



Florida Arbovirus Surveillance Week 52: December 22-28, 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 December 22-28, 2024, the following arboviral activity was recorded in Florida.

WNV activity: No human cases of WNV infection were reported this week. No horses with WNV infection were reported this week. Three sentinel chickens tested positive for antibodies to WNV this week in Citrus, Palm Beach, and Pasco counties. In 2024, positive samples from 18 humans, 10 asymptomatic blood donors, 11 horses, two geese, one flamingo, three ducks, one alpaca, four mosquito pools, and 867 sentinel chickens have been reported from 33 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 59 sentinel chickens, 22 horses, two emus, one emu flock, one duck, and one deer have been reported from 26 counties.

International Travel-Associated Dengue: No cases of dengue were reported this week in persons that had international travel. In 2024, 911 travel-associated dengue cases have been reported.

Dengue Cases Acquired in Florida: No cases of locally acquired dengue were reported this week. In 2024, 85 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, eleven 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, 103 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, Nassau, Orange, Pinellas, Polk, Putnam, Sarasota, Seminole, Sumter, and Volusia counties are currently under a mosquito-borne illness advisory. Bay, Duval, Hillsborough, Manatee, Marion, Miami-Dade, Monroe, Palm Beach, and Pasco 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	Austral Islands	Barbados	Nigeria	India	India
Burkina Faso	Cuba	French Polynesia	Bolivia			
Cape Verde	Ecuador	India	Brazil (Espirito Santo)			
Central African Republic	El Salvador	Philippines	Brazil			
Ethiopia	Grenada		Colombia			
Iran	Guadeloupe		Cuba			
Mali	Guatemala		Dominican Republic			
Pakistan	Honduras		Ecuador			
Sudan	Mexico		Guyana			
	Panama		Peru			
	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, eighteen human cases of WNV illness acquired in Florida have been reported in Bay (August, September), Duval (July, September, October), Glades (October), Hillsborough (October), Lake (October), Levy (October), Marion (July, September), Martin (September), Okeechobee (November), Pasco (November), Pinellas (October), Santa Rosa (October), Seminole (October), and Walton (July) counties. Ten asymptomatic positive blood donors were reported from Citrus (October), Duval (August), Hernando (October), Manatee (August), Marion (July, October), Orange (September), Polk (October), and Walton (July, August) counties.

2024 International Travel-Associated Chikungunya Cases: Eleven 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 (3), Manatee, Miami-Dade, Orange (2), Pinellas, Hillsborough (2), and Pasco. Countries of origin were: Brazil (5), India (5), and Pakistan. Two cases were reported in non-Florida residents.

2024 International Travel-Associated Oropouche Cases: One hundred three 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 (15), Lee (5), Marion, Miami-Dade (61), Orange (3), Palm Beach (2), Pasco (3), Polk (6), Sarasota, and St. Lucie. Country of origin was Cuba (103).

2024 International Travel-Associated Dengue Cases: Nine hundred and eleven 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 (8), Broward (94), Charlotte (2), Collier (19), Columbia, Duval (10), Escambia (3), Flagler, Hendry, Hernando, Hillsborough (66), Indian River (2), Lake (4), Lee (29), Levy (3), Manatee, Marion (5), Martin (2), Miami-Dade (461), Monroe (7), Okaloosa, Okeechobee (3), Orange (45), Osceola (18), Palm Beach (55), Pasco (10), Pinellas (9), Polk (17), Santa Rosa (3), Sarasota (5), Seminole (6), St. Lucie (11), and Volusia (6). Fifty-four cases were reported in non-Florida residents. Seven 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, 738 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
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	12	7	1		12	37
Colombia/Panama						1	1
Costa Rica	1	1	5	2			9
Cuba		1	203	224	1	77	506
Dominican Republic			13			4	17
El Salvador	2		10			1	13
El Salvador/Honduras	1						1
Grenada		2					2
Guatemala	1		16			4	21
Guyana			3			1	4
Honduras			33		1	9	43
India	3	1				2	6
Indonesia		1				2	3
Jamaica		1				1	2
Maldives		1					1
Mexico	4	2	20	1		4	31
Netherlands Antilles		1					1
Nicaragua	1		6	1		7	15
Panama			1				1
Paraguay		3					3
Peru	2	2	1				5
Philippines				1		2	3
Puerto Rico	7	9	17	1		7	41
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		9				3	12
Venezuela			7			5	12
Total	67	72	366	231	2	173	911

