



Florida Arbovirus Surveillance Week 5: January 26-February 1, 2020

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 26-February 1, 2020, the following arboviral activity was recorded in Florida.

This report contains information for 2019 and 2020. This week's report will be the last update for 2019. Please visit the following website for up to date 2019 human case numbers as final data cleaning occurs: [FloridaHealth.gov/diseases-and-conditions/mosquito-borne-diseases/surveillance.html](https://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/surveillance.html).

WNV activity: No human cases of WNV infection were reported this week. No horses with WNV infection were reported this week. Four sentinel chickens tested positive for antibodies to WNV this week in Citrus, Hillsborough, and Palm Beach counties. In 2020, 19 sentinel chickens have been reported from seven counties. In 2019, positive samples from two humans, one blood donor, ten horses, one eagle, and 808 sentinel chickens have been reported from 31 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 2020, no positive samples have been reported. In 2019, positive samples from eight sentinel chickens have been reported from eight counties.

EEEV activity: No human cases of EEEV infection were reported this week. One horse with EEEV infection was reported this week in Volusia County. No sentinel chickens tested positive for antibodies to EEEV this week. In 2020, three sentinel chickens, one horse, and one mosquito pool have been reported from four counties. In 2019, positive samples from 28 horses, one emu, one eagle, and 115 sentinel chickens have been reported from 31 counties.

International Travel-Associated Dengue Fever Cases: One 2019 case of dengue fever was reported this week in a person that had international travel. In 2019, 406 travel-associated cases have been reported. Seven 2020 cases of dengue fever were reported this week in persons that had international travel. In 2020, seven travel-associated cases have been reported.

Dengue Fever Cases Acquired in Florida: No cases of locally acquired dengue fever were reported this week. In 2019, 16 cases of locally acquired dengue fever have been reported.

International Travel-Associated Chikungunya Fever Cases: No cases of chikungunya fever were reported this week in persons that had international travel. In 2019, eight travel-associated cases have been reported.

Chikungunya Fever Cases Acquired in Florida: No cases of locally acquired chikungunya fever were reported this week. In 2019, 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 2019, 36 travel-associated cases have been reported.

Zika Fever Cases Acquired in Florida: No cases of locally acquired Zika fever were reported this week. In 2019, no cases of locally acquired Zika fever have been reported.

Advisories/Alerts: Broward County is currently under a mosquito-borne illness advisory. Miami-Dade County is currently under a mosquito-borne illness alert. No other counties are currently under mosquito-borne illness advisory or alert.

There is a Level 2 Travel Health Notice for Nigeria related to the transmission of yellow fever virus. There are also Level 1 Travel Health Notices for Central and South America, Mexico, the Caribbean, Asia, the Pacific

Islands, Africa, and the Middle East related to the transmission of dengue virus, for Burundi related to Malaria transmission, and for Ethiopia related to chikungunya transmission. Additional information on travel health notices can be found at the following link: wwwnc.cdc.gov/travel/notices. For a map of arboviral disease activity in the United States visit: www.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html.

2019 Human Case Summary*

West Nile Virus Illnesses Acquired in Florida: Two human cases of WNV illness acquired in Florida has been reported in 2019 in Duval (July) and Sumter (October) counties. One asymptomatic positive blood donor has been reported in 2019 from Bay County (August).

International Travel-Associated Chikungunya Fever Cases: Eight cases of chikungunya fever with onset in 2019 have been reported in individuals with travel history to a chikungunya endemic country in the two weeks prior to onset. Countries of origin were: Brazil, Haiti, India (3), and Thailand (3). Counties reporting cases were: Alachua, Lee, Manatee, Marion, Miami-Dade (2), Orange, and Palm Beach. Two cases were reported in non-Florida residents.

International Travel-Associated Dengue Fever Cases: Four hundred six cases of dengue fever with onset in 2019 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Counties reporting cases were: Alachua (4), Brevard (2), Broward (47), Charlotte, Citrus, Collier (4), Desoto, Duval (6), Hillsborough (22), Lake (2), Lee (13), Manatee (2), Marion, Miami-Dade (232), Orange (18), Osceola (3), Palm Beach (26), Pasco (4), Pinellas (3), Polk, Putnam, Sarasota (2), Seminole (4), St. Lucie (5), and Volusia. Twenty-six cases were reported in non-Florida residents. Thirteen 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 2019, 335 cases of dengue reported in Florida have been serotyped by PCR.* Please see the below table 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	Unknown*	Total
Cuba	18	189			3			34	244
Dominican Republic	24	1						4	29
Jamaica		2	20			1		6	29
Honduras	2	10	1					5	18
Nicaragua		11					1	5	17
Haiti	7	1						4	12
India		3	3	1				3	10
Mexico	2	3							5
Venezuela	5								5
Brazil		2						1	3
Dominica			2					1	3
El Salvador		2						1	3
Guatemala		1	2						3
Philippines		2						1	3
Belize		2							2
Colombia			1					1	2
Costa Rica		2							2
Thailand		2							2
Vietnam	2								2
Antigua and Barbuda			1						1
Asia	1								1
Bangladesh			1						1
Belize/Cuba/Honduras/Mexico		1							1
Cambodia/Thailand/Vietnam	1								1
Cayman Islands/Mexico		1							1
Central America/Mexico								1	1
Colombia/Venezuela								1	1
Cuba/Jamaica								1	1
India/Malaysia								1	1
Malaysia/Singapore		1							1
Panama	1								1
Total	63	236	31	1	3	1	1	70	406

* Serotyping for 5 cases are pending and will be added in future weeks.

