



Florida Arbovirus Surveillance Week 43: October 20-26, 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 October 20-26, 2024, the following arboviral activity was recorded in Florida.

WNV activity: One human case of WNV infection was reported this week in Marion County. One horse with WNV infection was reported this week in Brevard County. Eighty-eight sentinel chickens tested positive for antibodies to WNV this week in Alachua, Brevard, Citrus, Duval, Hernando, Hillsborough, Lee, Leon, Manatee, Orange, Palm Beach, Pasco, Pinellas, Polk, Putnam, Sarasota, St. Johns, St. Lucie, Sumter, Volusia, and Walton. One goose, one flamingo, and two ducks with WNV infection were reported this week in Duval and Orange County. In 2024, positive samples from eight humans, six asymptomatic blood donors, seven horses, two geese, one flamingo, two ducks, three mosquito pools, and 622 sentinel chickens have been reported from 28 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. One duck with EEEV infection was reported this week in Duval County. 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: Forty cases of dengue were reported this week in persons that had international travel. In 2024, 688 travel-associated dengue cases have been reported.

Dengue Cases Acquired in Florida: Five cases of locally acquired dengue were reported this week. In 2024, 55 cases of locally acquired dengue have been reported from nine 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: One case of Oropouche fever was reported this week in a person that had international travel. In 2024, 88 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, Madison, Manatee, Martin, Nassau, Orange, Pinellas, Polk, Putnam, Sarasota, 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
Africa and the Middle East	Americas	Asia and the Pacific Islands	Americas	Africa	Asia
Afghanistan	Colombia	French Polynesia	Bolivia	Nigeria	India
Iran	Costa Rica	India	Brazil		
Burkina Faso	Cuba		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, eight human cases of WNV illness acquired in Florida have been reported in Bay (August, September), Duval (July, September), Marion (July, September), Martin (September), and Walton (July) counties. Six asymptomatic positive blood donors were reported from Duval (August), Manatee (August), Marion (July), Orange (September), 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-eight 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 (51), Orange (3), Palm Beach (2), Pasco (3), Polk (4), Sarasota, and St. Lucie. Country of origin was Cuba (88).

2024 International Travel-Associated Dengue Cases: Six hundred eighty-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 (80), Charlotte (2), Collier (12), Columbia, Duval (8), Escambia (3), Flagler, Hendry, Hernando, Hillsborough (48), Indian River, Lake (4), Lee (22), Levy (2), Manatee, Marion (5), Martin (2), Miami-Dade (329), Monroe (4), Okaloosa, Okeechobee (3), Orange (39), Osceola (18), Palm Beach (38), Pasco (7), Pinellas (6), Polk (14), Santa Rosa (3), Sarasota (4), Seminole (6), St. Lucie (10), 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, 564 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		9	32
Colombia/Panama						1	1
Costa Rica			5	2			7
Cuba		1	167	114	1	43	326
Dominican Republic			12			4	16
El Salvador	2		10			1	13
El Salvador/Honduras	1						1
Grenada		1					1
Guatemala			14			4	18
Guyana			3				3
Honduras			32		1	7	40
India	2	1				1	4
Indonesia		1				2	3
Jamaica		1				1	2
Maldives		1					1
Mexico	4	2	18	1		2	27
Netherlands Antilles		1					1
Nicaragua	1		1	1		4	7
Panama			1				1
Paraguay		3					3
Peru	2	2	1				5
Philippines				1		2	3
Puerto Rico	7	8	16			6	37
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		5				2	7
Venezuela			5			4	9
Total	64	62	316	120	2	124	688

2024 Dengue Cases Acquired in Florida: In 2024, 55 cases of locally acquired dengue have been reported in Broward (2), Hillsborough (4), Manatee, Miami-Dade (33), Monroe (3), Orange (2), Palm Beach (3), Pasco (6), and Sarasota counties with onset in January (3), February, March (2), April, June (11), July (8), August (14), September (14), and October. Three cases were reported in non-Florida residents. Forty-five 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		29	1	3	33
Monroe	2			1	3
Orange		2			2
Palm Beach		1		2	3
Pasco		4		2	6
Sarasota				1	1
Total	4	40	1	10	55

