



Florida Arbovirus Surveillance Week 16: April 12-18, 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 April 12-18, 2020, the following arboviral activity was recorded in Florida.

[Due to increased testing needs in response to COVID-19, the Florida Department of Health is temporarily suspending testing of sentinel chickens and mosquito pools. There will be no new test results posted until testing is reinstated.](#)

WNV activity: No human cases of WNV infection were reported this week. No horses with WNV infection were reported this week. In 2020, 34 sentinel chickens have been reported from nine counties.

SLEV activity: No human cases of SLEV infection were reported this week. In 2020, no positive samples have been reported.

EEEV activity: No human cases of EEEV infection were reported this week. One horse with EEEV infection was reported this week in Orange County. In 2020, 12 sentinel chickens, three horses, and one mosquito pool have been reported from six counties.

International Travel-Associated Dengue Fever Cases: No cases of dengue fever were reported this week in persons that had international travel. In 2020, 21 travel-associated cases have been reported.

Dengue Fever Cases Acquired in Florida: No cases of locally acquired dengue fever were reported this week. In 2020, one case of locally acquired dengue fever has been reported.

International Travel-Associated Chikungunya Fever Cases: No cases of chikungunya fever were reported this week in persons that had international travel. In 2020, no travel-associated chikungunya fever cases have been reported.

Chikungunya Fever Cases Acquired in Florida: No cases of locally acquired chikungunya fever were reported this week. In 2020, 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 2020, 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 2020, no cases of locally acquired Zika fever have been reported.

Advisories/Alerts: Monroe 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/arbonet/maps/ADB_Diseases_Map/index.html.

2020 Human Case Summary*

International Travel-Associated Dengue Fever Cases

Twenty-one 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: Brevard, Broward (5), Collier, Duval, Franklin, Hillsborough (3), Miami-Dade (6), Orange, Seminole, and St. Lucie. Three cases were reported in non-Florida residents. In 2020, sixteen 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-3 | Unknown | Total |
|-------------------------------|----------|----------|----------|----------|-------------------|----------|-----------|
| Jamaica | | | 3 | | 1 | | 4 |
| Bolivia | 1 | | | | | 1 | 2 |
| Colombia | 2 | | | | | | 2 |
| Cuba | 1 | 1 | | | | | 2 |
| Dominican Republic | 2 | | | | | | 2 |
| Bahamas | 1 | | | | | | 1 |
| Brazil | | 1 | | | | | 1 |
| Mexico | | | | | | 1 | 1 |
| Nicaragua | | 1 | | | | | 1 |
| Paraguay | | | | 1 | | | 1 |
| Puerto Rico | | | | | | 2 | 2 |
| Puerto Rico/US Virgin Islands | 1 | | | | | | 1 |
| US Virgin Islands | | | | | | 1 | 1 |
| Total | 8 | 3 | 3 | 1 | 1 | 5 | 21 |

Dengue Fever Cases Acquired in Florida: In 2020, one case of locally acquired dengue fever has been reported in Monroe County, with onset in February. The case was reported in a non-Florida resident.

International Travel-Associated Malaria Cases: Six cases of malaria with onset in 2020 have been reported. Countries of origin were: Cameroon, Dominican Republic, Kenya, Nicaragua, Nigeria, and Uganda. Counties reporting cases were: Broward, Miami-Dade (2), Orange, Palm Beach, and Polk. Two cases were reported in non-Florida residents.

