



Florida Arbovirus Surveillance Week 45: November 3-9, 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 November 3-9, 2024, the following arboviral activity was recorded in Florida.

WNV activity: Three human cases of WNV infection were reported this week in Hernando, Lake, and Pinellas counties. Two horses with WNV infection were reported this week in Hernando and Marion Counties. Ninety-six sentinel chickens tested positive for antibodies to WNV this week in Brevard, Citrus, Duval, Hernando, Hillsborough, Indian River, Nassau, Orange, Pinellas, Polk, Sarasota, Seminole, St. Johns, St. Lucie, Volusia, and Walton counties. In 2024, positive samples from twelve humans, nine asymptomatic blood donors, eleven horses, two geese, one flamingo, two ducks, three mosquito pools, and 777 sentinel chickens have been reported from 29 counties.

SLEV activity: No human cases of SLEV infection were reported this week. No sentinel chickens tested positive for antibodies to SLEV this week. 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 55 sentinel chickens, 21 horses, two emus, one emu flock, one duck, and one deer have been reported from 26 counties.

International Travel-Associated Dengue: Thirty-eight cases of dengue were reported this week in persons that had international travel. In 2024, 758 travel-associated dengue cases have been reported.

Dengue Cases Acquired in Florida: Seven cases of locally acquired dengue were reported this week. In 2024, 66 cases of locally acquired dengue have been reported from ten 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, 90 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, Brevard, Broward, Citrus, Hernando, Holmes, Lake, Madison, Manatee, Martin, Nassau, Orange, Pinellas, Polk, Putnam, Sarasota, Seminole, Sumter, and Volusia counties are currently under a mosquito-borne illness advisory. Bay, Duval, Hillsborough, Marion, Miami-Dade, Monroe, Palm Beach, 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	Chikungunya
Africa and the Middle East	Americas	Asia and the Pacific Islands	Americas	Africa	Asia	Asia
Afghanistan	Colombia	French Polynesia	Bolivia	Nigeria	India	India
Iran	Costa Rica	Philippines	Brazil			
Burkina Faso	Cuba	India	Colombia			
Cape Verde	Dominican Republic		Cuba			
Central African Republic	Ecuador		Dominican Republic			
Ethiopia	El Salvador		Ecuador			
Ghana	Grenada		Guyana			
Mali	Guatemala		Peru			
Pakistan	Guyana					
Sudan	Honduras					
Togo	Mexico					
	Panama					
	Saint Lucia					
	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, twelve human cases of WNV illness acquired in Florida have been reported in Bay (August, September), Duval (July, September, October), Lake (October), Marion (July, September), Martin (September), Pinellas (October), Seminole (October), and Walton (July) counties. Nine asymptomatic positive blood donors were reported from Duval (August), Hernando (October), Manatee (August), Marion (July, October), Orange (September), Polk (October), 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: Ninety 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), Collier, Duval, Hillsborough (12), Lee (5), Marion, Miami-Dade (53), Orange (3), Palm Beach (2), Pasco (3), Polk (4), Sarasota, and St. Lucie. Country of origin was Cuba (90).

2024 International Travel-Associated Dengue Cases: Seven hundred fifty-eight 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 (88), Charlotte (2), Collier (15), Columbia, Duval (8), Escambia (3), Flagler, Hendry, Hernando, Hillsborough (51), Indian River, Lake (4), Lee (22), Levy (3), Manatee, Marion (5), Martin (2), Miami-Dade (371), Monroe (6), Okaloosa, Okeechobee (3), Orange (40), Osceola (18), Palm Beach (43), Pasco (9), Pinellas (7), Polk (14), Santa Rosa (3), Sarasota (4), Seminole (6), St. Lucie (10), and Volusia (6). Fifty-one 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, 625 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	DENV-2 /DENV-4	Unknown	Total
Argentina	3	4					7	14
Bangladesh		1						1
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			10	33
Colombia/Panama							1	1
Costa Rica	1	1	5	2				9
Cuba		1	180	149	1	1	48	380
Dominican Republic			12				4	16
El Salvador	2		10				1	13
El Salvador/Honduras	1							1
Grenada		2						2
Guatemala			15				4	19
Guyana			3					3
Honduras			33		1		8	42
India	2	1					2	5
Indonesia		1					2	3
Jamaica		1					1	2
Maldives		1						1
Mexico	4	2	18	1			2	27
Netherlands Antilles		1						1
Nicaragua	1		3	1			4	9
Panama			1					1
Paraguay		3						3
Peru	2	2	1					5
Philippines				1			2	3
Puerto Rico	7	8	17	1			6	39
Puerto Rico/US Virgin Islands			1					1
Saint Barthélemy		2					1	3
Saint Lucia			1					1
Surinam		1						1
Thailand/Vietnam		1						1
Trinidad and Tobago		2	21				9	32
US Virgin Islands		7					3	10
Venezuela			5				4	9
Total	65	67	334	156	2	1	133	758

