



## Florida Arbovirus Surveillance Week 29: July 18-24, 2010

Arbovirus surveillance in Florida includes endemic mosquito-borne viruses West Nile virus (WNV), Eastern equine encephalitis virus (EEEV), St. Louis encephalitis virus (SLEV), and Highlands J virus (HJV) and exotic viruses such as Dengue virus (DENV) and California encephalitis group viruses (CEV). Malaria, a non-viral mosquito-borne disease is also included. During the period July 18-24, 2010, the following arboviral activity was recorded in Florida:

**DENV activity:** Two locally-acquired cases of dengue associated with Key West were reported this week; one was a traveler from another Florida county. In 2010, there have been 19 locally-acquired cases in Key West.

**EEEV activity:** Two human cases of EEEV were reported in Hillsborough and Wakulla counties. Three EEEV-confirmed positive horses were reported in Lake and Collier counties. Five live wild birds from Walton and Santa Rosa counties tested positive for antibodies to EEEV. In 2010, positive samples from 52 equines, 71 sentinel chickens, 23 live wild birds, and three mosquito pools have been received from 35 of Florida's 67 counties.

**WNV activity:** Two WNV-confirmed positive horses were reported in Osceola and Jefferson counties. One sentinel chicken from Brevard County tested positive for antibodies to WNV. In 2010, positive samples from two equines, 56 sentinel chickens, and one live wild bird (flavivirus positive) have been received from ten counties.

**HJV activity:** Four sentinel chickens from Flagler, Orange, Pasco, and Pinellas counties tested positive for antibodies to HJV. In 2010, positive samples from 33 sentinel chickens have been received from 11 counties.

**Advisories/Alerts:** Monroe County is currently under a mosquito-borne illness alert. Wakulla County issued a mosquito-borne illness advisory this week in response to a human case of EEE. Walton, Volusia, Clay, Hillsborough, Osceola, Miami-Dade, Collier, Glades, Polk, Lake, Jackson, and Madison counties are also under mosquito-borne illness advisories.

## Year to Date Human Case Summary

**Eastern Equine Encephalitis Acquired in Florida:** Two human cases of EEE have been reported in 2010 in Hillsborough and Wakulla counties with onset dates in June and July.

**Dengue Acquired in Florida:** Nineteen cases of dengue have been reported as acquired in Key West in 2010. Of these, fifteen are Key West residents, three are residents of other Florida counties, and one resides out of state. Onset dates ranged from March 17 to July 10, 2010.

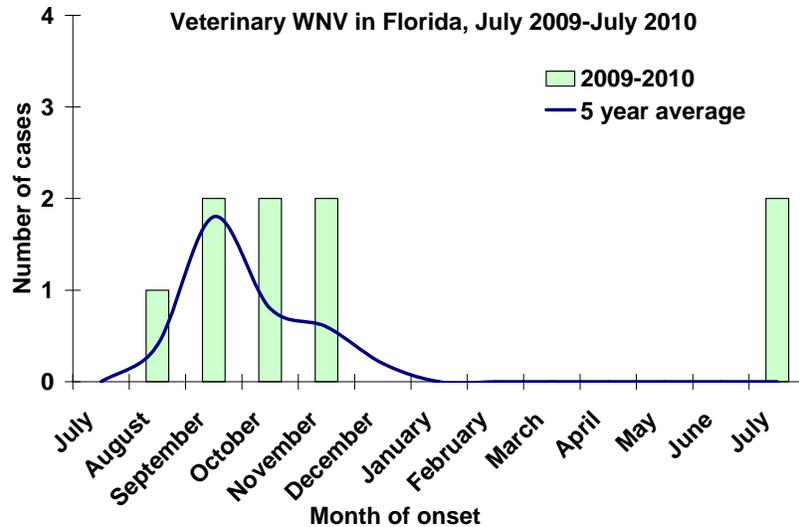
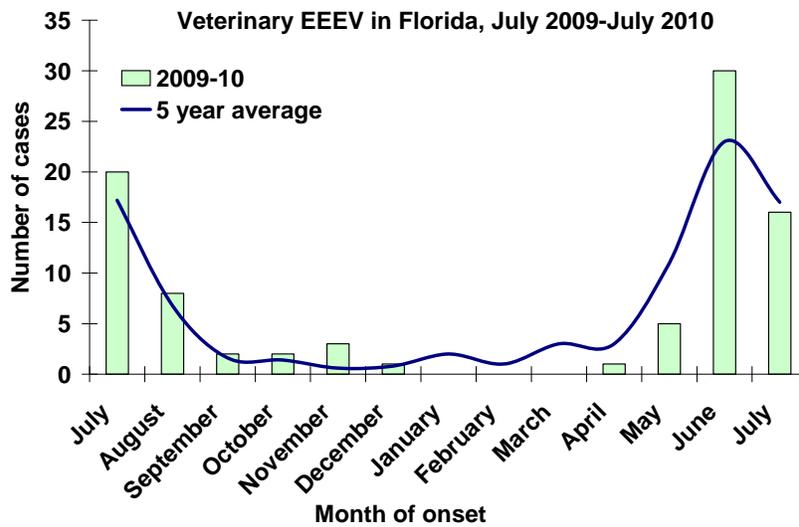
**Imported Dengue:** Forty-five cases of dengue with onset in 2010 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were: Brazil, Colombia (7), Costa Rica (2), Dominican Republic (8), El Salvador, Guatemala, Haiti (3), Honduras (3), Jamaica, Nicaragua, Philippines, Puerto Rico (9), Venezuela (6), and Malaysia/Dubai/Bangladesh (slash indicates travel to more than one country).