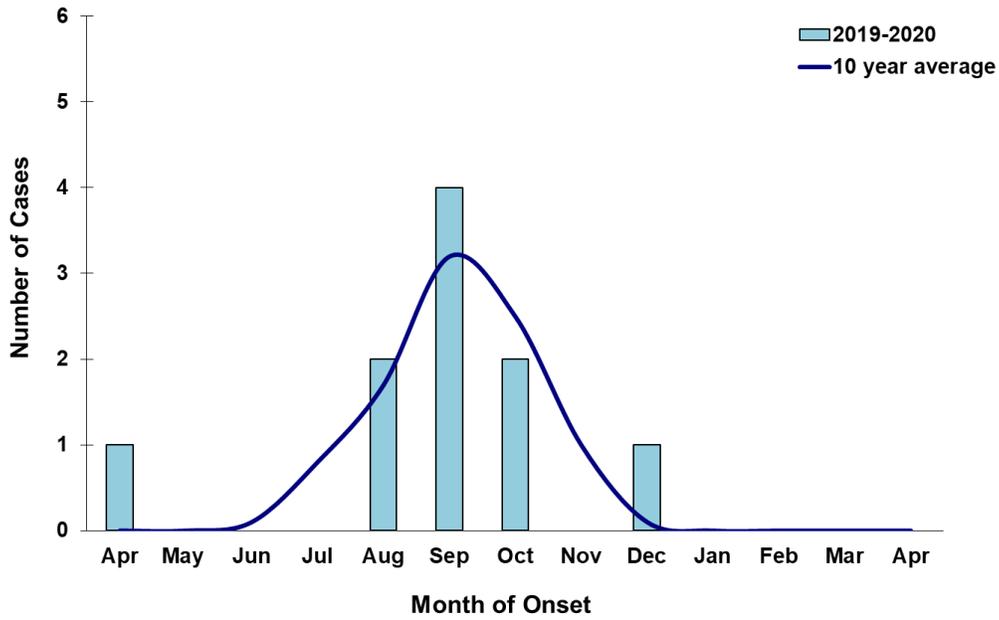
Five cases (83%) were diagnosed with *Plasmodium falciparum*. One case (17%) was diagnosed with *Plasmodium vivax*.

Veterinary Cases*

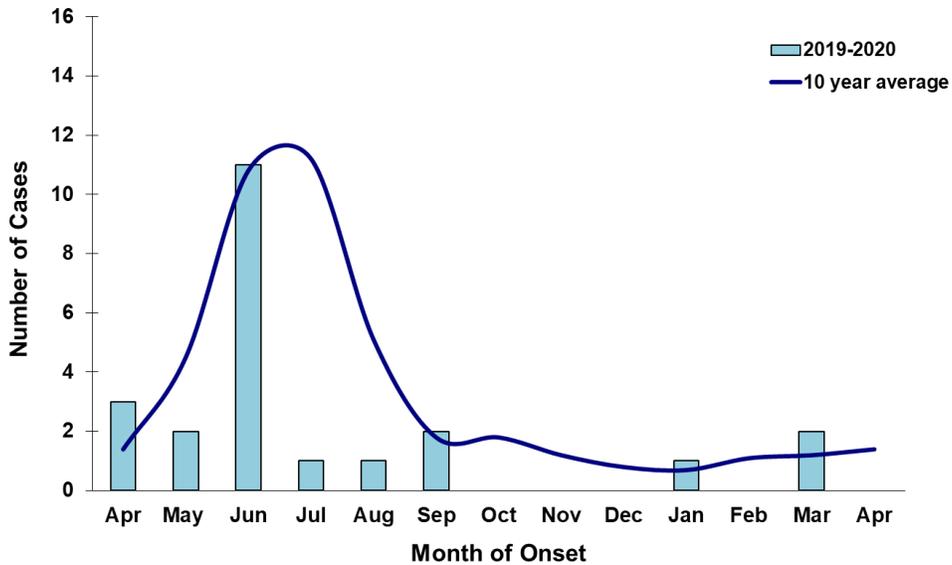
*Veterinary cases are reported by date of onset. Only mammalian veterinary cases are included in the graphs.