Seven cases of dengue fever with onset in 2020 have been reported in individuals with travel history to a dengue endemic area in the two weeks prior to onset. Counties reporting cases were: Broward (2), Franklin, Hillsborough, Miami-Dade (2), and St. Lucie. One case was reported in a non-Florida resident. In 2020, two 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-1/ DENV-3	Unknown**	Total
Cuba			2	2
Jamaica		1	1	2
Bahamas	1			1
Dominican Republic			1	1
Puerto Rico/U.S. Virgin Islands			1	1
Total	1	1	5	7

**Serotyping for 5 cases are pending and will be added in future weeks.

Dengue Fever Cases Acquired in Florida: In 2019, 16 cases of locally acquired dengue fever have been reported in Broward, Hillsborough, and Miami-Dade (14) counties, with onsets in March, July (2), August (3), September (6), October (2), and December (2).

International Travel-Associated Zika Fever Cases: In 2019, 36 cases of Zika fever have been reported in individuals with travel history to a country or area experiencing Zika virus activity. Countries of origin were: Brazil, Colombia (1), Cuba (6), Guatemala (5), Haiti (11), Honduras (4), Jamaica, Nicaragua, Philippines, Puerto Rico, and Venezuela (3). Counties reporting cases were: Broward (5), Collier (3), Duval, Hillsborough (2), Indian River, Lee, Miami-Dade (17), Orange (4), Palm Beach, and Sarasota. Three cases were reported in non-Florida residents. Florida is monitoring a total of 23 pregnant women in 2019.

International Travel-Associated Malaria Cases: Seventy-three cases of malaria with onset in 2019 have been reported. Countries of origin were: Afghanistan, Angola (3), Central African Republic (3), Chad, Congo, Democratic Republic of the Congo (4), Gabon (2), Ghana (10), Guinea, Guyana, India (4), Ivory Coast (6), Kenya (3), Liberia (3), Nicaragua, Nigeria (16), Papua New Guinea, Sierra Leone (2), Sudan, Togo, Uganda (4), Venezuela, and Zambia (3). Counties reporting cases were: Bay, Brevard (3), Broward (6), Duval (10), Hillsborough (5), Lake (2), Lee, Manatee, Miami-Dade (13), Okaloosa, Orange (9), Pasco (6), Pinellas (6), Polk (3), Seminole (4), Volusia and Washington. Twenty cases were reported in non-Florida residents.

Fifty-nine cases (81%) were diagnosed with *Plasmodium falciparum*. Nine cases (12%) were diagnosed with *Plasmodium vivax*. Three cases (4%) were diagnosed with *Plasmodium ovale*. Two cases (3%) were diagnosed with *Plasmodium malariae*.

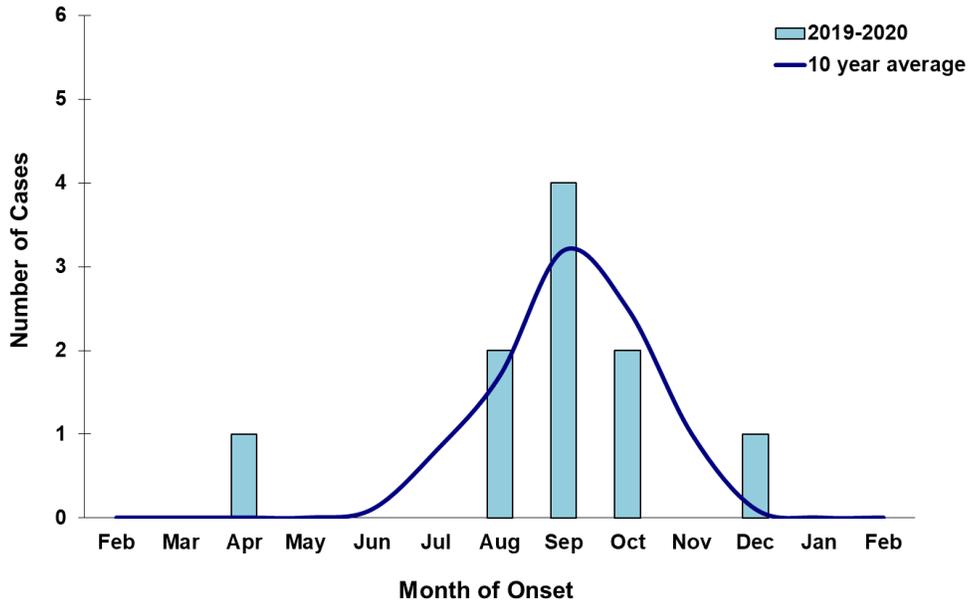
Two cases of malaria with onset in 2020 has been reported. Countries of origin were: Dominican Republic and Nigeria. Counties reporting cases were: Miami-Dade and Polk. Both cases were diagnosed with *Plasmodium falciparum*. One case was reported in a non-Florida resident.