**Imported Malaria:** Fifty-seven imported cases of malaria with onset in 2010 have been reported. Countries of origin were: Angola, Dominican Republic, Ghana, Guyana, Haiti (39), Honduras (3), India, Nigeria (5), Philippines, Uganda, West Africa, Zambia/South Africa, and unknown.

**Veterinary Cases**

Two horses in Osceola and Jefferson counties tested positive for WNV this week and three in Lake and Collier counties tested positive for EEEV. One of the EEEV positive horses reported last week in Osceola County was a duplicate and has been removed from the year to date total. In 2010, two WNV positive horses have been reported from two counties and 52 EEEV positive horses have been reported from 21 counties.

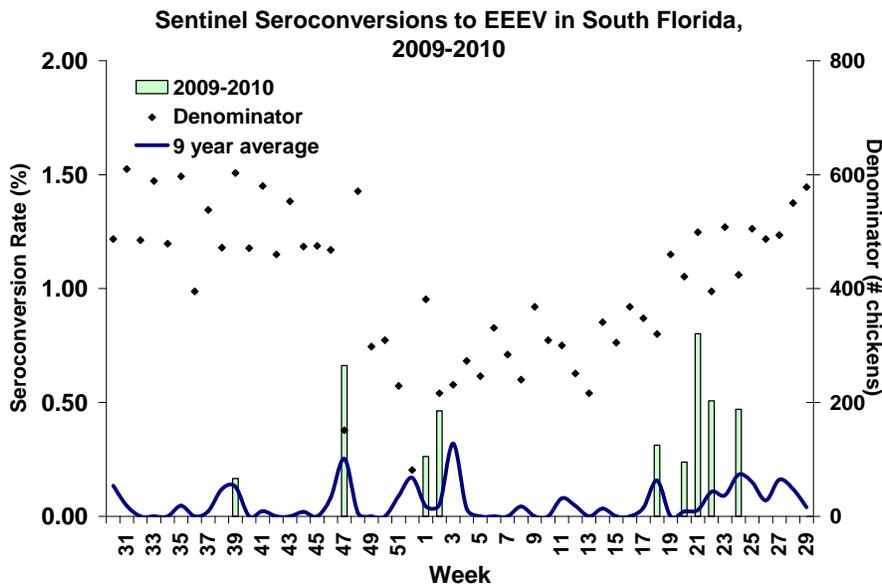
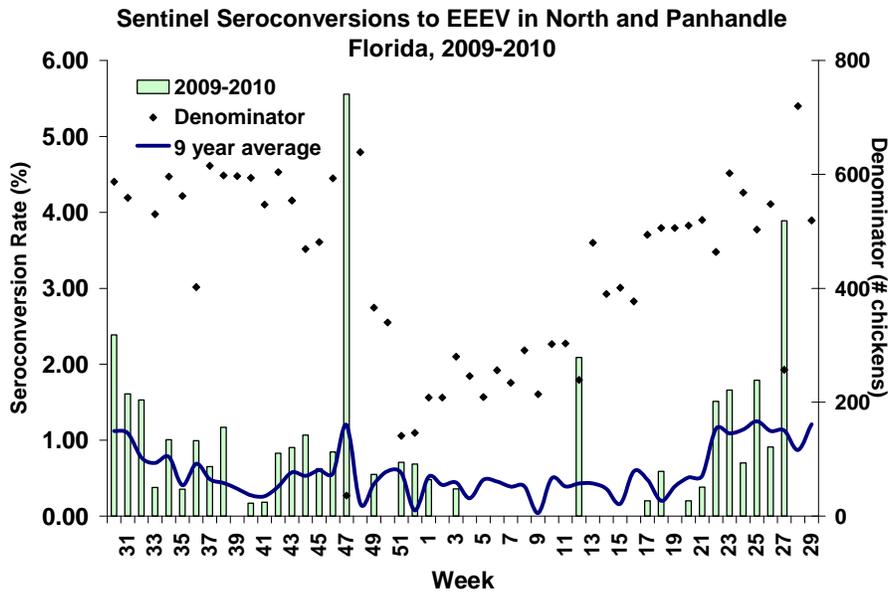
