

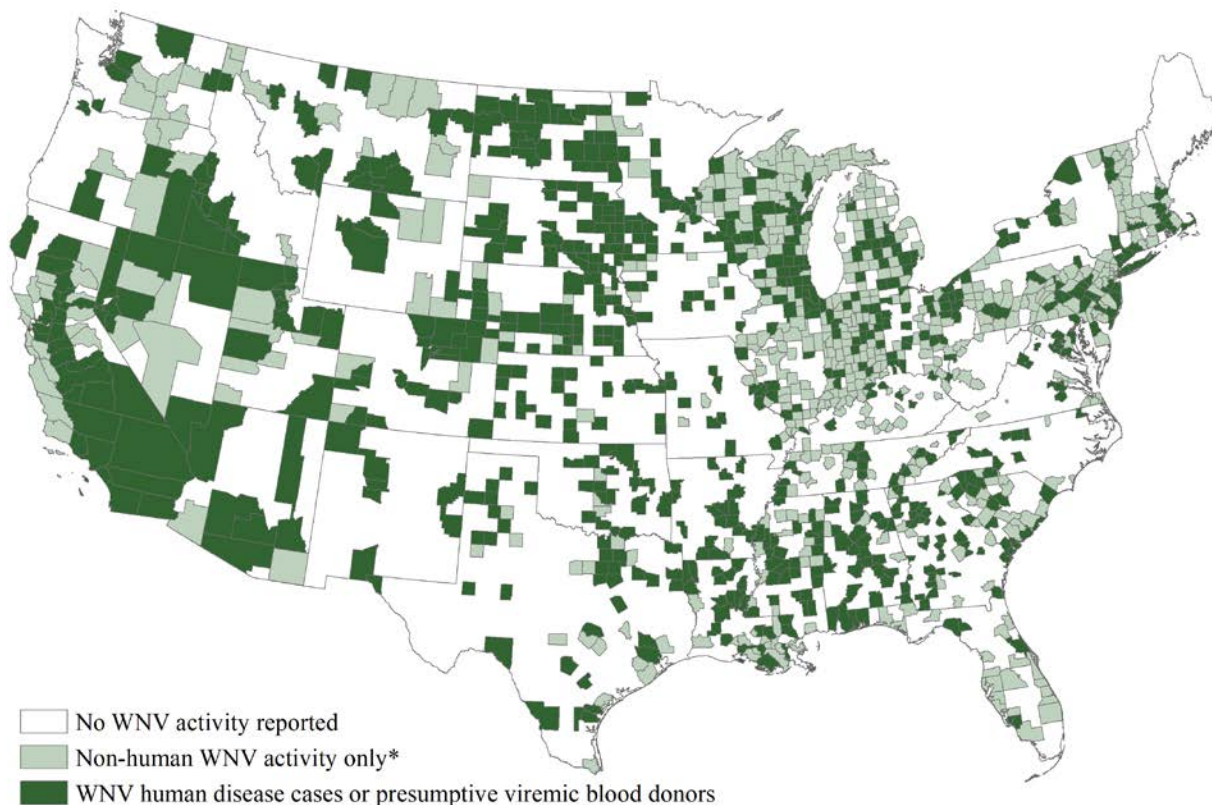
West Nile virus and other domestic arboviral activity -- United States, 2017 Final data reported to ArboNET

These are final 2017 data reported to ArboNET for nationally notifiable arboviruses other than dengue, chikungunya, and Zika. Additional resources for ArboNET and arboviral diseases are provided on page 10.

West Nile virus (WNV) activity in 2017

In 2017, 1,256 counties from 47 states and the District of Columbia reported WNV activity to ArboNET for 2017. All of the 47 states and the District of Columbia reported WNV human infections (i.e., disease cases or viremic blood donors) [Figure 1].

Figure 1. West Nile virus (WNV) activity reported to ArboNET, by county — United States, 2017



*WNV human disease cases or presumptive viremic blood donors. Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.



Reported WNV disease cases

In 2017, a total of 2,097 human WNV disease cases were reported from 641 counties in 47 states and the District of Columbia [**Table 1**]. Dates of illness onset for cases ranged from February–December [**Figure 2**].

Of these, 1,425 (68%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 672 (32%) were classified as non-neuroinvasive disease [**Figure 3**].