2024 Dengue Cases Acquired in Florida: In 2024, 66 cases of locally acquired dengue have been reported in Broward (2), Hillsborough (4), Manatee, Miami-Dade (40), Monroe (3), Orange (2), Palm Beach (3), Pasco (9), Polk, and Sarasota counties with onset in January (3), February, March (2), April, June (11), July (8), August (14), September (18), and October. Three cases were reported in non-Florida residents. Fifty-four 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	DENV-4	Unknown	Total
Broward		1		1	2
Hillsborough	2	2			4
Manatee		1			1
Miami-Dade		34	2	4	40
Monroe	2			1	3
Orange		2			2
Palm Beach		1		2	3
Pasco		5		4	9
Polk			1		1
Sarasota	1				1
Total	5	46	3	12	66

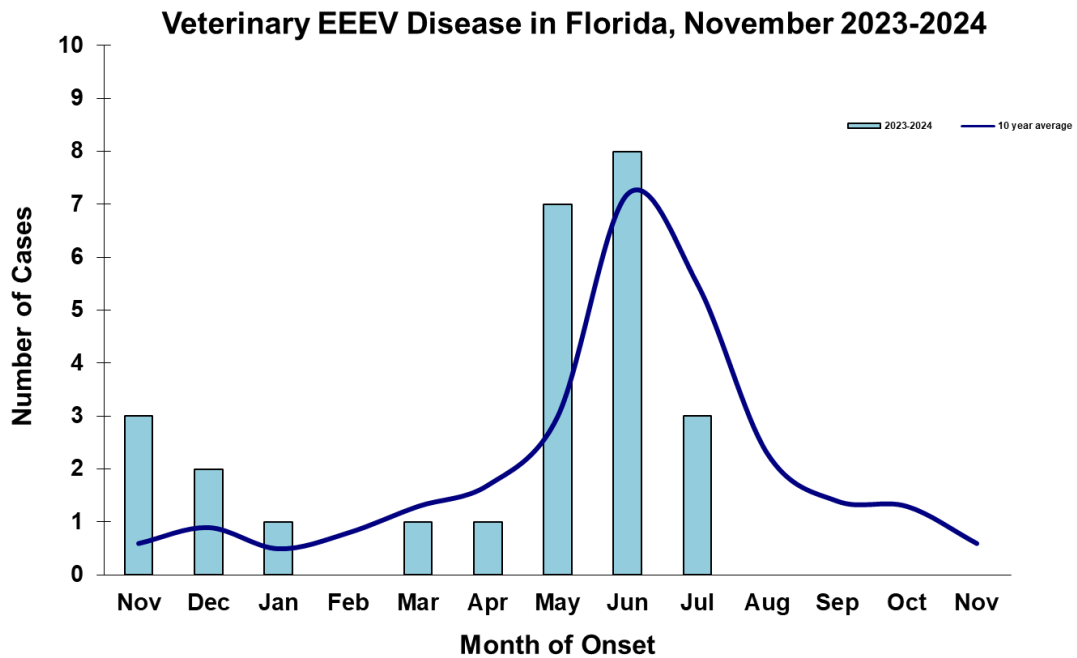
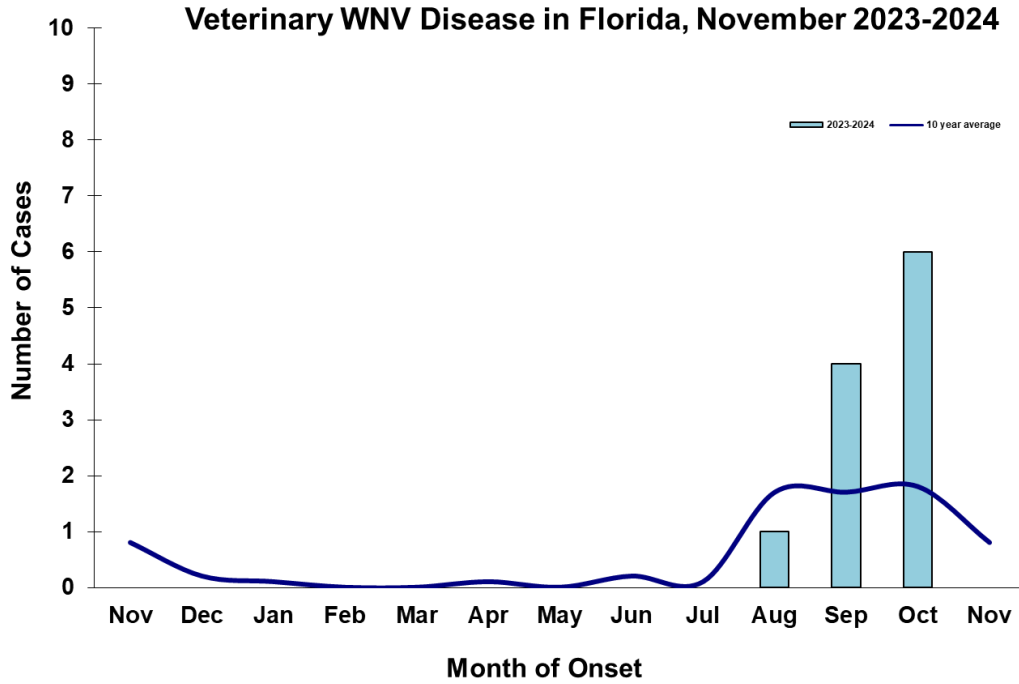
2024 International Travel-Associated Malaria Cases: Sixty-three cases of malaria with onset in 2024 have been reported in individuals with a travel history to a malaria-endemic area. Counties reporting cases were: Alachua (2), Brevard (2), Broward (7), Clay, Collier, Duval (6), Escambia, Flagler, Hillsborough (6), Indian River, Lee (2), Leon (2), Marion, Miami-Dade (3), Monroe, Okaloosa, Orange (7), Osceola (2), Palm Beach (3), Pasco (2), Pinellas (5), Polk (2), Santa Rosa, Sarasota, Seminole, and Volusia. Ten 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	3			3
Côte D'Ivoire	2			2
Ecuador			1	1
Ethiopia	1		2	3
Gabon	1		1	2
Ghana	4			4
Haiti	1			1
Honduras			1	1
India			1	1
Kenya	1			1
Malawi	2			2
Mexico			1	1
Nicaragua			1	1
Nigeria	17			17
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	44	1	18	63

