



Florida Arbovirus Surveillance Week 31: July 30-August 5, 2023

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 July 30-August 5, 2023, 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 Walton County. No mosquito pools tested positive for WNV this week. In 2023, positive samples from 13 sentinel chickens, one horse, and one human have been reported from nine 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, no sentinel chickens tested positive for SLEV.

EEEV activity: No human cases of EEEV infection were reported this week. One horse with EEEV infection was reported this week in Jackson County. Two sentinel chickens tested positive for antibodies to EEEV this week in Polk and Walton counties. In 2023, positive samples from 98 sentinel chickens, nine horses, one sparrow, and one human have been reported from 17 counties.

International Travel-Associated Dengue: Forty-three cases of dengue were reported this week in persons that had international travel. In 2023, 190 travel-associated dengue cases have been reported.

Dengue Cases Acquired in Florida: Four cases of locally acquired dengue were reported this week in Broward and Miami-Dade counties. In 2023, 10 cases of locally acquired dengue 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 2023, one case of travel-associated chikungunya fever has 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: Escambia, Jefferson, Nassau, Orange, Polk, St. Johns, and Walton counties are currently under a mosquito-borne illness advisory. Broward, Manatee, Miami-Dade, and Sarasota 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 | | | Chikungunya | Yellow Fever |
|----------------------------|------------|------------------------------|-------------|----------------------------|
| Africa and the Middle East | Americas | Asia and the Pacific Islands | Americas | Africa and the Middle East |
| Côte d'Ivoire | Argentina | Bangladesh | Paraguay | Nigeria |
| Egypt | Colombia | Cambodia | | |
| Mauritius | Cuba | Laos | | |
| Sudan | Guadeloupe | Malaysia | | |
| | Guatemala | Myanmar (Burma) | | |
| | Martinique | Pakistan | | |
| | Nicaragua | Philippines | | |
| | Panama | Sri Lanka | | |
| | Peru | Taiwan | | |
| | | Thailand | | |
| | | Vietnam | | |

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

West Nile Virus Illnesses Acquired in Florida: In 2023, one case of WNV illness acquired in Florida has been reported in Escambia County with onset in July.

2023 International Travel-Associated Chikungunya cases: One case with onset in 2023 has been reported in an individual with travel history to a chikungunya-endemic area in the two weeks prior to onset. County reporting case was: Lee. Country of origin was: Brazil.

2023 International Travel-Associated Dengue Cases: One hundred and ninety 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, Brevard, Broward (13), Collier (3), Duval (3), Escambia, Hendry, Hernando, Highlands, Hillsborough (13), Lee (4), Manatee, Miami-Dade (114), Monroe (4), Nassau, Orange (5), Osceola, Palm Beach (6), Pasco, Pinellas (2), Polk (3), Sarasota (2), Seminole, St. Johns, St. Lucie (3), and Volusia (3). Ten cases were reported in non-Florida residents. One case 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, 164 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-3/DENV-4 | Unknown | Total |
|---------------------|--------|--------|--------|--------|---------------|---------|-------|
| Argentina | | | | | | 1 | 1 |
| Bahamas | | | 1 | | | | 1 |
| Bolivia | | 5 | | | | | 5 |
| Brazil | 9 | | | | | 4 | 13 |
| Colombia | 1 | | 1 | | | | 2 |
| Costa Rica | 1 | | 2 | | | | 3 |
| Cuba | 1 | 1 | 112 | 4 | 1 | 11 | 130 |
| Cuba/Curacao | | | 1 | | | | 1 |
| Dominican Republic | | 1 | 1 | | | 1 | 3 |
| Ecuador | | | | | | 1 | 1 |
| Guatemala | 1 | | | | | | 1 |
| Guyana | | | 2 | | | | 2 |
| Haiti | | | 1 | | | 2 | 3 |
| Honduras | | | 1 | | | | 1 |
| India | | | 1 | | | 1 | 2 |
| Indonesia | | 1 | | | | | 1 |
| Maldives | 1 | | | | | | 1 |

| | | | | | | | |
|---------------|-----------|-----------|------------|----------|----------|-----------|------------|
| Mexico | | | 2 | | | 4 | 6 |
| Peru | 5 | 3 | | | | 1 | 9 |
| Puerto Rico | 2 | 1 | | | | | 3 |
| South America | | 1 | | | | | 1 |
| Total | 21 | 13 | 125 | 4 | 1 | 26 | 190 |