2024 Dengue Cases Acquired in Florida: In 2024, 85 cases of locally acquired dengue have been reported in Broward (2), Hillsborough (6), Manatee (8), Miami-Dade (47), Monroe (3), Orange (2), Palm Beach (3), Pasco (12), Polk, and Sarasota (1) counties with onset in January (3), February, March (2), April, June (11), July (8), August (14), September (19), October (12), November (13), and December. Three cases were reported in non-Florida residents. Sixty-seven 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	4			6
Manatee	4	1		3	8
Miami-Dade		37	5	5	47
Monroe	2			1	3
Orange		2			2
Palm Beach		1		2	3
Pasco		6		6	12
Polk			1		1
Sarasota	1				1
Total	9	52	6	18	85

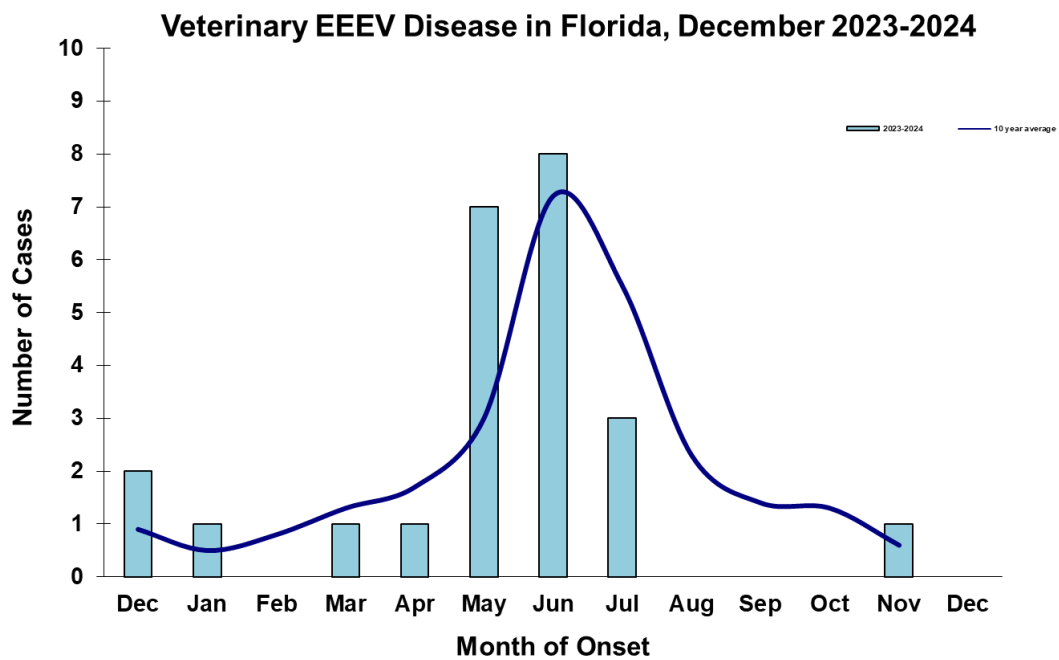
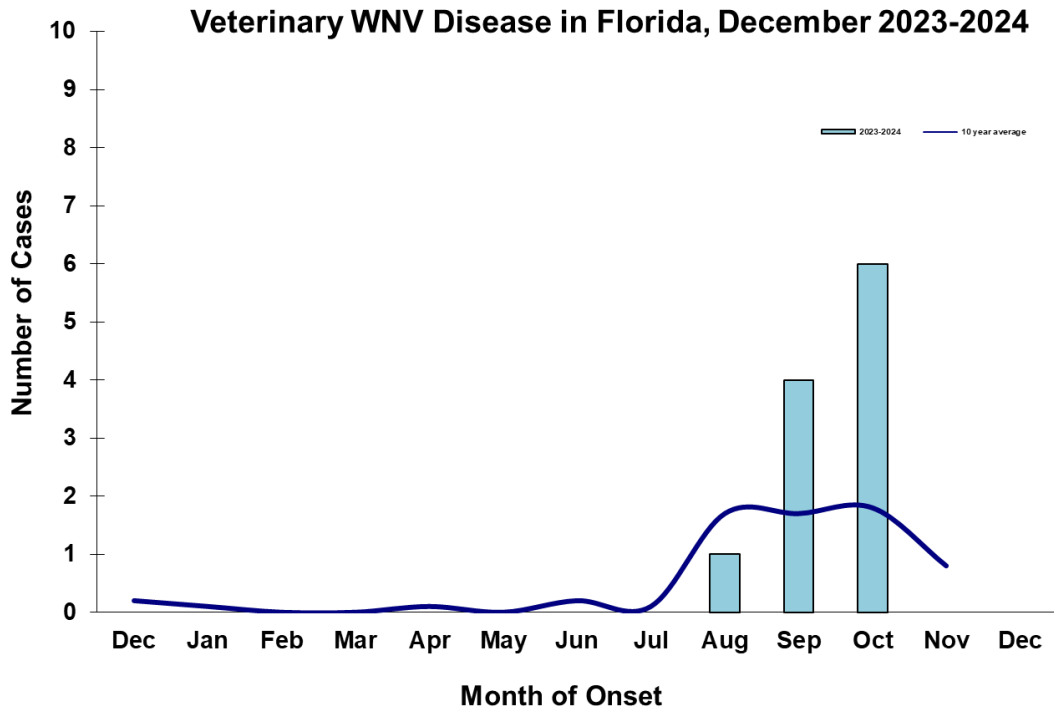
2024 International Travel-Associated Malaria Cases: Sixty-eight cases of malaria with onset in 2024 have been reported in individuals with a travel history to a malaria-endemic area. Counties reporting cases were: Alachua (3), Brevard (2), Broward (8), Clay, Collier, Duval (6), Escambia, Flagler, Hillsborough (7), Indian River, Lee (2), Leon (2), Marion, Miami-Dade (3), Monroe, Okaloosa (2), Orange (7), Osceola (2), Palm Beach (3), Pasco (2), Pinellas (5), Polk (2), Santa Rosa, Sarasota, Seminole, and Volusia (2). 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	4			4
Central/South America			9	9
Chad	4			4
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	19			19
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	49	1	18	68