Presumptive viremic donors (PVDs)

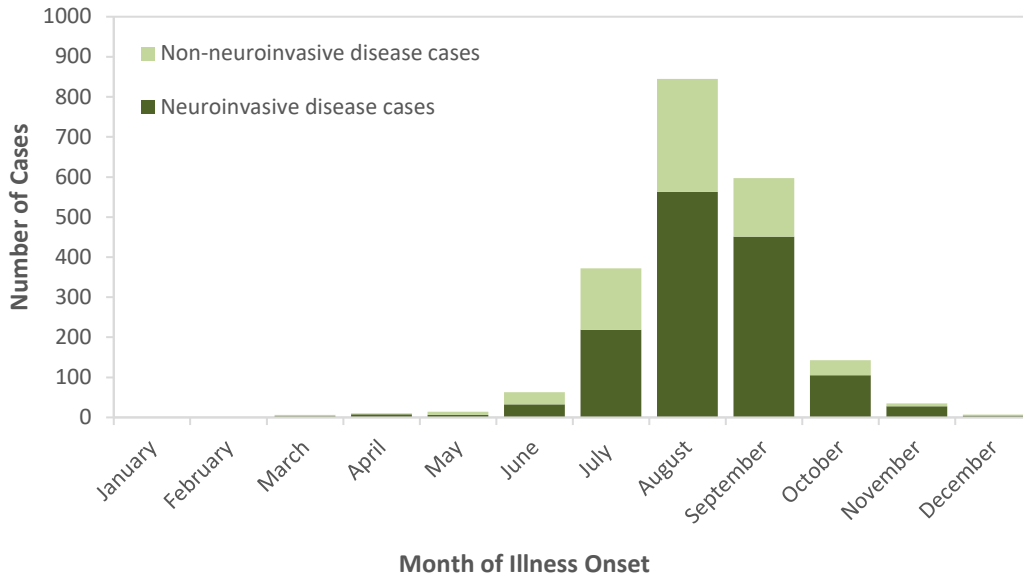
In 2017, a total of 266 WNV PVDs were reported from 37 states [**Table 1**]. Of these, 44 (17%) developed clinical illness and are also included as disease cases.

Table 1. West Nile virus disease cases* and presumptive viremic blood donors reported to ArboNET, 2017

State	Human disease cases reported to CDC			Deaths	Presumptive viremic blood donors
	Neuroinvasive	Non-neuroinvasive	Total		
Alabama	40	20	60	2	13
Arizona	98	13	111	8	16
Arkansas	15	3	18	4	5
California	401	152	553	44	54
Colorado	29	39	68	4	4
Connecticut	2	1	3	0	0
Delaware	0	1	1	0	0
District of Columbia	1	3	4	0	0
Florida	4	1	5	0	2
Georgia	44	4	48	7	15
Idaho	16	9	25	0	7
Illinois	72	18	90	8	2
Indiana	18	8	26	4	6
Iowa	10	2	12	2	5
Kansas	12	15	27	0	4
Kentucky	9	1	10	1	0
Louisiana	38	15	53	4	4
Maryland	5	1	6	0	0
Massachusetts	5	1	6	0	1
Michigan	32	8	40	1	8
Minnesota	13	17	30	1	19
Mississippi	46	17	63	2	3
Missouri	17	2	19	1	2
Montana	3	8	11	0	3
Nebraska	19	49	68	2	18
Nevada	31	36	67	3	5
New Hampshire	0	1	1	0	0
New Jersey	6	2	8	2	0
New Mexico	23	10	33	1	2
New York	45	6	51	4	0
North Carolina	8	0	8	2	0
North Dakota	20	42	62	2	1
Ohio	23	11	34	5	8
Oklahoma	34	8	42	4	6
Oregon	3	3	6	1	2
Pennsylvania	15	5	20	3	2
Rhode Island	1	1	2	0	1
South Carolina	16	2	18	2	5
South Dakota	27	46	73	4	2
Tennessee	22	8	30	1	2
Texas	87	48	135	6	14
Utah	39	23	62	6	6
Vermont	2	1	3	0	1
Virginia	12	1	13	1	3
Washington	10	3	13	0	2
West Virginia	1	0	1	0	0
Wisconsin	47	4	51	4	13
Wyoming	4	3	7	0	0
Totals	1,425	672	2,097	146	266

