



## Florida Arbovirus Surveillance Week 38: September 15-21, 2024

Arbovirus surveillance in Florida includes endemic mosquito-borne viruses such as West Nile virus (WNV), Eastern equine encephalitis virus (EEEV), and St. Louis encephalitis virus (SLEV), as well as exotic viruses such as dengue virus (DENV), chikungunya virus (CHIKV), Zika virus (ZIKV) and California encephalitis group viruses (CEV). Malaria, a parasitic mosquito-borne disease is also included. During the period of September 15-21, 2024, the following arboviral activity was recorded in Florida.

**WNV activity:** No human cases of WNV infection were reported this week. One horse with WNV infection was reported this week in Brevard County. Fifty-seven sentinel chickens tested positive for antibodies to WNV this week in Bay, Brevard, Charlotte, Citrus, Duval, Hernando, Hillsborough, Nassau, Orange, Pasco, Polk, St. Johns, Sumter, Volusia, and Walton counties. One mosquito pool tested positive for WNV this week in Sarasota County. In 2024, positive samples from four humans, five asymptomatic blood donors, three horses, one goose, one mosquito pool, and 245 sentinel chickens have been reported from 26 counties.

**SLEV activity:** No human cases of SLEV infection were reported this week. Three sentinel chickens tested positive for antibodies to SLEV this week in Alachua, Orange, and Sarasota counties. In 2024, 24 sentinel chickens have been reported from 11 counties.

**EEEV activity:** No human cases of EEEV infection were reported this week. No horses with EEEV infection were reported this week. No sentinel chickens tested positive for antibodies to EEEV this week. One deer tested positive to EEEV this week in Jackson County. In 2024, positive samples from 50 sentinel chickens, 21 horses, two emus, one emu flock, and one deer have been reported from 26 counties.

**International Travel-Associated Dengue:** Twenty-four cases of dengue were reported this week in persons that had international travel. In 2024, 539 travel-associated dengue cases have been reported.

**Dengue Cases Acquired in Florida:** Two cases of locally acquired dengue were reported this week. In 2024, 37 cases of locally acquired dengue have been reported from seven counties.

**International Travel-Associated Chikungunya Fever Cases:** One case of chikungunya fever was reported this week in a person that had international travel. In 2024, eight cases of travel-associated chikungunya fever have been reported.

**Chikungunya Fever Cases Acquired in Florida:** No cases of locally acquired chikungunya fever were reported this week. In 2024, no cases of locally acquired chikungunya fever have been reported.

**International Travel-Associated Oropouche Fever cases:** No cases of Oropouche fever were reported this week in persons that had international travel. In 2024, 70 travel-associated Oropouche fever cases have been reported.

**International Travel-Associated Zika Fever Cases:** No cases of Zika fever were reported this week in persons that had international travel. In 2024, no travel-associated Zika fever cases have been reported.

**Zika Fever Cases Acquired in Florida:** No cases of locally acquired Zika fever were reported this week. In 2024, no cases of locally acquired Zika fever have been reported.

**Advisories/Alerts:** Alachua, Bay, Holmes, Madison, Manatee, Nassau, Orange, Palm Beach, Pinellas, Sarasota, and Volusia counties are currently under a mosquito-borne illness advisory. Duval, Hillsborough, Marion, Miami-Dade, Monroe, Pasco, and Walton counties are currently under a mosquito-borne illness alert. No other counties are currently under a mosquito-borne illness advisory or alert.

There are currently multiple travel health notices from the Centers for Disease Control and Prevention related to mosquito-borne diseases.

Dengue			Oropouche	Yellow Fever	Zika
Africa and the Middle East	Americas	Asia and the Pacific Islands	Americas	Africa	Asia
Afghanistan	Brazil	French Polynesia	Bolivia	Nigeria	India
Iran	Colombia	India	Brazil		
Burkina Faso	Costa Rica	Laos	Colombia		
Cape Verde	Cuba	Samoa	Cuba		
Ghana	Dominican Republic	Singapore	Dominican Republic		
Mali	Ecuador	Sri Lanka	Peru		
Mauritius	El Salvador				
Sudan	French Guiana				
Togo	Guatemala				
	Guyana				
	Honduras				
	Mexico				
	Panama				
	Trinidad and Tobago				

Level 1 Travel Health Notice, Level 2 Travel Health Alert: [wwwnc.cdc.gov/travel/notices](http://wwwnc.cdc.gov/travel/notices).

For a map of arboviral disease activity in the United States visit: <https://www.cdc.gov/fight-the-bite/at-risk/index.html>.