Veterinary Cases*

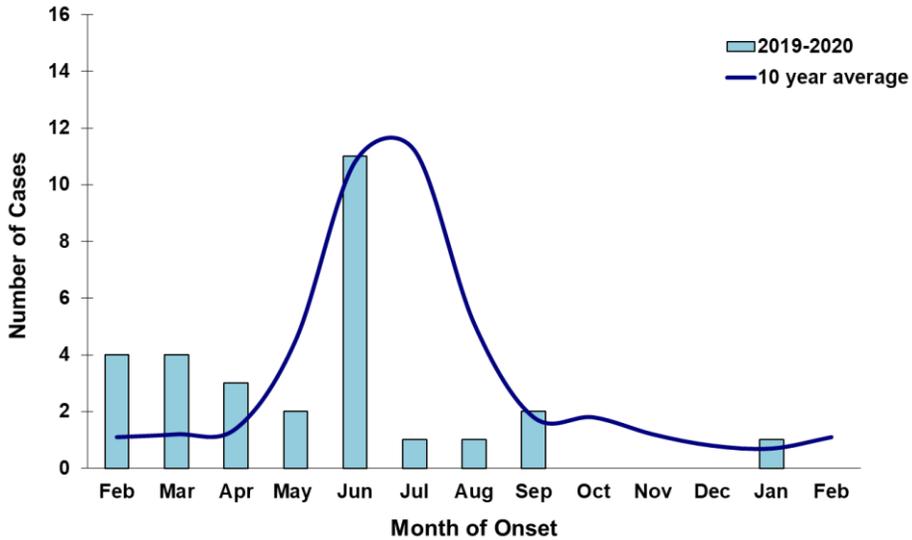
*Veterinary cases are reported by date of onset. Only mammalian veterinary cases are included in the graphs.

One horse with EEEV infection was reported this week in Volusia County.

Veterinary WNV Disease in Florida, February 2019-2020



Veterinary EEEV Disease in Florida, February 2019-2020



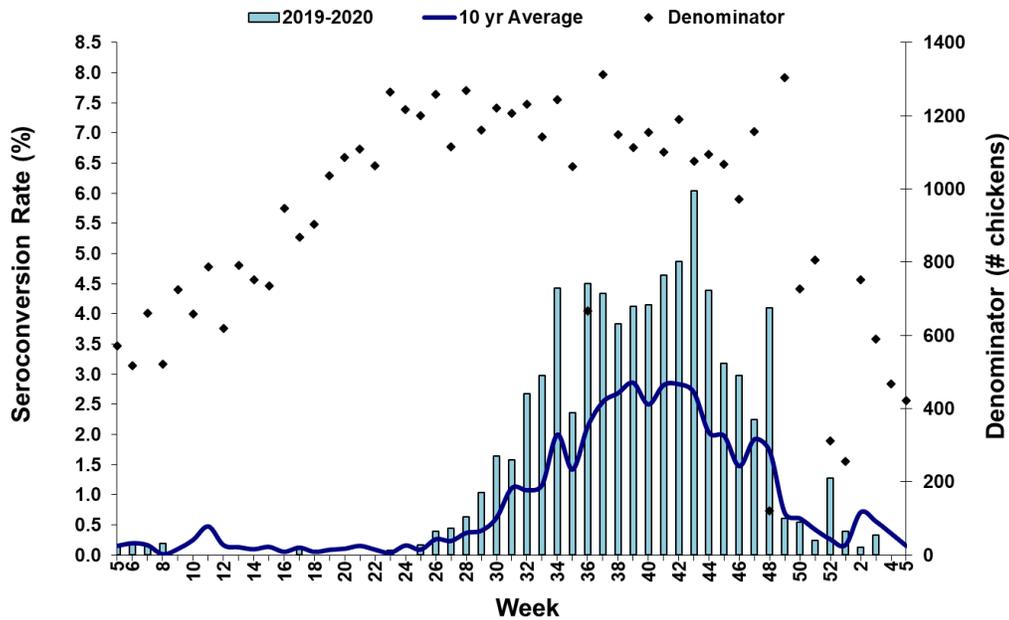
Sentinel Chickens*

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.