| County    | Onset Date | Species | Virus | Status     | County YTD   |
|-----------|------------|---------|-------|------------|--------------|
| Lake      | 07/17/2010 | Equine  | EEEV  | Euthanized | 5 EEE        |
|           | 07/09/2010 | Equine  | EEEV  | Euthanized |              |
| Osceola   | 07/14/2010 | Equine  | WNV   | Alive      | 1 WNV, 7 EEE |
| Collier   | 07/09/2010 | Equine  | EEEV  | Dead       | 4 EEE        |
| Jefferson | 07/04/2010 | Equine  | WNV   | Alive      | 1 WNV        |

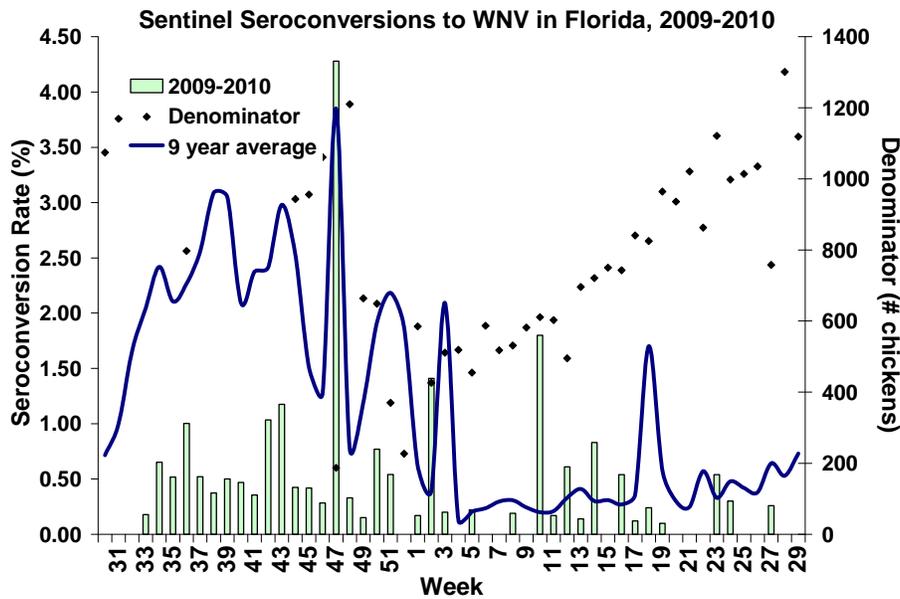


## Sentinel Chickens

There was one seroconversion to WNV in a sentinel chicken Brevard County and four to HJV in Flagler, Orange, Pasco, and Pinellas counties this week. Seroconversion rates are calculated by week and include previously reported results.