## 2024 Human Case Summary

**West Nile Virus Illnesses Acquired in Florida:** In 2024, four human cases of WNV illness acquired in Florida have been reported in Bay (August), Duval (July), Marion (July), and Walton (July) counties. Five asymptomatic positive blood donors were reported from Duval (August), Manatee (August), Marion (July), and Walton (July, August) counties.

**2024 International Travel-Associated Chikungunya Cases:** Eight cases with onset in 2024 have been reported in individuals with travel history to a chikungunya-endemic area in the two weeks prior to onset. Counties reporting cases were: Broward (2), Manatee, Miami-Dade, Orange (2), Pinellas, and Hillsborough. Countries of origin were: Brazil (5) and India (3). Two cases were reported in non-Florida residents.

**2024 International Travel-Associated Oropouche Cases:** Seventy cases with onset in 2024 have been reported in individuals with travel history to an Oropouche-endemic area in the two weeks prior to onset. Counties reporting cases were: Broward (3), Duval, Hillsborough (11), Lee (4), Miami-Dade (41), Orange (2), Palm Beach (2), Pasco (2), Polk (2), Sarasota, and St. Lucie. Country of origin was Cuba (70).

**2024 International Travel-Associated Dengue Cases:** Five hundred thirty-nine cases with onset in 2024 have been reported in individuals with travel history to a dengue-endemic area in the two weeks prior to onset. Counties reporting cases were: Alachua (2), Brevard (6), Broward (69), Charlotte (2), Collier (6), Columbia, Duval (7), Escambia (2), Flagler, Hendry, Hernando, Hillsborough (38), Indian River, Lake (3), Lee (17), Levy (2), Manatee, Marion (4), Martin (2), Miami-Dade (244), Monroe (4), Okaloosa, Okeechobee (2), Orange (33), Osceola (16), Palm Beach (33), Pasco (6), Pinellas (3), Polk (12), Santa Rosa (2), Sarasota (4), Seminole (4), St. Lucie (5), and Volusia (4). Forty-nine cases were reported in non-Florida residents. Six cases met the criteria for severe dengue (dengue shock syndrome [DSS] or dengue hemorrhagic fever [DHF]). Those at greater risk for DSS and DHF include persons with previous dengue infection, pregnant women, infants, the elderly, and those with co-morbidities. However, severe illness can also occur in those without any of these risk factors. In 2024, 444 cases of dengue reported in Florida have been serotyped by PCR. Please see the table below for a breakdown of cases by country of origin and serotype.

Country of Exposure	DENV-1	DENV-2	DENV-3	DENV-4	DENV-2 /DENV-3	Unknown	Total
Argentina	3	4				7	14
Barbados	1	1				2	4
Barbados/Trinidad and Tobago		1					1
Brazil	36	12	1			12	61
Brazil/Paraguay		1					1
Colombia	5	10	6	1		7	29
Colombia/Panama						1	1
Costa Rica			4	1			5
Cuba		1	131	59	1	28	220
Dominican Republic			12			4	16
El Salvador	2		8			1	11
El Salvador/Honduras	1						1
Grenada		1					1
Guatemala			11			3	14
Guyana			3				3
Honduras			28		1	5	34
India	2					1	3
Indonesia		1				1	2
Jamaica		1				1	2
Maldives		1					1
Mexico	2	2	15	1		2	22
Netherlands Antilles		1					1
Nicaragua	1		1	1		2	5
Panama			1				1
Paraguay		3					3
Peru	2	2	1				5
Philippines				1		1	2
Puerto Rico	7	7	13			6	33
Puerto Rico/US Virgin Islands			1				1
Saint Barthélemy		2				1	3
Surinam		1					1
Trinidad and Tobago		2	19			5	26
US Virgin Islands		3				1	4
Venezuela			4			4	8
<b>Total</b>	<b>62</b>	<b>57</b>	<b>259</b>	<b>64</b>	<b>2</b>	<b>95</b>	<b>539</b>

**2024 Dengue Cases Acquired in Florida:** In 2024, 37 cases of locally acquired dengue have been reported in Hillsborough (3), Manatee, Miami-Dade (24), Monroe (3), Orange (2), Palm Beach, and Pasco (3) counties with onset in January (3), February, March (2), April, June (11), July (8) and August (11). One case was reported in a non-Florida resident. Thirty-three cases have been serotyped by PCR. Please see the table below for a breakdown of cases by county and serotype.