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 Hernando and Marion Counties.



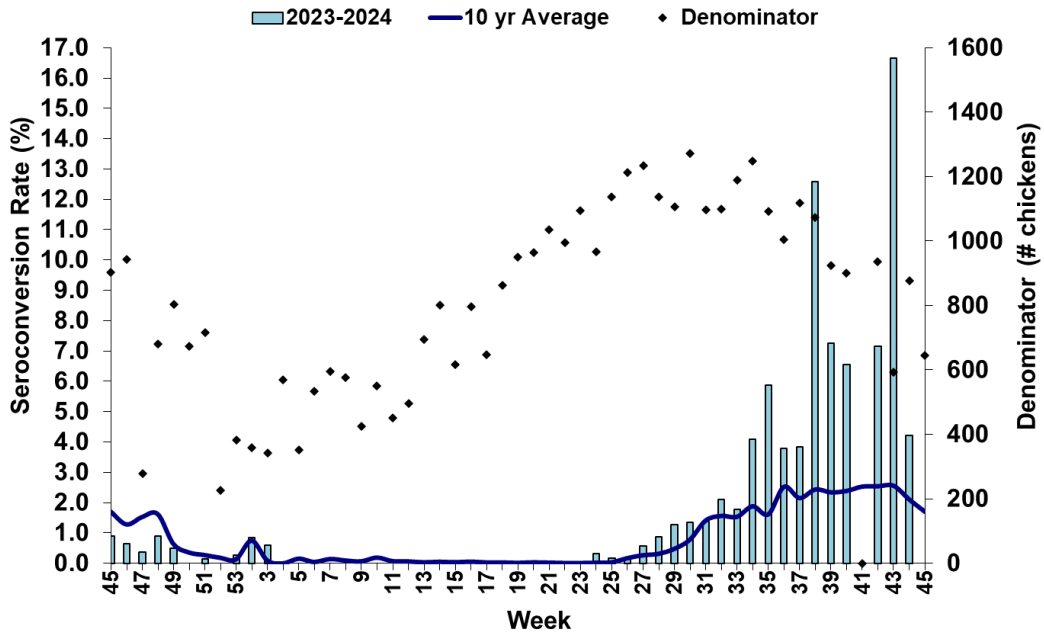
Sentinel Chickens

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.

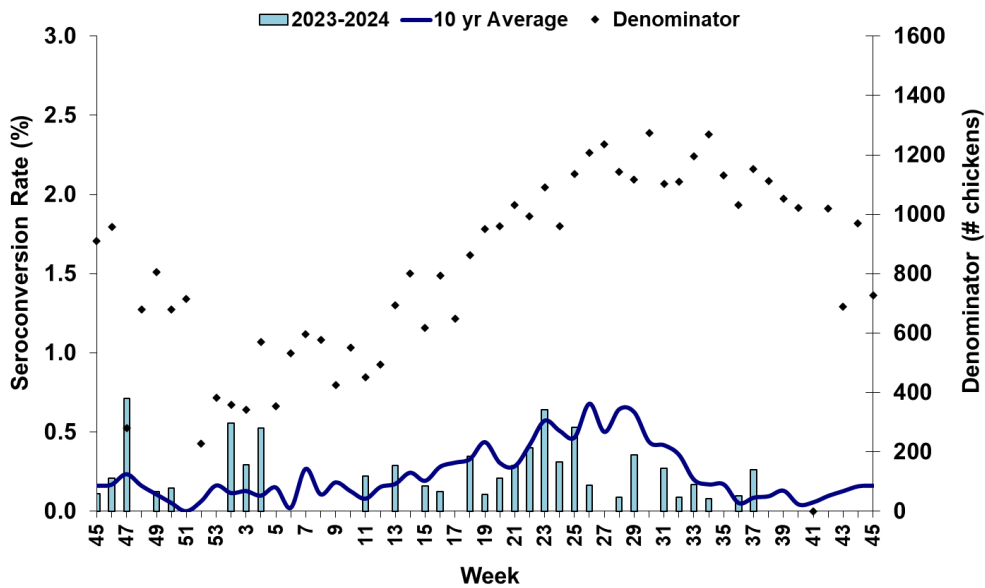
Ninety-six sentinel chickens tested positive for antibodies to WNV this week in Brevard, Citrus, Duval, Hernando, Hillsborough, Indian River, Nassau, Orange, Pinellas, Polk, Sarasota, Seminole, St. Johns, St. Lucie, Volusia, and Walton counties.

County	Collection Date	Seroconversion Rates (%)					County Totals		
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Brevard	10/8/2024	1.64		1.64				1 WNV	36 WNV, 2 SLE
	10/23-10/25/24	11.86		11.86				7 WNV	
Citrus	10/21/2024	33.87		33.87				21 WNV	61 WNV, 6 EEEV, 1 Alphavirus, 1 SLEV
	10/28/2024	9.68		9.68				6 WNV	
Duval	10/14/2024	5.00		5.00				1 WNV	21 WNV
	10/28/2024	6.25		6.25				1 WNV	
Hernando	10/14/2024	4.00		4.00				1 WNV	25 WNV