| County   | Collection Date | Seroconversion Rates (%) |     |      |     | County Totals       |                       |
|----------|-----------------|--------------------------|-----|------|-----|---------------------|-----------------------|
|          |                 | SLEV                     | WNV | EEEV | HJV | Week                | YTD                   |
| Brevard  | 07/07/2010      |                          | 1.6 |      |     | 1 WNV               | 1 WNV, 1 EEE          |
| Orange   | 07/06/2010      |                          | 1.5 | 6.3  | 1.6 | 1 WNV, 4 EEE, 1 HJV | 3 WNV, 13 EEE, 11 HJV |
| Pasco    | 07/06/2010      |                          |     | 9.5  | 4.8 | 2 EEE, 1 HJV        | 2 EEE, 2 HJV          |
| Pinellas | 07/06/2010      |                          |     |      | 1.8 | 1 HJV               | 2 EEE, 2 HJV          |
| Flagler  | 06/14/2010      |                          |     |      | 7.7 | 1 HJV               | 10 EEE, 2 HJV         |





**Live Wild Birds**

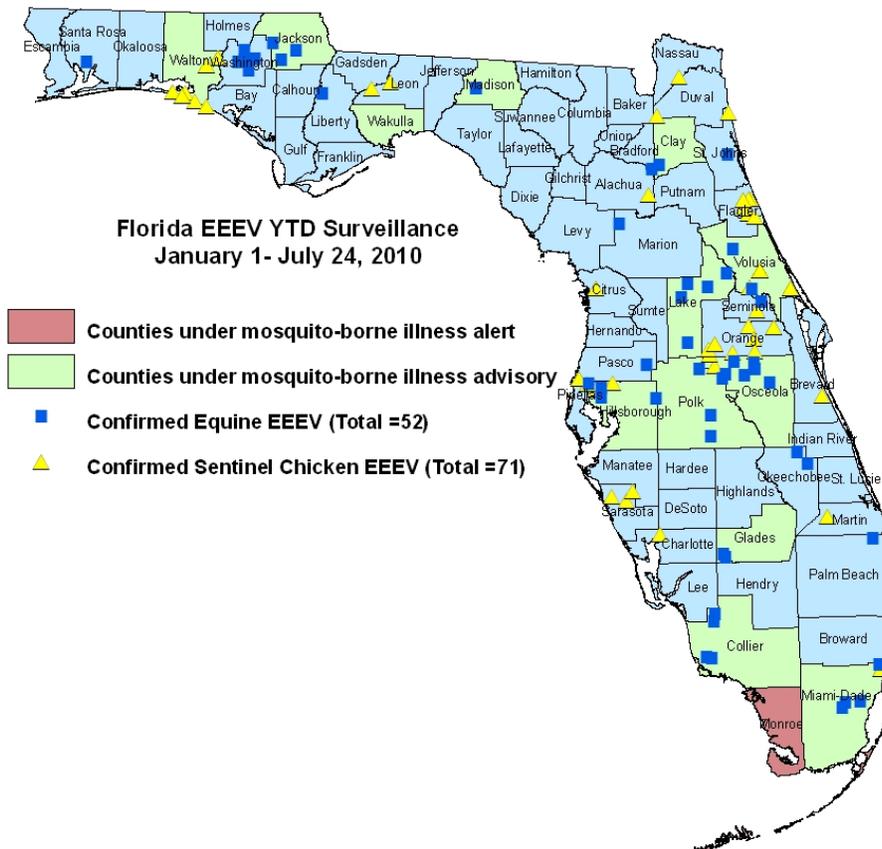
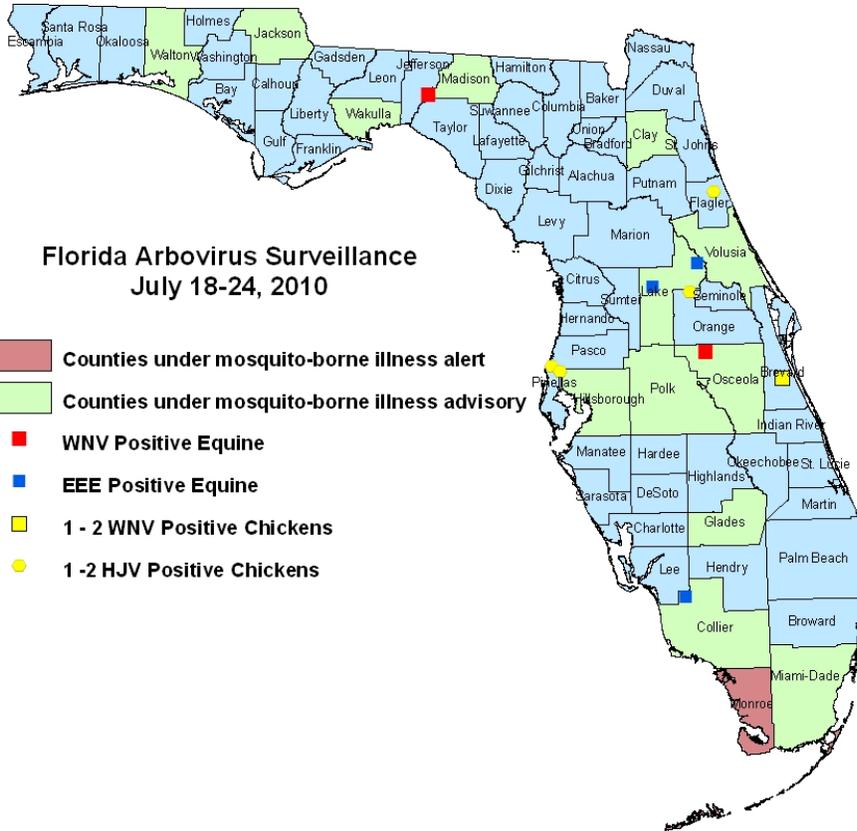
Out of 21 live wild birds collected from three counties on July 12-16, 2010, three from Santa Rosa County and two from Walton County tested positive for antibodies to EEEV.

