



Florida Arbovirus Surveillance Week 40: September 29-October 5, 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 29-October 5, 2024, the following arboviral activity was recorded in Florida.

WNV activity: One human case of WNV infection was reported this week in Duval County. Two horses with WNV infection were reported this week in Marion County. Eighty-three sentinel chickens tested positive for antibodies to WNV this week in Alachua, Bay, Brevard, Citrus, Duval, Hillsborough, Hernando, Lee, Manatee, Nassau, Orange, Pasco, Pinellas, Polk, Putnam, Sarasota, St. Johns, Volusia, and Walton counties. In 2024, positive samples from five humans, five asymptomatic blood donors, five horses, one goose, one mosquito pool, and 461 sentinel chickens have been reported from 27 counties.

SLEV activity: No human cases of SLEV infection were reported this week. Four sentinel chickens tested positive for antibodies to SLEV this week in Brevard, Pasco, St. Johns, and Walton. In 2024, 29 sentinel chickens have been reported from 13 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. In 2024, positive samples from 51 sentinel chickens, 21 horses, two emus, one emu flock, and one deer have been reported from 26 counties.

International Travel-Associated Dengue: Forty-three cases of dengue were reported this week in persons that had international travel. In 2024, 591 travel-associated dengue cases have been reported.

Dengue Cases Acquired in Florida: Five cases of locally acquired dengue were reported this week. In 2024, 45 cases of locally acquired dengue have been reported from eight counties.

International Travel-Associated Chikungunya Fever Cases: No cases of chikungunya fever were reported this week in persons that had international travel. In 2024, nine 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, 86 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, Broward, Citrus, Holmes, Madison, Manatee, Nassau, Orange, Palm Beach, Pinellas, Putnam, Sarasota, Sumter, 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	Guyana		
Mauritius	El Salvador		Peru		
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.

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, five human cases of WNV illness acquired in Florida have been reported in Bay (August), Duval (July, September), 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: Nine 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, Hillsborough, and Pasco. Countries of origin were: Brazil (5) and India (4). Two cases were reported in non-Florida residents.

2024 International Travel-Associated Oropouche Cases: Eighty-six 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 (5), Marion, Miami-Dade (51), Orange (3), Palm Beach (2), Pasco (3), Polk (4), Sarasota, and St. Lucie. Country of origin was Cuba (86).

2024 International Travel-Associated Dengue Cases: Five hundred ninety-one 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 (74), Charlotte (2), Collier (8), Columbia, Duval (7), Escambia (2), Flagler, Hendry, Hernando, Hillsborough (43), Indian River, Lake (3), Lee (18), Levy (2), Manatee, Marion (4), Martin (2), Miami-Dade (272), Monroe (4), Okaloosa, Okeechobee (3), Orange (36), Osceola (16), Palm Beach (36), Pasco (6), Pinellas (4), Polk (12), Santa Rosa (2), Sarasota (4), Seminole (4), St. Lucie (8), and Volusia (4). Fifty 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, 487 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	7	1		7	30
Colombia/Panama						1	1
Costa Rica			4	2			6
Cuba		1	143	78	1	32	255
Dominican Republic			12			4	16
El Salvador	2		9			1	12
El Salvador/Honduras	1						1
Grenada		1					1
Guatemala			12			4	16
Guyana			3				3
Honduras			30		1	6	37
India	2	1				1	4
Indonesia		1				2	3
Jamaica		1				1	2
Maldives		1					1
Mexico	3	2	16	1		2	24
Netherlands Antilles		1					1
Nicaragua	1		1	1		4	7
Panama			1				1
Paraguay		3					3
Peru	2	2	1				5
Philippines				1		1	2
Puerto Rico	7	7	14			6	34
Puerto Rico/US Virgin Islands			1				1
Saint Barthélemy		2				1	3
Surinam		1					1
Trinidad and Tobago		2	20			5	27
US Virgin Islands		4				1	5
Venezuela			4			4	8
Total	63	59	279	84	2	104	591