	10/28/2024	9.52		9.52				2 WNV	
Hillsborough	10/28/2024	4.17		4.17				1 WNV	1 EEEV, 25 WNV
Indian River	10/25/2024	4.55		4.55				2 WNV	1 SLEV, 4 WNV
Nassau	10/22/2024	42.86		42.86				3 WNV	6 EEEV, 5 Flavivirus, 37 WNV, 2 SLEV
Orange	10/15/2024	1.08		1.08				1 WNV	9 EEEV, 78 WNV, 2 SLEV
	10/21/2024	21.21		21.21				7 WNV	
	10/28/2024	8.97		8.97				7 WNV	
Pinellas	10/28/2024	13.33		13.33				4 WNV	2 EEEV, 56 WNV, 1 SLEV
Polk	10/28/2024	4.00		4.00				1 WNV	1 EEEV, 33 WNV, 1 SLEV
Sarasota	10/22/2024	2.99		2.99				2 WNV	18 WNV, 2 SLEV
	10/29/2024	1.49		1.49				1 WNV	
Seminole	10/28/2024	10.53		10.53				4 WNV	7 WNV
St. Johns	10/21/2024	2.33		2.33				1 WNV	2 EEEV, 10 WNV, 1 SLEV
St. Lucie	10/23/2024	4.88		4.88				2 WNV	8 WNV
Volusia	10/21/2024	3.23		3.23				1 WNV	2 EEEV, 67 WNV
	10/28/2024	12.50		12.50				4 WNV	
Walton	10/21-10/22/2024	12.50		12.50				9 WNV	20 EEEV, 5 SLEV, 1 Alphavirus, 117 WNV, 1 HJ
	10/28-10/29/2024	8.33		8.33				6 WNV	