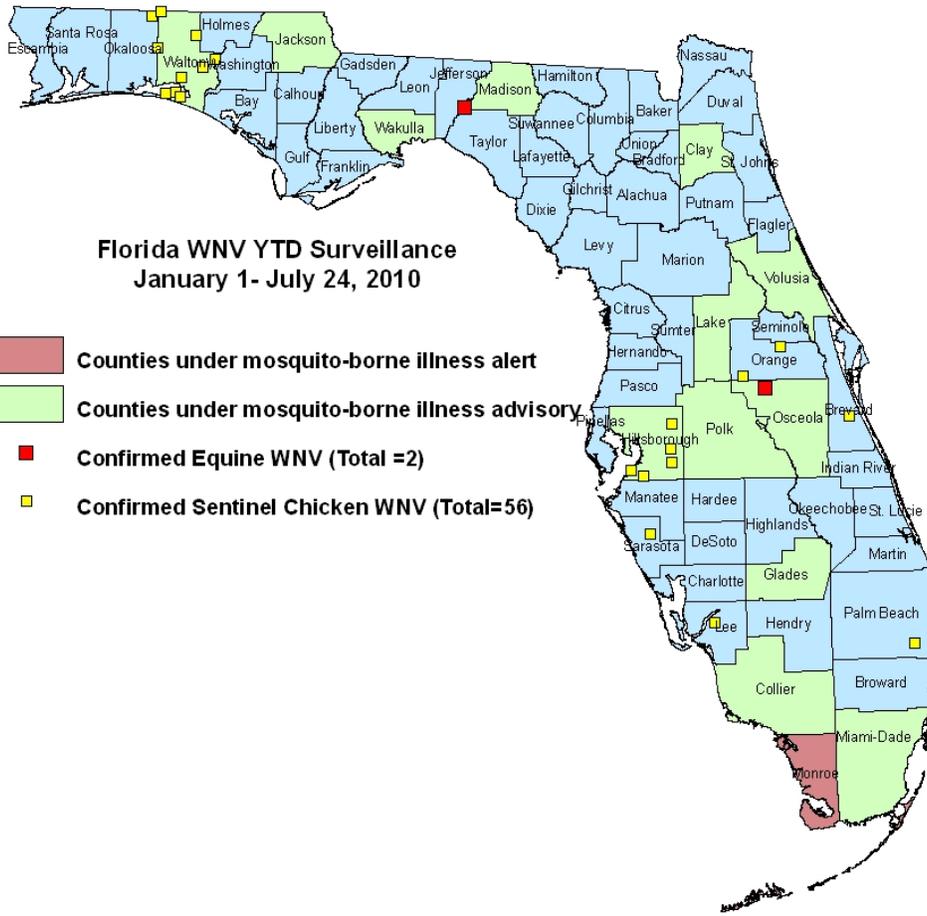
| County     | Collection Date | EEEV | Flavi | Species                    | EEEV Rate  | Flavi Rate | County YTD |
|------------|-----------------|------|-------|----------------------------|------------|------------|------------|
| Walton     | 07/16/2010      | 2    |       | 2 Cardinals                | 2 out of 7 | N/A        | 4 EEE      |
| Santa Rosa | 07/13/2010      | 3    |       | 2 Blue jays,<br>1 Cardinal | 3 out of 9 | N/A        | 11 EEE     |

