



## Florida Arbovirus Surveillance Week 36: September 5-11, 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 September 5-11, 2010, the following arboviral activity was recorded in Florida:

**DENV activity:** One case of dengue associated with Key West was reported this week. In 2010, there have been 39 locally-acquired cases in Key West and one in Broward.

**EEEV activity:** Two EEEV-confirmed positive horses were reported in Palm Beach and Polk counties. One sentinel chicken in Walton County tested positive for antibodies to EEEV. In 2010, positive samples from four humans, 89 equines, 142 sentinel chickens, 30 live wild birds, and six mosquito pools have been received from 43 of Florida's 67 counties.

**WNV activity:** One human case of WNV was reported in Orange County this week. One WNV-confirmed positive horse was reported in Osceola County. Seventeen sentinel chickens in Charlotte, Lee, Manatee, Martin, Orange, Palm Beach, Putnam, and St. Johns counties tested positive for antibodies to WNV. In 2010, positive samples from two humans, seven equines, 128 sentinel chickens, and one live wild bird (flavivirus positive) have been received from 18 counties.

**HJV activity:** No HJV activity was reported this week. In 2010, positive samples from 57 sentinel chickens have been received from 12 counties.

**Advisories/Alerts:** Orange County issued a mosquito-borne illness alert this week in response to a second human case of WNV and Palm Beach County issued an advisory. Monroe and Hillsborough counties are also under mosquito-borne illness alerts and Walton, Volusia, Clay, Osceola, Miami-Dade, Collier, Glades, Polk, Lake, Jackson, Washington, Jefferson, Wakulla, Leon, Madison, Broward, Marion, Putnam, Orange, and Flagler counties are under mosquito-borne illness advisories.

## Year to Date Human Case Summary

**Eastern Equine Encephalitis Acquired in Florida:** Four human cases of EEE have been reported in 2010 in Hillsborough (2), Wakulla, and Leon counties with onset dates in June and July (3).

**West Nile Virus Infection Acquired in Florida:** Three human cases of WNV have been reported in 2010 in Osceola and Orange (2) counties with onset in July (2) and August.

**Dengue Acquired in Florida:** In 2010, one case of dengue has been reported as acquired in Broward County and 39 cases of dengue have been reported as acquired in Key West (Monroe County). Of the Key West cases, 30 are Key West residents, eight are residents of other Florida counties, and one resides out of state. Onset dates ranged from March 17 to August 17, 2010.

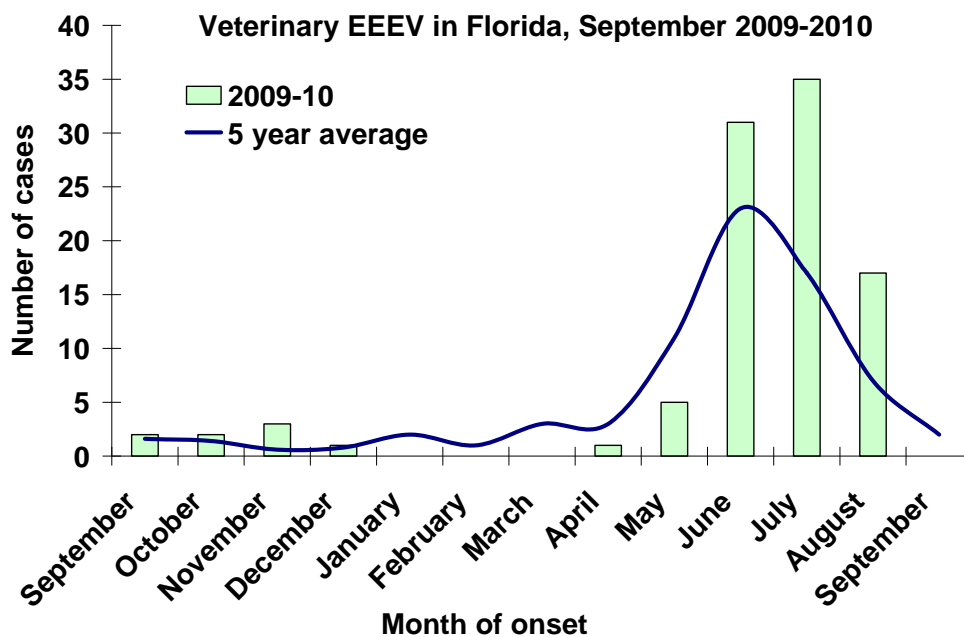
**Imported Dengue:** Ninety-two cases of dengue with onset in 2010 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were: Brazil, Colombia (8), Costa Rica (4), Dominican Republic (12), Ecuador, El Salvador, Grenada, Guatemala (2), Haiti (5), Honduras (6), Jamaica (4), Martinique, Nicaragua (3), Philippines, Puerto Rico (28), St. Thomas, Venezuela (11), Malaysia/Dubai/Bangladesh, and Panama/Venezuela (slash indicates travel to more than one country). Counties reporting cases were Alachua (2), Broward (14), Collier (2), Duval (2), Escambia, Flagler, Hendry, Hillsborough (5), Lake, Lee, Marion, Miami-Dade (30), Monroe, Orange (8), Osceola (4), Palm Beach (8), Pasco, Pinellas, Polk, Seminole (3), St. Lucie (2), and Volusia (2).