2023 Dengue Cases Acquired in Florida: In 2023, 10 cases of locally acquired dengue have been reported in Miami-Dade (8) and Broward (2) counties, with onsets in January, March, June (3), and July (5). Ten cases have been serotyped by PCR. Please see the table below for a breakdown of cases by county and serotype.

| County of Exposure | DENV-2 | DENV-3 | Total |
|--------------------|----------|----------|-----------|
| Broward | 2 | | 2 |
| Miami-Dade | 1 | 7 | 8 |
| Total | 3 | 7 | 10 |

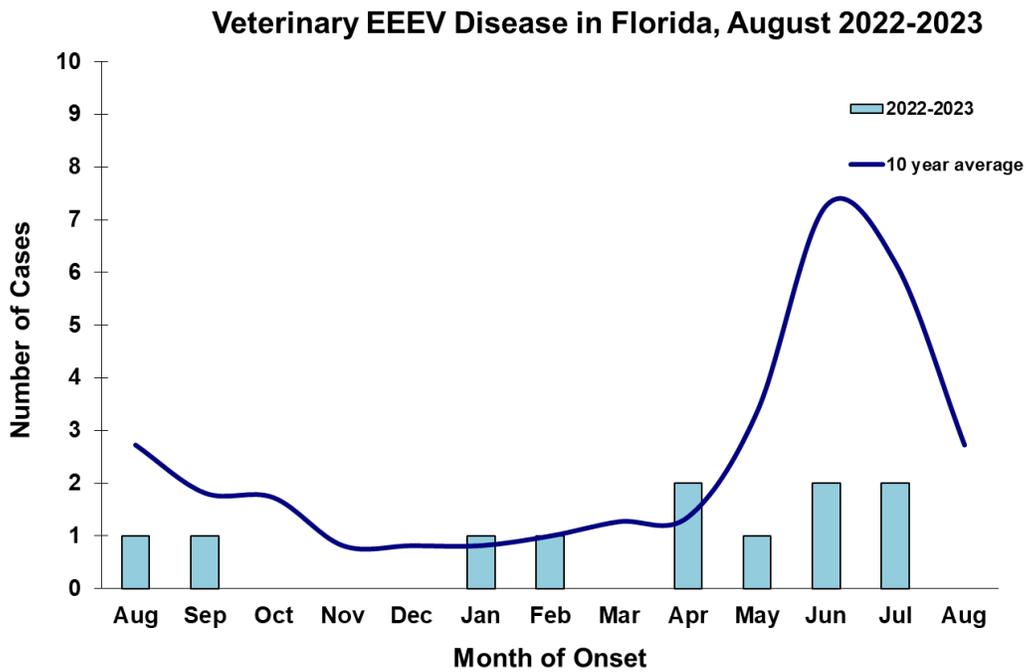
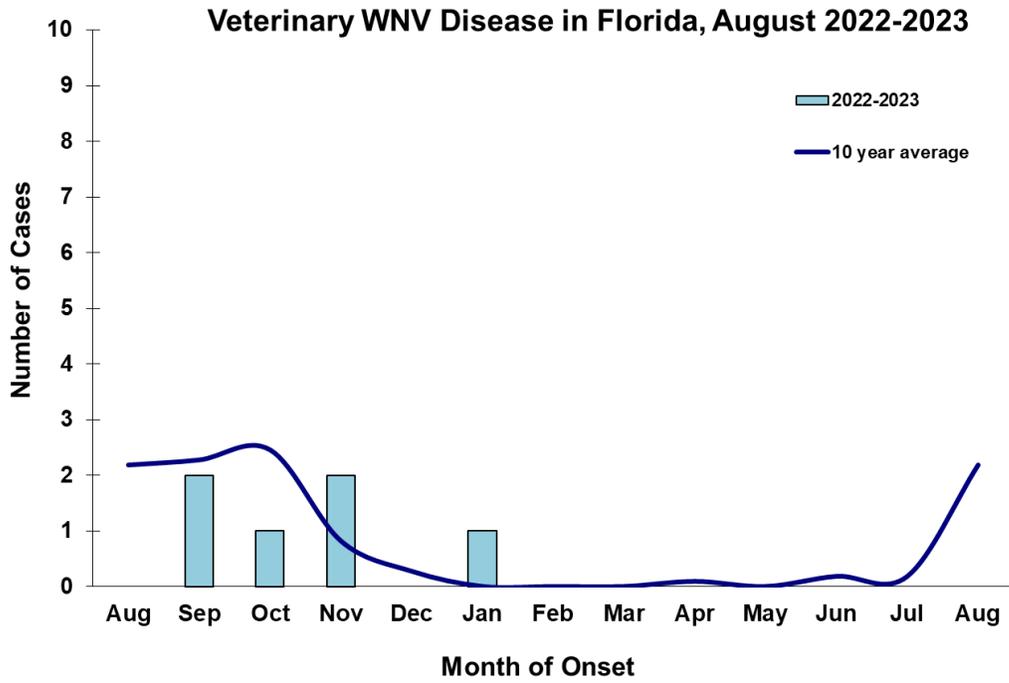
2023 International Travel-Associated Malaria Cases: Thirty-five cases of malaria with onset in 2023 have been reported in individuals with a travel history to a malaria-endemic area. Counties reporting cases were: Broward (5), Collier, Duval, Hillsborough (4), Lee (2), Leon (2), Miami-Dade (6), Okaloosa, Orange (3), Osceola (2), Pinellas (3), Polk, Sarasota, St. Lucie, Volusia, and Walton. Eleven 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> | Total |
|----------------------------------|------------------------------|-------------------------|----------------------------|-----------|
| Burundi | 1 | | | 1 |
| Cameroon | 1 | | | 1 |
| Côte D'Ivoire | 1 | | | 1 |
| Democratic Republic of the Congo | 2 | | | 2 |
| Equatorial Guinea | 1 | | | 1 |
| Ghana | 3 | | | 3 |
| Guinea | 1 | | | 1 |
| Honduras | | 1 | | 1 |
| Kenya | | | 1 | 1 |
| Mozambique | 1 | | | 1 |
| Nicaragua | | 3 | | 3 |
| Nigeria | 6 | | | 6 |
| Pakistan | | 1 | | 1 |
| Sierra Leone | 2 | | 1 | 3 |
| Sudan | | 1 | | 1 |
| Uganda | 4 | | | 4 |
| Multiple countries | | 4 | | 4 |
| Total | 23 | 10 | 2 | 35 |