Veterinary Cases**

**Veterinary cases are reported by date of onset. Only mammalian veterinary cases are included in the graphs.

No veterinary cases were reported this week.



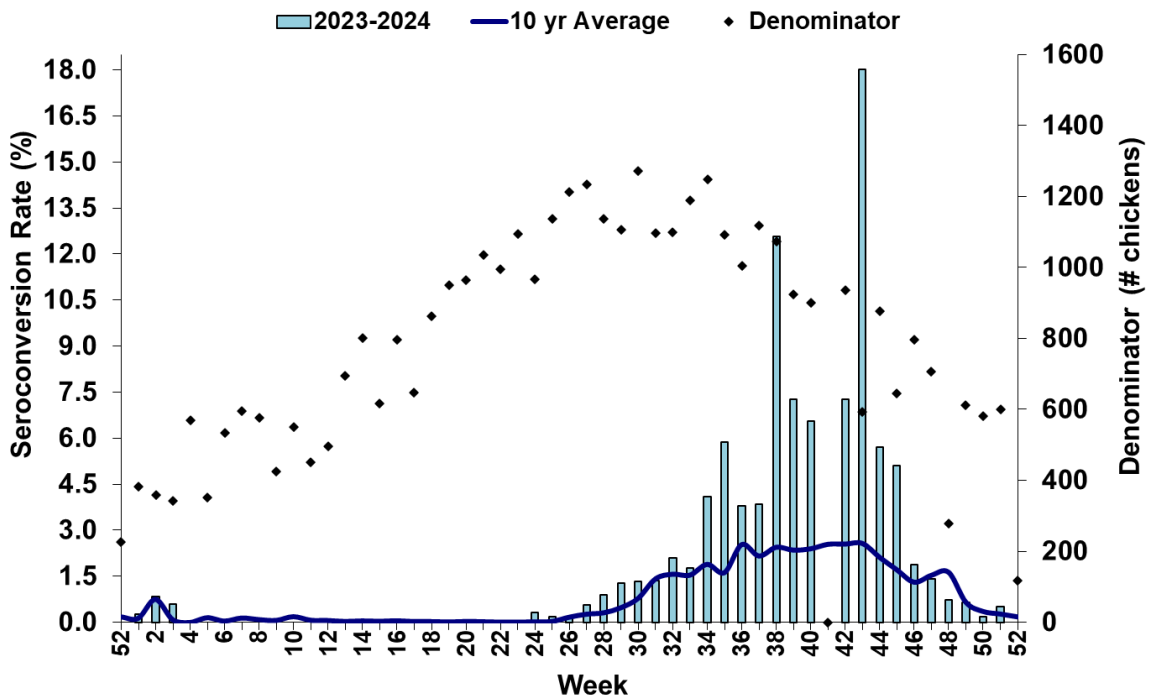
Sentinel Chickens

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.