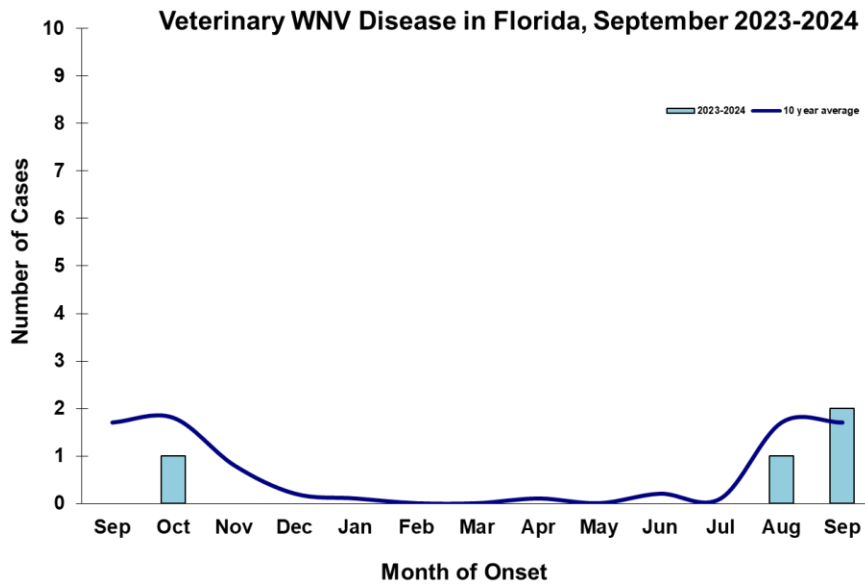
County of Exposure	DENV-1	DENV-3	Unknown	Total
Hillsborough	2	1		3
Manatee		1		1
Miami-Dade		22	2	24
Monroe	2		1	3
Orange		2		2
Palm Beach			1	1
Pasco		3		3
<b>Total</b>	<b>4</b>	<b>29</b>	<b>4</b>	<b>37</b>

**2024 International Travel-Associated Malaria Cases:** Fifty-seven cases of malaria with onset in 2024 have been reported in individuals with a travel history to a malaria-endemic area. Counties reporting cases were: Alachua (2), Brevard (2), Broward (7), Clay, Collier, Duval (4), Escambia, Hillsborough (6), Indian River, Lee (2), Leon (2), Marion, Miami-Dade (3), Monroe, Okaloosa, Orange (8), Osceola (2), Palm Beach (2), Pasco (2), Pinellas (4), Polk, Sarasota, Seminole, and Volusia. Eight cases were reported in non-Florida residents. Please see the table below for a breakdown of cases by country of origin and *Plasmodium* species.

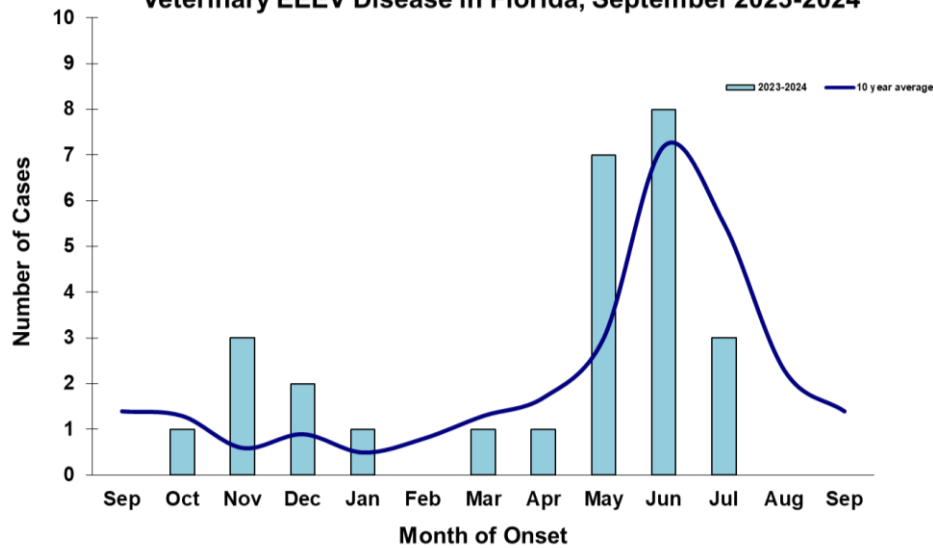
Country of Exposure	<i>Plasmodium falciparum</i>	<i>Plasmodium ovale</i>	<i>Plasmodium vivax</i>	Total
Africa	1			1
Angola	1			1
Benin	1			1
Cameroon	2			2
Central/South America			9	9
Chad	1			1
Côte D'Ivoire	2			2
Ecuador			1	1
Ethiopia	1		2	3
Gabon	1		1	2
Ghana	3			3
Honduras			1	1
India			1	1
Kenya	1			1
Malawi	2			2
Mexico			2	2
Nicaragua			1	1
Nigeria	15			15
Republic of the Congo		1		1
Sierra Leone	1			1
Solomon Islands			1	1
Sudan	1			1
Tanzania	2			2
Togo	1			1
Uganda/Rwanda	1			1
<b>Total</b>	<b>37</b>	<b>1</b>	<b>19</b>	<b>57</b>

### Veterinary Cases\*\*

\*\*Veterinary cases are reported by date of onset. Only mammalian veterinary cases are included in the graphs. One horse with WNV infection was reported this week in Brevard County.