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

Veterinary WNV Disease in Florida, April 2019-2020



Veterinary EEEV Disease in Florida, April 2019-2020

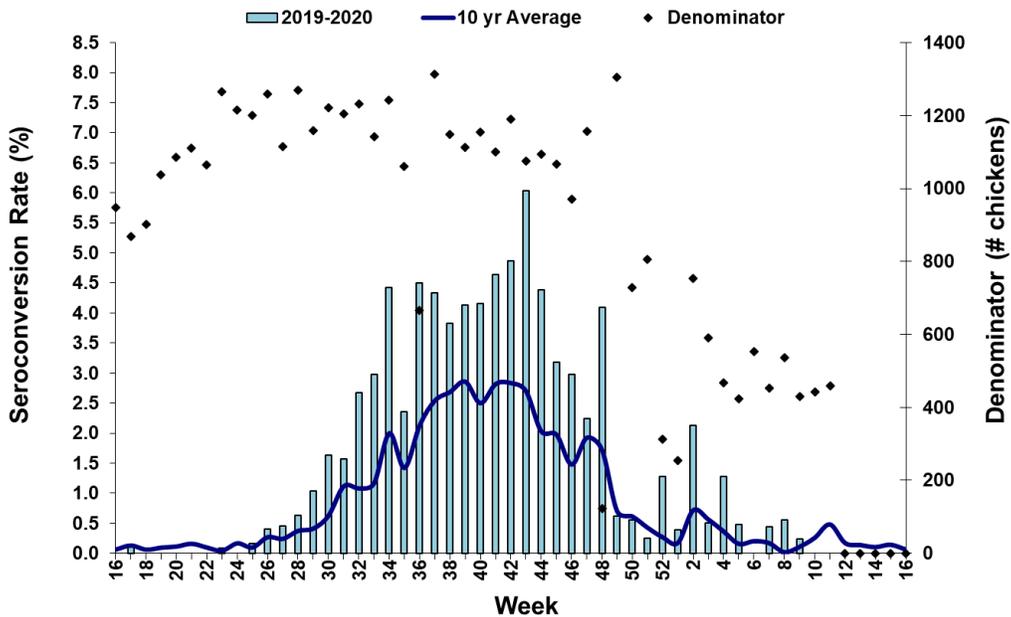


Sentinel Chickens*

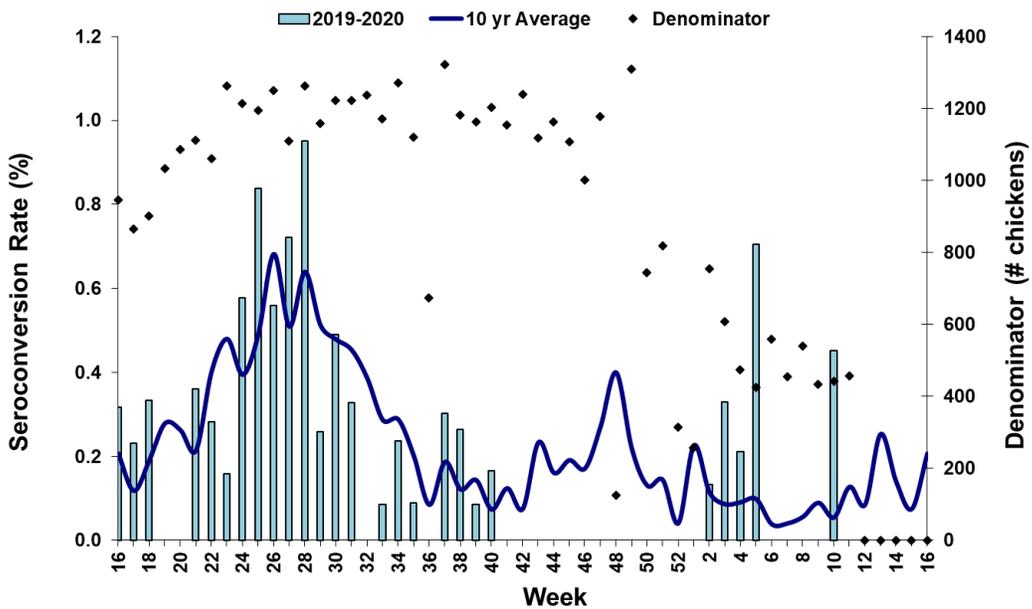
The table below is for the reporting of confirmatory laboratory results from this week. Some of the samples were collected at earlier dates. The date of collection is recorded for samples collected on that day along with the total number of positives and the corresponding seroconversion rate for the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