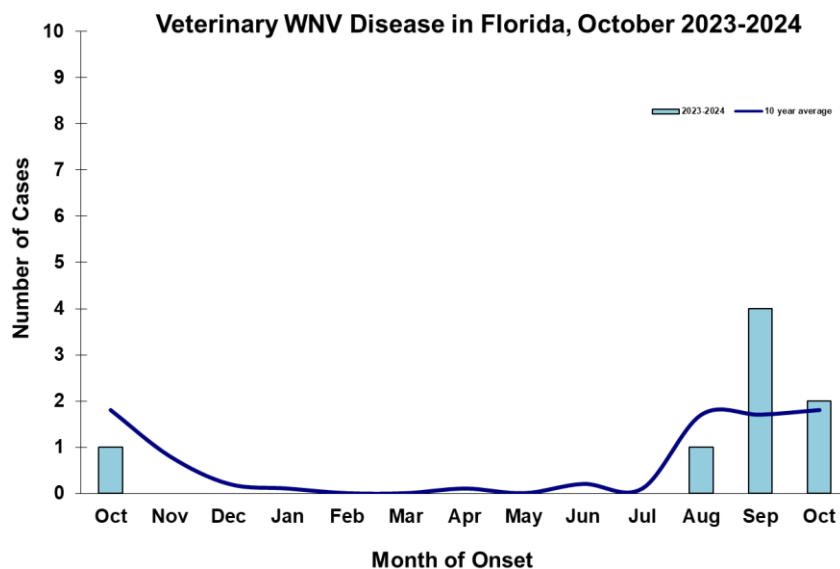
2024 International Travel-Associated Malaria Cases: Sixty-one cases of malaria with onset in 2024 have been reported in individuals with a travel history to a malaria-endemic area. Counties reporting cases were: Alachua (2), Brevard (2), Broward (7), Clay, Collier, Duval (6), Escambia, Flagler, Hillsborough (6), Indian River, Lee (2), Leon (2), Marion, Miami-Dade (3), Monroe, Okaloosa, Orange (7), Osceola (2), Palm Beach (3),

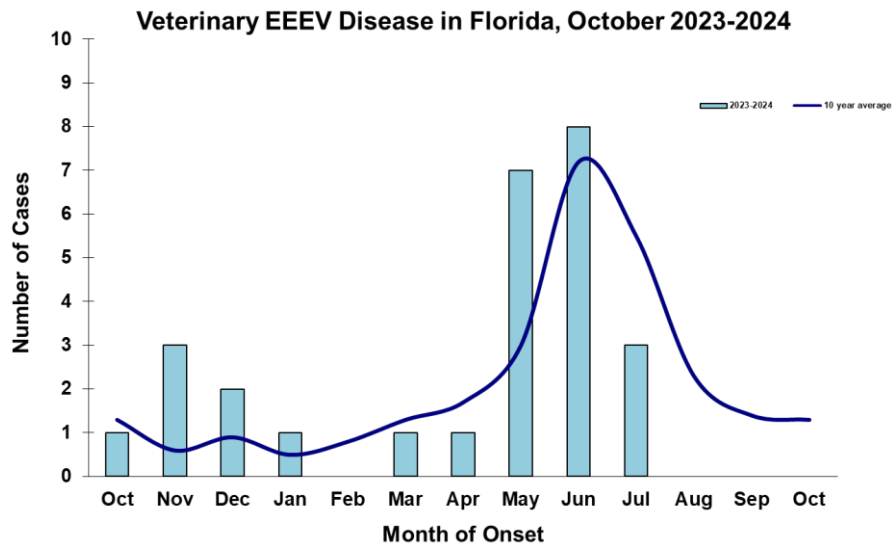
Pasco (2), Pinellas (5), Polk, Sarasota, Seminole, and Volusia. Ten cases were reported in non-Florida residents. Please see the table below for a breakdown of cases by country of origin and *Plasmodium* species.