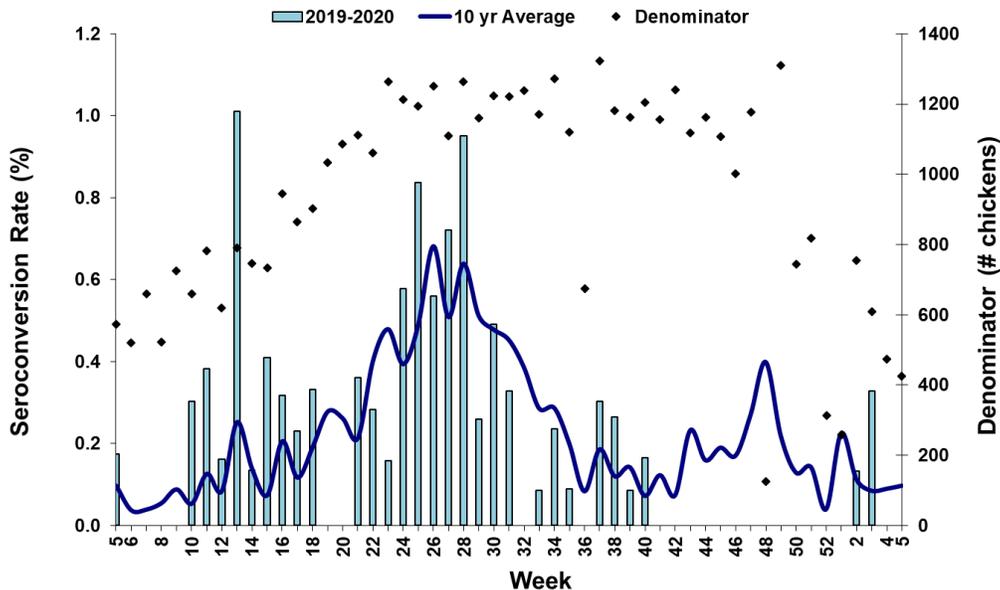
Four sentinel chickens tested positive for antibodies to WNV this week in Citrus, Hillsborough, and Palm Beach counties.

County	Collection Date	Seroconversion Rates (%)						County Totals	
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Citrus	1/21/2020	1.41		1.41				1 WNV	7 WNV, 1 EEEV
Hillsborough	1/6/2020	4.44		4.44				2 WNV	2 WNV
Palm Beach	1/20/2020	4.17		4.17				1 WNV	1 WNV

Sentinel Seroconversions to WNV in Florida, 2019-2020



Sentinel Seroconversions to EEEV in Florida, 2019-2020



Mosquito Pools

No mosquito pools tested positive for EEEV or WNV this week.

County	Collection Date	Result	Species	County YTD

Dead Birds

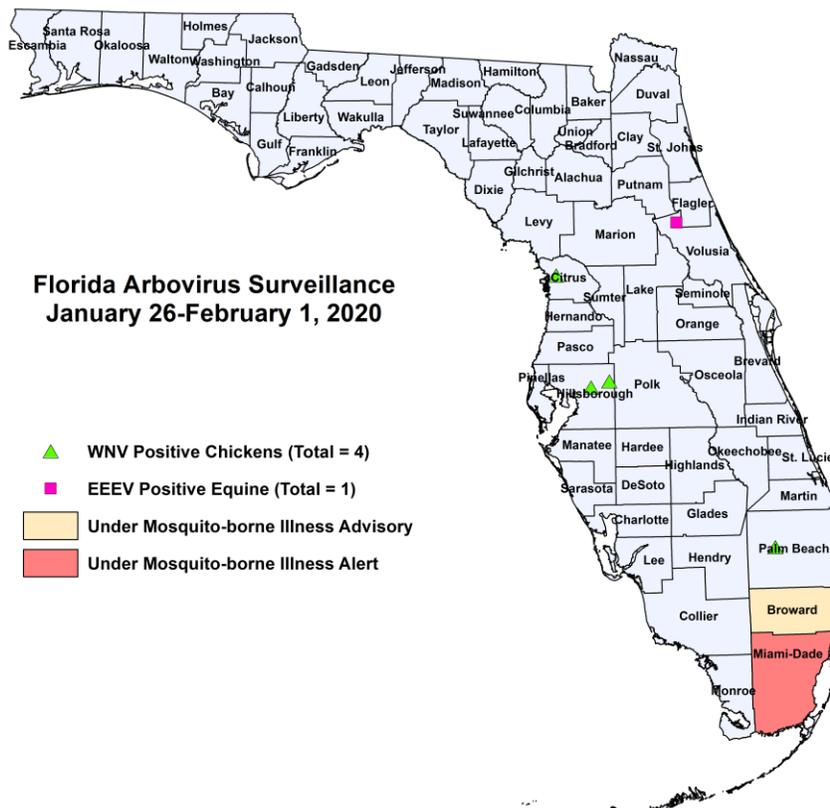
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 12 reports representing a total of 61 dead birds, including 16 crows and one raptor, were received from eight counties.