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



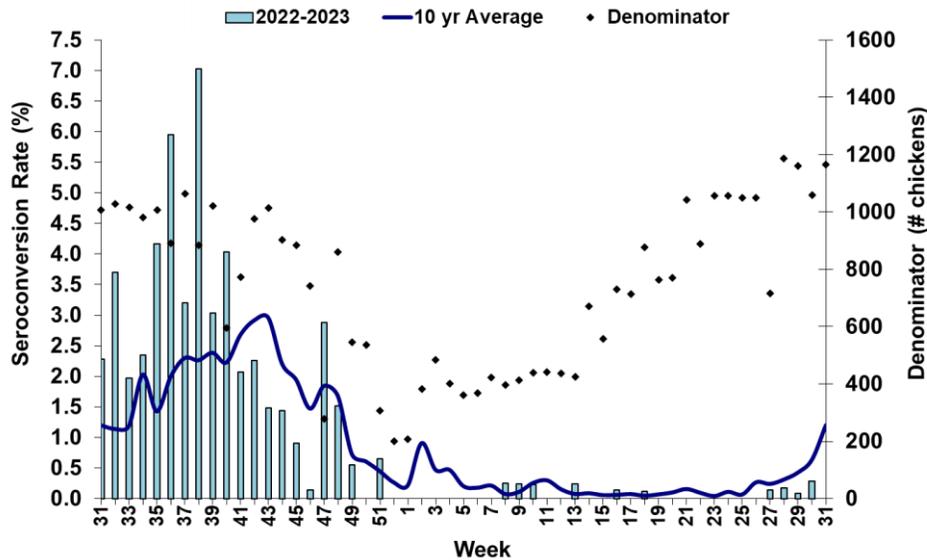
Sentinel Chickens

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.

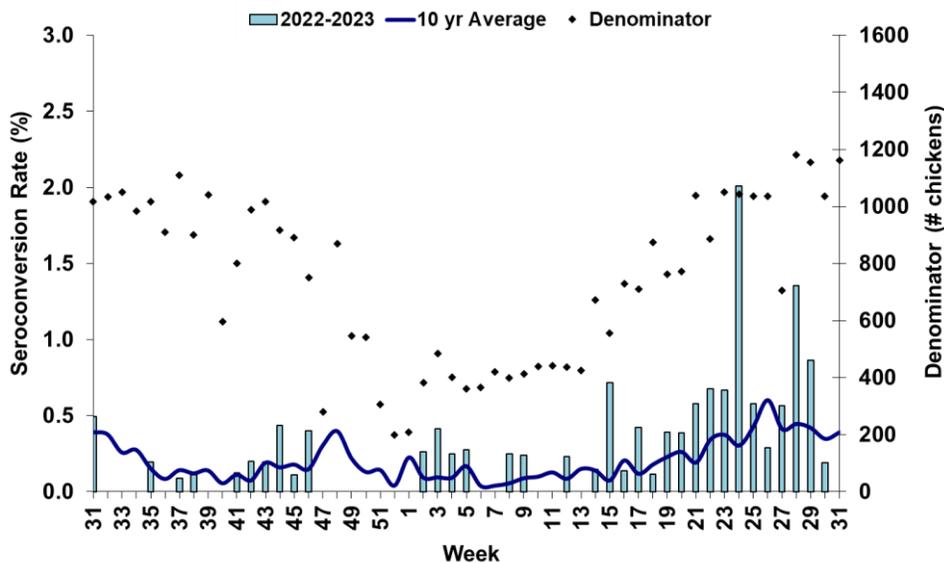
Three sentinel chickens tested positive for antibodies to WNV this week in Walton County. Two sentinel chickens tested positive for antibodies to EEEV this week in Polk and Walton counties.

| County | Collection Date | Seroconversion Rates (%) | | | | | County Totals | | |
|--------|-----------------|--------------------------|------|------|-------|------|---------------|-----------------|-----------------------|
| | | Flavi | SLEV | WNV | Alpha | EEEV | HJV | Collection Week | YTD |
| Polk | 7/24/2023 | | | | 2.44 | 2.44 | | 1 EEEV | 3 EEEV |
| Walton | 7/24/2023 | | | | 2.27 | 2.27 | | 1 EEEV | 4 WNV, 33 EEEV, 5 HJV |
| | 7/24/2023 | 6.67 | | 6.67 | | | 3 WNV | | |

Sentinel Seroconversions to WNV in Florida, 2022–2023



Sentinel Seroconversions to EEEV in Florida, 2022–2023



Mosquito Pools

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

| County | Collection Date | Result | Species | County YTD |
|--------|-----------------|--------|---------|------------|
|--------|-----------------|--------|---------|------------|