2024 Dengue Cases Acquired in Florida: In 2024, 45 cases of locally acquired dengue have been reported in Broward, Hillsborough (3), Manatee, Miami-Dade (28), Monroe (3), Orange (2), Palm Beach (2), and Pasco (5) counties with onset in January (3), February, March (2), April, June (11), July (8), August (13), and September (6). Two cases were reported in non-Florida residents. Thirty-eight 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
Broward		1		1
Hillsborough	2	1		3
Manatee		1		1
Miami-Dade		25	3	28
Monroe	2		1	3
Orange		2		2
Palm Beach			2	2
Pasco		4	1	5
Total	4	34	7	45

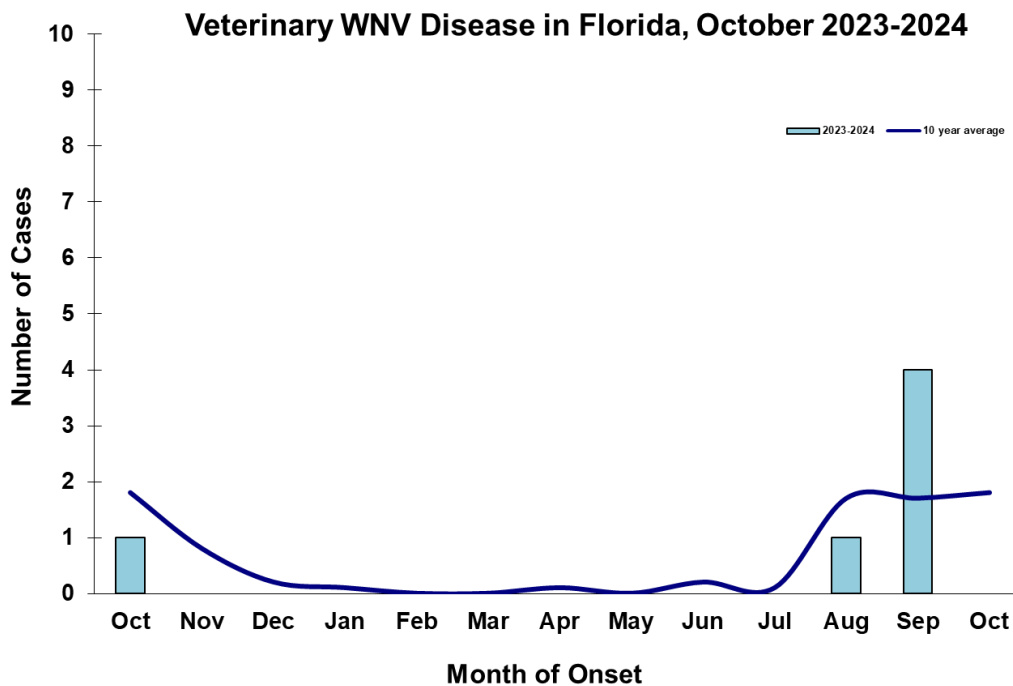
2024 International Travel-Associated Malaria Cases: Fifty-nine cases of malaria with onset in 2024 have been reported in individuals with a travel history to a malaria-endemic area. Counties reporting cases were: Alachua (2), Brevard (2), Broward (7), Clay, Collier, Duval (6), Escambia, Hillsborough (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.

