



Florida Arbovirus Surveillance Week 3: January 14-20, 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 January 14-20, 2024, the following arboviral activity was recorded in Florida.

[This report contains information for 2023 and 2024.](#)

WNV activity: One human case of WNV infection was reported this week in Escambia County. No horses with WNV infection were reported this week. Three sentinel chickens tested positive for antibodies to WNV this week in Brevard and Citrus counties. No mosquito pools tested positive for WNV this week. In 2023, positive samples from ten humans, three asymptomatic blood donors, 258 sentinel chickens, one pheasant, and two horses have been reported from 22 counties. In 2024, positive samples from three sentinel chickens have been reported from two 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 2023, nine sentinel chickens have been reported from eight counties.

EEEV activity: No human cases of EEEV infection were reported this week. No horses with EEEV infection were reported this week. Two sentinel chickens tested positive for antibodies to EEEV this week in Citrus County. In 2023, positive samples from 155 sentinel chickens, 17 horses, one sparrow, one laughing gull, and two humans have been reported from 23 counties. In 2024, positive samples from two sentinel chickens have been reported from one County.

International Travel-Associated Dengue: Nine cases of dengue were reported this week in persons that had international travel. In 2023, 604 travel-associated dengue cases have been reported.

Dengue Cases Acquired in Florida: No cases of locally acquired dengue were reported this week. In 2023, positive samples from 185 humans and one mosquito pool have been reported from five counties.

International Travel-Associated Chikungunya Fever Cases: No cases of chikungunya fever were reported this week in persons that had international travel. In 2023, four 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 2023, no cases of locally acquired chikungunya fever 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 2023, 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 2023, no cases of locally acquired Zika fever have been reported.

Malaria Cases Acquired in Florida: No cases of locally acquired malaria were reported this week. In 2023, seven cases of locally acquired malaria have been reported.

Advisories/Alerts: Orange, Palm Beach, Polk, and Walton counties are currently under a mosquito-borne illness advisory. Broward, Escambia, Hardee, and Miami-Dade 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			Western Equine Encephalitis	Chikungunya	Yellow Fever
Africa and the Middle East	Americas	Asia and the Pacific Islands	South America	Africa	Africa
Burkina Faso	Colombia	Bangladesh	Argentina	Burkina Faso	Nigeria
Chad	Costa Rica	Cambodia			
Côte d'Ivoire	Dominican Republic	Laos			
Ethiopia	French Guiana	Malaysia			
Mali	Guadeloupe	Pakistan			
Sudan	Guatemala	Philippines			
	Jamaica	Sri Lanka			
	Martinique	Taiwan			
	Nicaragua	Thailand			
	Panama	Vietnam			
	Peru				
	Saint Barthelemy				
	Saint Martin				

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>.

2023 Human Case Summary

Eastern Equine Encephalitis Acquired in Florida: In 2023, two cases of EEEV acquired in Florida have been reported in St. Johns (June) and Suwannee (July) counties.

West Nile Virus Illnesses Acquired in Florida: In 2023, ten cases of WNV illness acquired in Florida have been reported in 2023 from Brevard (October), Escambia (July (2) and August (3), December), Okaloosa (September), Sarasota (September), and Wakulla (October) counties. Three asymptomatic positive blood donors have been reported in Bay (August), Hillsborough (August), and Walton (September) counties.

2023 International Travel-Associated Chikungunya cases: Four cases with onset in 2023 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), Duval, and Lee. Countries of origin were: Brazil (2) and India (2).

2023 International Travel-Associated Dengue Cases: Six hundred and four cases with onset in 2023 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 (3), Bay, Brevard (2), Broward (59), Charlotte, Collier (8), Duval (6), Escambia, Hendry (2), Hernando, Highlands, Hillsborough (35), Indian River (2), Lee (16), Leon, Manatee (2), Marion, Miami-Dade (348), Monroe (5), Nassau, Okaloosa, Orange (21), Osceola (9), Palm Beach (34), Pasco (4), Pinellas (5), Polk (9), Sarasota (4), Seminole (4), St. Johns (4), St. Lucie (8), and Volusia (5). Thirty-two 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 2023, 512 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-1/ DENV-2	DENV-1/ DENV-3	DENV-2/ DENV-3	DENV-3/ DENV-4	Unknown	Total
Argentina									1	1
Bahamas			4				1			5
Barbados									1	1
Bangladesh		1	1							2
Bolivia		5								5
Brazil	10								4	14
Caribbean									1	1
Central America			2	1					1	4
Colombia	1		2				1		1	5
Costa Rica	1		5	1					2	9
Cuba	1	1	281	14		1	1	3	39	341
Cuba/Curacao			1							1
Dominican Republic		1	51				1	1	6	60
Dominican Republic/Haiti									1	1
Ecuador									1	1
El Salvador	1									1
Guatemala	3	2	5						2	12
Guyana			4						4	8
Haiti			9						4	13
Honduras	1		4	2					1	8
India	1	2	4		1				3	11
Indonesia		1								1
Jamaica		28								28
Maldives	1									1
Mexico		3	14						11	28
Nicaragua		1	2	6					4	13
Panama	1								1	2
Peru	6	3	1						1	11
Philippines	1									1
Puerto Rico	3	2	1						1	7
Saint Barthelemy		2							1	3
Saint Barthelemy/ Saint Martin									1	1
Saint Martin			1							1
South America		1								1
Turks and Caicos			1							1
Venezuela				1						1
Total	31	53	393	25	1	1	4	4	92	604