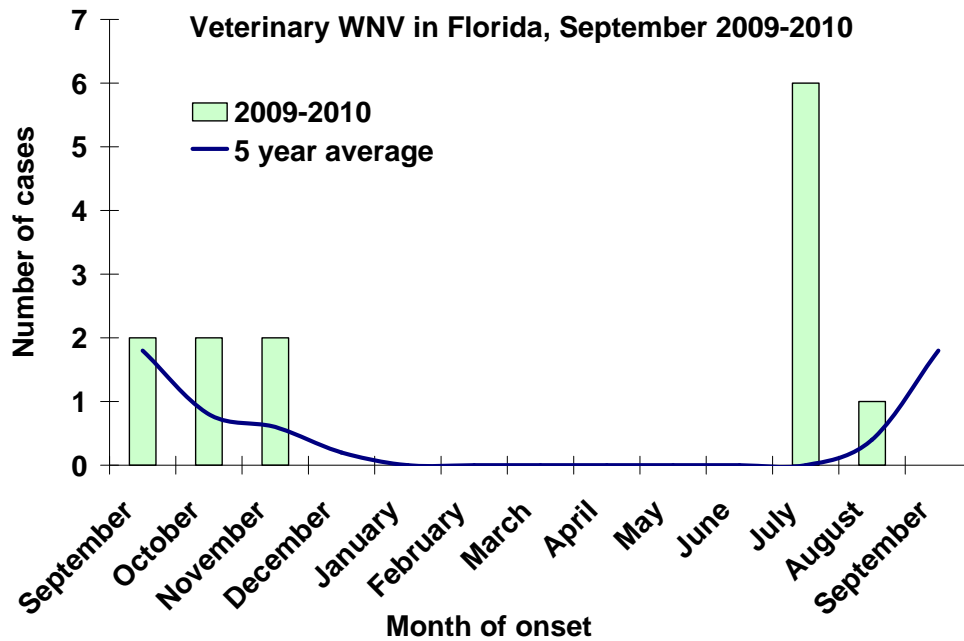
**Imported Malaria:** Eighty-one imported cases of malaria with onset in 2010 have been reported. Countries of origin were: Angola, Dominican Republic, Ghana (4), Guyana, Haiti (49), Honduras (3), India (6), Ivory Coast, Malawi (2), Nigeria (6), Philippines, South Africa, Togo, Uganda, West Africa, Zambia/South Africa, and unknown. Counties reporting cases were: Brevard (2), Broward (12), Charlotte, Citrus, Collier (4), Duval (4), Escambia (2), Hillsborough (4), Miami-Dade (16), Manatee, Orange (15), Osceola (3), Palm Beach (10), Pinellas, Polk, Seminole, St. Lucie, Volusia, and Wakulla.

**Veterinary Cases**

One horse in Osceola County tested positive for WNV this week and two in Palm Beach and Polk counties tested positive for EEEV. In 2010, seven WNV positive horses and 89 EEEV positive horses have been reported.