Dead Birds

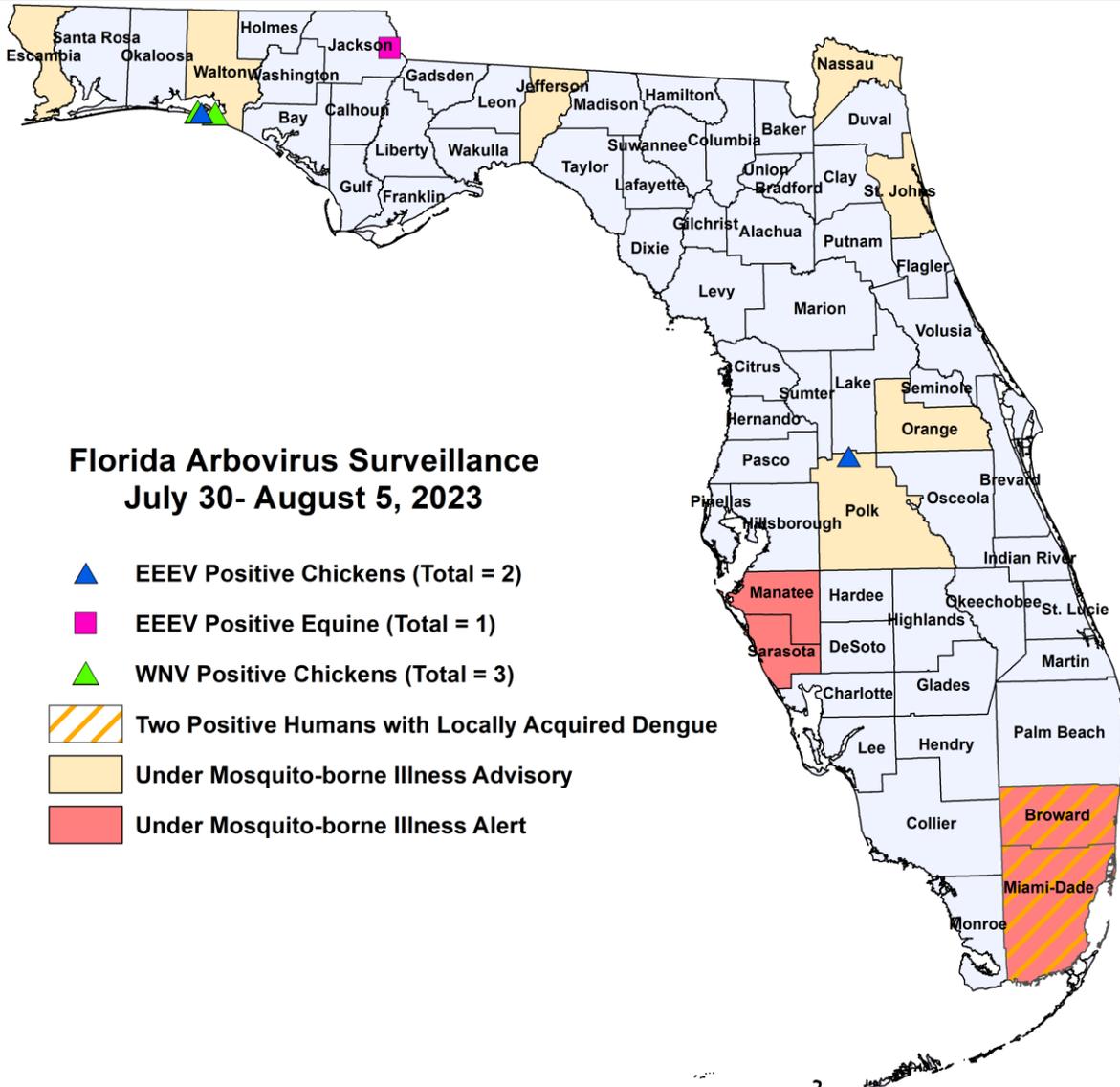
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, seven reports representing a total of 17 dead birds, including one crow and one dove, were received from four counties.