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	2			2
Côte D'Ivoire	2			2
Ecuador			1	1
Ethiopia	1		2	3
Gabon	1		1	2
Ghana	3			3
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	42	1	18	61

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.



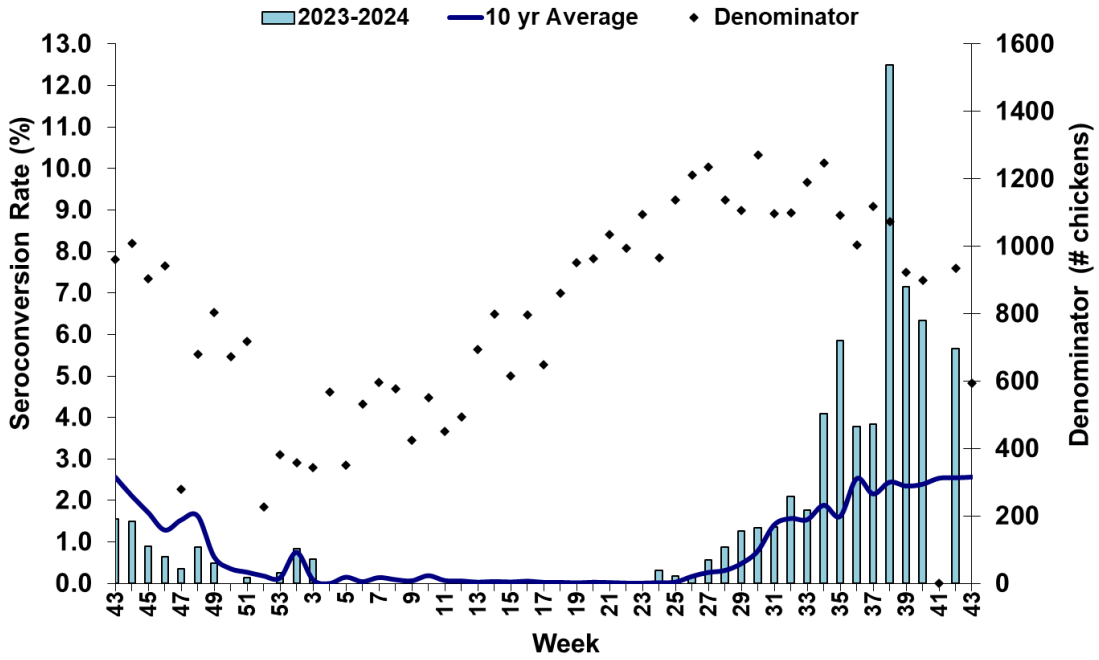


Sentinel Chickens

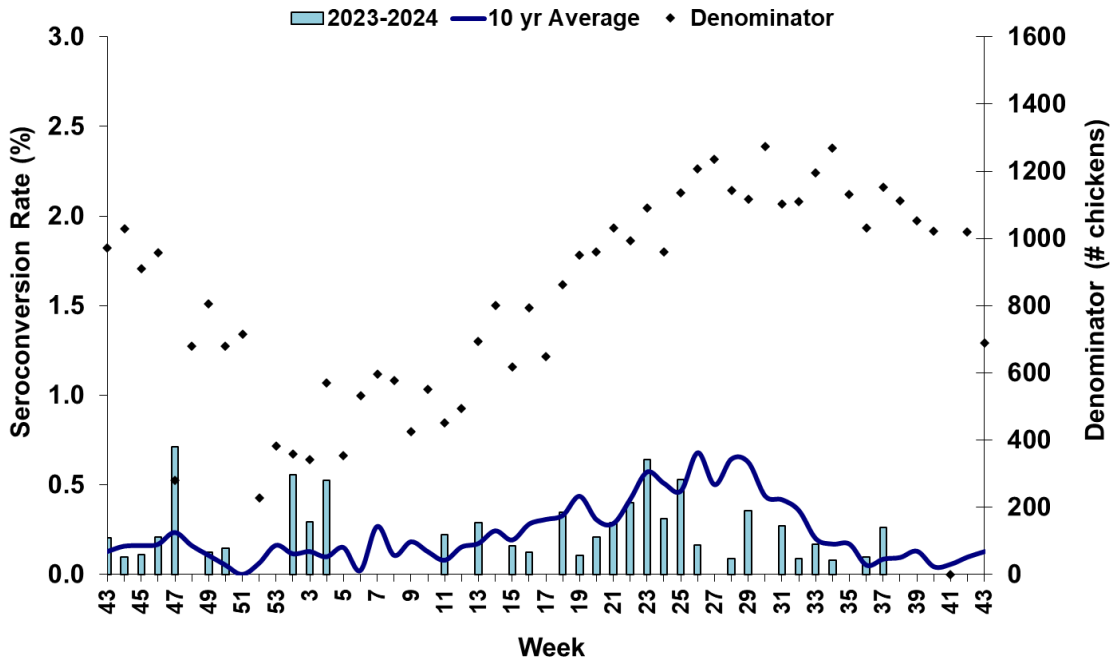
The table below is for the reporting of confirmatory laboratory results from this week. Some of the samples were collected at earlier dates. The date of collection is recorded for samples collected on that day along with the total number of positives and the corresponding seroconversion rate for the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