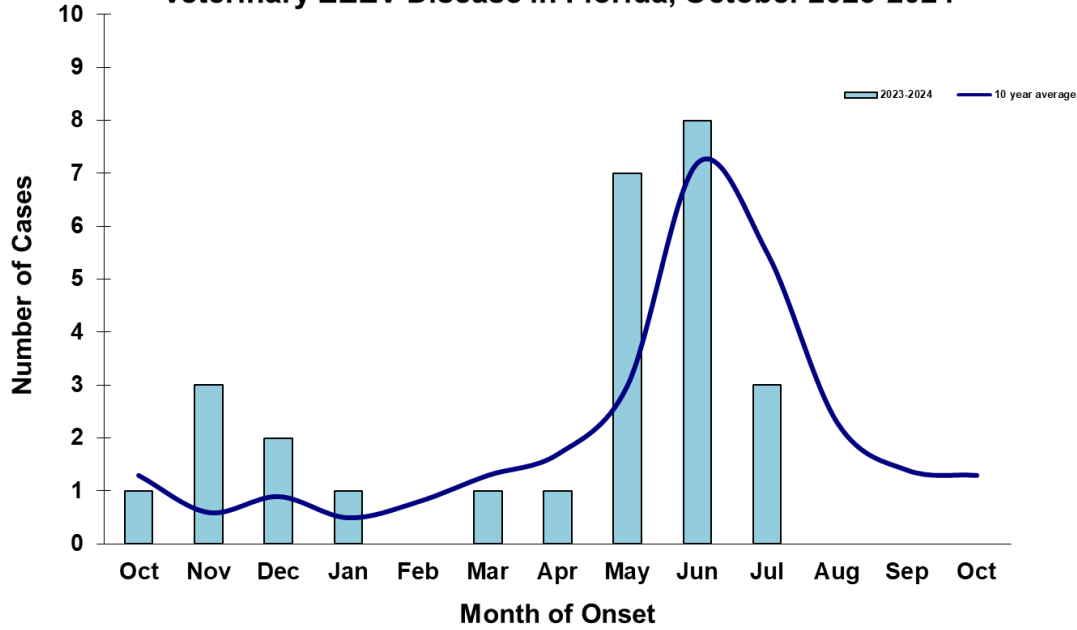
Country of Exposure	<i>Plasmodium falciparum</i>	<i>Plasmodium ovale</i>	<i>Plasmodium vivax</i>	Total
Africa	1			1
Angola	1			1
Benin	1			1
Cameroon	2			2
Central/South America			9	9
Chad	2			2
Côte D'Ivoire	2			2
Ecuador			1	1
Ethiopia	1		2	3
Gabon	1		1	2
Ghana	3			3
Honduras			1	1
India			1	1
Kenya	1			1
Malawi	2			2
Mexico			2	2
Nicaragua			1	1
Nigeria	15			15
Republic of the Congo		1		1
Sierra Leone	2			2
Solomon Islands			1	1
Sudan	1			1
Tanzania	2			2
Togo	1			1
Uganda/Rwanda	1			1
Total	39	1	19	59

Veterinary Cases**

**Veterinary cases are reported by date of onset. Only mammalian veterinary cases are included in the graphs. Two horses with WNV infection were reported this week in Marion County.



Veterinary EEEV Disease in Florida, October 2023-2024



Sentinel Chickens

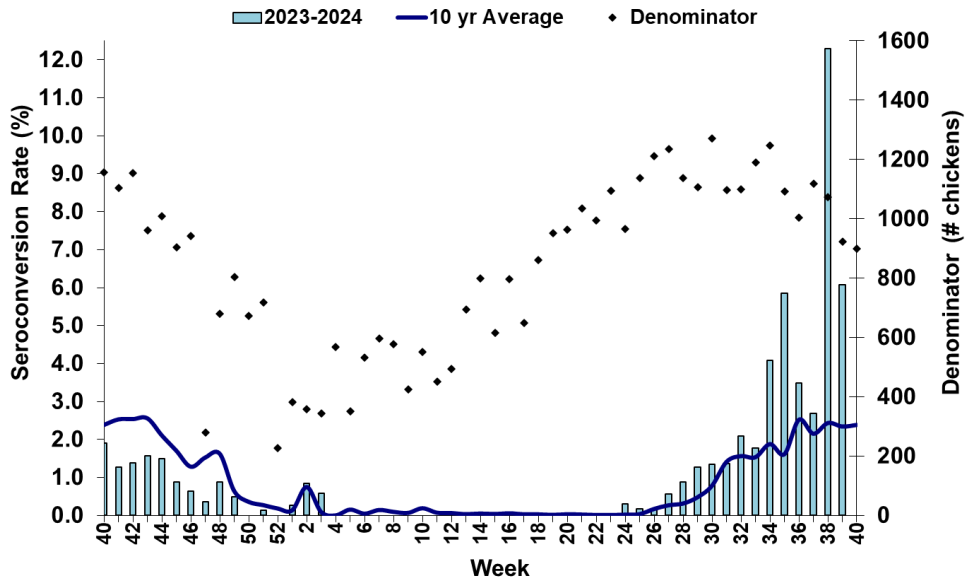
The table below is for the reporting of confirmatory laboratory results from this week. Some of the samples were collected at earlier dates. The date of collection is recorded for samples collected on that day along with the total number of positives and the corresponding seroconversion rate for the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