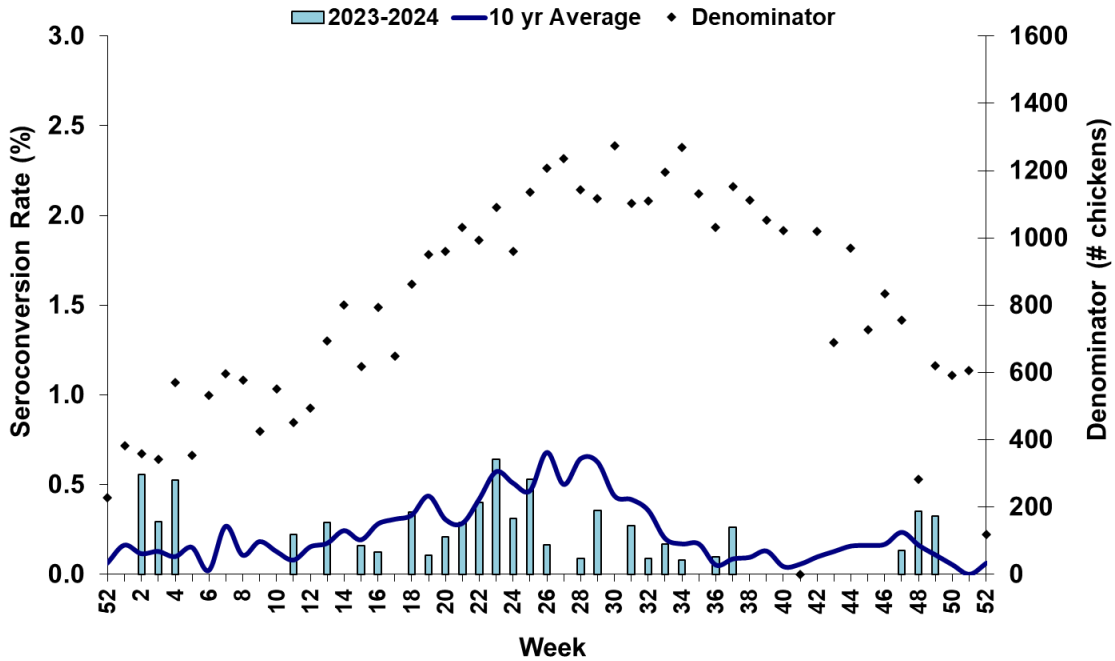
Three sentinel chickens tested positive for antibodies to WNV this week in Citrus, Palm Beach, and Pasco counties.

County	Collection Date	Seroconversion Rates (%)						County Totals	
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Citrus	12/16/2024	1.61		1.61				1 WNV	74 WNV, 7 EEEV, 1 Alphavirus, 1 SLEV
Palm Beach	12/17/2024	3.70		3.70				1 WNV	15 WNV
Pasco	12/16/2024	3.85		3.85				1 WNV	2 EEEV, 5 SLEV, 54 WNV

Sentinel Seroconversions to WNV in Florida, 2023–2024



Sentinel Seroconversions to EEEV in Florida, 2023–2024



Mosquito Pools

No mosquito pools tested positive for WNV this week in Pasco County.