2023 Dengue Cases Acquired in Florida: In 2023, 185 cases of locally acquired dengue have been reported in Broward (4), Hardee (19), Miami-Dade (160), Palm Beach, and Polk counties with onsets in January, March, June (3), July (10), August (19), September (50), October (73), November (22), and December (6). Three cases were reported in non-Florida residents. One hundred and fifty-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-2	DENV-3	Unknown	Total
Broward		3	1		4
Hardee	4			15	19
Miami-Dade	1	7	137	15	160
Palm Beach		1			1
Polk			1		1
Total	5	11	139	30	185

2023 International Travel-Associated Malaria Cases: Seventy-six cases of malaria with onset in 2023 have been reported in individuals with a travel history to a malaria-endemic area. Counties reporting cases were: Brevard, Broward (9), Collier, Duval (3), Hillsborough (9), Jackson, Lake (2), Lee (3), Leon (4), Manatee, Miami-Dade (11), Okaloosa, Orange (6), Osceola (3), Palm Beach, Pasco (2), Pinellas (4), Polk (3), Sarasota (3), Seminole (2), St. Lucie (2), Sumter, Volusia (2), and Walton. Fifteen cases were reported in non-Florida residents. Please see the table below for a breakdown of cases by country of origin and *Plasmodium* species.