Eighty-three sentinel chickens tested positive for antibodies to WNV this week in Alachua, Bay, Brevard, Citrus, Duval, Hillsborough, Hernando, Lee, Manatee, Nassau, Orange, Pasco, Pinellas, Polk, Putnam, Sarasota, St. Johns, Volusia, and Walton counties. Four sentinel chickens tested positive for antibodies to SLEV this week in Brevard, Pasco, St. Johns, and Walton.

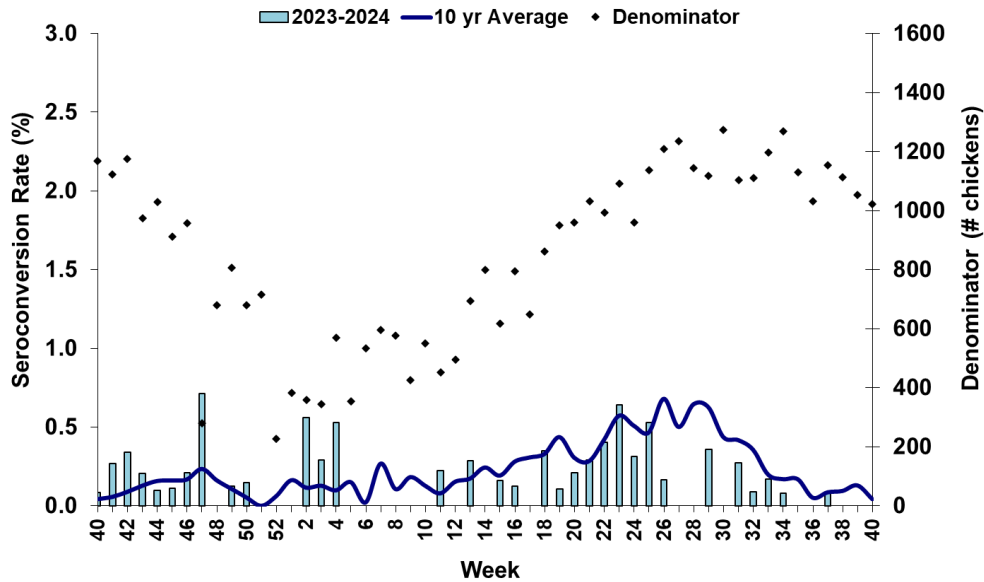
County	Collection Date	Seroconversion Rates (%)						County Totals	
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Alachua	9/13/2024	12.50		12.50				1 WNV	16 WNV, 5 SLEV
	9/18/2024	22.22		22.22				4 WNV	
Bay	9/23/2024	66.67		66.67				2 WNV	2 EEEV, 19 WNV
Brevard	9/19-9/20/2024	5.08	1.69	3.39				1 SLEV, 2 WNV	18 WNV, 2 SLE
Citrus	9/23/2024	3.51		3.51				2 WNV	22 WNV, 6 EEEV, 1 Alphavirus, 1 SLEV
Duval	9/23/2024	17.39		17.39				4 WNV	13 WNV
Hernando	9/23/2024	3.70		3.70				1 WNV	9 WNV
Hillsborough	9/23/2024	7.14		7.14				3 WNV	1 EEEV, 15 WNV
Lee	9/24/2024	0.93		0.93				1 WNV	1 SLEV, 3 WNV
Manatee	9/24/2024	4.88		4.88				2 WNV	10 WNV
Nassau	9/21/2024	52.63		52.63				10 WNV	4 EEEV, 5 Flavivirus, 31 WNV, 2 SLEV
Orange	9/23/2024	9.43		9.43				5 WNV	9 EEEV, 39 WNV, 2 SLEV
Pasco	9/23/2024	20.00	3.33	16.67				5 WNV, 1 SLEV	1 EEEV, 5 SLEV, 36 WNV
Pinellas	9/23/2024	10.26		10.26				4 WNV	2 EEEV, 32 WNV, 1