**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, 16 reports representing 51 dead birds were received from 12 counties. Six were identified as crows and one as a raptor; none were identified as jays. In 2010, 205 reports representing a total of 663 dead birds (27 crows, 10 jays, 37 raptors, 589 others) have been reported from 44 of Florida's 67 counties. Please note that FWC collects reports of birds that have died from a variety of causes, not only arboviruses. Dead birds should be reported to [www.myfwc.com/bird/](http://www.myfwc.com/bird/)

# Maps





**Florida WNV YTD Surveillance  
January 1- July 24, 2010**

- Counties under mosquito-borne illness alert**
- Counties under mosquito-borne illness advisory**
- Confirmed Equine WNV (Total =2)**
- Confirmed Sentinel Chicken WNV (Total=56)**

**YTD Arbovirus Activity by County**

| <b>County</b>       | <b>Arbovirus Activity</b>  |
|---------------------|--|
| <b>Bradford</b>     | EEE: 1 horse (6/16)  |
| <b>Brevard</b>      | WNV: 1 sentinel (7/7)<br>EEE: 1 sentinel (6/2)   |
| <b>Broward</b>      | DENV: 1 human (acquired in Key West)   |
| <b>Citrus</b>       | EEE: 3 sentinels (5/24, 6/7, 6/28)<br>HJV: 2 sentinels (5/17, 5/24)  |
| <b>Clay</b>         | EEE: 1 horse (6/16)  |
| <b>Collier</b>      | EEE: 4 horses (6/9, 6/22, 6/29, 7/9)   |
| <b>Duval</b>        | EEE: 1 sentinel (6/21)   |
| <b>Flagler</b>      | EEE : 10 sentinels (3/22, 4/26, 5/3, 6/7, 6/21) ; 3 mosquito pools ( <i>Culiseta melanura</i> 4/27, 5/11, 6/15)<br>HJV: 2 sentinels (6/14, 6/28)                           |
| <b>Glades</b>       | EEE : 2 horses (6/20, 6/24)  |
| <b>Hillsborough</b> | WNV : 14 sentinels (1/12, 1/19, 2/22, 3/9, 3/22, 4/20, 5/11, 6/15)<br>EEE: 1 human (June) ; 4 horses (5/29, 6/11, 7/8); 2 sentinels (5/4, 5/18)<br>HJV : 1 sentinel (6/28) |
| <b>Jackson</b>      | EEE: 3 horses (6/14, 6/28, 7/10)   |
| <b>Jefferson</b>    | WNV: 1 horse (7/4)   |
| <b>Lake</b>         | EEE: 4 horses (5/20, 6/29, 7/4, 7/9, 7/17)   |
| <b>Lee</b>          | WNV: 2 sentinels (3/30, 4/20)  |
| <b>Leon</b>         | DENV: 2 humans (acquired in Key West)<br>EEE: 2 sentinels (6/1, 6/21)  |
| <b>Liberty</b>      | EEE: 1 horse (7/11)  |
| <b>Madison</b>      | EEE: 2 horses (6/21, 7/3)  |
| <b>Marion</b>       | EEE: 1 horse (5/7)   |