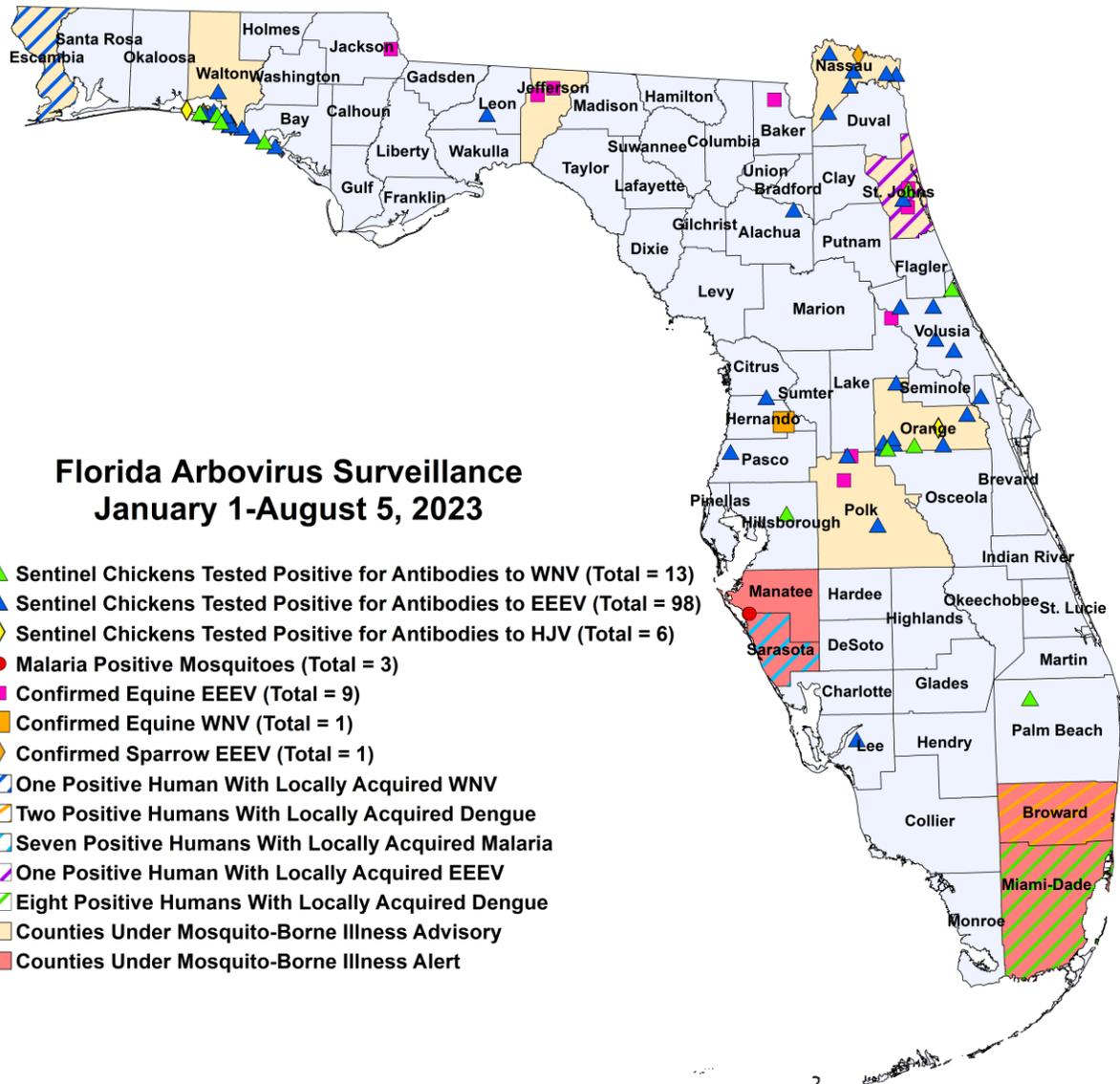
In 2023, 627 reports representing a total of 1523 dead birds (47 crows, 48 jays, 110 raptors, 140 doves) were received from 50 of Florida's 67 counties.