County	Onset Date	Species	Virus	Status	County YTD
Palm Beach	08/31/2010	Equine	EEE	Euthanized	2 EEE
Osceola	08/30/2010	Equine	WNV	Euthanized	6 WNV, 7 EEE
Polk	08/19/2010	Equine	EEE	Dead	4 EEE

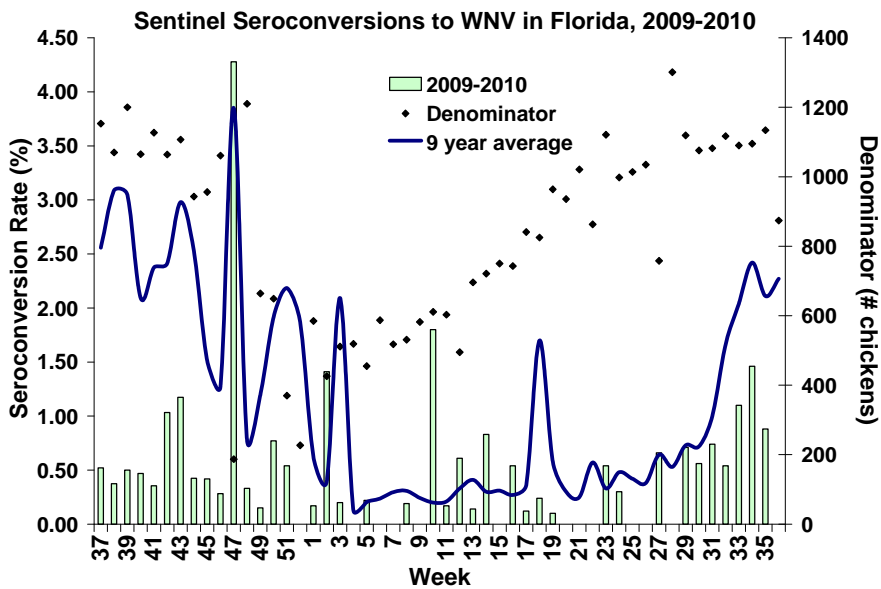
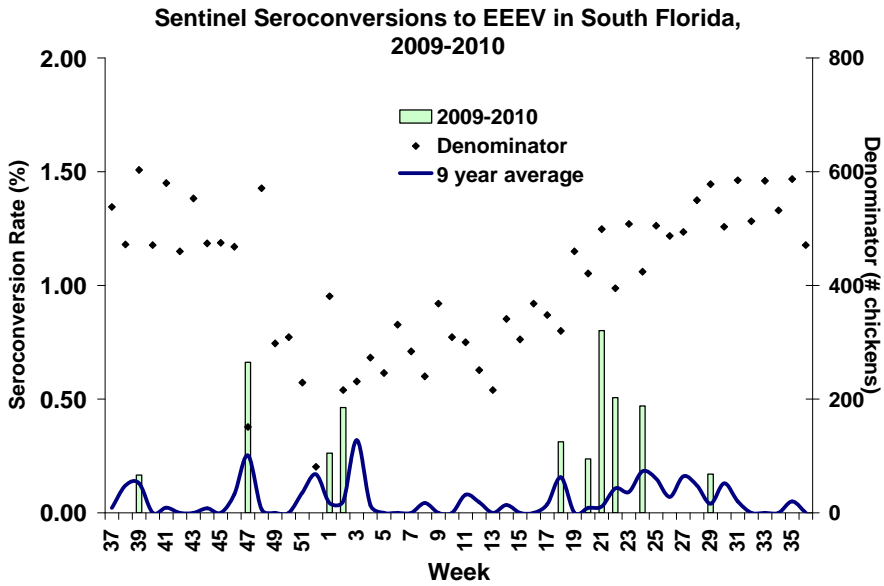
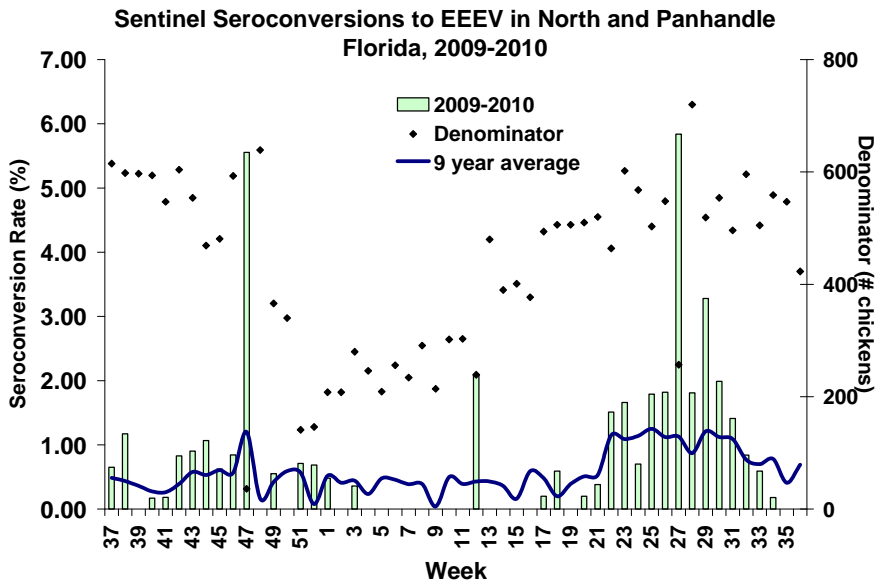