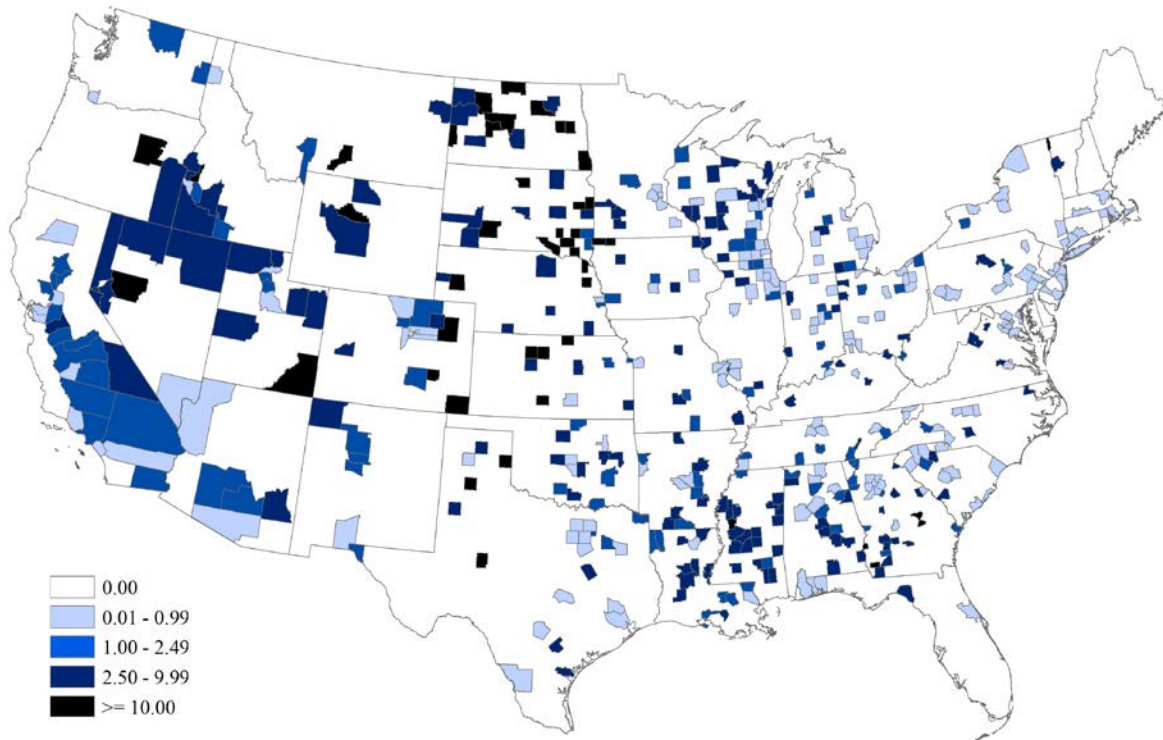
*Includes confirmed and probable cases

Figure 2. West Nile virus disease cases reported to ArboNET, by month of onset* — United States, 2017



*Cases missing onset date (n=4)

Figure 3. West Nile virus (WNV) neuroinvasive disease incidence* reported to ArboNET, by county — United States, 2017



*Incidence per 100,000 population

Eastern equine encephalitis virus (EEEV) activity in 2017

In 2017, a total of five counties in four states reported human cases of EEEV disease to ArboNET for 2017 [Figure 4 and Table 2]. Ninety-two additional counties in 19 states reported EEEV activity in non-human species only.

Figure 4. Eastern equine encephalitis virus (EEEV) activity reported to ArboNET, by county — United States, 2017