County	Collection Date	Result	Species	County YTD
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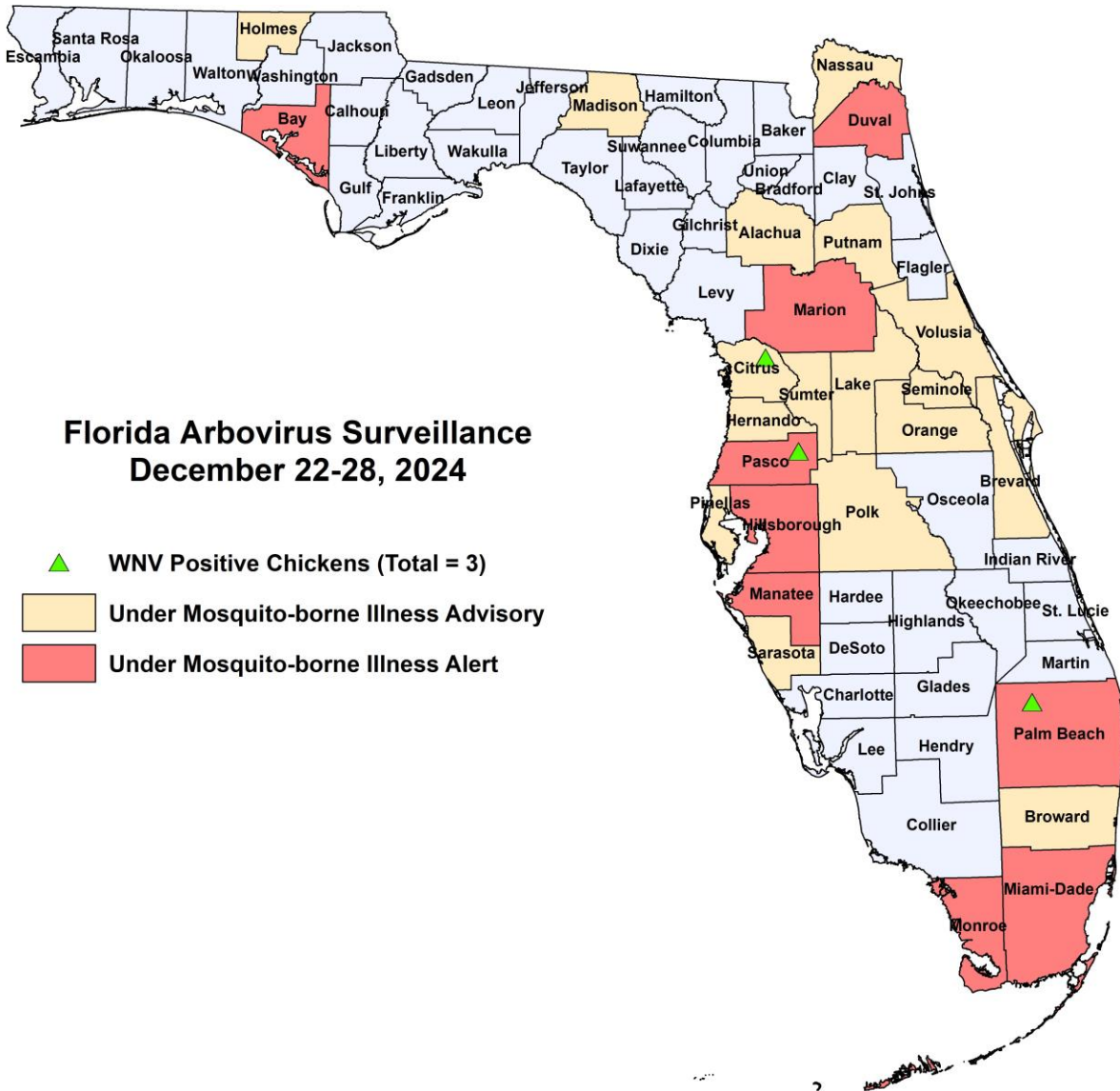
Dead Birds