County	Collection Date	Seroconversion Rates (%)						County Totals	
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Alachua	9/13/2024	12.5		12.5				1 WNV	20 WNV, 5 SLEV
	10/11/2024	6.67		6.67				1 WNV	
Brevard	10/7-10/8/2024	6.56		6.56				4 WNV	24 WNV, 2 SLE
Citrus	10/8/2024	1.75		1.75				1 WNV	33 WNV, 6 EEEV, 1 Alphavirus, 1 SLEV
Duval	10/14/2024	15.00		15.00				3 WNV	19 WNV
Hernando	10/14/2024	28.00		28.00				7 WNV	19 WNV
Hillsborough	10/7/2024	8.33		8.33				2 WNV	1 EEEV, 22 WNV
Lee	10/14/2024	0.95		0.95				1 WNV	1 SLEV, 6 WNV
Leon	9/10/2024	3.57		3.57				1 WNV	1 EEEV, 8 WNV
	9/16/2024	3.57		3.57				1 WNV	
Manatee	10/15-10/17/2024	10.20		10.20				5 WNV	17 WNV
Orange	10/14-10/15/2024	17.20		17.20				16 WNV	9 EEEV, 58 WNV, 2 SLEV
Palm Beach	9/30/2024	3.23		3.23				1 WNV	7 WNV
	10/14/2024	2.78		2.78				1 WNV	
Pasco	9/23/2024	3.33		3.33				1 WNV	2 EEEV, 5 SLEV, 45 WNV
	10/15/2024	100.00		100.00				4 WNV	
Pinellas	10/7/2024	17.14		17.14				6 WNV	2 EEEV, 47 WNV, 1 SLEV
Polk	10/15/2024	25.00		25.00				8 WNV	1 EEEV, 29 WNV, 1 SLEV
Putnam	10/7/2024	8.33		8.33				1 WNV	1 EEEV, 6 WNV
Sarasota	10/15/2024	1.79		1.79				1 WNV	15 WNV, 2 SLEV
St. Johns	10/14/2024	7.32		7.32				3 WNV	2 EEEV, 9 WNV, 1 SLEV
St. Lucie	10/2/2024	2.44		2.44				1 WNV	3 WNV
Sumter	9/16/2024	3.33		3.33				1 WNV	19 WNV
Volusia	10/7/2024	17.02		17.02				8 WNV	2 EEEV, 53 WNV
	10/14/2024	8.51		8.51				4 WNV	
Walton	9/9/2024	1.35		1.35				1 WNV	20 EEEV, 5 SLEV, 1 Alphavirus, 102 WNV, 1 HJV
	10/1/2024	7.02		7.02				4 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