**Veterinary EEEV Disease in Florida, September 2023-2024**



**Sentinel Chickens**

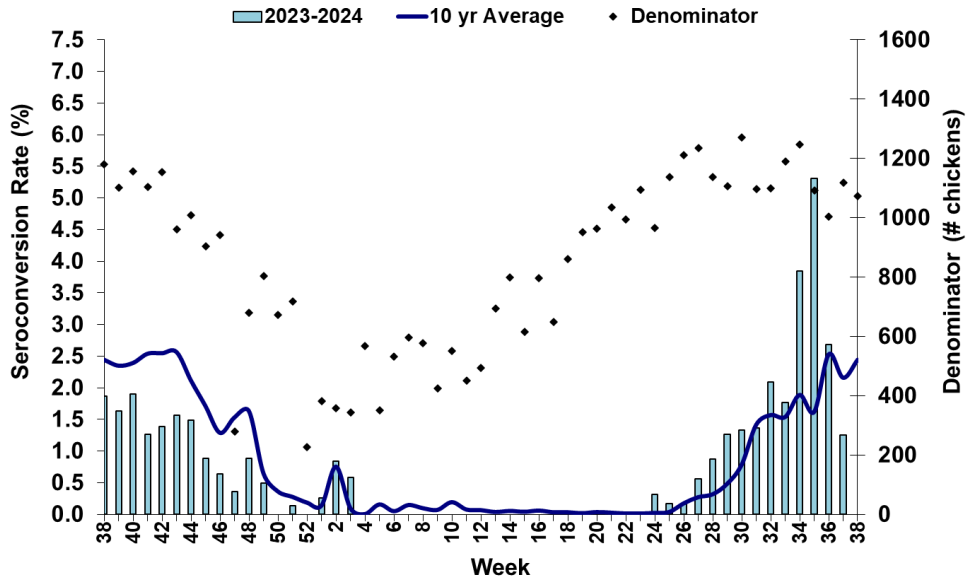
The table below is for the reporting of confirmatory laboratory results from this week. Some of the samples were collected at earlier dates. The date of collection is recorded for samples collected on that day along with the total number of positives and the corresponding seroconversion rate for the week the sample was collected.

Fifty-seven sentinel chickens tested positive for antibodies to WNV this week in Bay, Brevard, Charlotte, Citrus, Duval, Hernando, Hillsborough, Nassau, Orange, Pasco, Polk, St. Johns, Sumter, Volusia, and Walton counties. Three sentinel chickens tested positive for antibodies to SLEV this week in Alachua, Orange, and Sarasota counties.