Due to increased testing needs in response to COVID-19, the Florida Department of Health is temporarily suspending testing of sentinel chickens. There will be no sentinel chicken test results posted until testing is reinstated.

Sentinel Seroconversions to WNV in Florida, 2019-2020



Sentinel Seroconversions to EEEV in Florida, 2019-2020



Mosquito Pools

Due to increased testing needs in response to COVID-19, the Florida Department of Health is temporarily suspending testing of mosquito pools. There will be no mosquito pool test results posted until testing is reinstated.

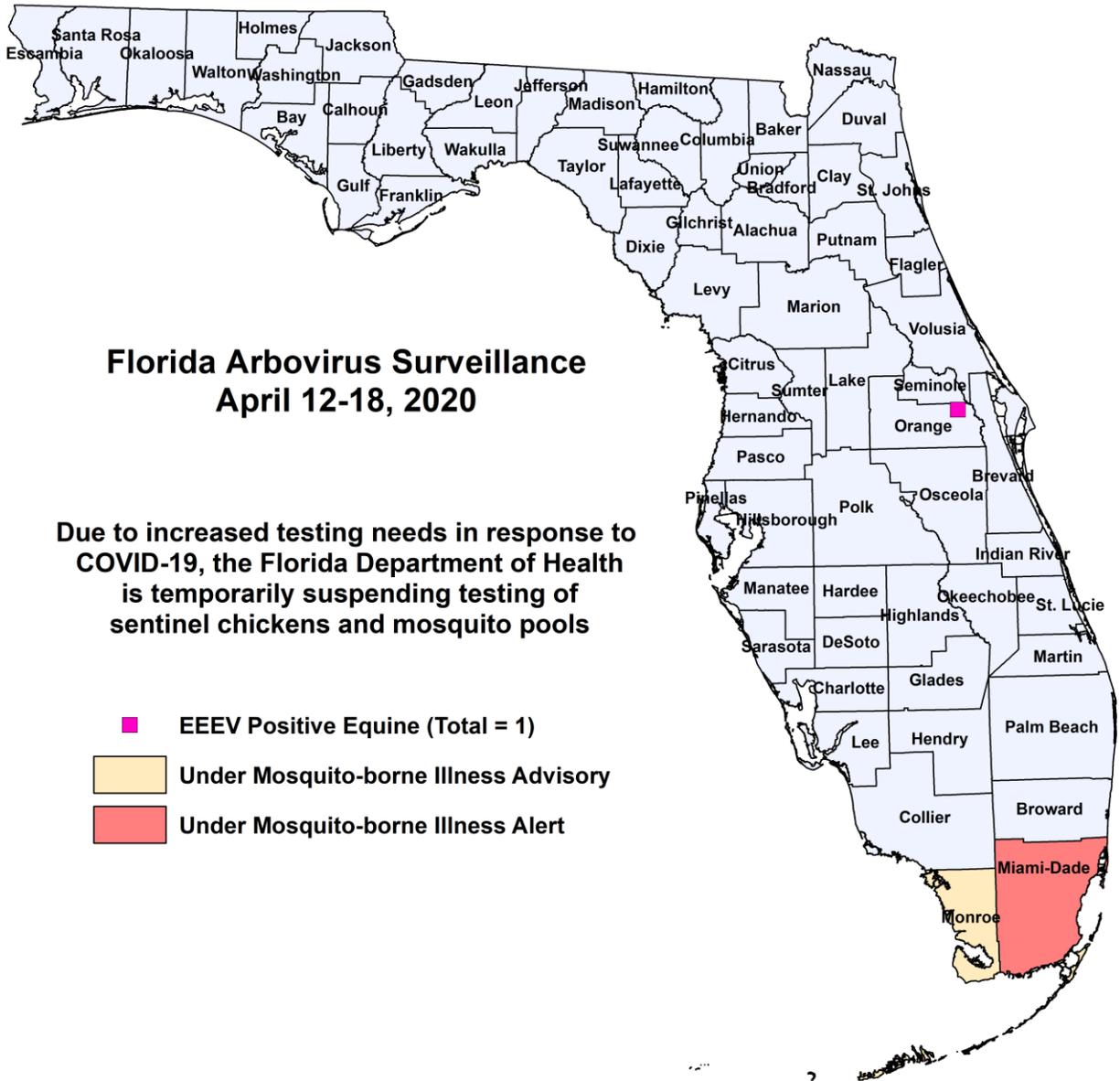
Dead Birds

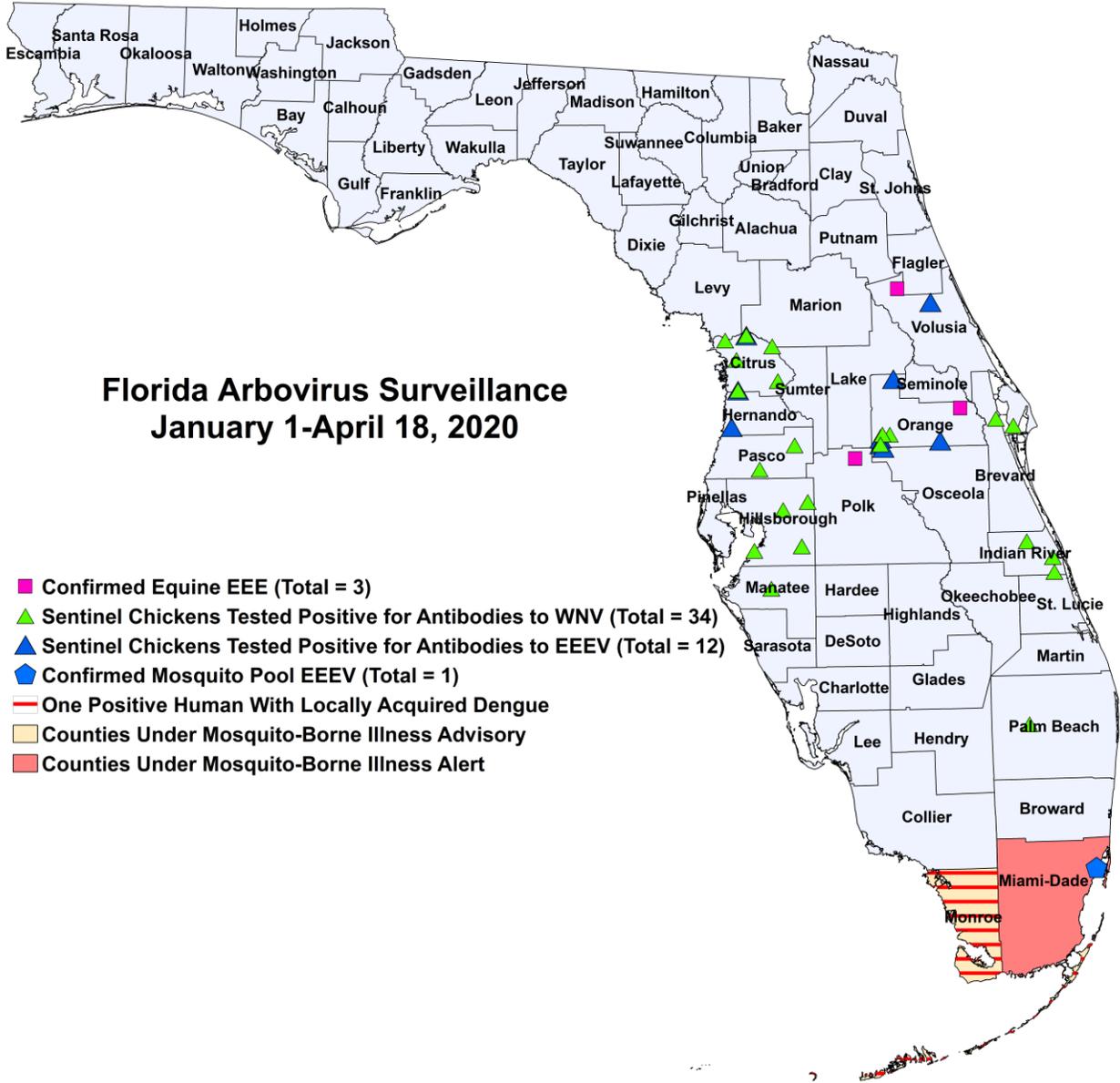
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 10 reports representing a total of 40 dead birds, including three crows and three raptors, were received from nine counties.