**Sentinel Chickens**

There was one seroconversion to EEE in a sentinel chicken from Walton County and 17 to WNV in Charlotte, Lee, Manatee, Martin, Orange, Palm Beach, Putnam, and St. Johns counties and this week. Seroconversion rates are calculated by week and include previously reported results.

County	Collection Date	Seroconversion Rates (%)			County Totals	
		WNV	EEEV	HJV	Week	YTD
Palm Beach	08/30/2010	7.7			2 WNV	12 WNV
Lee	08/30/2010	3.8			3 WNV	12 WNV
Orange	08/30/2010	2.9			3 WNV	20 WNV, 21 EEE, 21 HJV
	08/26/2010	5.7			6 WNV	
St. Johns	08/30/2010	1.9			1 WNV	7 WNV, 3 EEE, 3 HJV
Manatee	08/30/2010	1.4			1 WNV	1 WNV
Putnam	08/27/2010	16.7			2 WNV	2 WNV, 5 EEE, 2 HJV
Martin	08/27/2010	4.8			1 WNV	1 WNV, 2 EEE
Charlotte	08/27/2010	4.3			1 WNV	1 WNV
Walton (North)	08/23/2010		3.2		1 EEE	41 WNV, 23 EEE, 5 HJV



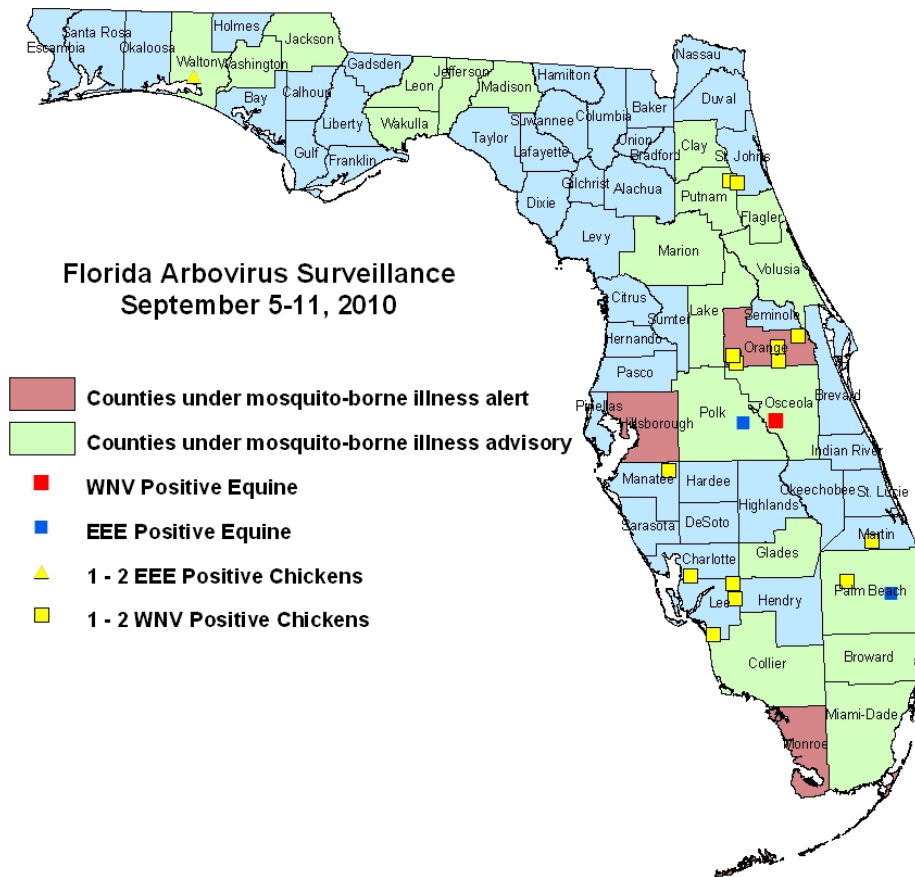
## Live Wild Birds

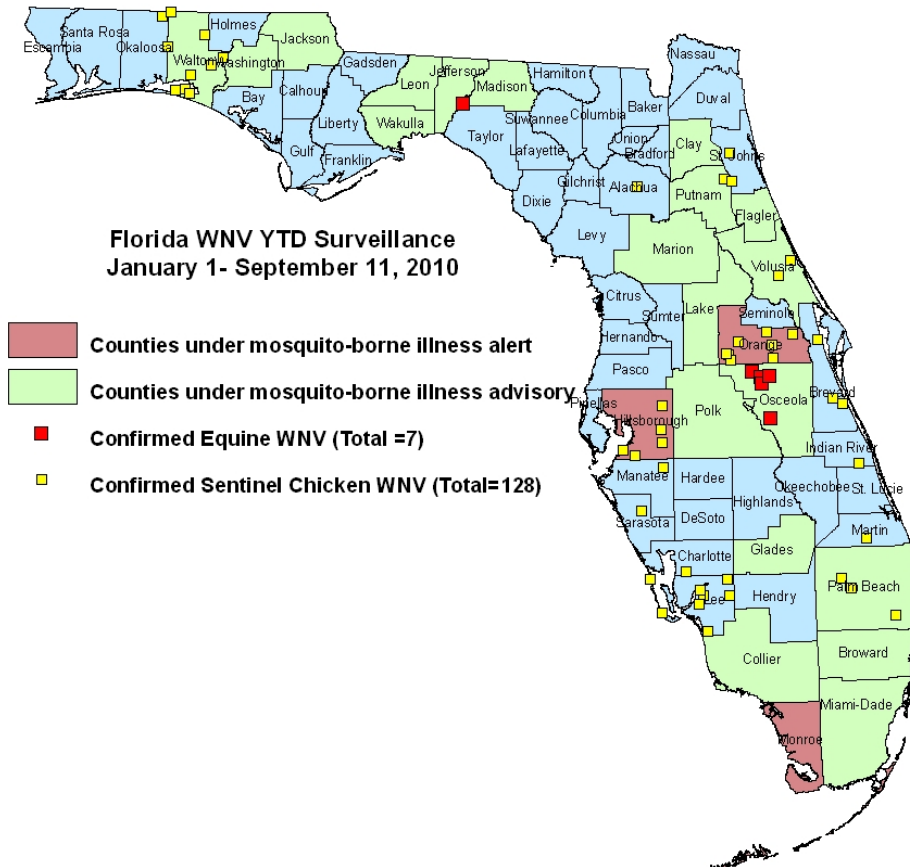
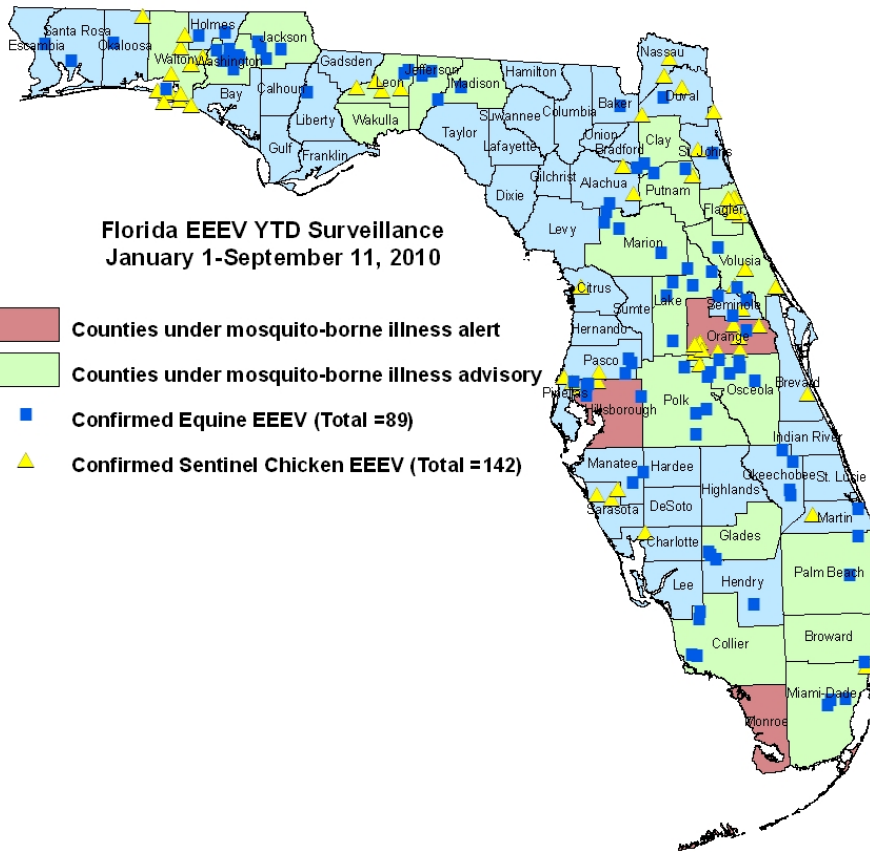
No positive live wild birds were reported positive this week.