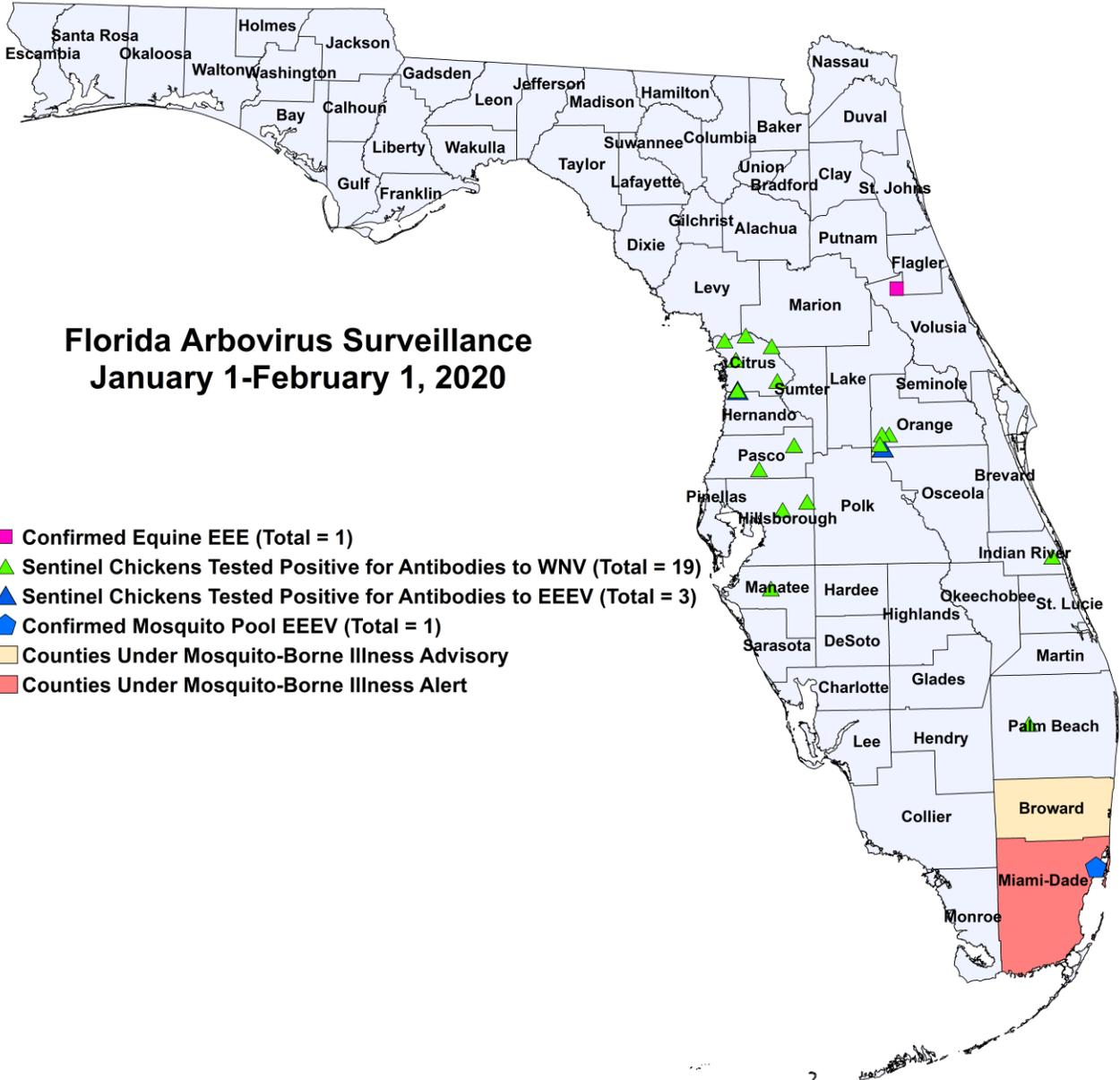
In 2020, 36 reports representing a total of 111 dead birds (16 crows, 9 raptors) were received from 20 of Florida's 67 counties.

2020

County	Total Dead Birds	Crows	Jays	Raptors	Doves
Baker	15	15	0	0	0
Charlotte	1	0	0	0	0
Escambia	5	0	0	0	0
Hillsborough	1	0	0	1	0
Pinellas	28	0	0	0	0
Sarasota	3	1	0	0	0
Seminole	1	0	0	0	0
St. Lucie	7	0	0	0	0