2023

| County | Total Dead Birds | Crows | Jays | Raptors | Doves |
|--------------|------------------|-------|------|---------|-------|
| Duval | 2 | 1 | 0 | 0 | 0 |
| Hillsborough | 4 | 0 | 0 | 0 | 0 |
| Miami-Dade | 1 | 0 | 0 | 0 | 1 |
| Sarasota | 10 | 0 | 0 | 0 | 0 |

Maps





Florida Arbovirus Surveillance January 1-August 5, 2023

- ▲ Sentinel Chickens Tested Positive for Antibodies to WNV (Total = 13)
- ▲ Sentinel Chickens Tested Positive for Antibodies to EEEV (Total = 98)
- ◆ Sentinel Chickens Tested Positive for Antibodies to HJV (Total = 6)
- Malaria Positive Mosquitoes (Total = 3)
- Confirmed Equine EEEV (Total = 9)
- Confirmed Equine WNV (Total = 1)
- ◆ Confirmed Sparrow EEEV (Total = 1)
- ▨ One Positive Human With Locally Acquired WNV
- ▨ Two Positive Humans With Locally Acquired Dengue
- ▨ Seven Positive Humans With Locally Acquired Malaria
- ▨ One Positive Human With Locally Acquired EEEV
- ▨ Eight Positive Humans With Locally Acquired Dengue
- Counties Under Mosquito-Borne Illness Advisory
- Counties Under Mosquito-Borne Illness Alert

2023 Arbovirus Activity by County

| County | Humans | Equines | Sentinel Chickens | Other |
|--------------|---------------------|---------------------|---|-------|
| Alachua | | | 1 EEEV (6/19) | |
| Baker | | 1 EEEV (5/5) | | |
| Bay | | | 6 EEEV (5/15, 5/22, 5/30, 6/12) 1 WNV (7/17) | |
| Brevard | | | 1 EEEV (3/24) | |
| Broward | 2 dengue (July (2)) | | | |
| Citrus | | | 1 EEEV (4/24) | |
| Escambia | 1 WNV (July) | | | |
| Hernando | | 1 WNV (1/6) | | |
| Hillsborough | | | 3 WNV (2/28, 3/7, 5/2) | |
| Jackson | | 1 EEEV (7/28) | | |
| Jefferson | | 2 EEEV (6/22, 6/30) | | |
| Lake | | 1 EEEV (1/29) | | |
| Lee | | | 1 EEEV (1/9) | |
| Leon | | | 1 EEEV (7/6) | |

| County | Humans | Equines | Sentinel Chickens | Other |
|-------------------|---|--------------------|---|---|
| Miami-Dade | 8 dengue (January, March, June (3), July (3)) | | | |
| Nassau | | | 23 EEEV (6/2, 6/16, 6/23, 7/7, 7/15) | 1 EEEV Sparrow (6/24) |
| Orange | | | 2 WNV (2/20, 7/10) 17 EEEV (1/17, 2/20, 2/27, 4/10, 4/24, 5/1, 5/15, 5/30, 6/5, 7/10, 7/17) 1 HJV (5/8) | |
| Palm Beach | | | 1 WNV (4/18) | |
| Pasco | | | 1 EEEV (4/24) | |
| Polk | | 2 EEEV (4/7, 4/10) | 3 EEEV (5/22, 5/26, 7/24) | |
| Sarasota | 7 malaria (May, June (5), July) | | | 3 <i>Plasmodium vivax</i> mosquitoes (<i>Anopheles crucians</i> [6/1, 6/2, 6/5]) |
| St. Johns | 1 EEE (June) | 2 EEEV (2/2, 7/6) | 2 EEEV (6/12, 6/26) 1 WNV (7/10) | |
| Volusia | | | 8 EEEV (1/17, 1/23, 1/30, 4/10, 4/17, 6/12, 7/17) 1 WNV (7/3) | |
| Walton | | | 4 WNV (3/27, 7/24) 33 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) 5 HJV (5/8, 5/22, 6/12) | |

Acknowledgements and Data Sources

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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.