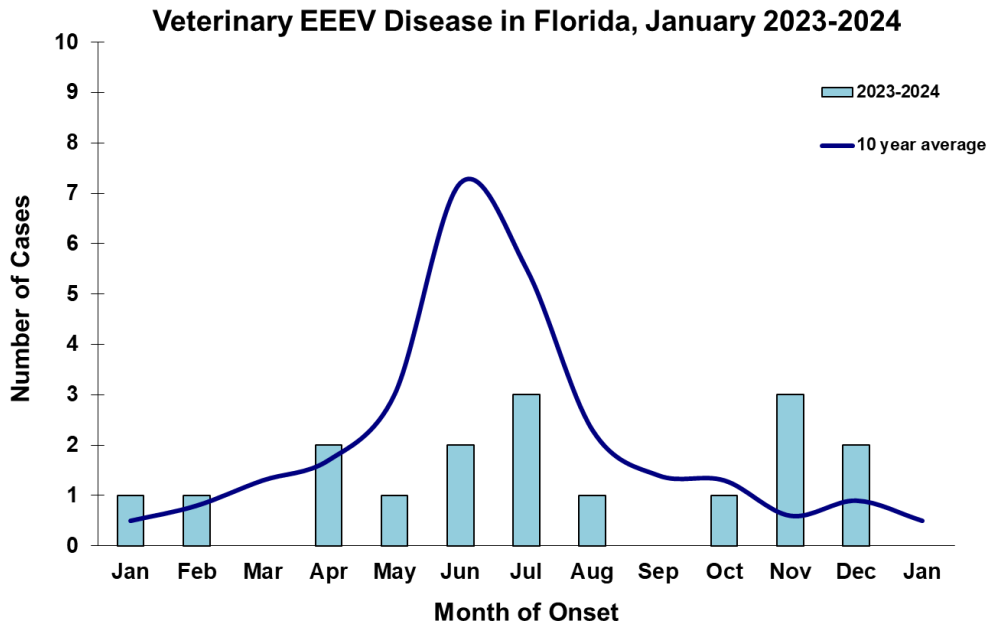
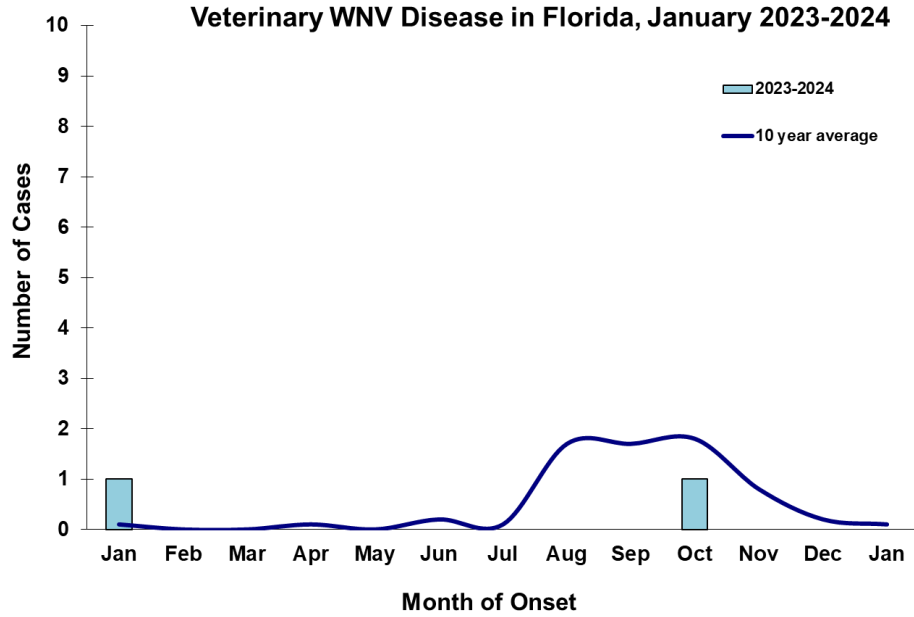
Country of Exposure	<i>Plasmodium falciparum</i>	<i>Plasmodium vivax</i>	<i>Plasmodium malariae</i>	<i>Plasmodium ovale</i>	Total
Angola			1		1
Burkina Faso	1				1
Burundi	1				1
Cameroon	4				4
Côte D'Ivoire	2				2
Democratic Republic of the Congo	2				2
Equatorial Guinea	1				1
Ghana	5				5
Guinea	2				2
Haiti	1				1
Honduras		1			1
India	1	1			2
Kenya	1		1		2
Liberia	1				1
Mexico		1			1
Mozambique	1			1	2
Nicaragua		3			3
Nigeria	19				19
Pakistan		1			1
Sierra Leone	3		1		4
Sudan		1			1
Tanzania	1				1
Uganda	7				7
Venezuela		1			1
Multiple countries	1	9			10
Total	54	18	3	1	76

2023 Malaria Cases Acquired in Florida: In 2023, seven cases of locally acquired malaria have been reported in Sarasota County, with onsets in May, June (5), and July. The *Plasmodium* species reported were *Plasmodium vivax*.

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.



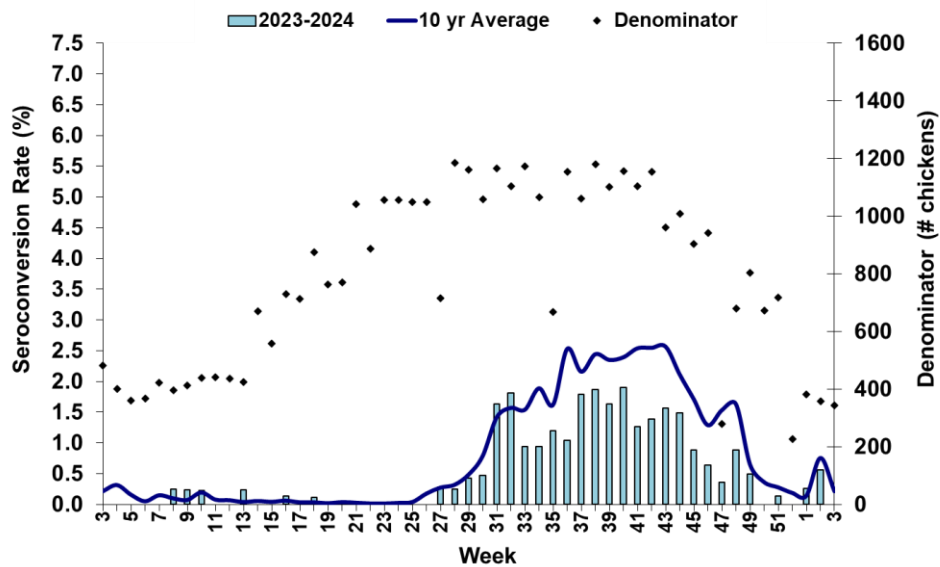
Sentinel Chickens

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.