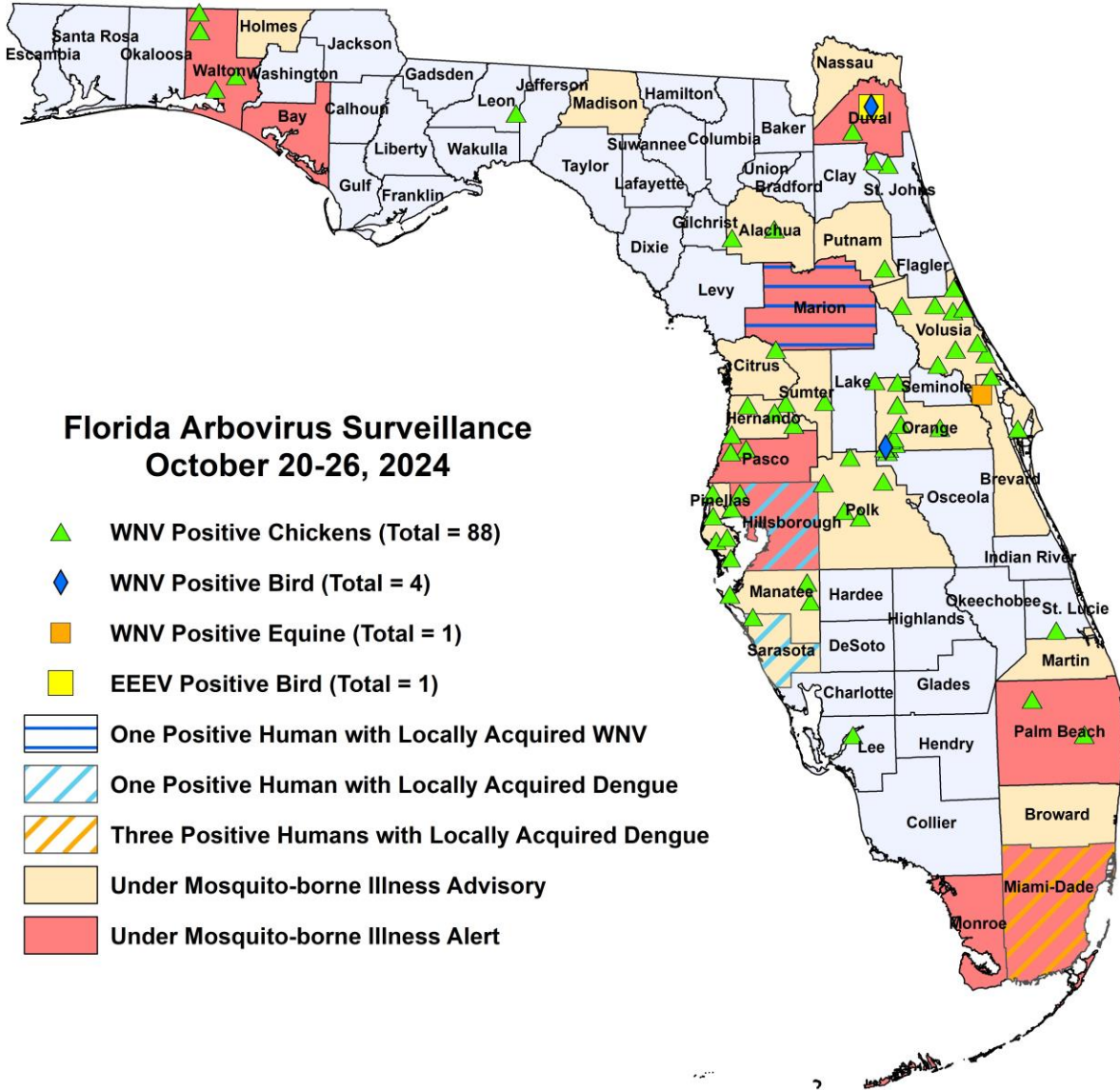
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 19 reports representing a total of 25 dead birds, including two crows, one raptor, and two doves, were received from 13 counties.