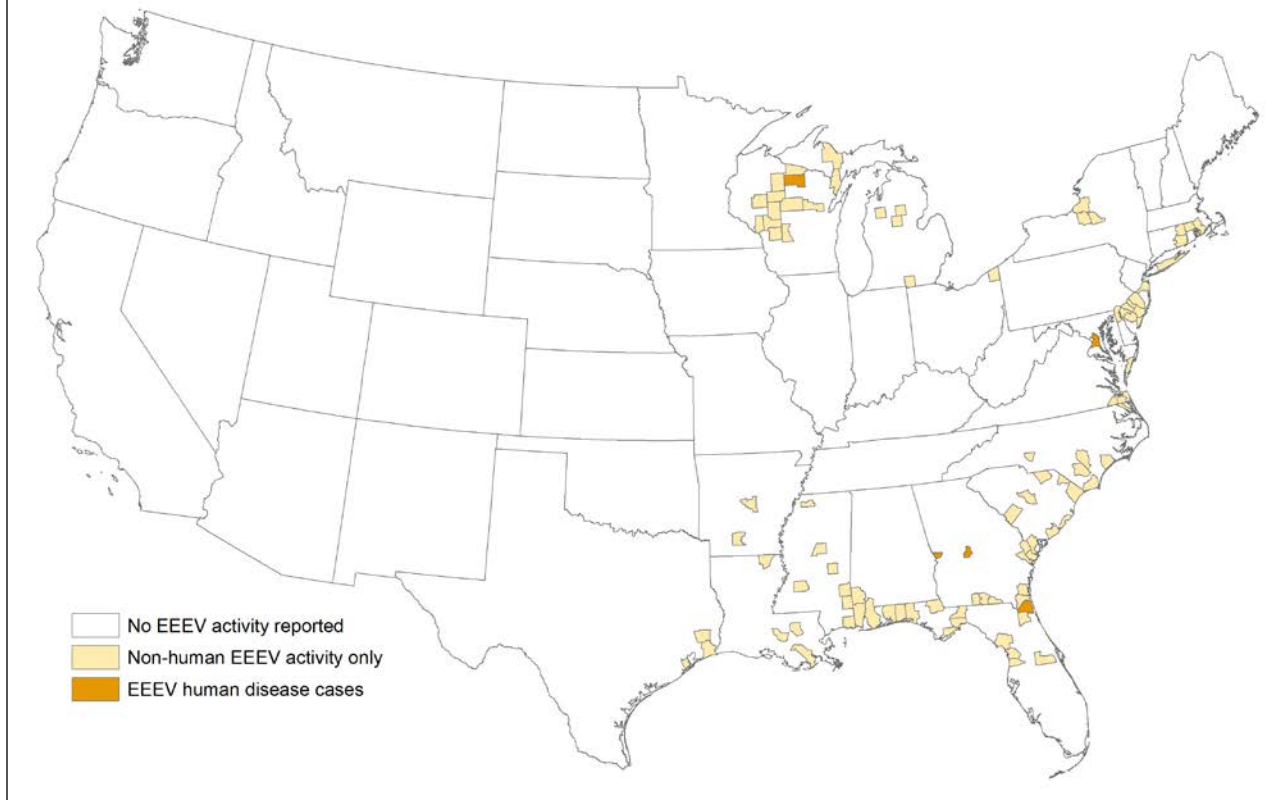


Table 2. Eastern equine encephalitis virus human disease cases reported to ArboNET, United States, 2017

State	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases*	Deaths
Florida	1	0	1	0
Georgia	2	0	2	1
Maryland	1	0	1	1
Wisconsin	1	0	1	0
Totals	5	0	5	2

*Includes confirmed and probable cases.

Jamestown Canyon virus (JCV) activity in 2017

In 2017, a total of 48 counties in eight states reported human cases of JCV disease to ArboNET for 2017 [Figure 5 and Table 3]. Ten additional counties in two states reported JCV activity in non-human species only.

Figure 5. Jamestown Canyon virus (JCV) activity reported to ArboNET, by county — United States, 2017