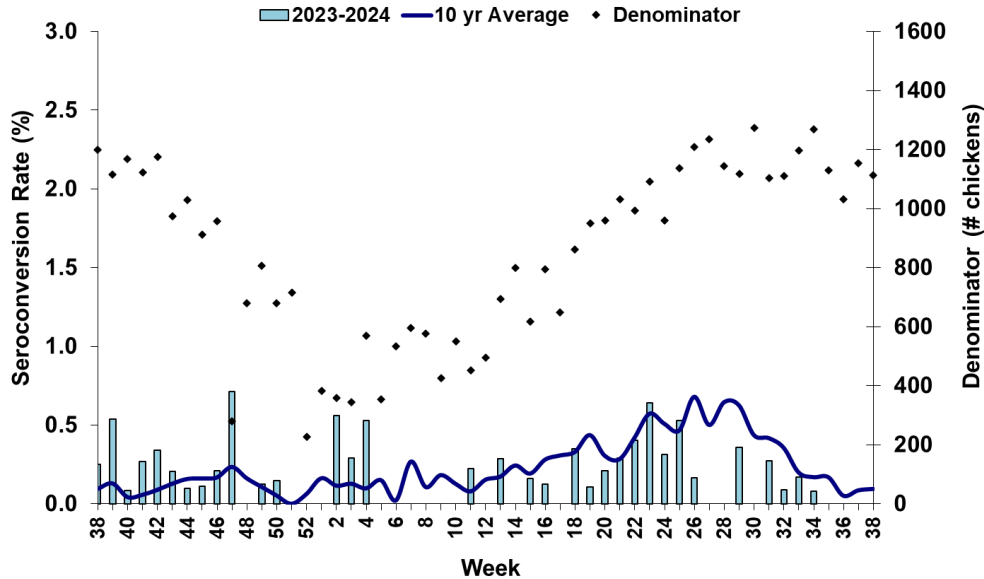
County	Collection Date	Seroconversion Rates (%)						County Totals	
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Alachua	8/30/2024	7.69	7.69					1 SLEV	11 WNV, 5 SLEV
Bay	8/26/2024	33.33		33.33				4 WNV	2 EEEV, 14 WNV
Brevard	8/22/2024	2.94		2.94				2 WNV	12 WNV, 1 SLE
Charlotte	8/30/2024	10.00		10.00				2 WNV	2 WNV
Citrus	8/19/2024	4.55		4.55				3 WNV	14 WNV, 6 EEEV, 1
	9/9/2024	3.03		3.03				2 WNV	Alphavirus, 1 SLEV
Duval	8/26/2024	3.45		3.45				1 WNV	6 WNV
Hernando	8/26/2024	5.71		5.71				2 WNV	
	9/9/2024	3.03		3.03				1 WNV	3 WNV
Hillsborough	8/26/2024	2.13		2.13				1 WNV	
	9/9/2024	8.70		8.70				4 WNV	1 EEEV, 9 WNV
Nassau	8/17/2024	11.11		11.11				4 WNV	
	8/29/2024	16.67		16.67				6 WNV	3 EEEV, 5 Flavivirus,
	9/7/2024	10.71		10.71				3 WNV	17 WNV, 2 SLEV
Orange	8/19/2024	0.87		0.87				1 WNV	
	8/26/2024	0.93		0.93				1 WNV	9 EEEV, 17 WNV, 2
	9/9/2024	1.92	0.96	0.96				1 WNV, 1 SLEV	SLEV
Pasco	8/26/2024	5.56		5.56				3 WNV	1 EEEV, 4 SLEV, 13
	9/9/2024	2.17		2.17				1 WNV	WNV
Polk	8/26/2024	2.50		2.50				1 WNV	1 EEEV, 14 WNV, 1
Sarasota	9/6/2024	1.49	1.49					1 SLEV	7 WNV, 2 SLEV
St. Johns	9/3/2024	2.22		2.22				1 WNV	2 EEEV, 2 WNV
Sumter	9/9/2024	4.17		4.17				1 WNV	1 WNV

Volusia	8/26/2024	8.51	8.51	4 WNV	2 EEEV, 18 WNV
	9/3/2024	2.13	2.13	1 WNV	
	9/9/2024	1.96	1.96	1 WNV	
Walton	8/20/2024	2.35	2.35	2 WNV	19 EEEV, 4 SLEV, 1 Alphavirus, 53 WNV, 1 HJ
	8/26/2024	1.45	1.45	1 WNV	
	9/9/2024	2.70	2.70	2 WNV	

**Sentinel Seroconversions to WNV in Florida, 2023–2024**



**Sentinel Seroconversions to EEEV in Florida, 2023–2024**



**Mosquito Pools**

One mosquito pool tested positive for WNV this week in Sarasota County.

County	Collection Date	Result	Species	County YTD
Sarasota	9/11/2024	1 WNV	<i>Cx. quinquefasciatus</i>	1 WNV