					SLEV
Polk	9/23/2024	5.88	5.88	2 WNV	1 EEEV, 18 WNV, 1 SLEV
Putnam	9/23/2024	25.00	25.00	4 WNV	1 EEEV, 5 WNV
Sarasota	9/20/2024	2.99	2.99	2 WNV	14 WNV, 2 SLEV
St. Johns	9/17/2024	4.35	2.17	1 WNV, 1 SLEV	2 EEEV, 5 WNV, 1 SLEV
	9/23/2024	4.35	4.35	2 WNV	
Volusia	9/24/2024	17.14	17.14	6 WNV	2 EEEV, 36 WNV
Walton	9/17/2024	25.71	1.43	9 WNV	19 EEEV, 5 SLEV, 1 Alphavirus, 88 WNV, 1 HJ
	9/23/2024	17.14	15.71	11 WNV, 1 SLEV	

Sentinel Seroconversions to WNV in Florida, 2023–2024



Sentinel Seroconversions to EEEV in Florida, 2023–2024



Mosquito Pools

No mosquito pools tested positive this week.

County	Collection Date	Result	Species	County YTD

Dead Birds

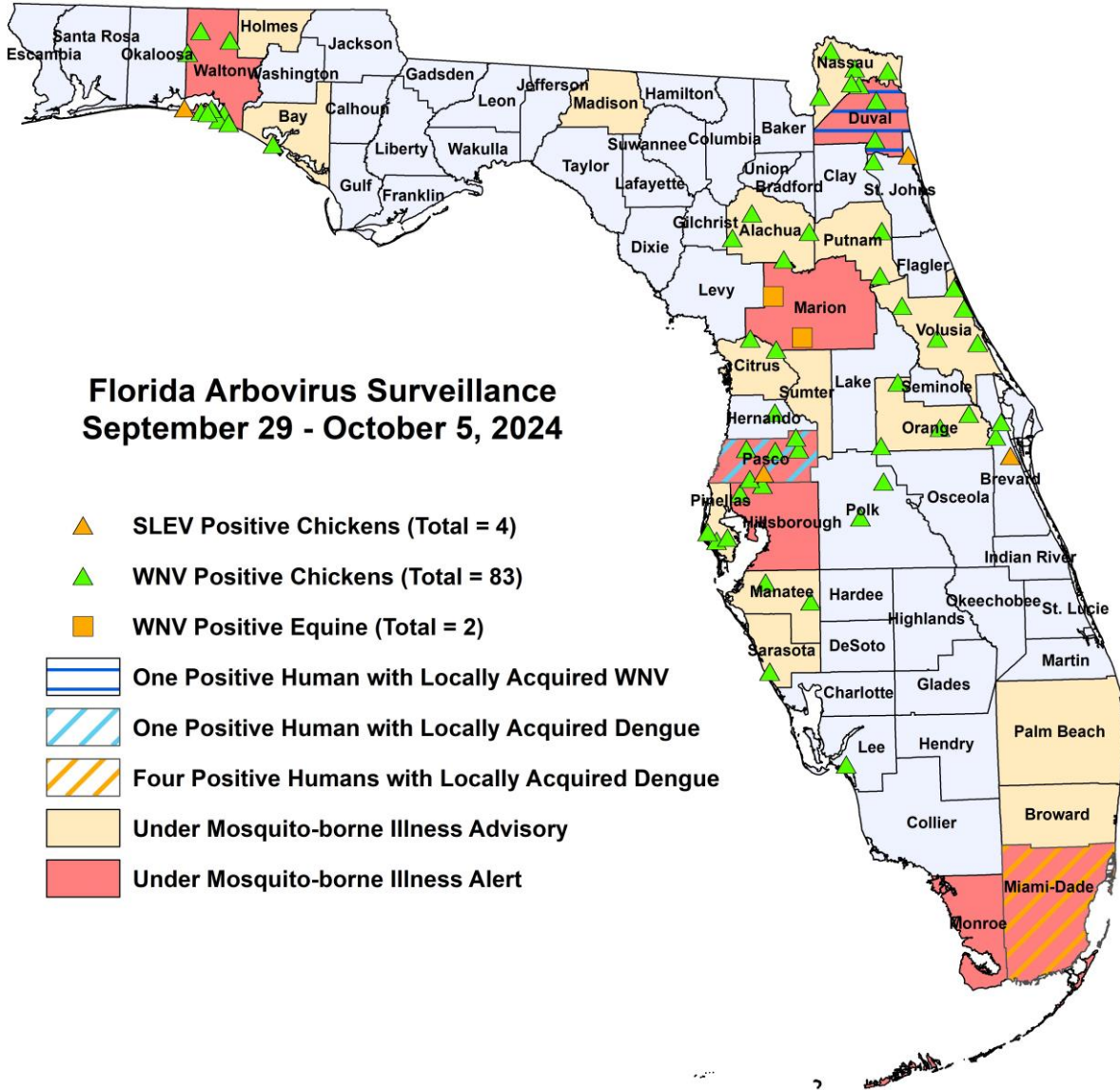
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 18 reports representing a total of 27 dead birds, including four crows, two raptors, and one dove, were received from eight counties.

