West Virginia Vectorborne Disease Surveillance Report

JANUARY 1 – OCTOBER 25, 2024

The purpose of this report is to share descriptive surveillance data related to vectorborne disease activity with public health partners in West Virginia. All information in this report is considered provisional. For questions or comments, contact the Zoonotic Disease Program in the Division of Communicable Disease Epidemiology at 304-558-5358.

HUMAN SURVEILLANCE – MOSQUITOBORNE DISEASE

During the period of January 1 to October 25, 2024, there have been five human cases of mosquito-borne disease reported (Table 1).

Table 1. Summary of human cases of mosquito-borne diseases for the current reporting period in West Virginia.

Mosquito-borne Disease	# Confirmed and Probable Human Cases[a] (Total through October 25, 2024)	Comments
Malaria	2	Travel-associated from S. Korea, Benin
Dengue	1	Travel-associated from India
West Nile Virus	2	-
La Crosse Virus	1	-
Total	**5**	

[a]Table includes confirmed and probable cases meeting case definition, reviewed and closed by the Vectorborne Disease Epidemiologist

BIRD AND HORSE SURVEILLANCE – MOSQUITOBORNE DISEASE

During the period of January 1 to October 25, 2024, there have been no animal specimens tested for arboviral infection (Table 2).

Table 2. Summary of surveillance specimens submitted for dead birds and horses (serum) through October 25, 2024.

Type of Specimen	Total through July 7th, 2017				Comments
	# specimens submitted	Arbovirus-positive[a]			
		WNV	SLE	EEE	
-	-	-	-	-	

[a]Note: Horse specimens are tested for WNV and EEE only.

HUMAN SURVEILLANCE – TICKBORNE DISEASE

Through October 25, 2024, 2,902 confirmed and probable cases of tickborne diseases (TBDs) were reported in West Virginia (Table 3). The majority of cases (98%) were Lyme disease cases (n=2,867) (Figure 1). Several other tickborne diseases (TBD) were also reported (Figure 2). 55 (100%) of West Virginia's 55 counties have reported human TBD activity.

Table 3. Summary of human cases of tickborne diseases through October 25, 2024

Tickborne Disease	# Confirmed and Probable Cases through October 25, 2024	# of Counties Where Disease Reported
Anaplasmosis	14	12
Babesiosis	2	2
Ehrlichiosis	12	8
Lyme disease	2867	55
Spotted fever group rickettsiosis[b]	7	5
Total	**2902**	**--**

[a]Table includes only confirmed or probable cases that have been reviewed and closed by the Vectorborne Disease Epidemiologist.

[b]Includes Rocky Mountain spotted fever.

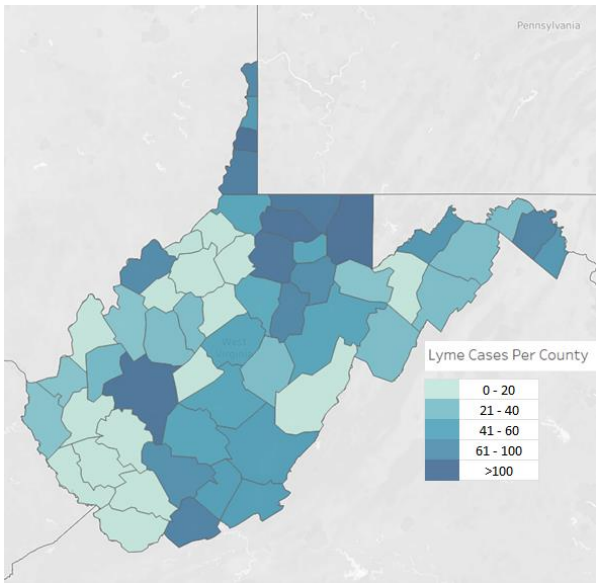

Figure 1. County distribution of probable Lyme disease cases (N=2,549) through October 25, 2024, West Virginia.

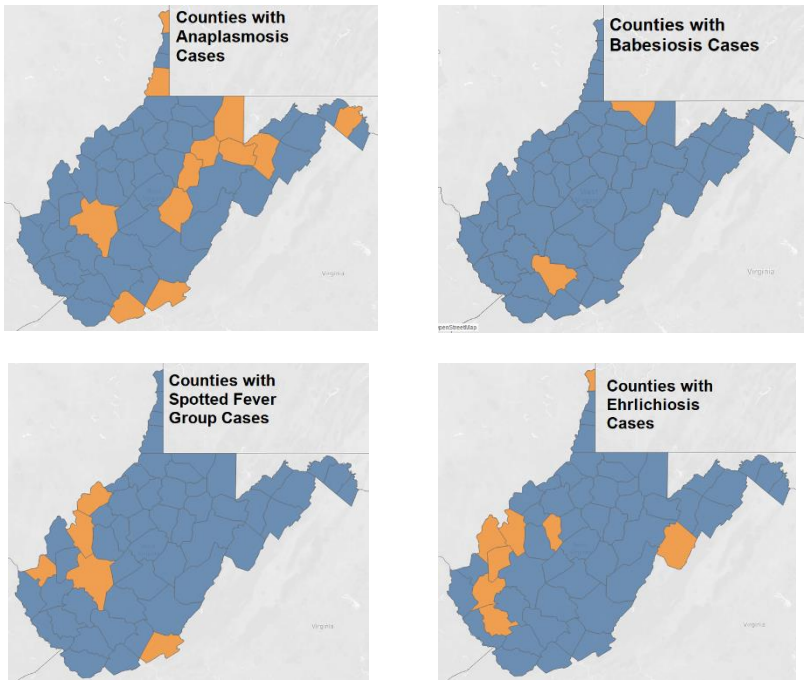

Figure 2. Clockwise, counties with the following disease cases in orange as of October 25, 2024: anaplasmosis, babesiosis, ehrlichiosis, and spotted fever group.