|                   |  |
|-------------------|--|
| <b>Martin</b>     | EEE: 1 sentinel (5/28)   |
| <b>Miami-Dade</b> | EEE: 4 horses (6/7, 6/17, 7/4); 2 sentinels (6/14)   |
| <b>Monroe</b>     | DENV: 15 humans  |
| <b>Nassau</b>     | EEE: 1 sentinel (6/28)<br>HJV: 1 sentinel (6/28)   |
| <b>Okaloosa</b>   | WNV: 1 live wild bird (flavivirus positive, blue jay 6/14)<br>EEE : 8 live wild birds (1 house sparrow 1/4, 6 blue jay 1/27, 4/19, 4/21, 4/26, 7/5, 1 cardinal 7/5)  |
| <b>Okeechobee</b> | EEE : 2 horses (6/14, 7/1)   |
| <b>Orange</b>     | WNV : 3 sentinels (6/14, 7/6)<br>EEE : 13 sentinels (1/7, 5/3, 5/17, 6/7, 6/10, 6/14, 6/21, 7/6)<br>HJV : 11 sentinels (5/17, 6/7, 6/10, 6/14, 6/24, 7/6)  |
| <b>Osceola</b>    | WNV: 1 horse (7/14)<br>EEE: 7 horses (5/15 (donkey), 6/8, 6/10, 6/13, 7/9)   |
| <b>Palm Beach</b> | WNV: 1 sentinel (3/15)<br>EEE: 1 horse (6/22)  |
| <b>Pasco</b>      | EEE: 1 horse (6/11); 2 sentinels (7/6)<br>HJV: 2 sentinels (6/28, 7/6)   |
| <b>Pinellas</b>   | EEE: 2 sentinels (5/24)<br>HJV: 2 sentinels (4/26, 7/6)  |
| <b>Polk</b>       | EEE: 3 horses (4/28, 6/25, 6/28)   |
| <b>Putnam</b>     | EEE: 1 sentinel (6/4)<br>HJV: 1 sentinel (5/14)  |
| <b>St. Johns</b>  | EEE: 1 horse (6/18); 1 sentinel (6/1)<br>HJV: 2 sentinels (4/26, 5/3)  |
| <b>Santa Rosa</b> | EEE: 1 horse (6/29); 8 live wild birds (7 blue jays 2/2, 3/22, 4/13, 4/19, 5/11, 5/18, 1 cardinal 6/22)  |
| <b>Sarasota</b>   | EEE: 3 sentinels (1/5, 1/11, 6/1)<br>WNV : 1 sentinel (1/8)  |
| <b>Seminole</b>   | EEE : 1 horse (6/26) ; 1 sentinel (7/2)  |
| <b>Volusia</b>    | EEE : 2 horses (5/7, 7/1) ; 12 sentinels (5/24, 6/1, 6/7, 6/14, 6/21, 6/28)<br>HJV : 1 sentinel (5/17)   |
| <b>Wakulla</b>    | EEE: 1 human (July)  |
| <b>Walton</b>     | EEE : 12 sentinels (1/19, 3/22, 5/3, 6/8, 6/21, 7/6) ; 2 live wild birds (1 cardinal 6/24, 1 blue jay 6/24)<br>WNV : 34 sentinels (1/14, 2/4, 3/8, 3/12, 3/22, 4/7, 4/8, 4/23, 4/30, 5/5, 5/20, 6/7, 6/11)<br>HJV : 6 sentinels (3/22, 5/17, 6/23) |
| <b>Washington</b> | EEE : 5 horses (6/17, 6/22, 6/25, 6/28, 7/4)   |

## Acknowledgements and Data Sources

Contributors: Elizabeth Radke, MPH, Danielle Stanek, DVM, and Carina Blackmore, DVM, PhD.

For more surveillance information, please see the DOH website at:

<http://www.doh.state.fl.us/Environment/medicine/arboviral/index.html>

Data is provided by county health departments, Department of Health Laboratories, Department of Agriculture and Consumer Services, mosquito control agencies, Florida Fish and Wildlife Conservation Commission, medical providers and veterinarians. Equine cases are determined by the Department of Agriculture and Consumer Services. Wild captured bird information is provided by the John A. Mulrennan Public Health Entomology Research and Education Center.