Maps

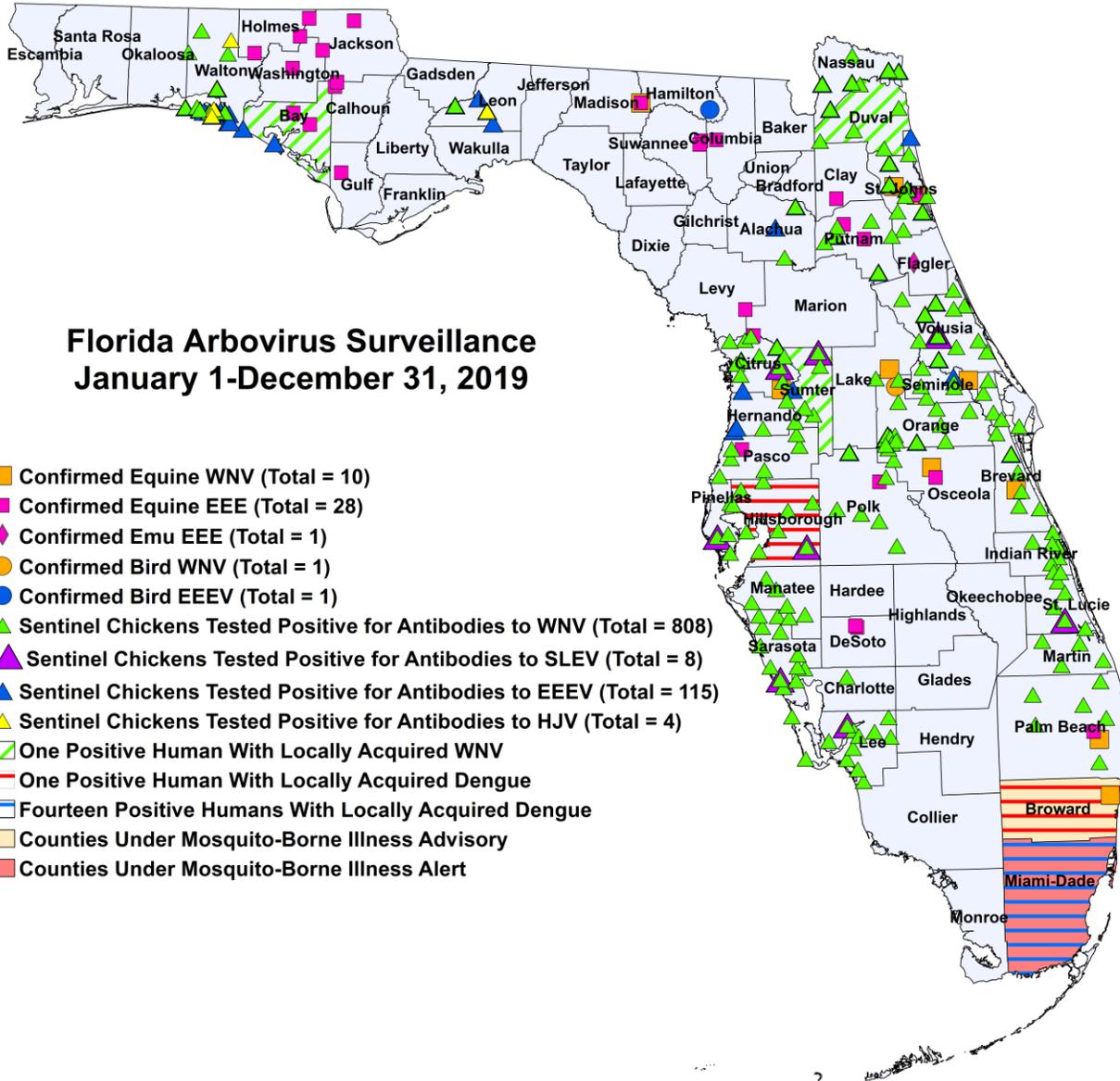




Florida Arbovirus Surveillance January 1-February 1, 2020

- Confirmed Equine EEE (Total = 1)
- ▲ Sentinel Chickens Tested Positive for Antibodies to WNV (Total = 19)
- ▲ Sentinel Chickens Tested Positive for Antibodies to EEEV (Total = 3)
- ◆ Confirmed Mosquito Pool EEEV (Total = 1)
- Counties Under Mosquito-Borne Illness Advisory
- Counties Under Mosquito-Borne Illness Alert

2020 Arbovirus Activity by County	
County	Arbovirus Activity
Citrus	WNV: 7 sentinels (1/8, 1/14, 1/21) EEEV: 1 sentinel (1/8)
Hillsborough	WNV: 2 sentinels (1/6)
Indian River	WNV: 1 sentinel (1/2)
Manatee	WNV: 3 sentinels (1/8)
Miami-Dade	EEEV: 1 mosquito pool (1/7)
Orange	WNV: 3 sentinels (1/6) EEEV: 2 sentinels (1/13)
Palm Beach	WNV: 1 sentinel (1/20)
Pasco	WNV: 2 sentinels (1/7)
Volusia	EEEV: 1 horse (1/24)



Florida Arbovirus Surveillance January 1-December 31, 2019

- Confirmed Equine WNV (Total = 10)
- Confirmed Equine EEE (Total = 28)
- ◆ Confirmed Emu EEE (Total = 1)
- Confirmed Bird WNV (Total = 1)
- Confirmed Bird EEEV (Total = 1)
- ▲ Sentinel Chickens Tested Positive for Antibodies to WNV (Total = 808)
- ▲ Sentinel Chickens Tested Positive for Antibodies to SLEV (Total = 8)
- ▲ Sentinel Chickens Tested Positive for Antibodies to EEEV (Total = 115)
- ▲ Sentinel Chickens Tested Positive for Antibodies to HJV (Total = 4)
- ▨ One Positive Human With Locally Acquired WNV
- ▨ One Positive Human With Locally Acquired Dengue
- ▨ Fourteen Positive Humans With Locally Acquired Dengue
- Counties Under Mosquito-Borne Illness Advisory
- Counties Under Mosquito-Borne Illness Alert