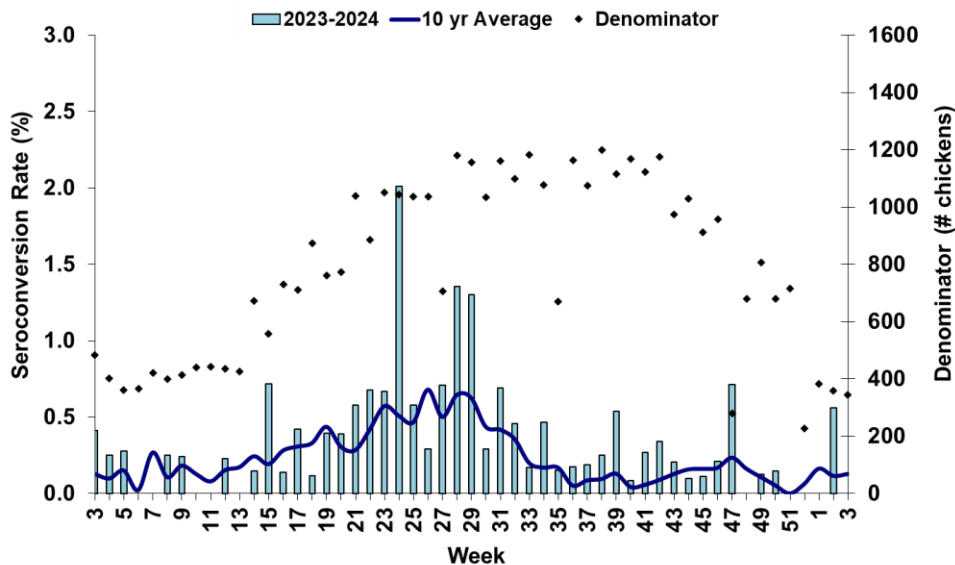
Three sentinel chickens tested positive for antibodies to WNV this week in Brevard and Citrus counties. Two sentinel chickens tested positive for antibodies to EEEV this week in Citrus County.

County	Collection Date	Seroconversion Rates (%)						County Totals	
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Brevard	1/3/2024	1.52		1.52				1 WNV	1 WNV
Citrus	1/9/2024	3.03		3.03	3.03	3.03		2 WNV, 2 EEEV	2 WNV, 2 EEEV

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 or EEEV this week.