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

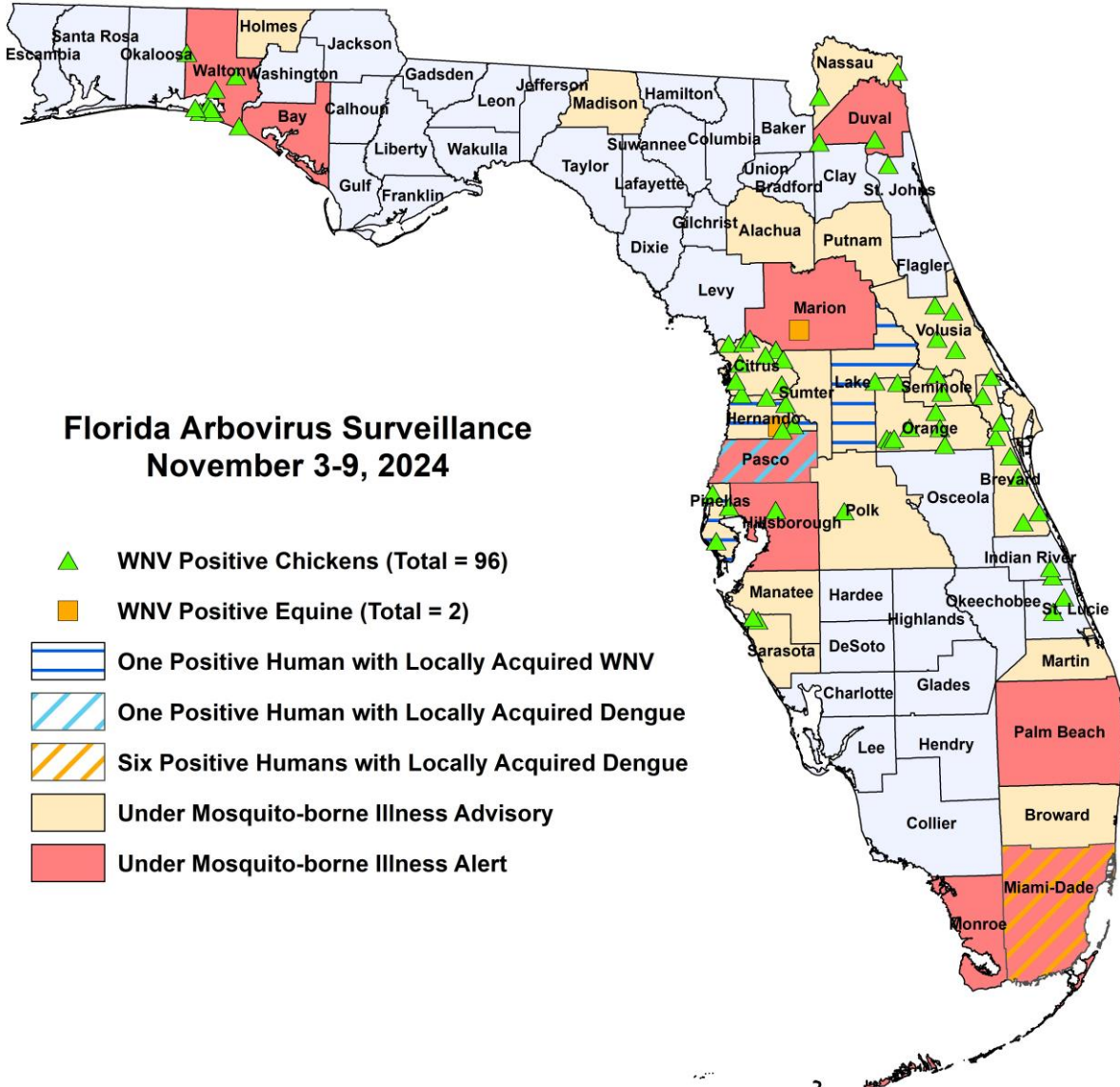
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 15 reports representing a total of 15 dead birds, including three raptors, were received from 13 counties.