2019 Arbovirus Activity by County	
County	Arbovirus Activity
Alachua	WNV: 5 sentinels (9/9, 9/13, 9/30, 11/18) EEEV: 2 sentinels (7/8, 8/19)
Bay	WNV: 1 asymptomatic blood donor (August) EEEV: 2 horses (2/24, 2/26), 9 sentinels (4/29, 7/1)
Brevard	WNV: 1 horse (8/27), 60 sentinels (1/3, 7/18, 7/19, 7/25, 7/26, 7/31, 8/1, 8/8, 8/14, 8/15, 8/16, 8/21, 8/22, 8/23, 9/12, 9/13, 9/18, 9/19, 9/20, 9/25, 10/9, 10/10, 10/11, 10/17, 10/18, 10/23, 10/24, 11/1, 11/8, 11/13, 11/19, 11/20) EEEV: 1 sentinel (7/18)
Broward	Dengue: 1 human (August) WNV: 1 horse (10/5)
Calhoun	EEEV: 3 horses (3/3, 3/22)
Charlotte	WNV: 11 sentinels (7/23, 8/5, 10/18, 10/25, 11/1, 11/7)
Citrus	WNV: 1 horse (9/24), 76 sentinels (1/8, 1/29, 7/23, 8/6, 8/20, 8/27, 9/3, 9/10, 9/17, 9/24, 10/1, 10/8, 10/15, 10/22, 10/29, 11/5, 11/12, 11/18, 12/3, 12/10) SLEV: 1 sentinel (10/22) EEEV: 1 horse (5/11), 6 sentinels (4/26, 6/18, 7/30, 9/10, 10/1)
Clay	EEEV: 1 horse (9/20)

Columbia	EEEV: 1 horse (3/30)
DeSoto	EEEV: 2 horses (6/23, 7/2)
Duval	WNV: 1 human (July), 20 sentinels (9/9, 9/23, 10/7, 10/14, 10/21, 10/28, 11/12)
Flagler	EEEV: 1 emu (3/17)
Gulf	EEEV: 1 horse (2/27)
Hamilton	EEEV: 1 eagle (3/21)
Hernando	WNV: 8 sentinels (8/19, 9/9, 9/16, 9/23, 10/7, 10/21, 11/4) EEEV: 2 sentinels (3/4, 9/16)
Hillsborough	Dengue: 1 human (September) WNV: 38 sentinels (8/20, 8/27, 9/3, 9/10, 9/17, 9/24, 10/1, 10/8, 10/15, 10/21, 10/22, 10/29, 11/5, 11/12, 12/3, 12/10, 12/16, 12/23) SLEV: 1 sentinel (10/15)
Holmes	EEEV: 3 horses (6/1, 6/5, 6/20)
Indian River	WNV: 72 sentinels (1/10, 7/3, 7/5, 7/12, 7/19, 7/26, 8/2, 8/8, 8/9, 8/15, 8/16, 8/22, 8/23, 8/29, 9/5, 9/13, 9/19, 9/20, 10/3, 10/4, 10/10, 10/17, 10/18, 10/25, 10/30, 10/31, 11/7, 11/8, 11/15, 11/22, 11/26, 12/6, 12/27)
Jackson	EEEV: 1 horse (6/19)
Lake	WNV: 1 horse (10/6)
Lee	WNV: 40 sentinels (7/9, 8/5, 8/6, 8/12, 8/19, 8/20, 8/27, 9/4, 9/9, 9/12, 9/16, 9/17, 9/26, 9/27, 9/30, 10/1, 10/7, 10/15, 10/28, 10/29, 11/5) SLEV: 1 sentinel (9/4)
Leon	WNV: 2 sentinels (9/3, 10/14) EEEV: 7 sentinels (5/28, 6/10, 8/26, 9/10, 9/30) HJV: 1 sentinel (8/19)
Levy	EEEV: 1 horse (6/19)
Madison	WNV: 1 horse (4/1) EEEV: 1 horse (4/1)
Manatee	WNV: 9 sentinels (2/5, 10/7, 10/15, 10/22, 11/5, 11/20)
Martin	WNV: 23 sentinels (8/16, 8/29, 9/13, 9/20, 10/11, 10/25, 11/1, 11/15, 11/22, 11/25, 12/20)
Miami-Dade	Dengue: 14 humans (March, July (2), August (2), September (5), October (2) December (2))
Nassau	WNV: 24 sentinels (8/3, 8/17, 8/24, 9/7, 9/14, 9/21, 9/28, 10/12, 10/19, 10/26, 11/2, 11/9, 11/16) EEEV: 9 sentinels (6/21, 7/13, 7/27, 8/3, 9/21, 11/23)
Orange	WNV: 1 eagle (6/22), 82 sentinels (1/7, 1/10, 1/14, 6/27, 6/20, 6/24, 7/1, 7/11, 7/22, 8/1, 8/8, 8/19, 8/22, 8/26, 9/9, 9/16, 9/23, 9/30, 10/7, 10/14, 10/21, 10/28, 11/4, 11/11, 11/18, 11/19, 12/2, 12/16) EEEV: 7 sentinels (6/17, 7/11, 7/18, 7/25, 11/25)
Osceola	WNV: 1 horse (8/30) EEEV: 1 horse (6/10)
Palm Beach	WNV: 30 sentinels (7/8, 7/22, 8/5, 8/19, 9/9, 9/16, 9/23, 10/7, 10/21, 10/28, 11/25) EEEV: 2 horses (2/25, 12/3)
Pasco	WNV: 29 sentinels (8/28, 9/4, 9/24, 10/1, 10/9, 10/23, 10/30, 11/6, 11/13, 11/20, 11/25, 12/4, 12/11, 12/18, 12/23) EEEV: 1 horse (6/20)
Pinellas	WNV: 12 sentinels (8/26, 9/9, 10/14, 10/21, 11/4, 11/12, 11/18) SLEV: 1 sentinel (9/30)
Polk	WNV: 36 sentinels (7/8, 7/15, 7/22, 7/29, 8/5, 8/12, 8/16, 8/19, 8/29, 8/30, 9/6, 9/13, 9/24, 9/30, 10/14, 10/22, 10/25, 10/28, 11/1, 11/4, 11/12, 11/15) EEEV: 1 horse (4/24), 5 sentinels (5/21, 5/24, 5/31, 6/21, 6/28)
Putnam	WNV: 19 sentinels (6/24, 7/17, 7/24, 8/2, 8/7, 8/8, 8/16, 8/23, 9/13, 10/10) EEEV: 2 horses (4/28, 8/17), 4 sentinels (5/29, 6/12, 7/24, 9/13)
Sarasota	WNV: 30 sentinels (2/15, 2/22, 7/29, 8/9, 8/19, 8/23, 9/3, 9/6, 9/10, 9/13, 9/16, 9/20, 10/7, 10/11, 10/14, 10/21, 11/1, 11/8, 11/12, 11/15, 11/22, 12/13, 12/26) SLEV: 1 sentinel (10/18)
Seminole	WNV: 18 sentinels (6/3, 7/15, 7/29, 8/20, 8/26, 9/9, 9/16, 9/23, 10/14, 11/18) EEEV: 1 sentinel (4/8)
St. Johns	WNV: 2 horses (9/7, 9/20), 55 sentinels (7/1, 7/19, 7/29, 8/5, 8/12, 8/19, 8/26, 9/23, 9/30, 10/7, 10/14, 10/21, 10/28, 11/4, 11/18, 11/25) EEEV: 1 horse (9/7), 8 sentinels (4/8, 4/15, 6/3, 6/24, 7/8, 7/29, 8/12, 8/19)