County	Collection Date	Result	Species	County YTD

Dead Birds

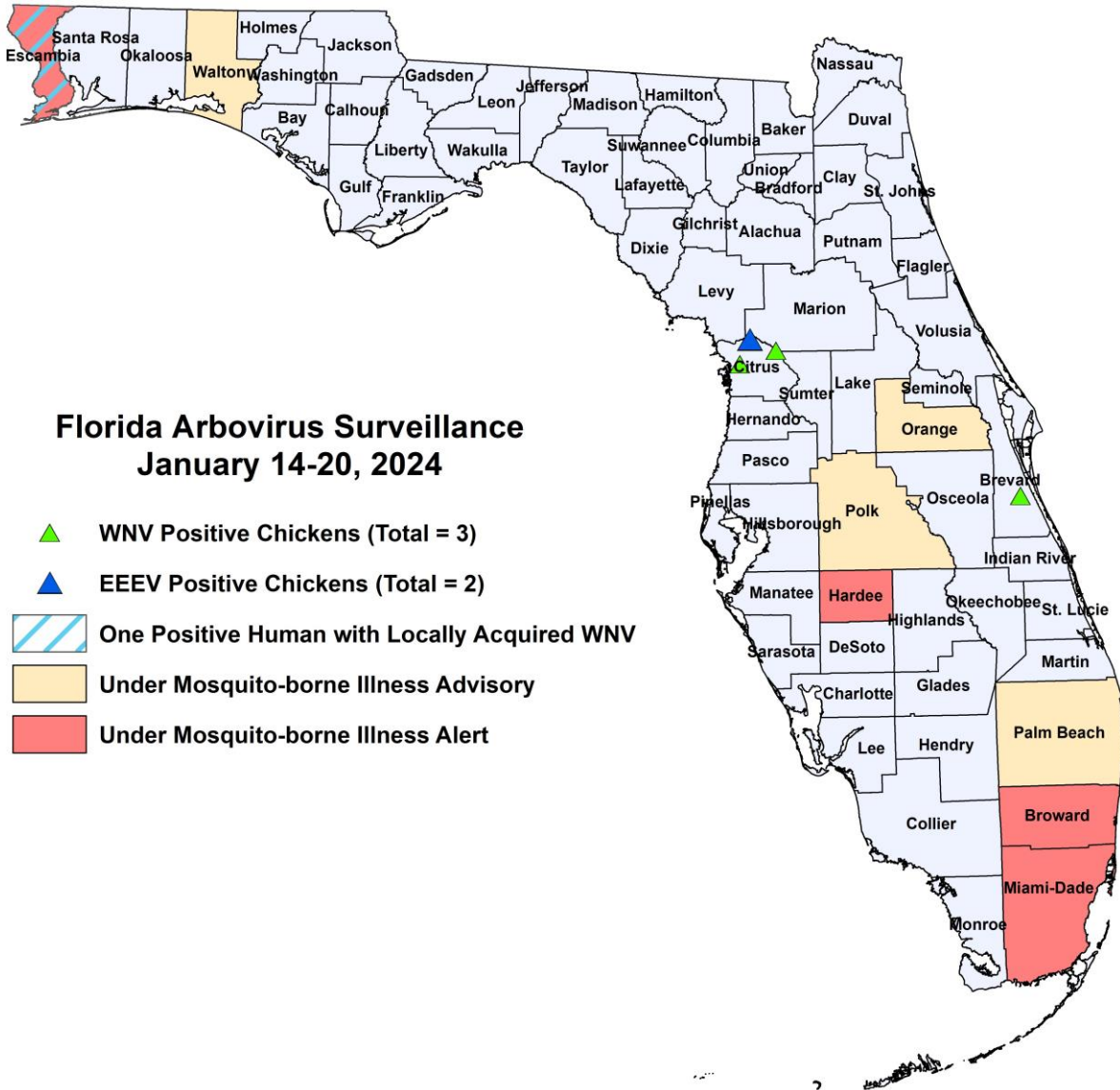
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 30 reports representing a total of 51 dead birds, including six raptors and one dove, were received from 18 counties.

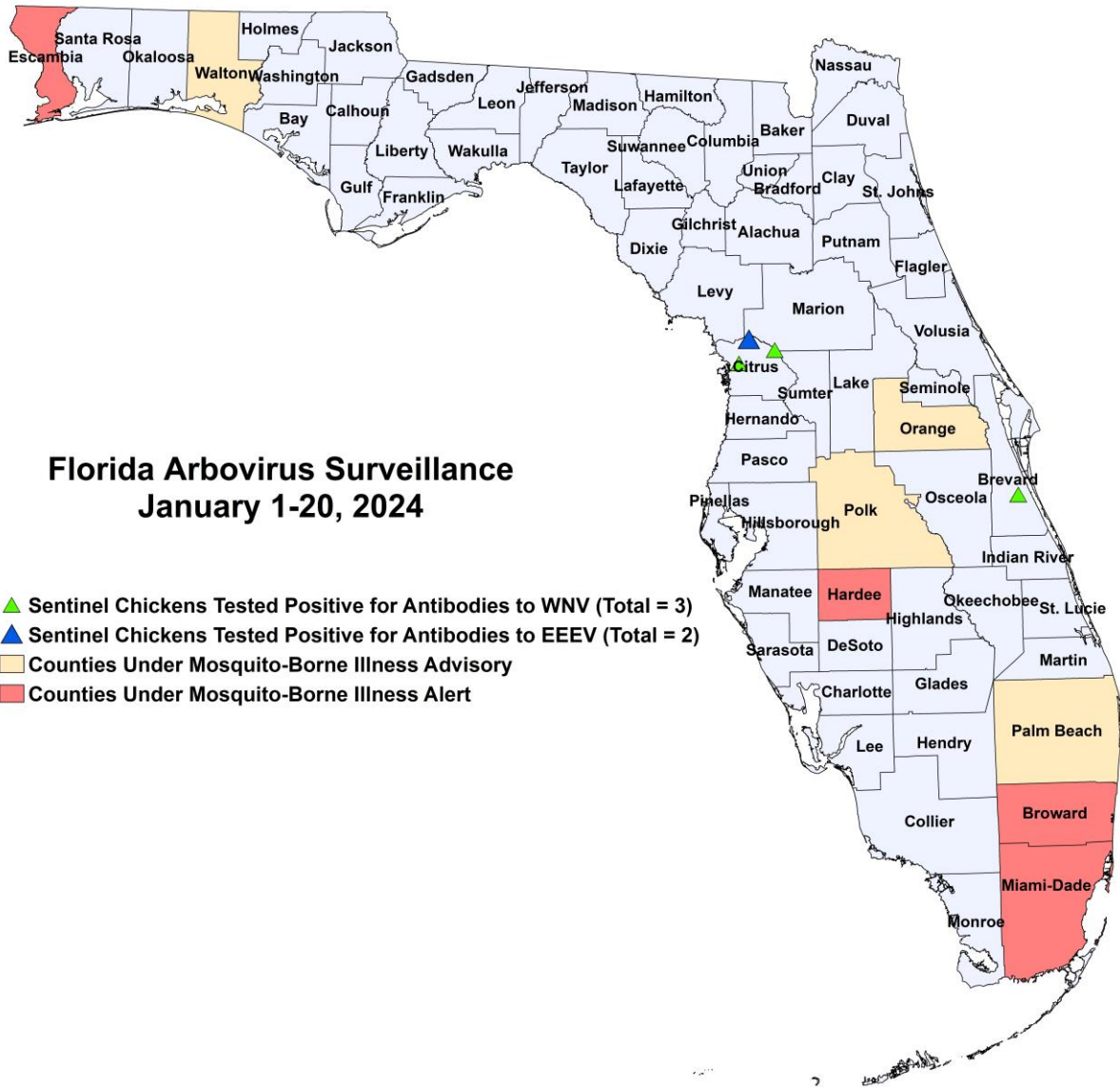
In 2024, 94 reports representing a total of 210 dead birds (0 crows, 0 jays, 12 raptors, 1 dove) were received from 31 of Florida's 67 counties.