TICK SURVEILLANCE

During the period of March 4, 2024 to October 25, 2024, 42 localities in the following 19 counties have served as active tick surveillance sites: Braxton, Cabell, Clay, Doddridge, Fayette, Jackson, Kanawha, Mercer, Monongalia, Pocahontas, Preston, Putnam, Roane, Tucker, Tyler, Upshur, Wayne, Wetzel, and Wood counties (Figure 3, Figure 4). Through active tick surveillance and public submission to the Zoonotic Disease Program, five species of tick have been collected from March 4, 2024 to October 25, 2024 (Table 4).

Table 4. Summary of tick surveillance through October 25, 2024

Tick Species	Total through October 25, 2024			
	# collected	Life Stage		
		Larva	Nymph	Adult
Amblyomma americanum	5327	5007	270	50
Dermacentor variabilis	123	1	0	122
Ixodes scapularis	2038	1573	448	17
Haemaphysalis longicornis	1167	1012	134	21
Haemaphysalis leporispalustris	41	40	0	1
Total	**8696**	**7633**	**852**	**211**

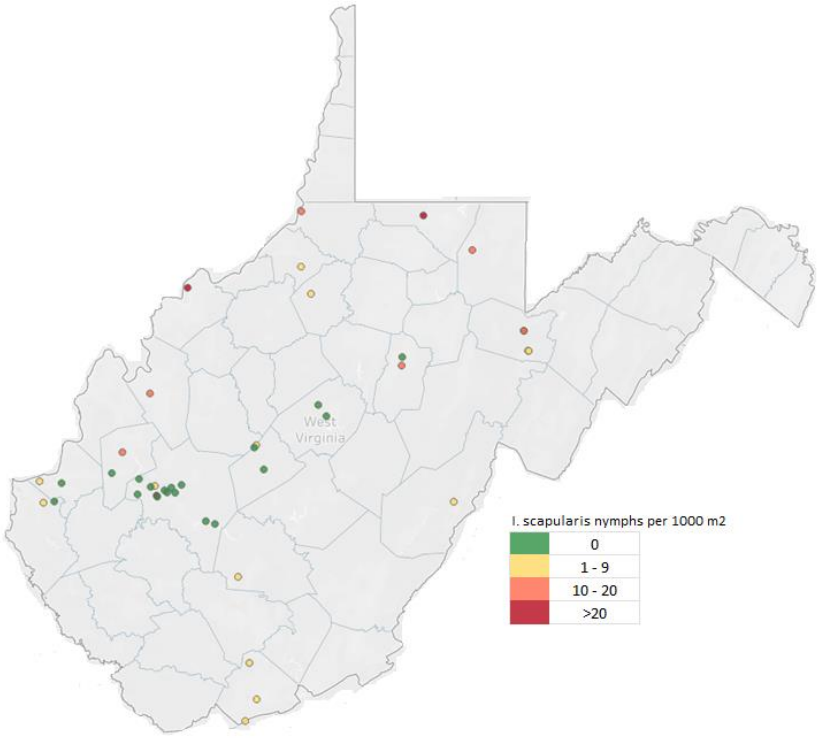

Figure 3. Tick collection sites (N = 43) in 19 counties, showcasing density of *Ixodes scapularis*, or blacklegged tick nymphs, competent vector for Lyme disease, anaplasmosis, and babesiosis.

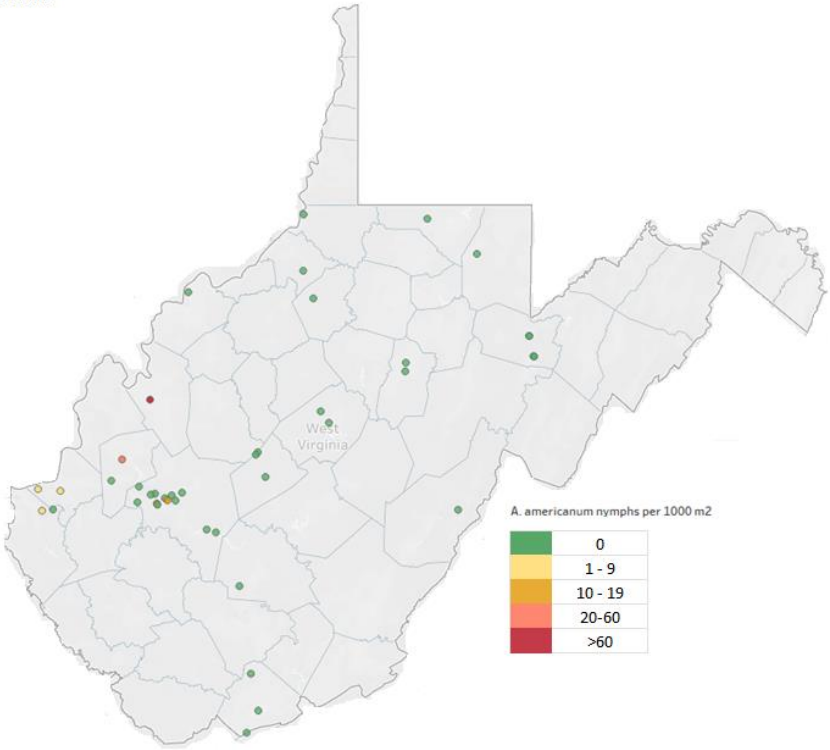

Figure 4. Tick collection sites (N = 43) in 19 counties, showcasing density of *Amblyomma americanum*, or lone star tick nymphs, competent vector for ehrlichiosis and Spotted Fever Group Ricketssiosis.