St. Lucie	WNV: 12 sentinels (8/1, 8/8, 8/15, 8/26, 9/6, 9/12, 9/25, 9/26, 10/3) SLEV: 1 sentinel (11/13)
Sumter	WNV: 1 human (October), 12 sentinels (1/8, 9/18, 9/25, 10/4, 10/11, 10/28, 10/29, 11/13, 11/19) SLEV: 1 sentinel (9/25) EEEV: 1 sentinel (8/22)
Suwannee	EEEV: 2 horses (6/4, 6/7)
Volusia	WNV: 1 horse (9/10), 64 sentinels (6/17, 6/24, 7/1, 7/15, 7/22, 7/29, 8/5, 8/12, 8/12, 8/19, 8/26, 9/2, 9/9, 9/17, 9/23, 9/30, 10/7, 10/15, 10/18, 10/21, 11/11, 11/25) SLEV: 1 sentinel (10/21) EEEV: 7 sentinels (1/14, 1/22, 1/28, 7/1, 7/15, 12/9, 12/30)
Walton	WNV: 21 sentinels (4/23, 8/5, 8/26, 9/3, 9/17, 9/23, 9/30, 10/1, 10/14, 10/21, 10/29, 11/12, 11/18, 11/19, 12/2) EEEV: 45 sentinels (3/5, 3/11, 3/12, 3/18, 3/25, 3/26, 4/1, 4/9, 4/15, 4/23, 5/20, 6/3, 6/10, 6/17, 6/24, 7/1, 7/8, 7/22, 7/23, 9/9, 9/16, 9/23) HJV: 3 sentinels (6/3, 7/9, 7/29)
Washington	EEEV: 2 horses (5/28, 6/19)

Acknowledgements and Data Sources

Contributors: Andrea Morrison, PhD, MSPH, Devin Rowe, MS, Catherine McDermott, MPH, MHS, and Danielle Stanek, DVM, DOH Bureau of Epidemiology; Lea Heberlein-Larson, DrPH; Alexis LaCrue, PhD, MS; Maribel Castaneda, and Valerie Mock, 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.