In addition, while routine wild bird surveillance is no longer funded statewide, the Utah Department of Wildlife Resources (UDWR) reports any wild bird identified through passive surveillance that tests positive for WNV throughout the season.

### **Mosquito pools**

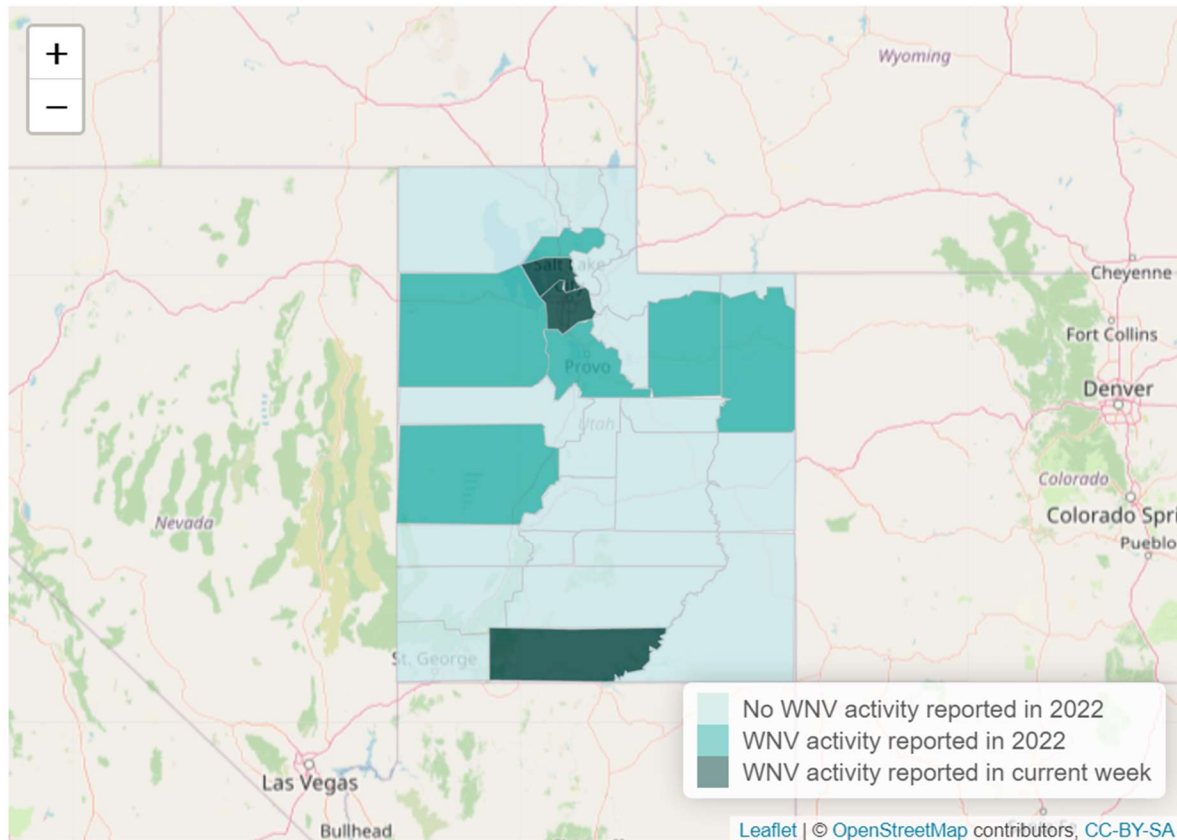
Mosquito pools are any standing body of water where mosquitoes are found and tested. Local MADs and tribal abatement districts, in conjunction with the Utah Mosquito Abatement Association, perform necessary trapping and identification for mosquito surveillance. Confirmatory testing of mosquito pools is conducted at the UPHL.

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The Utah Department of Health & Human Services monitors WNV year-round. If you have any questions about WNV, call 1-888-EPI-UTAH or send an email to [vbzd@utah.gov](mailto:vbzd@utah.gov).

## West Nile virus mosquito and animal activity map by county, Utah, 2022



[Link to interactive WNV mosquito and animal activity map by county, Utah, 2022](#)

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## New this week

### Utah updates

#### **Humans**

As of October 1 2022, Salt Lake County, Weber County and Uintah County each reported confirmed human WNV infections. Additionally, Salt Lake County reported 2 probable human WNV infections. All 5 cases were neuroinvasive infections in patients older than 60.

#### **Horses**

As of October 1 2022, UDAF reported 6 WNV positive horses. One horse was located in Uintah County, 3 in Duchesne County, 1 in Kane County, and 1 in Weber County. The first horse was reported on August 16, 2022.

#### **Birds**

To date, no WNV positive birds have been reported in Utah in 2022.