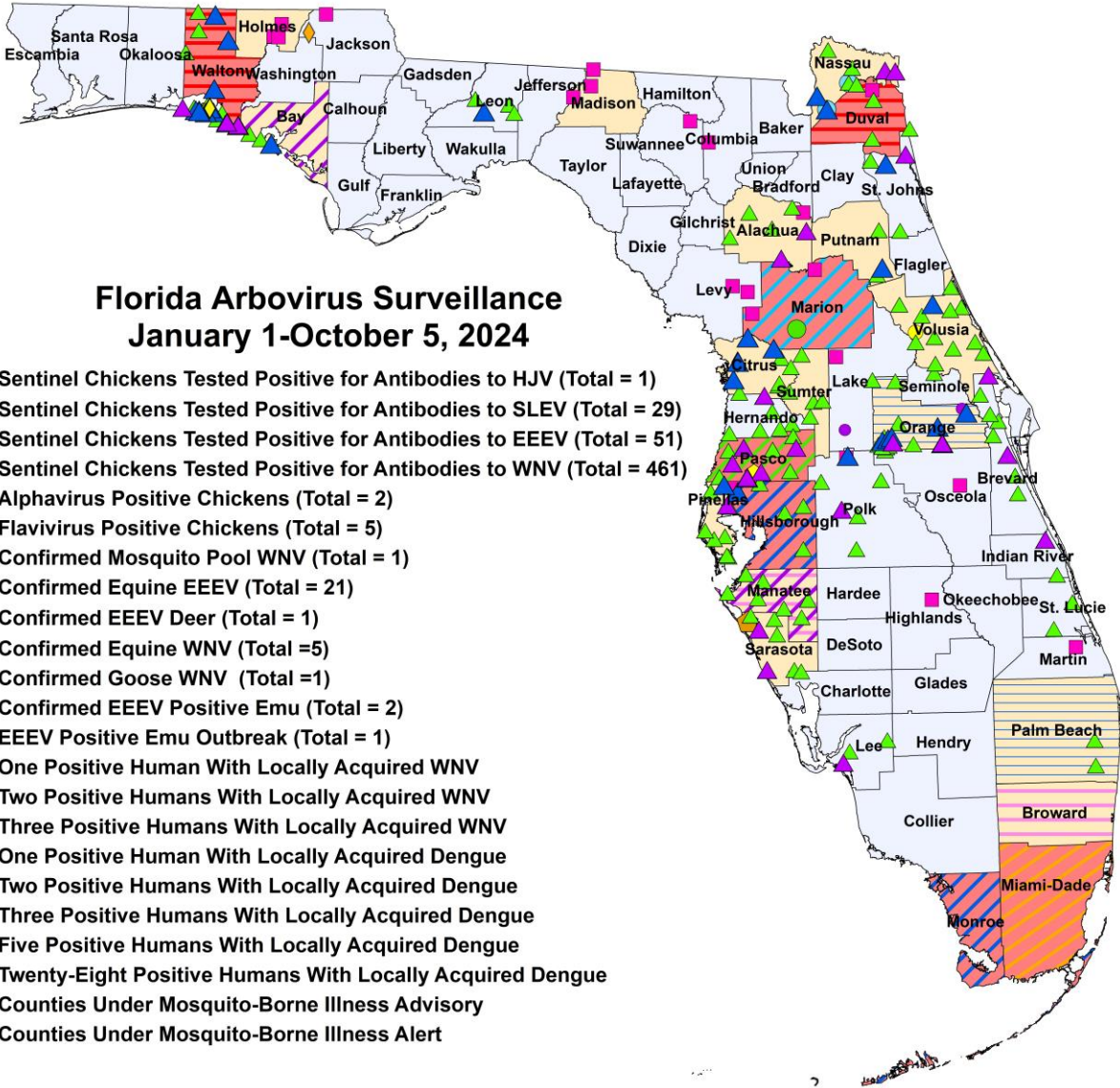
In 2024, 852 reports representing a total of 1884 dead birds (61 crows, 21 jays, 138 raptors, 89 doves) were received from 50 of Florida's 67 counties.