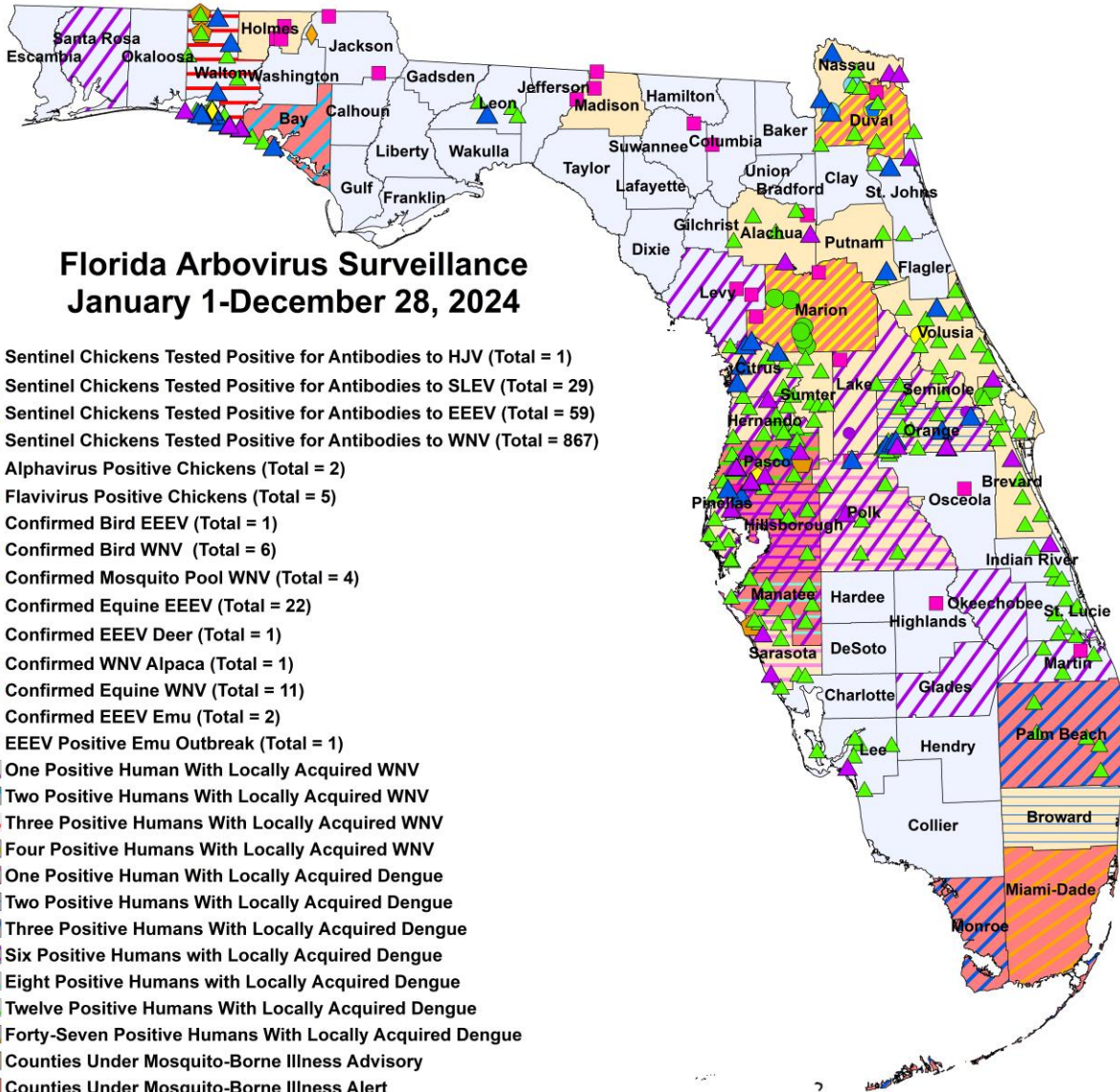
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 13 reports representing a total of 41 dead birds, including two crows, and two raptors, were received from 12 counties.

In 2024, 1012 reports representing a total of 2698 dead birds (77 crows, 25 jays, 174 raptors, 100 doves) were received from 54 of Florida's 67 counties.

County	Total Dead Birds	Crows	Jays	Raptors	Doves
Brevard	7	0	0	0	0
Broward	1	0	0	1	0
Citrus	1	1	0	0	0
Hernando	1	1	0	0	0
Indian River	2	0	0	0	0
Lee	1	0	0	1	0
Martin	7	0	0	0	0
Miami Dade	12	0	0	0	0
Pinellas	4	0	0	0	0
Sarasota	1	0	0	0	0
St. Johns	1	0	0	0	0
St. Lucie	3	0	0	0	0

Maps





2024 Mosquito-Borne Disease Activity by County

County	Humans	Equines	Sentinel Chickens	Other
Alachua		1 EEEV (6/21)	26 WNV (7/2, 7/24, 8/2, 8/19, 9/13, 9/18(2), 9/26, 10/11, 10/17, 10/24) 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)	41 WNV (1/3, 7/19, 7/26, 8/13, 8/14, 8/15, 8/22, 8/28, 8/29, 8/30, 9/5, 9/6, 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, 10/31, 11/6, 11/7) 2 SLEV (8/23, 9/19)	
Broward	2 dengue (August, September)			