## Dead Birds

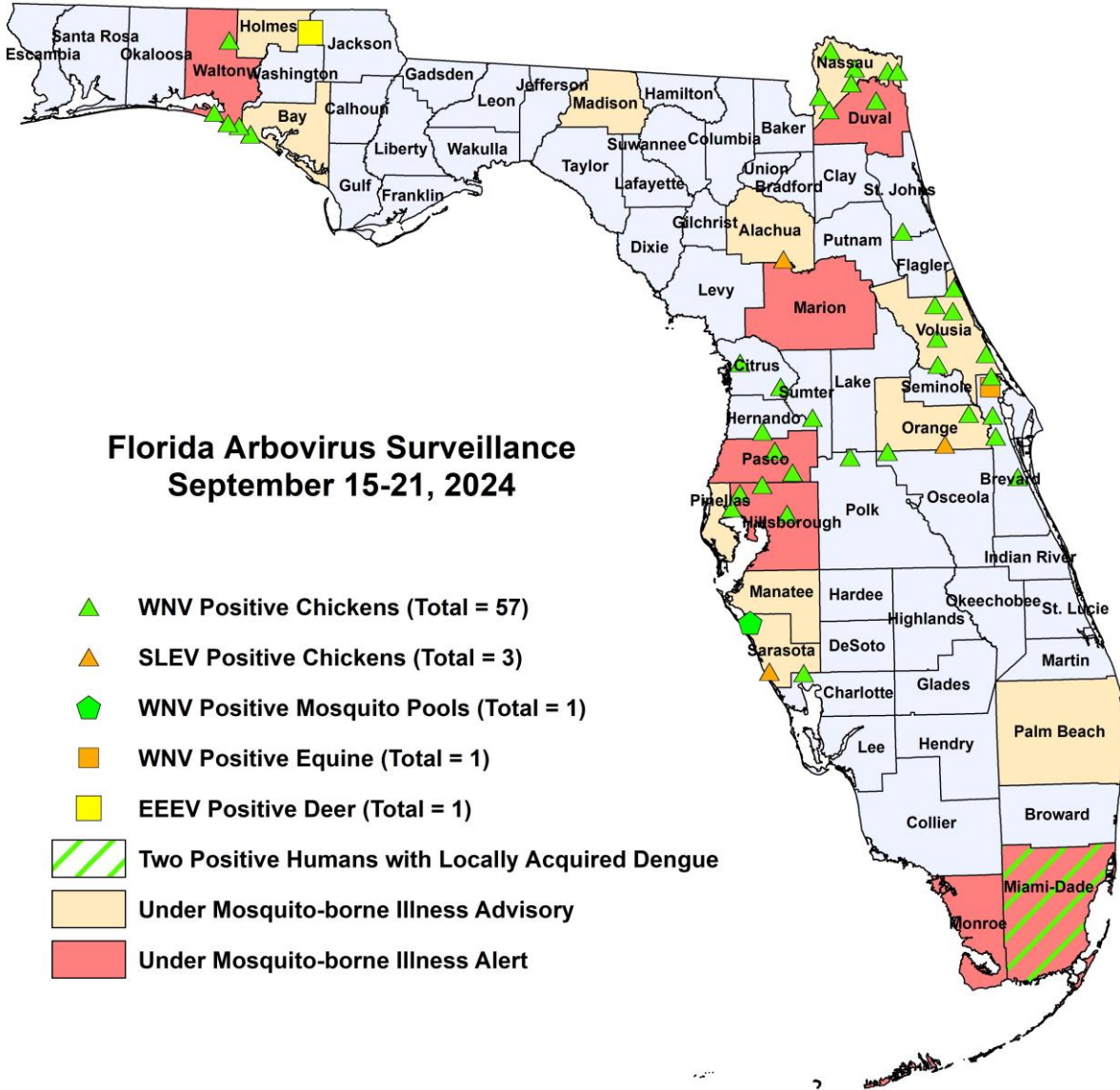
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 11 reports representing a total of 46 dead birds, including two raptors, were received from eight counties.

In 2024, 823 reports representing a total of 1803 dead birds (57 crows, 21 jays, 134 raptors, 88 doves) were received from 50 of Florida's 67 counties.