2024

County	Total Dead Birds	Crows	Jays	Raptors	Doves
Bay	7	0	0	0	0
Duval	3	0	0	0	0
Hernando	1	0	0	0	0
Palm Beach	3	0	0	0	0
Pinellas	9	1	0	2	1
Polk	1	1	0	0	0
Santa Rosa	1	0	0	0	0
Volusia	2	2	0	0	0

Maps





Florida Arbovirus Surveillance January 1-October 5, 2024

- ◆ Sentinel Chickens Tested Positive for Antibodies to HJV (Total = 1)
- ▲ Sentinel Chickens Tested Positive for Antibodies to SLEV (Total = 29)
- ▲ Sentinel Chickens Tested Positive for Antibodies to EEEV (Total = 51)
- ▲ Sentinel Chickens Tested Positive for Antibodies to WNV (Total = 461)
- ◆ Alphavirus Positive Chickens (Total = 2)
- Flavivirus Positive Chickens (Total = 5)
- Confirmed Mosquito Pool WNV (Total = 1)
- Confirmed Equine EEEV (Total = 21)
- ◆ Confirmed EEEV Deer (Total = 1)
- Confirmed Equine WNV (Total = 5)
- Confirmed Goose WNV (Total = 1)
- Confirmed EEEV Positive Emu (Total = 2)
- ◆ EEEV Positive Emu Outbreak (Total = 1)
- One Positive Human With Locally Acquired WNV
- Two Positive Humans With Locally Acquired WNV
- Three Positive Humans With Locally Acquired WNV
- One Positive Human With Locally Acquired Dengue
- Two Positive Humans With Locally Acquired Dengue
- Three Positive Humans With Locally Acquired Dengue
- Five Positive Humans With Locally Acquired Dengue
- Twenty-Eight Positive Humans With Locally Acquired Dengue
- Counties Under Mosquito-Borne Illness Advisory
- Counties Under Mosquito-Borne Illness Alert

2024 Mosquito-Borne Disease Activity by County

County	Humans	Equines	Sentinel Chickens	Other
Alachua		1 EEEV (6/21)	16 WNV (7/2, 7/24, 8/2, 8/19, 9/13, 9/18) 5 SLEV (8/15, 8/30)	
Bay	1 WNV (August)		2 EEEV (5/28, 6/10) 19 WNV (7/22, 8/5, 8/12, 8/19, 8/26, 9/14, 9/17, 9/23)	
Brevard		1 WNV (9/11)	18 WNV (1/3, 7/19, 7/26, 8/13, 8/14, 8/15, 8/22, 8/28, 8/29, 8/30, 9/12, 9/13, 9/19, 9/20) 2 SLEV (8/23, 9/19)	
Broward	1 dengue (August)			
Charlotte			2 WNV (8/30)	