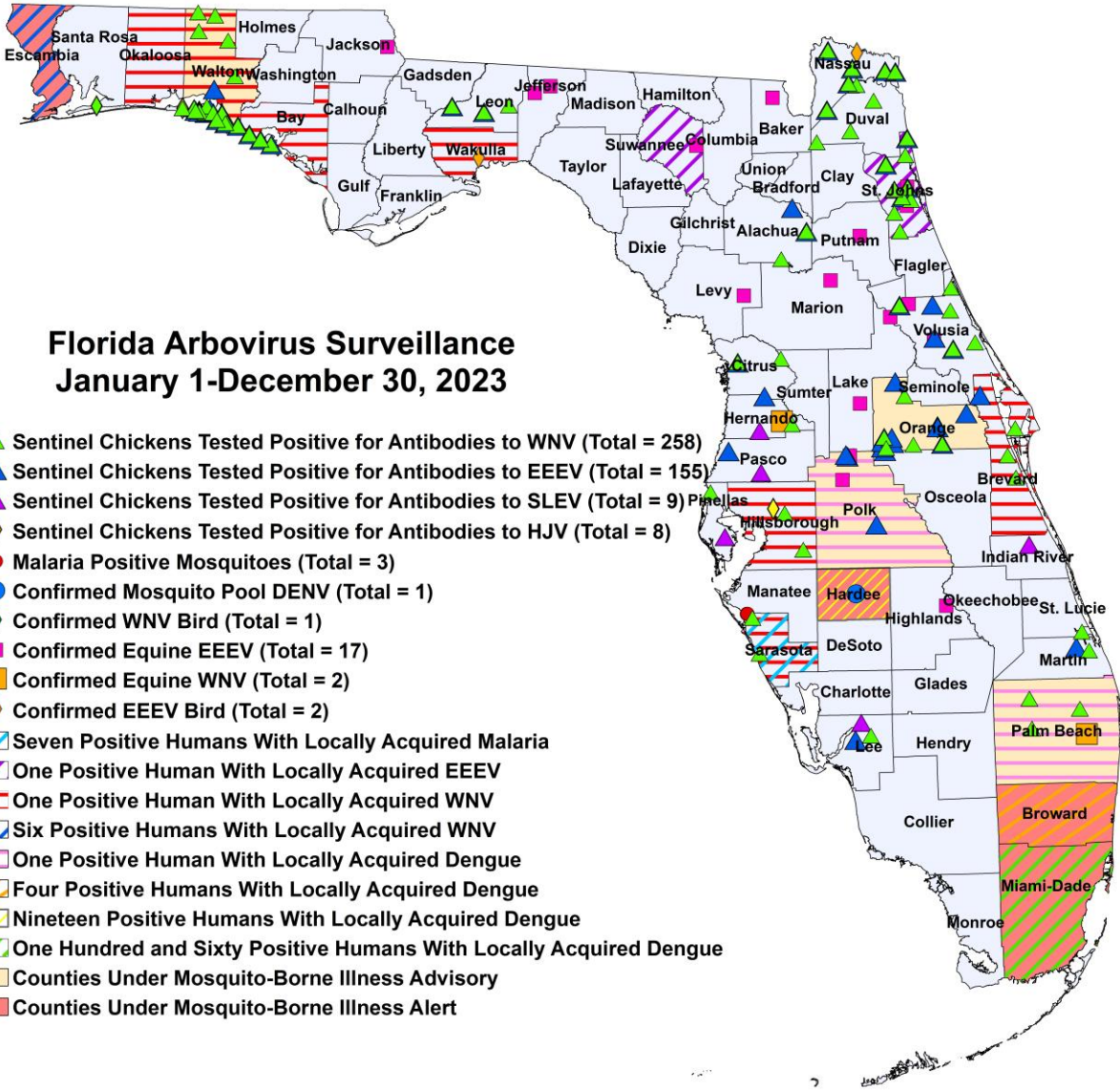
2024

County	Total Dead Birds	Crows	Jays	Raptors	Doves
Alachua	1	0	0	1	0
Bay	2	0	0	0	0
Brevard	1	0	0	0	0
Broward	1	0	0	0	1
Duval	2	0	0	0	0
Escambia	2	0	0	1	0
Gulf	13	0	0	0	0
Highlands	1	0	0	0	0
Hillsborough	1	0	0	0	0
Indian River	2	0	0	0	0
Martin	1	0	0	0	0
Miami-Dade	1	0	0	0	0
Orange	2	0	0	1	0
Palm Beach	2	0	0	1	0
Pinellas	10	0	0	0	0
Santa Rosa	6	0	0	1	0
Sarasota	2	0	0	0	0
St. Lucie	1	0	0	1	0

Maps







**Florida Arbovirus Surveillance
January 1-December 30, 2023**

- ▲ Sentinel Chickens Tested Positive for Antibodies to WNV (Total = 258)
- ▲ Sentinel Chickens Tested Positive for Antibodies to EEEV (Total = 155)
- ▲ Sentinel Chickens Tested Positive for Antibodies to SLEV (Total = 9)
- ◆ Sentinel Chickens Tested Positive for Antibodies to HJV (Total = 8)
- Malaria Positive Mosquitoes (Total = 3)
- Confirmed Mosquito Pool DENV (Total = 1)
- ◆ Confirmed WNV Bird (Total = 1)
- Confirmed Equine EEEV (Total = 17)
- Confirmed Equine WNV (Total = 2)
- ◆ Confirmed EEEV Bird (Total = 2)
- ▨ Seven Positive Humans With Locally Acquired Malaria
- ▨ One Positive Human With Locally Acquired EEEV
- ▨ One Positive Human With Locally Acquired WNV
- ▨ Six Positive Humans With Locally Acquired WNV
- ▨ One Positive Human With Locally Acquired Dengue
- ▨ Four Positive Humans With Locally Acquired Dengue
- ▨ Nineteen Positive Humans With Locally Acquired Dengue
- ▨ One Hundred and Sixty 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