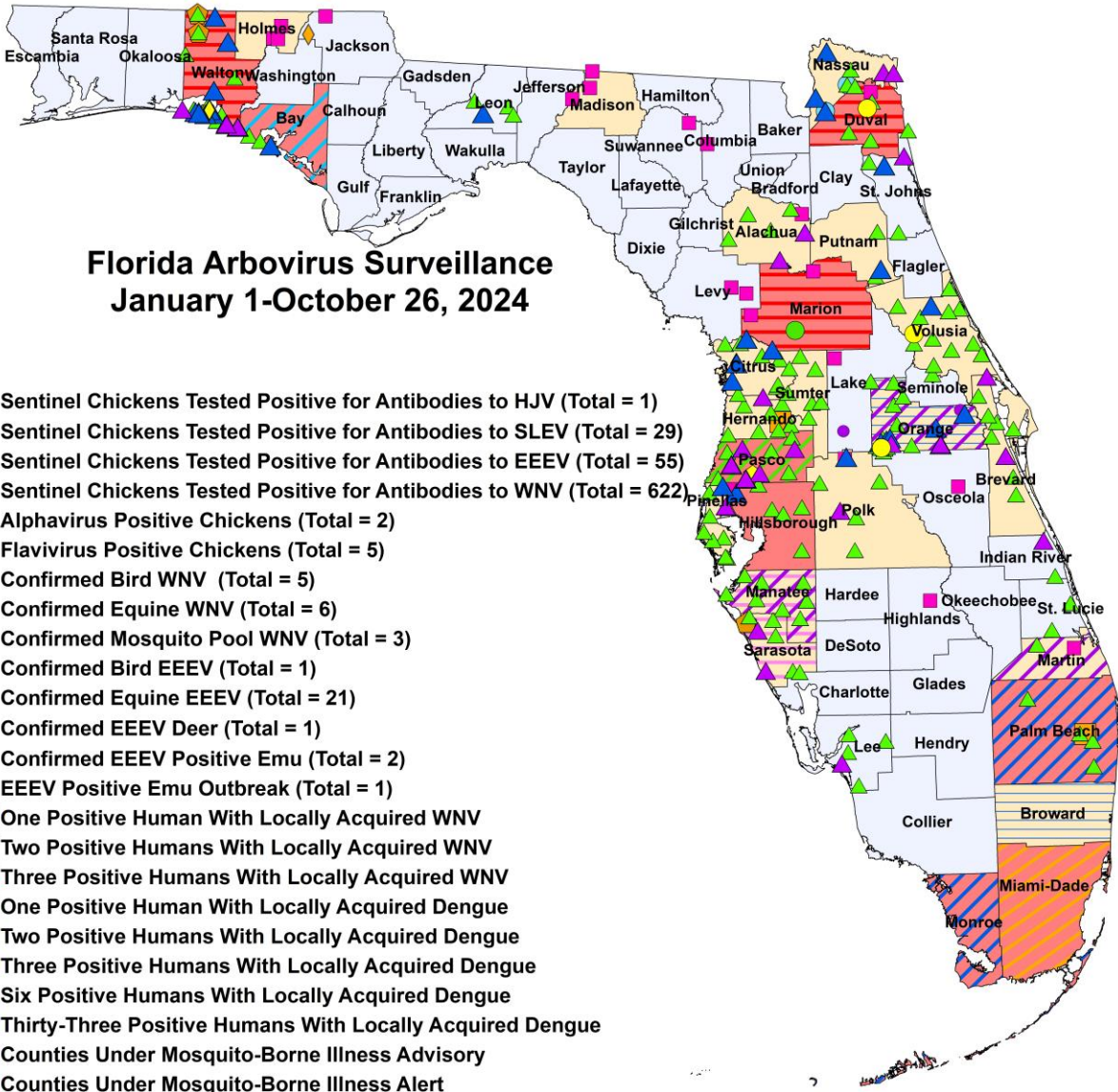
In 2024, 896 reports representing a total of 1951 dead birds (66 crows, 21 jays, 146 raptors, 92 doves) were received from 50 of Florida's 67 counties.