In 2020, 138 reports representing a total of 384 dead birds (24 crows, 4 jays, 30 raptors, 14 doves) were received from 37 of Florida's 67 counties.

2020

| County | Total Dead Birds | Crows | Jays | Raptors | Doves |
|------------|------------------|-------|------|---------|-------|
| Broward | 2 | 0 | 0 | 0 | 0 |
| Collier | 4 | 0 | 0 | 0 | 0 |
| Hernando | 1 | 0 | 0 | 0 | 0 |
| Highlands | 2 | 0 | 0 | 0 | 0 |
| Lee | 2 | 0 | 0 | 2 | 0 |
| Miami-Dade | 10 | 3 | 0 | 0 | 0 |
| Osceola | 10 | 0 | 0 | 0 | 0 |
| Palm Beach | 1 | 0 | 0 | 1 | 0 |
| Polk | 8 | 0 | 0 | 0 | 0 |





Florida Arbovirus Surveillance January 1-April 18, 2020

- Confirmed Equine EEE (Total = 3)
- ▲ Sentinel Chickens Tested Positive for Antibodies to WNV (Total = 34)
- ▲ Sentinel Chickens Tested Positive for Antibodies to EEEV (Total = 12)
- ◆ Confirmed Mosquito Pool EEEV (Total = 1)
- One Positive Human With Locally Acquired Dengue
- Counties Under Mosquito-Borne Illness Advisory
- Counties Under Mosquito-Borne Illness Alert

| 2020 Arbovirus Activity by County | |
|-----------------------------------|---|
| County | Arbovirus Activity |
| Brevard | WNV: 2 sentinels (1/23, 1/24) |
| Citrus | WNV: 8 sentinels (1/8, 1/14, 1/21) EEEV: 2 sentinels (1/8, 3/2) |
| Hernando | EEEV: 1 sentinel (1/21) |
| Hillsborough | WNV: 12 sentinels (1/6, 1/21, 1/29, 2/11, 2/18, 2/25) |
| Indian River | WNV: 3 sentinels (1/2, 1/9, 1/10) |
| Manatee | WNV: 3 sentinels (1/8) |
| Miami-Dade | EEEV: 1 mosquito pool (1/7) |
| Monroe | Dengue: 1 human (February) |
| Orange | WNV: 3 sentinels (1/6) EEEV: 1 horse (3/25), 8 sentinels (1/13, 1/27, 1/28, 2/24, 3/2) |
| Palm Beach | WNV: 1 sentinel (1/20) |
| Pasco | WNV: 2 sentinels (1/7) |
| Polk | EEEV: 1 horse (3/29) |
| Volusia | EEEV: 1 horse (1/24), 1 sentinel (2/24) |

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 LaCruce, 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.