Brevard			1 WNV (1/3)	
Citrus			2 WNV (1/9) 2 EEEV (1/9)	

2023 Mosquito-Borne Disease Activity by County

County	Humans	Equines	Sentinel Chickens	Other
Alachua			8 EEEV (6/19, 7/17, 8/1, 8/9, 8/23, 10/19) 4 WNV (10/9, 11/14)	
Baker		1 EEEV (5/5)		
Bay	1 WNV asymptomatic blood donor (August)		6 EEEV (5/15, 5/22, 5/30, 6/12) 14 WNV (7/17, 7/31, 8/21, 8/24, 9/11, 9/18, 10/2, 10/16)	
Brevard	1 WNV (October)		1 EEEV (3/24) 4 WNV (8/3, 10/5, 10/19)	
Broward	4 dengue (July (2), August, September)			
Citrus			3 EEEV (4/24, 11/6, 11/14) 3 WNV (10/16, 12/4)	
Duval			12 WNV (7/17, 9/11, 9/18, 9/25, 10/2, 10/9)	
Escambia	6 WNV (July (2), August (3), December)			
Hardee	19 dengue (July, September (2), October (10), November (4), December (2))			1 dengue 1 mosquito (<i>Ae. aegypti</i> 11/20)
Hernando		1 WNV (1/6)	1 SLEV (10/16) 1 WNV (11/20)	
Hillsborough	1 WNV asymptomatic blood donor (August)		4 WNV (2/28, 3/7, 5/2, 11/6) 1 HJV (7/18)	
Indian River			2 SLEV (11/30)	
Jackson		1 EEEV (7/28)		
Jefferson		2 EEEV (6/22, 6/30)		
Lake		2 EEEV (1/29, 12/11)		
Lee			1 EEEV (1/9) 1 SLEV (10/9) 1 WNV (10/16)	
Leon			8 EEEV (7/6, 8/1, 8/7, 8/22, 9/19, 10/2, 10/31) 5 WNV (8/7, 8/15, 9/19, 10/2)	
Levy		1 EEEV (10/8)		
Marion		1 EEEV (11/21)		
Martin			1 EEEV (8/4) 2 WNV (10/6, 10/13)	
Miami-Dade	160 dengue (January, March, June (3), July (6), August (18), September (46), October (63), November (18), December (4))			