2024

County	Total Dead Birds	Crows	Jays	Raptors	Doves
Bay	7	0	0	0	1
Brevard	1	0	0	0	0
Broward	2	0	0	0	0
Charlotte	2	0	0	0	0
Duval	2	0	0	1	1
Lake	1	1	0	0	0
Lee	1	0	0	0	0
Miami-Dade	1	0	0	0	0
Okaloosa	1	0	0	0	0
Palm Beach	2	0	0	0	0
Pasco	2	1	0	0	0
Pinellas	2	0	0	0	0
Seminole	1	0	0	0	0

Maps





2024 Mosquito-Borne Disease Activity by County

County	Humans	Equines	Sentinel Chickens	Other
Alachua		1 EEEV (6/21)	20 WNV (7/2, 7/24, 8/2, 8/19, 9/13, 9/18, 9/26, 10/11) 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)	24 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) 2 SLEV (8/23, 9/19)	
Broward	2 dengue (August, September)			
Charlotte			2 WNV (8/30)	

County	Humans	Equines	Sentinel Chickens	Other
Citrus			33 WNV (1/9, 1/15, 6/25, 7/8, 8/19, 9/3, 9/9, 9/16, 9/23, 9/30, 10/8) 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)	19 WNV (7/8, 7/15, 8/19, 8/26, 9/16, 9/23, 9/30, 10/14)	2 WNV ducks (9/11, 10/11) 1 EEEV duck (10/11)
Hernando			19 WNV (8/26, 9/9, 9/16, 9/23, 9/30, 10/14)	
Highlands		1 EEEV (5/25)		
Hillsborough	4 dengue (June (2), August, September)	1 EEEV (5/26)	1 EEEV (6/3) 22 WNV (6/10, 8/19, 8/26, 9/3, 9/9, 9/12, 9/23, 10/2, 10/7)	
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) 6 WNV (8/12, 8/26, 9/24, 9/30, 10/1, 10/14)	
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	1 asymptomatic WNV blood donor (July) 2 WNV (July, September)	2 EEEV (1/31, 3/29) 5 WNV (8/14, 9/9, 9/21, 9/27, 10/2)		
Martin	1 WNV (September)	1 EEEV (5/27)	1 WNV (9/26)	
Miami-Dade	33 dengue (January (2), February, March (2), April, June (6), July (7), August (6), September (7), October)			
Monroe	3 dengue (June (3))			
Nassau			6 EEEV (5/3, 9/12) 5 Flavivirus (5/3, 5/18, 5/23) 34 WNV (8/9, 8/17, 8/23, 8/29, 9/7, 9/12, 9/21, 9/28) 2 SLEV (8/23)	
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) 58 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) 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)		

County	Humans	Equines	Sentinel Chickens	Other
Palm Beach	3 dengue (August (2), September)		7 WNV (3/18, 9/3, 9/30, 10/14)	
Pasco	6 dengue (January, August (2), September (3))		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			2 EEEV (5/20, 5/28) 47 WNV (7/29, 8/5, 8/12, 8/19, 8/26, 9/3, 9/23, 9/30, 10/7) 1 SLEV (9/16)	
Polk		1 EEEV (4/9)	1 EEEV (6/10) 29 WNV (6/10, 7/22, 7/29, 8/6, 8/19, 8/26, 9/3, 9/16, 9/23, 9/30, 10/15) 1 SLEV (9/3)	
Putnam			1 EEEV (7/15) 6 WNV (8/26, 9/23, 10/7)	
Sarasota	1 dengue (September)		15 WNV (7/12, 7/26, 8/20, 8/27, 9/2, 9/13, 9/17, 9/18, 9/20, 10/15) 2 SLEV (8/20, 9/6)	1 WNV mosquito pool (Cx. quinquefasciatus 9/11)
Seminole			3 WNV (8/19, 9/30)	
St. Johns			2 EEEV (6/3, 6/10) 9 WNV (8/19, 9/3, 9/9, 9/17, 9/23, 10/14) 1 SLEV (9/17)	
St. Lucie			3 WNV (7/2, 9/11, 10/2)	
Sumter			19 WNV (9/9, 9/16, 9/30)	
Suwannee		1 EEEV (6/3)		
Volusia			2 EEEV (1/22, 4/8) 53 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)	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) 102 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) 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, 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.