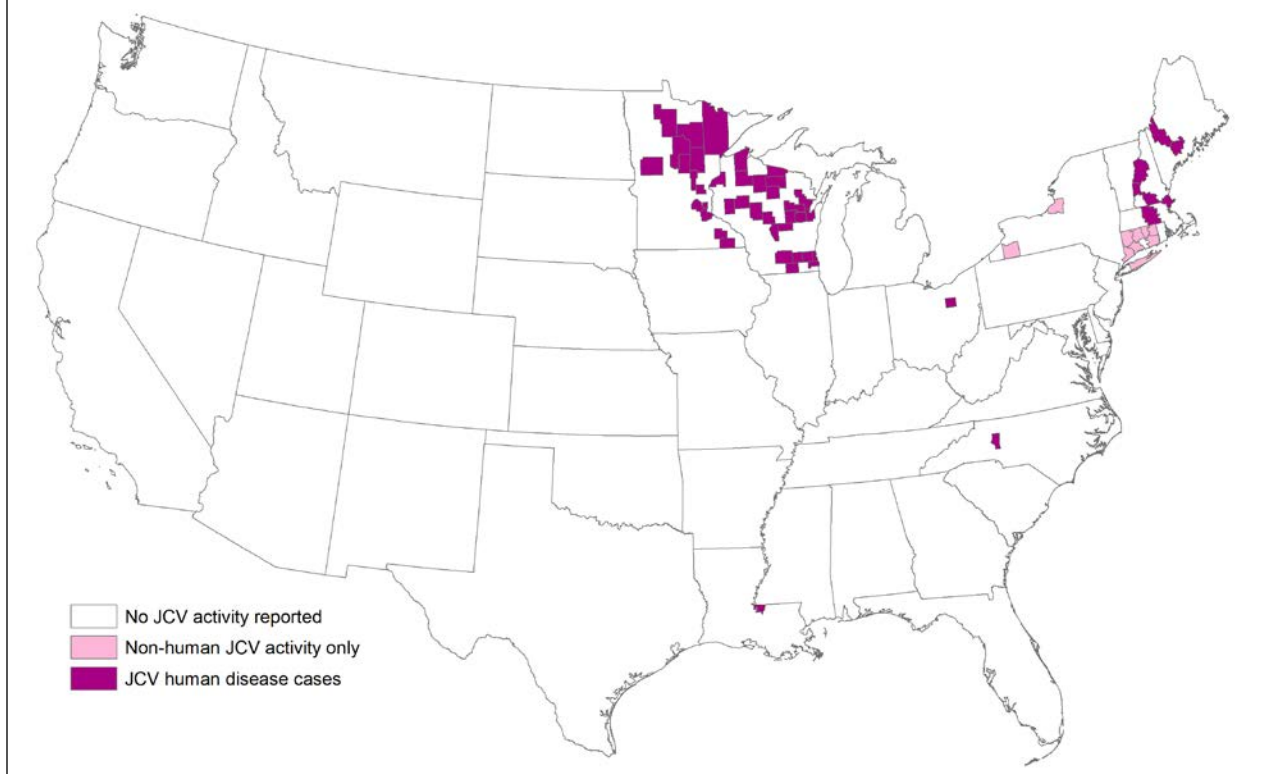


Table 3. Jamestown canyon virus human disease cases reported to ArboNET, United States, 2017

State	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases*	Deaths
Louisiana	1	0	1	0
Maine	1	1	2	0
Massachusetts	2	0	2	0
Minnesota	14	8	22	1
New Hampshire	2	1	3	0
North Carolina	1	0	1	0
Ohio	1	0	1	0
Wisconsin	36	7	43	1
Totals	58	17	75	2

*Includes confirmed and probable cases.

La Crosse encephalitis virus (LACV) activity in 2017

In 2017, a total of 40 counties in 10 states reported human cases of LACV disease to ArboNET for 2017 [Figure 6 and Table 4]. One additional county in West Virginia reported LACV activity in non-human species only.

Figure 6. La Crosse encephalitis virus (LACV) activity reported to ArboNET, by county — United States, 2017