County	Humans	Equines	Sentinel Chickens	Other
Nassau			48 EEEV (6/2, 6/16, 6/23, 7/7, 7/15, 7/21, 8/11, 8/18, 8/31, 9/8, 9/15, 9/22, 9/29, 10/14, 10/20, 10/27, 11/17) 55 WNV (8/4, 8/11, 8/18, 8/31, 9/8, 9/22, 9/29, 10/7, 10/14, 10/20, 10/27, 11/3, 11/10)	1 EEEV sparrow (6/24)
Okaloosa	1 WNV (September)			
Orange			4 WNV (2/20, 7/10, 8/28, 10/2) 23 EEEV (1/17, 2/20, 2/27, 4/10, 4/24, 5/1, 5/15, 5/30, 6/5, 7/10, 7/17, 8/1, 10/2, 11/19, 11/20, 12/4, 12/11) 1 HJV (5/8)	
Palm Beach	1 dengue (September)	1 WNV (10/4)	11 WNV (4/18, 9/1, 9/18, 9/25, 10/9, 10/16, 10/23, 11/14)	
Pasco			1 EEEV (4/24) 1 SLEV (11/6)	
Pinellas			1 WNV (12/4) 1 SLEV (12/18)	
Polk	1 dengue (July)	2 EEEV (4/7, 4/10)	4 EEEV (5/22, 5/26, 7/24, 10/23)	
Putnam		1 EEEV (7/31)		
Santa Rosa				1 WNV pheasant (8/29)
Sarasota	7 malaria (May, June (5), July) 1 WNV (September)		2 WNV (9/15, 10/17)	3 <i>Plasmodium vivax</i> mosquitoes (<i>Anopheles crucians</i> [6/1, 6/2, 6/5])
Seminole			2 WNV (9/11, 9/26)	
St. Johns	1 EEE (June)	2 EEEV (2/2, 7/6)	5 EEEV (6/12, 6/26, 7/31, 8/21) 58 WNV (7/5, 7/10, 7/17 7/31, 8/7, 8/14, 8/21, 8/28, 9/5, 9/11, 9/18, 9/25, 10/2, 10/9, 10/16, 10/23, 10/30, 11/6) 1 SLEV (10/30)	
Suwanee	1 EEE (July)	1 EEEV (8/21)		
Volusia		1 EEEV (12/12)	8 EEEV (1/17, 1/23, 1/30, 4/10, 4/17, 6/12, 7/17) 12 WNV (7/3, 8/14, 9/5, 9/11, 9/25, 10/2, 10/30, 11/6, 11/13) 1 SLEV (9/25)	
Wakulla	1 WNV (October)			1 EEEV laughing gull (8/1)
Walton	1 WNV asymptomatic blood donor (September)		62 WNV (3/27, 7/24, 7/31, 8/7, 8/8, 8/14, 8/15, 8/21, 8/22, 8/28, 8/30, 9/11, 9/12, 9/18, 9/25, 10/2, 10/3, 10/9, 10/16, 10/23, 10/30, 10/31, 11/6, 11/14, 11/27, 11/28, 12/4) 38 EEEV (4/3, 4/10, 5/8, 5/30, 6/5, 6/12, 6/19, 6/26, 6/28, 7/3, 7/11, 7/17, 7/24, 8/8, 8/14, 9/26) 6 HJV (5/8, 5/22, 6/12, 8/21) 1 SLEV (7/31)	

Acknowledgements and Data Sources

Contributors: Andrea Morrison, PhD, MSPH, Rebecca Zimler, PhD, MPH, and Danielle Stanek, DVM, DOH Bureau of Epidemiology; Lea Heberlein, DrPH; Alexis LaCrue, PhD, MS; 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.