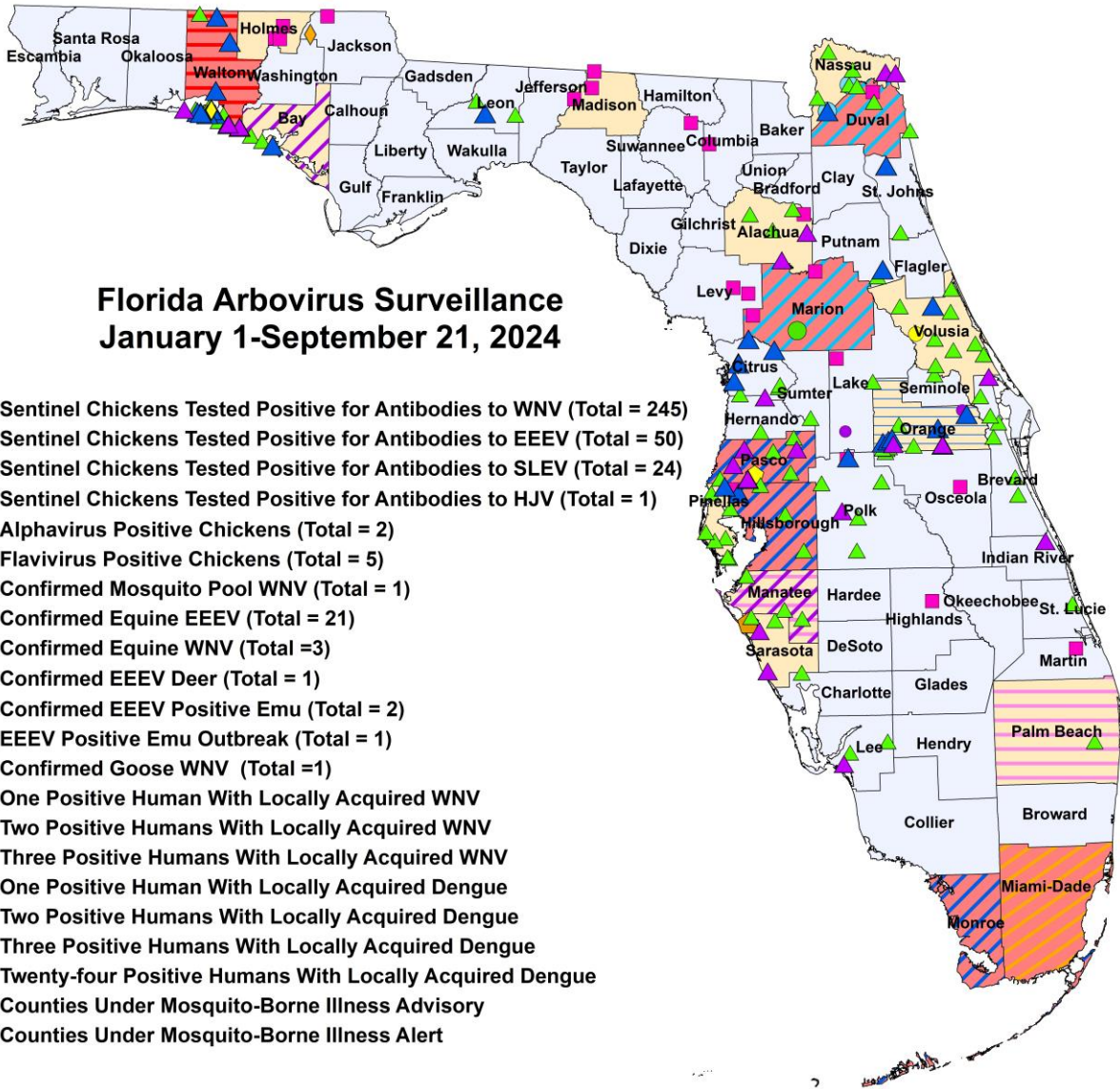
### 2024

County	Total Dead Birds	Crows	Jays	Raptors	Doves
Alachua	1	0	0	1	0
Bay	1	0	0	0	0
Brevard	2	0	0	0	0
Duval	1	0	0	0	0
Nassau	1	0	0	1	0
Palm Beach	38	0	0	0	0
Pinellas	1	0	0	0	0
Polk	1	0	0	0	0

## Maps







**2024 Mosquito-Borne Disease Activity by County**

County	Humans	Equines	Sentinel Chickens	Other
Alachua		1 EEEV (6/21)	11 WNV (7/2, 7/24, 8/2, 8/19) 5 SLEV (8/15, 8/30)	
Bay	1 WNV (August)		2 EEEV (5/28, 6/10) 14 WNV (7/22, 8/5, 8/12, 8/19, 8/26)	
Brevard		1 WNV (9/11)	12 WNV (1/3, 7/19, 7/26, 8/13, 8/14, 8/15, 8/22, 8/28, 8/30) 1 SLEV (8/23)	
Charlotte			2 WNV (8/30)	