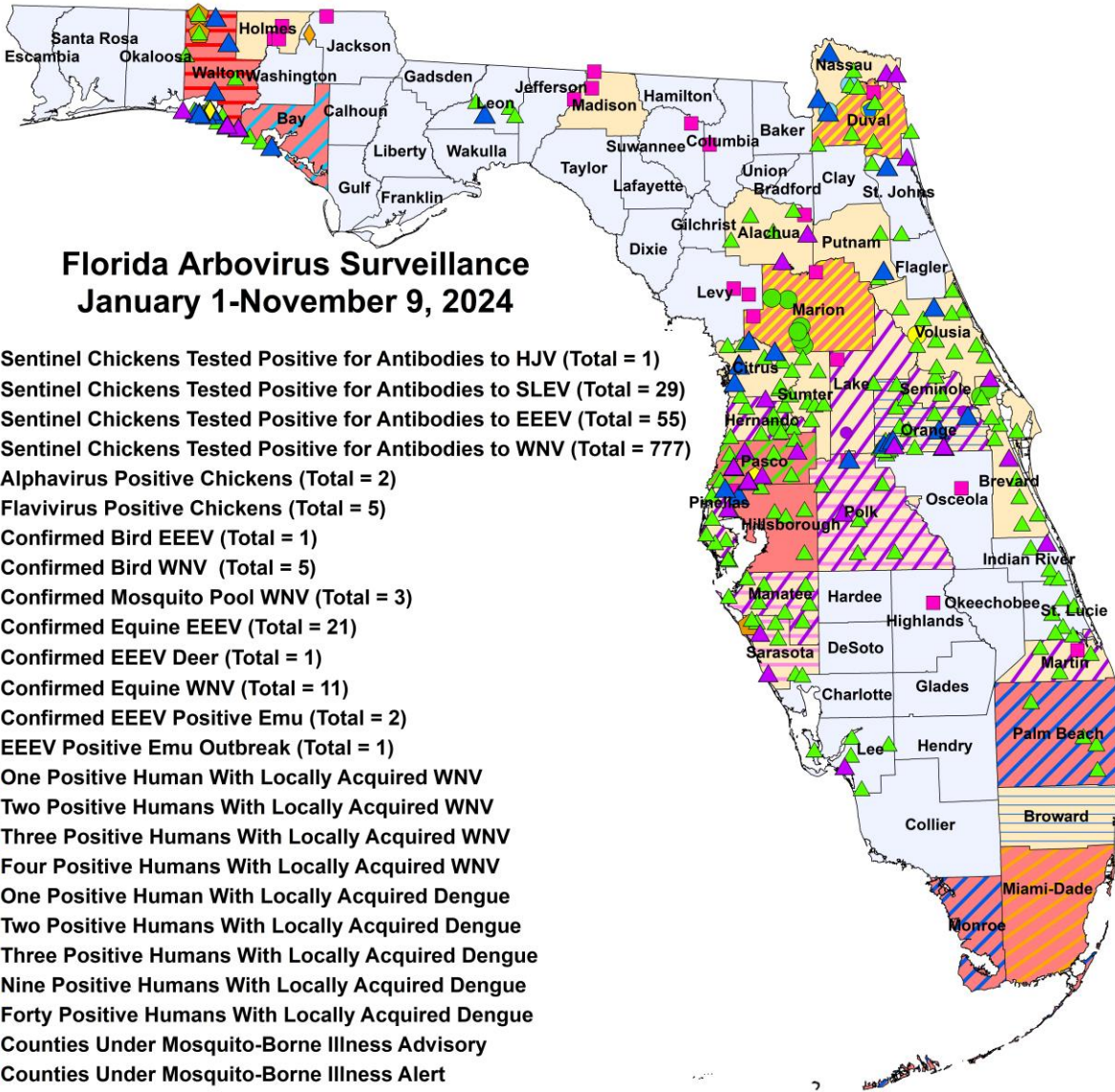
In 2024, 923 reports representing a total of 1980 dead birds (68 crows, 23 jays, 149 raptors, 92 doves) were received from 50 of Florida's 67 counties.