County	Humans	Equines	Sentinel Chickens	Other
Charlotte			1 WNV (8/30)	
Citrus	1 asymptomatic WNV (October)		74 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, 11/5, 11/13, 11/19, 11/26, 12/16) 7 EEEV (1/9, 1/15, 2/26, 3/11, 5/20, 11/26) 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)	3 WNV ducks (9/11, 10/11, 11/30) 1 EEEV duck (10/11)
Glades	1 WNV (October)			
Hernando	1 asymptomatic WNV blood donor (October)	1 WNV (10/27)	31 WNV (8/26, 9/9, 9/16, 9/23, 9/30, 10/14, 10/21, 10/28, 11/4)	
Highlands		1 EEEV (5/25)		
Hillsborough	6 dengue (June (2), August, September, November (2)) 1 WNV (October)	1 EEEV (5/26)	1 EEEV (6/3) 28 WNV (6/10, 8/19, 8/26, 9/3, 9/9, 9/12, 9/23, 10/2, 10/7, 10/21, 10/28, 11/4)	
Holmes		3 EEEV (6/16, 6/19)		
Indian River			1 SLEV (7/18) 6 WNV (9/13, 10/17, 10/25, 10/31)	
Jackson		2 EEEV (5/30, 11/7)		1 EEEV deer (7/16)
Lake	1 WNV (October)	1 EEEV (7/31)		1 EEEV emu (2/6)
Lee			1 SLEV (8/5) 10 WNV (8/12, 8/26, 9/24, 9/30, 10/1, 10/14, 10/22, 11/11, 11/26)	
Leon			1 EEEV (6/18) 9 WNV (8/19, 8/27, 9/10, 9/16, 11/18)	
Levy	1 WNV (October)	2 EEEV (5/21, 7/4)		
Madison		3 EEEV (6/20, 6/29, 7/24)		
Mantatee	8 dengue (July, October (3), November (4)) 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)	4 WNV (9/26, 10/17, 10/31)	
Miami-Dade	47 dengue (January (2), February, March (2), April, June (6), July (7), August (6), September (8), October (8), November (6))			
Monroe	3 dengue (June (3))			

County	Humans	Equines	Sentinel Chickens	Other
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)	
Okeechobee	1 WNV (November)			
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) 84 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, 11/4, 11/12, 11/18, 12/10) 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)		15 WNV (3/18, 9/3, 9/30, 10/14, 10/29, 11/5, 11/12, 12/17)	
Pasco	12 dengue (January, August (2), September (6), October, November, December) 1 WNV (November)		2 EEEV (5/13, 9/3) 5 SLEV (6/10, 8/13, 8/19, 9/23) 54 WNV (8/19, 8/26, 9/3, 9/9, 9/16, 9/23, 9/30, 10/15, 11/4, 11/12, 11/18, 12/2, 12/16)	1 EEEV emu flock outbreak (4/22 for first emu) 1 WNV alpaca (10/28) 1 WNV mosquito pool (Cx. <i>nigripalpus</i> 10/31)
Pinellas	1 WNV (October)		2 EEEV (5/20, 5/28) 59 WNV (7/29, 8/5, 8/12, 8/19, 8/26, 9/3, 9/23, 9/30, 10/7, 10/21, 10/28, 11/4, 11/18) 1 SLEV (9/16)	
Polk	1 dengue (September) 1 asymptomatic WNV blood donor (October)	1 EEEV (4/9)	1 EEEV (6/10) 36 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, 11/18) 1 SLEV (9/3)	
Putnam			1 EEEV (7/15) 10 WNV (8/26, 9/23, 10/7, 10/21, 11/4)	
Santa Rosa	1 WNV (October)			
Sarasota	1 dengue (September)		22 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, 11/1, 11/5, 11/12) 2 SLEV (8/20, 9/6)	1 WNV mosquito pool (Cx. <i>quinquefasciatus</i> 9/11)
Seminole	1 WNV (October)		9 WNV (8/19, 9/30, 10/28, 11/4)	
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) 72 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, 11/4, 11/12)	1 WNV goose (8/14)

County	Humans	Equines	Sentinel Chickens	Other
Walton	2 asymptomatic WNV blood donors (July, August) 1 WNV (July)		23 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, 11/18, 12/2) 5 SLEV (4/1, 7/29, 8/12, 8/19, 9/23) 1 Alphavirus (6/3) 131 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, 11/4, 11/5, 11/12, 11/19, 12/2) 1 HJV (8/12)	2 WNV mosquito pools (Cx. quinquefasciatus 8/27, mixed Culex spp. 9/10)

Acknowledgements and Data Sources

Contributors: Andrea Morrison, PhD, MSPH, Rebecca Zimler, PhD, MPH, Olga Ospina, 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.