County	Humans	Equines	Sentinel Chickens	Other
<b>Citrus</b>			14 WNV (1/9, 1/15, 6/25, 7/8, 8/19, 9/9) 6 EEEV (1/9, 1/15, 2/26, 3/11, 5/20) 1 Alphavirus (5/20) 1 SLEV (8/19)	
<b>Columbia</b>		1 EEEV (6/16)		
<b>Duval</b>	1 WNV (July) 1 asymptomatic WNV blood donor (August)	1 EEEV (5/25)	6 WNV (7/8, 7/15, 8/19, 8/26)	
<b>Hernando</b>			3 WNV (8/26, 9/9)	
<b>Highlands</b>		1 EEEV (5/25)		
<b>Hillsborough</b>	3 dengue (June (2), August)	1 EEEV (5/26)	1 EEEV (6/3) 9 WNV (6/10, 8/19, 8/26, 9/3, 9/9)	
<b>Holmes</b>		3 EEEV (6/16, 6/19)		
<b>Indian River</b>			1 SLEV (7/18)	
<b>Jackson</b>		1 EEEV (5/30)		1 EEEV deer (7/16)
<b>Lake</b>		1 EEEV (7/31)		1 EEEV emu (2/6)
<b>Lee</b>			1 SLEV (8/5) 2 WNV (8/12, 8/26)	
<b>Leon</b>			1 EEEV (6/18) 3 WNV (8/27)	
<b>Levy</b>		2 EEEV (5/21, 7/4)		
<b>Madison</b>		3 EEEV (6/20, 6/29, 7/24)		
<b>Mantatee</b>	1 dengue (July) 1 WNV (August)		3 WNV (8/7, 8/20, 8/27)	
<b>Marion</b>	1 asymptomatic WNV blood donor (July) 1 WNV (July)	2 EEEV (1/31, 3/29) 2 WNV (8/14, 9/9)		
<b>Martin</b>		1 EEEV (5/27)		
<b>Miami-Dade</b>	24 dengue (January (2), February, March (2), April, June (6), July (7), August (5))			
<b>Monroe</b>	3 dengue (June (3))			
<b>Nassau</b>			3 EEEV (5/3) 5 Flavivirus (5/3, 5/18, 5/23) 17 WNV (8/9, 8/17, 8/29, 9/7) 2 SLEV (8/23)	
<b>Orange</b>	2 dengue (August)		9 EEEV (2/26, 3/25, 5/6, 5/28, 6/3, 7/15, 7/29, 8/5, 8/19) 17 WNV (8/5, 8/6, 8/12, 8/19, 8/26, 9/3, 9/9) 2 SLEV (8/19, 9/9)	1 EEEV emu (3/16)
<b>Osceola</b>		1 EEEV (5/2)		
<b>Palm Beach</b>	1 dengue (August)		1 WNV (3/18)	
<b>Pasco</b>	3 dengue (January, August (2))		1 EEEV (5/13) 4 SLEV (6/10, 8/13, 8/19) 13 WNV (8/19, 8/26, 9/3, 9/9)	1 EEEV emu flock outbreak (4/22 for first emu)
<b>Pinellas</b>			2 EEEV (5/20, 5/28) 19 WNV (7/29, 8/5, 8/12, 8/19, 8/26, 9/3)	

County	Humans	Equines	Sentinel Chickens	Other
Polk		1 EEEV (4/9)	1 EEEV (6/10) 14 WNV (6/10, 7/22, 7/29, 8/6, 8/19, 8/26, 9/3) 1 SLEV (9/3)	
Putnam			1 EEEV (7/15) 1 WNV (8/26)	
Sarasota			7 WNV (7/12, 7/26, 8/20, 8/27, 9/2) 2 SLEV (8/20, 9/6)	1 WNV mosquito pool (Cx. quinquefasciatus 9/11)
Seminole			1 WNV (8/19)	
St. Johns			2 EEEV (6/3, 6/10) 2 WNV (8/19, 9/3)	
St. Lucie			1 WNV (7/2)	
Sumter			1 WNV (9/9)	
Suwannee		1 EEEV (6/3)		
Volusia			2 EEEV (1/22, 4/8) 18 WNV (7/8, 7/22, 7/29, 8/12, 8/19, 8/26, 9/3, 9/9)	1 WNV goose (8/14)
Walton	2 asymptomatic WNV blood donors (July, August) 1 WNV (July)		19 EEEV (3/25, 4/15, 5/13, 5/28, 6/3, 6/4, 6/17, 6/24, 7/15, 7/16, 7/30, 8/13) 4 SLEV (4/1, 7/29, 8/12, 8/19) 1 Alphavirus (6/3) 53 WNV (6/17, 7/1, 7/8, 7/15, 7/16, 7/22, 7/29, 7/30, 8/5, 8/6, 8/12, 8/19, 8/20, 8/26, 9/9, 9/3) 1 HJV (8/12)	

### Acknowledgements and Data Sources

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For more surveillance information, please see the DOH website at: [www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/surveillance.html](http://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/surveillance.html)

For arbovirus surveillance information for the United States, please see the Centers for Disease Control and Prevention website at: [www.cdc.gov/ncidod/dvbid/westnile/surv&control.htm](http://www.cdc.gov/ncidod/dvbid/westnile/surv&control.htm)

Case tallies included in the weekly Florida arbovirus surveillance report include confirmed and probable cases for EEE, WNV infection, SLE, dengue, chikungunya, and malaria by date of onset. Suspect cases are not included. Activity is mapped by county of exposure rather than county of residence. Case definitions being used in Florida are consistent with national criteria provided by the Council of State and Territorial Epidemiologists (CSTE) and may be viewed at: [www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/index.html](http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/index.html). Case tallies reported by CDC do not include suspect cases and cases are reported by patient state of residence rather than where the exposure occurred. Data is provided by county health departments, Department of Health Bureau of Public Health Laboratories, Department of Agriculture and Consumer Services, mosquito control agencies, Florida Fish and Wildlife Conservation Commission, medical providers and veterinarians. Equine cases are provided by the Department of Agriculture and Consumer Services.