2024

County	Total Dead Birds	Crows	Jays	Raptors	Doves
Bay	1	0	0	0	0
Brevard	2	0	0	1	0
Broward	1	0	0	1	0
Charlotte	1	0	0	1	0
Hillsborough	1	0	0	0	0
Miami-Dade	1	0	0	0	0
Nassau	2	0	0	0	0
Pinellas	1	0	0	0	0
Polk	1	0	0	0	0
Sarasota	1	0	0	0	0
St. Johns	1	0	0	0	0
St. Lucie	1	0	0	0	0
Volusia	1	0	0	0	0

Maps





2024 Mosquito-Borne Disease Activity by County

County	Humans	Equines	Sentinel Chickens	Other
Alachua		1 EEEV (6/21)	22 WNV (7/2, 7/24, 8/2, 8/19, 9/13, 9/18(2), 9/26, 10/11, 10/17) 5 SLEV (8/15, 8/30)	
Bay	2 WNV (August, September)		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		2 WNV (9/11, 10/10)	36 WNV (1/3, 7/19, 7/26, 8/13, 8/14, 8/15, 8/22, 8/28, 8/29, 8/30, 9/5, 9/12, 9/13, 9/19, 9/20, 9/27, 10/7, 10/8, 10/16, 10/17, 10/18, 10/23, 10/24, 10/25) 2 SLEV (8/23, 9/19)	
Broward	2 dengue (August, September)			
Charlotte			2 WNV (8/30)	

County	Humans	Equines	Sentinel Chickens	Other
Citrus			61 WNV (1/9, 1/15, 6/25, 7/8, 8/19, 9/3, 9/9, 9/16, 9/23, 9/30, 10/8, 10/21, 10/28) 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	3 WNV (July, September, October) 1 asymptomatic WNV blood donor (August)	1 EEEV (5/25)	21 WNV (7/8, 7/15, 8/19, 8/26, 9/16, 9/23, 9/30, 10/14, 10/28)	2 WNV ducks (9/11, 10/11) 1 EEEV duck (10/11)
Hernando	1 asymptomatic WNV blood donor (October)	1 WNV (10/27)	25 WNV (8/26, 9/9, 9/16, 9/23, 9/30, 10/14, 10/21, 10/28)	
Highlands		1 EEEV (5/25)		
Hillsborough	4 dengue (June (2), August, September)	1 EEEV (5/26)	1 EEEV (6/3) 25 WNV (6/10, 8/19, 8/26, 9/3, 9/9, 9/12, 9/23, 10/2, 10/7, 10/21, 10/28)	
Holmes		3 EEEV (6/16, 6/19)		
Indian River			1 SLEV (7/18) 4 WNV (9/13, 10/17, 10/25)	
Jackson		1 EEEV (5/30)		1 EEEV deer (7/16)
Lake	1 WNV (October)	1 EEEV (7/31)		1 EEEV emu (2/6)
Lee			1 SLEV (8/5) 8 WNV (8/12, 8/26, 9/24, 9/30, 10/1, 10/14, 10/22)	
Leon			1 EEEV (6/18) 8 WNV (8/19, 8/27, 9/10, 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)		17 WNV (8/7, 8/20, 8/27, 9/4, 9/17, 9/24, 10/1, 10/15, 10/17)	
Marion	2 asymptomatic WNV blood donor (July, October) 2 WNV (July, September)	2 EEEV (1/31, 3/29) 8 WNV (8/14, 9/9, 9/21, 9/27, 10/2, 10/22, 10/29, 10/31)		
Martin	1 WNV (September)	1 EEEV (5/27)	3 WNV (9/26, 10/17)	
Miami-Dade	40 dengue (January (2), February, March (2), April, June (6), July (7), August (6), September (8), October (7))			
Monroe	3 dengue (June (3))			
Nassau			6 EEEV (5/3, 9/12) 5 Flavivirus (5/3, 5/18, 5/23) 37 WNV (8/9, 8/17, 8/23, 8/29, 9/7, 9/12, 9/21, 9/28, 10/22) 2 SLEV (8/23)	