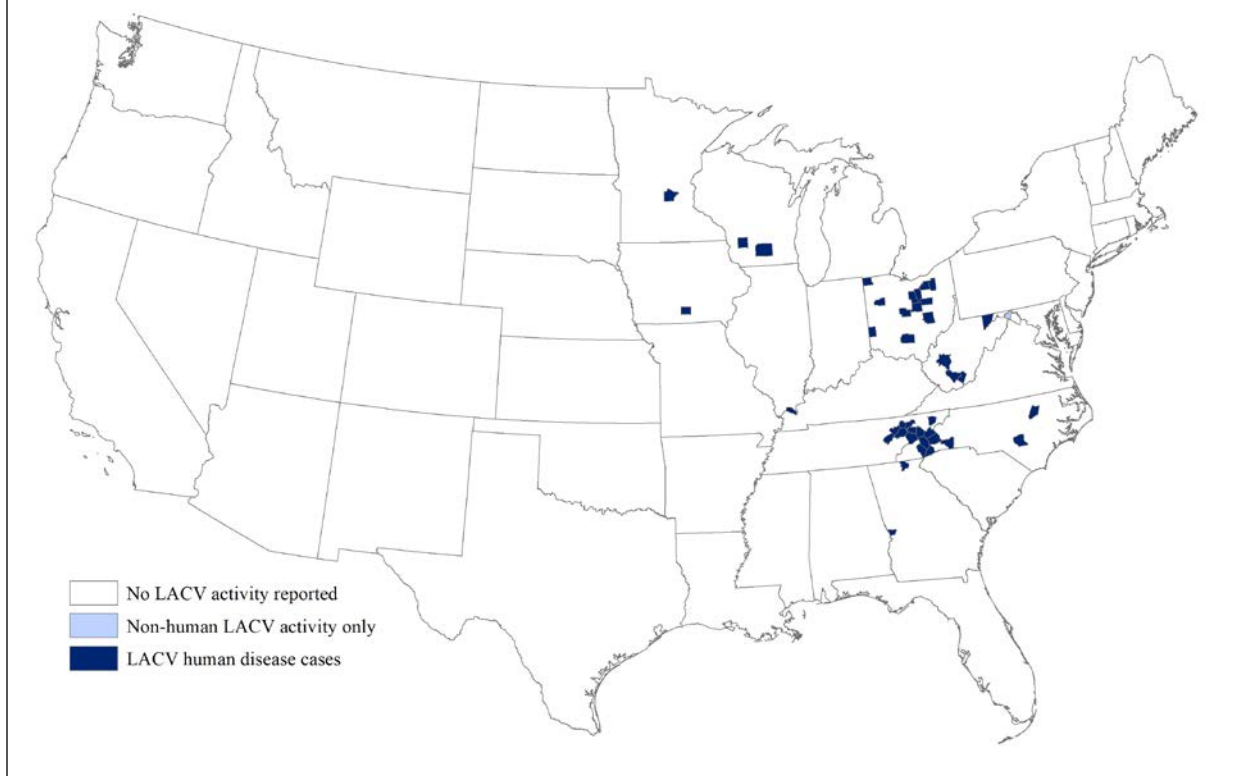


Table 4. La Crosse encephalitis virus human disease cases reported to ArboNET, United States, 2017

State	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases*	Deaths
Georgia	2	0	2	0
Illinois	1	0	1	0
Iowa	1	0	1	0
Maryland	1	0	1	0
Minnesota	1	0	1	0
North Carolina	21	0	21	0
Ohio	13	0	13	0
Tennessee	17	0	17	0
West Virginia	4	0	4	0
Wisconsin	2	0	2	0
Totals	63	0	63	0

*Includes confirmed and probable cases.

Powassan virus (POWV) activity in 2017

In 2017, a total of 26 counties in 10 states reported human cases of POWV disease to ArboNET for 2017 [Figure 7 and Table 5].