#### **Mosquito pool**

As of October 1 2022, 144 WNV positive mosquito pools have been reported in Utah by Davis (25), Millard (1), Salt Lake (98), Tooele (2), Weber (5), Uintah (12), and Utah (1) counties. There has also been one St. Louis encephalitis virus (SLEV) positive mosquito pool reported in Utah in Washington County. To date in 2022, the UPHL and mosquito abatement laboratories have tested a total of 8,756 mosquito pools. The first positive pool was identified in Davis County on July 13, 2022.

### **West Nile virus comparisons, Utah, 2022, 2021, and 2020 YTD**

	<b>2020 YTD</b>	<b>2021 YTD</b>	<b>2022 YTD</b>
<b>Counties where WNV has been detected (human, animal, or mosquito cases)/Total Utah counties</b>	8/29	10/29	8/29
<b>Human WNV cases</b>	2	26	5
<b>Horse WNV cases</b>	3	12	6
<b>Positive mosquito pools/Number tested</b>	44/5,108 (0.86%)	647/9,130 (7.09%)	144/8,756 (1.64%)

**New this week**

**National updates**

**Table 1. West Nile virus disease cases and infections reported to ArboNET, 2022**  
*Provisional data as of September 20, 2022*

Jurisdiction	Human disease cases				Presumptive viremic blood donors
	Neuroinvasive cases	Non-neuroinvasive cases	Total	Deaths	
Alabama	1	0	1	0	1
Arizona	20	9	29	2	1
Arkansas	0	1	1	0	0
California	36	18	54	4	12
Colorado	64	55	119	5	12
Connecticut	2	0	2	0	0
Florida	1	0	1	0	0
Georgia	5	1	6	1	2
Idaho	1	0	1	0	0
Illinois	5	1	6	0	0
Indiana	2	0	2	0	0
Iowa	1	0	1	0	4
Kansas	0	2	2	0	1
Kentucky	0	1	1	1	0
Louisiana	28	3	31	5	3
Maryland	1	1	2	0	1
Massachusetts	4	0	4	0	0
Minnesota	1	1	2	0	0
Mississippi	2	0	2	0	0
Missouri	5	0	5	1	0
Nebraska	8	8	16	0	8
New Jersey	2	3	5	0	0
New Mexico	3	1	4	0	1
New York	25	6	31	2	2
North Carolina	4	0	4	0	0
North Dakota	5	8	13	0	7
Ohio	4	0	4	0	0
Oklahoma	1	0	1	1	1
Pennsylvania	5	3	8	0	2
South Carolina	0	1	1	0	5
South Dakota	18	18	36	0	7
Tennessee	0	1	1	0	1
Texas	14	2	16	2	4
Virginia	4	0	4	1	0
Washington	1	1	2	0	0
Wyoming	1	1	2	0	0
Totals	274	146	420	25	75

**Table 5. St. Louis encephalitis virus disease cases reported to ArboNET, 2022**  
*Provisional data as of September 20, 2022*

Jurisdiction	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases	Deaths
California	4	0	4	0
Totals	4	0	4	0

**Table 7. Zika virus non-congenital disease cases reported to ArboNET, 2022**  
*Provisional data as of September 20, 2022*

Jurisdiction	Travel-associated disease cases	Locally acquired disease cases	Total cases
Illinois	1	0	1
Kentucky	1	0	1
New York	1	0	1
Puerto Rico	0	3	3
<b>Totals</b>	<b>3</b>	<b>3</b>	<b>6</b>

**Testing summaries**

**YTD West Nile positive samples by local health district, 2022**

Health jurisdiction	WNV positive humans	WNV positive horses	WNV positive mosquito pools
Bear River	0	0	0
Central	0	0	1
Davis County	0	0	25
Salt Lake County	3	0	98
San Juan County	0	0	0
Southeast	0	0	0
Southwest	0	1	0
Summit County	0	0	0
Tooele County	0	0	2
TriCounty	1	4	12
Utah County	0	0	1
Wasatch County	0	0	0
Weber Morgan	1	1	5
<b>Total</b>	<b>5</b>	<b>6</b>	<b>144</b>

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## Human cases of West Nile virus, 2022

Age group	Total	Deaths	Neuroinvasive
<18	0	0	0
18-39	0	0	0
40-64	1	0	0
>65	4	0	5
<b>State total</b>	<b>5</b>	<b>0</b>	<b>5</b>

## Mosquito pools positive / Total tested, 2022

	WNV	SLEV	WEEV
<b>Week</b>	8/105 (7.62%)	0/105 (0.0%)	0/105 (0.0%)
<b>YTD</b>	144/8,756 (1.64%)	1/8,747 (0.01%)	0/8,747 (0.0%)

WNV = West Nile virus; SLEV = St. Louis encephalitis virus; WEEV = Western Equine encephalitis virus