County	Humans	Equines	Sentinel Chickens	Other
Orange	2 dengue (August) 1 asymptomatic WNV blood donor (September)		9 EEEV (2/26, 3/25, 5/6, 5/28, 6/3, 7/15, 7/29, 8/5, 8/19) 78 WNV (8/5, 8/6, 8/12, 8/19, 8/26, 9/3, 9/9, 9/16, 9/23, 9/30, 10/14, 10/15, 10/21, 10/28) 2 SLEV (8/19, 9/9)	1 EEEV emu (3/16) 1 WNV goose (10/17) 1 WNV flamingo (10/14)
Osceola		1 EEEV (5/2)		
Palm Beach	3 dengue (August (2), September)		7 WNV (3/18, 9/3, 9/30, 10/14)	
Pasco	9 dengue (January, August (2), September (6))		2 EEEV (5/13, 9/3) 5 SLEV (6/10, 8/13, 8/19, 9/23) 45 WNV (8/19, 8/26, 9/3, 9/9, 9/16, 9/23, 9/30, 10/15)	1 EEEV emu flock outbreak (4/22 for first emu)
Pinellas	1 WNV (October)		2 EEEV (5/20, 5/28) 56 WNV (7/29, 8/5, 8/12, 8/19, 8/26, 9/3, 9/23, 9/30, 10/7, 10/21, 10/28) 1 SLEV (9/16)	
Polk	1 dengue (September) 1 asymptomatic WNV blood donor (October)	1 EEEV (4/9)	1 EEEV (6/10) 33 WNV (6/10, 7/22, 7/29, 8/6, 8/19, 8/26, 9/3, 9/16, 9/23, 9/30, 10/15, 10/21, 10/28) 1 SLEV (9/3)	
Putnam			1 EEEV (7/15) 9 WNV (8/26, 9/23, 10/7, 10/21)	
Sarasota	1 dengue (September)		18 WNV (7/12, 7/26, 8/20, 8/27, 9/2, 9/13, 9/17, 9/18, 9/20, 10/15, 10/22, 10/29) 2 SLEV (8/20, 9/6)	1 WNV mosquito pool (Cx. <i>quinquefasciatus</i> 9/11)
Seminole	1 WNV (October)		7 WNV (8/19, 9/30, 10/28)	
St. Johns			2 EEEV (6/3, 6/10) 10 WNV (8/19, 9/3, 9/9, 9/17, 9/23, 10/14, 10/21) 1 SLEV (9/17)	
St. Lucie			8 WNV (7/2, 9/11, 10/2, 10/17, 10/23)	
Sumter			33 WNV (9/9, 9/16, 9/30, 10/21)	
Suwannee		1 EEEV (6/3)		
Volusia			2 EEEV (1/22, 4/8) 67 WNV (7/8, 7/22, 7/29, 8/12, 8/19, 8/26, 9/3, 9/9, 9/16, 9/24, 9/30, 10/7, 10/14, 10/21, 10/28)	1 WNV goose (8/14)
Walton	2 asymptomatic WNV blood donors (July, August) 1 WNV (July)		20 EEEV (3/25, 4/15, 5/13, 5/28, 6/3, 6/4, 6/17, 6/24, 7/9, 7/15, 7/16, 7/30, 8/13) 5 SLEV (4/1, 7/29, 8/12, 8/19, 9/23) 1 Alphavirus (6/3) 117 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, 9/24, 9/30, 10/1, 10/21, 10/22, 10/28, 10/29) 1 HJV (8/12)	2 WNV mosquito pools (Cx. <i>quinquefasciatus</i> 8/27, mixed <i>Culex</i> spp. 9/10)

Acknowledgements and Data Sources

Contributors: Andrea Morrison, PhD, MSPH, Rebecca Zimler, PhD, MPH, and Danielle Stanek, DVM, DOH Bureau of Epidemiology; Lea Heberlein, DrPH; Peter Dumoulin, PhD, Maribel Castaneda, and Amanda Davis, BS; DOH Bureau of Public Health Laboratories; Carina Blackmore, DVM, PhD, DOH Division of Disease Control and Health Protection.

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.