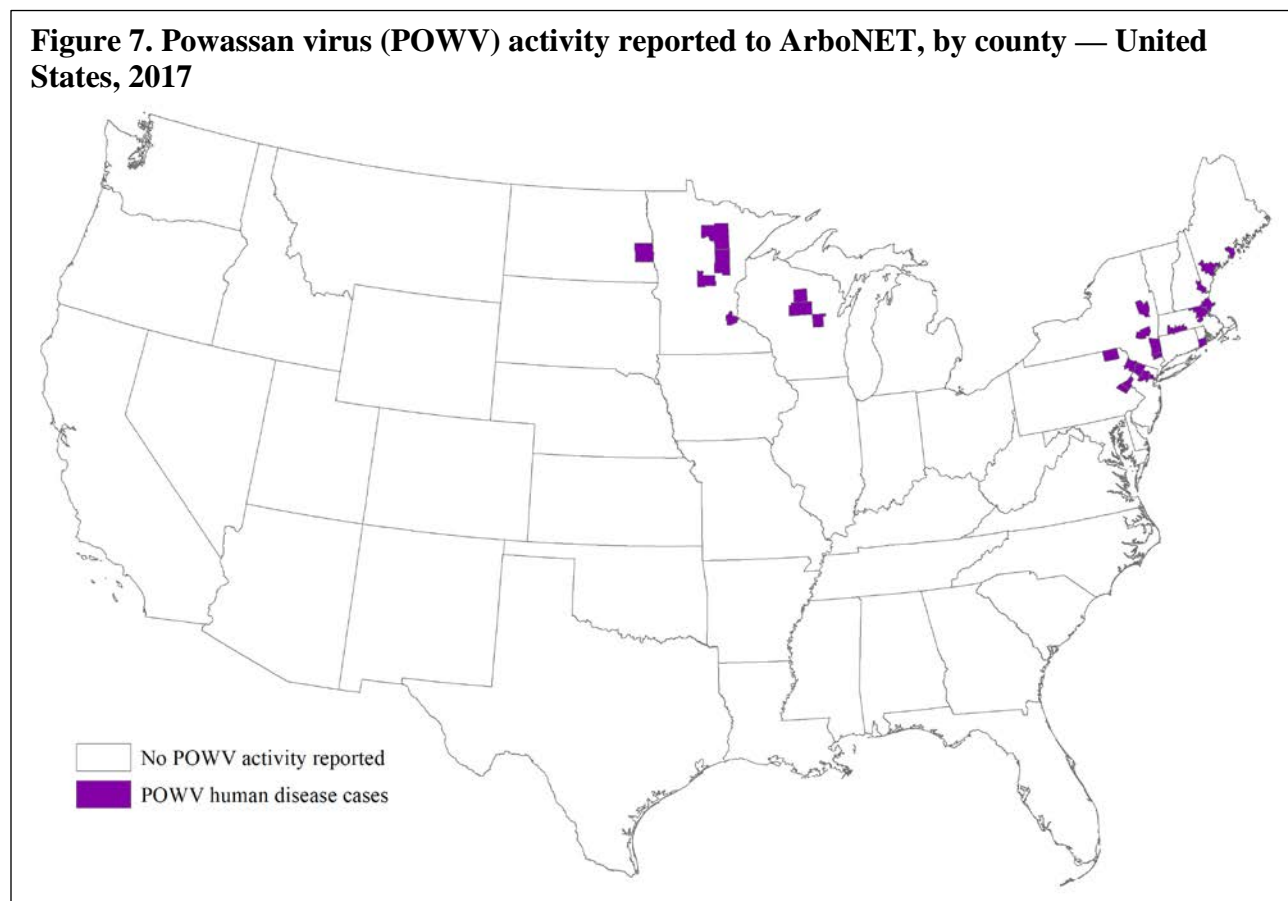


Table 5. Powassan virus human disease cases reported to ArboNET, United States, 2017

State	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases*	Deaths
Maine	3	0	3	0
Massachusetts	3	0	3	0
Minnesota	7	0	7	0
New Hampshire	1	0	1	0
New Jersey	4	0	4	0
New York	5	1	6	1
North Dakota	1	0	1	0
Pennsylvania	4	0	4	0
Rhode Island	2	0	2	1
Wisconsin	3	0	3	0
Totals	33	1	34	2

*Includes confirmed and probable cases.

St. Louis encephalitis virus (SLEV) activity in 2017

In 2017, a total of seven counties in three states reported human cases of SLEV disease to ArboNET for 2017 [Figure 8 and Table 6]. Twenty-three additional counties in six states reported SLEV activity in non-human species only.

Figure 8. St. Louis encephalitis virus (SLEV) activity reported to ArboNET, by county — United States, 2017