County	Humans	Equines	Sentinel Chickens	Other
Citrus			22 WNV (1/9, 1/15, 6/25, 7/8, 8/19, 9/3, 9/9, 9/16, 9/23) 6 EEEV (1/9, 1/15, 2/26, 3/11, 5/20) 1 Alphavirus (5/20) 1 SLEV (8/19)	
Columbia		1 EEEV (6/16)		
Duval	2 WNV (July, September) 1 asymptomatic WNV blood donor (August)	1 EEEV (5/25)	13 WNV (7/8, 7/15, 8/19, 8/26, 9/16, 9/23)	
Hernando			9 WNV (8/26, 9/9, 9/16, 9/23)	
Highlands		1 EEEV (5/25)		
Hillsborough	3 dengue (June (2), August)	1 EEEV (5/26)	1 EEEV (6/3) 15 WNV (6/10, 8/19, 8/26, 9/3, 9/9, 9/12, 9/23)	
Holmes		3 EEEV (6/16, 6/19)		
Indian River			1 SLEV (7/18) 1 WNV (9/13)	
Jackson		1 EEEV (5/30)		1 EEEV deer (7/16)
Lake		1 EEEV (7/31)		1 EEEV emu (2/6)
Lee			1 SLEV (8/5) 3 WNV (8/12, 8/26, 9/24)	
Leon			1 EEEV (6/18) 6 WNV (8/19, 8/27, 9/16)	
Levy		2 EEEV (5/21, 7/4)		
Madison		3 EEEV (6/20, 6/29, 7/24)		
Mantatee	1 dengue (July) 1 WNV (August)		10 WNV (8/7, 8/20, 8/27, 9/4, 9/17, 9/24)	
Marion	1 asymptomatic WNV blood donor (July) 1 WNV (July)	2 EEEV (1/31, 3/29) 4 WNV (8/14, 9/9, 9/21, 9/27)		
Martin		1 EEEV (5/27)		
Miami-Dade	28 dengue (January (2), February, March (2), April, June (6), July (7), August (5), September (4))			
Monroe	3 dengue (June (3))			
Nassau			4 EEEV (5/3, 9/12) 5 Flavivirus (5/3, 5/18, 5/23) 31 WNV (8/9, 8/17, 8/23, 8/29, 9/7, 9/12, 9/21) 2 SLEV (8/23)	
Orange	2 dengue (August)		9 EEEV (2/26, 3/25, 5/6, 5/28, 6/3, 7/15, 7/29, 8/5, 8/19) 39 WNV (8/5, 8/6, 8/12, 8/19, 8/26, 9/3, 9/9, 9/16, 9/23) 2 SLEV (8/19, 9/9)	1 EEEV emu (3/16)
Osceola		1 EEEV (5/2)		
Palm Beach	2 dengue (August (2))		4 WNV (3/18, 9/3)	
Pasco	5 dengue (January, August (2), September (2))		1 EEEV (5/13) 5 SLEV (6/10, 8/13, 8/19, 9/23) 36 WNV (8/19, 8/26, 9/3, 9/9, 9/16, 9/23)	1 EEEV emu flock outbreak (4/22 for first emu)

County	Humans	Equines	Sentinel Chickens	Other
Pinellas			2 EEEV (5/20, 5/28) 32 WNV (7/29, 8/5, 8/12, 8/19, 8/26, 9/3, 9/23) 1 SLEV (9/16)	
Polk		1 EEEV (4/9)	1 EEEV (6/10) 18 WNV (6/10, 7/22, 7/29, 8/6, 8/19, 8/26, 9/3, 9/16, 9/23) 1 SLEV (9/3)	
Putnam			1 EEEV (7/15) 5 WNV (8/26, 9/23)	
Sarasota			14 WNV (7/12, 7/26, 8/20, 8/27, 9/2, 9/13, 9/17, 9/18, 9/20) 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) 5 WNV (8/19, 9/3, 9/17, 9/23) 1 SLEV (9/17)	
St. Lucie			2 WNV (7/2, 9/11)	
Sumter			15 WNV (9/9, 9/16)	
Suwannee		1 EEEV (6/3)		
Volusia			2 EEEV (1/22, 4/8) 36 WNV (7/8, 7/22, 7/29, 8/12, 8/19, 8/26, 9/3, 9/9, 9/16, 9/24)	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) 5 SLEV (4/1, 7/29, 8/12, 8/19, 9/23) 1 Alphavirus (6/3) 88 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, 9/3, 9/9, 9/16, 9/17, 9/23) 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

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

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. 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.