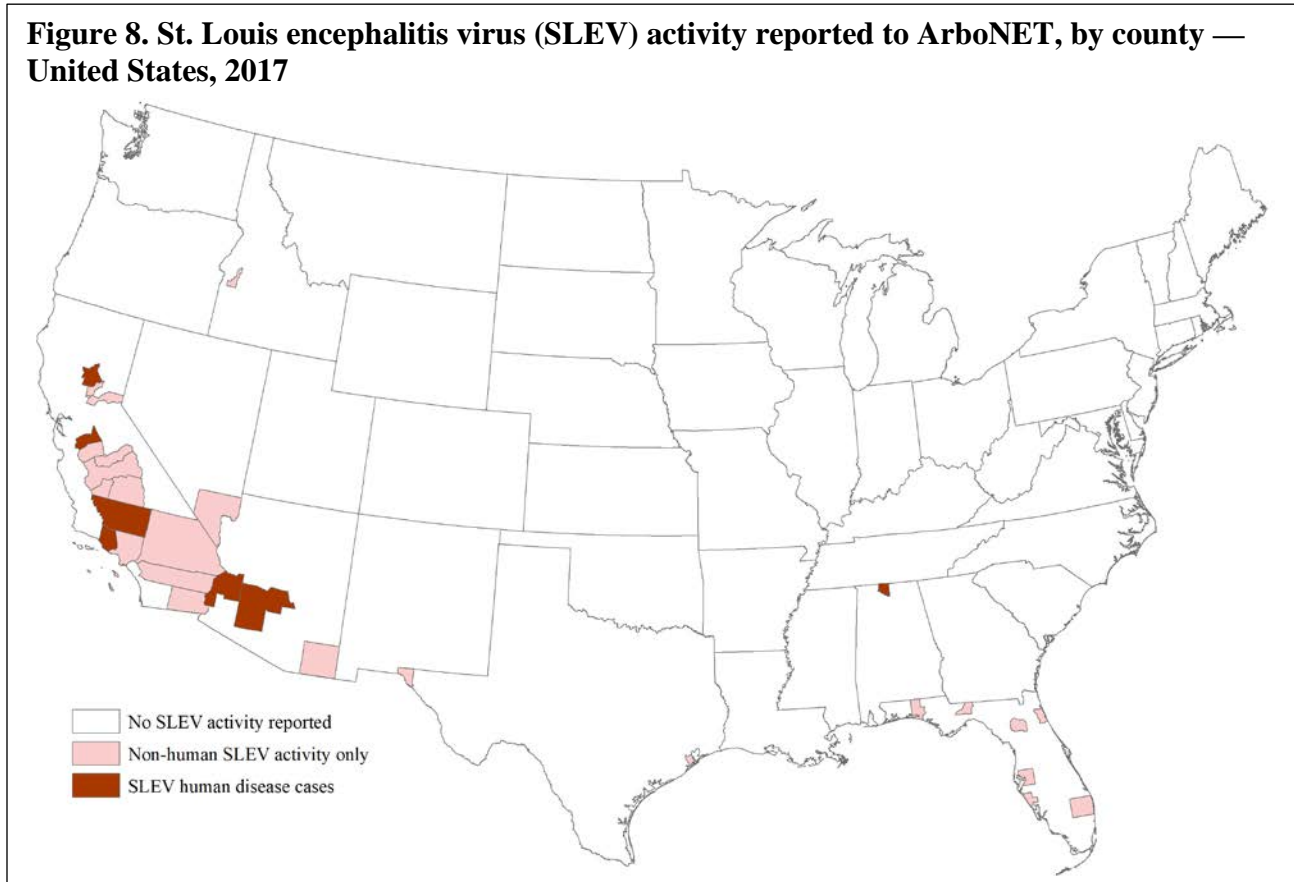


Table 6. St. Louis encephalitis virus human disease cases reported to ArboNET, United States, 2017

State	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases*	Deaths
Alabama	1	0	1	0
Arizona	3	3	6	0
California	2	2	4	0
Totals	6	5	11	0

*Includes confirmed and probable cases.



About ArboNET

ArboNET is a national arboviral surveillance system managed by CDC and state health departments. In addition to human disease, ArboNET maintains data on arboviral infections among presumptive viremic blood donors (PVDs), veterinary disease cases, mosquitoes, dead birds, and sentinel animals. As with other national surveillance data, ArboNET data has several limitations that should be considered in analysis, interpretation, and reporting [**Box**].

Box: Limitations of ArboNET data

The following should be considered in the analysis, interpretation, and reporting of ArboNET data:

1. ArboNET is a passive surveillance system. It is dependent on clinicians considering the diagnosis of an arboviral disease and obtaining the appropriate diagnostic test, and reporting of laboratory-confirmed cases to public health authorities. Diagnosis and reporting are incomplete, and the incidence of arboviral diseases is underestimated.
2. Reported neuroinvasive disease cases are considered the most accurate indicator of arboviral activity in humans because of the substantial associated morbidity. In contrast, reported cases of nonneuroinvasive arboviral disease are more likely to be affected by disease awareness and healthcare-seeking behavior in different communities and by the availability and specificity of laboratory tests performed. Surveillance data for nonneuroinvasive disease should be interpreted with caution and generally should not be used to make comparisons between geographic areas or over time.

Additional resources

For additional arboviral disease information and data, please visit the following websites:

- CDC's Division of Vector-Borne Diseases:
<http://www.cdc.gov/ncezid/dvbd/>
- National Notifiable Diseases Surveillance System:
<http://wwwn.cdc.gov/nndss/conditions/arboviral-diseases-neuroinvasive-and-non-neuroinvasive/case-definition/2015/>
- CDC Disease Maps:
https://wwwn.cdc.gov/arboNET/Maps/ADB_Diseases_Map/index.html
- AABB (American Association of Blood Banks):
www.aabb.org/programs/biovigilance/Pages/wnv.aspx