## 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, six reports representing 23 dead birds were received from six counties. One was identified as a crow and one as a raptor; none were identified as jays. In 2010, 252 reports representing a total of 784 dead birds (45 crows, 10 jays, 44 raptors, 685 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





## YTD Arbovirus Activity by County

County	Arbovirus Activity
<b>Alachua</b>	WNV: 1 sentinel (8/2) EEE: 1 horse (7/21); 3 sentinels (7/16, 7/19, 8/2)
<b>Baker</b>	EEE: 1 horse (7/26)
<b>Bradford</b>	EEE: 1 horse (6/16)
<b>Brevard</b>	WNV: 9 sentinels (7/7, 7/21, 8/4, 8/11, 8/18, 8/20) EEE: 1 sentinel (6/2)
<b>Broward</b>	DENV: 3 humans (1 acquired in Broward, 2 acquired in Key West)
<b>Charlotte</b>	WNV: 1 setinel (8/27)
<b>Citrus</b>	EEE: 5 sentinels (5/24, 6/7, 6/28, 7/12, 7/19) HJV: 3 sentinels (5/17, 5/24, 8/9)
<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 horse (8/18); 5 sentinels (6/21, 7/8, 7/21)
<b>Escambia</b>	EEE: 1 horse (8/16)
<b>Flagler</b>	EEE : 17 sentinels (3/22, 4/26, 5/3, 6/7, 6/21, 7/12, 7/19, 7/26, 8/2, 8/9); 3 mosquito pools ( <i>Culiseta melanura</i> 4/27, 5/11, 6/15) HJV: 3 sentinels (6/14, 6/28, 8/16)
<b>Glades</b>	EEE : 3 horses (6/20, 6/24, 7/26)
<b>Hardee</b>	EEE : 1 horse (8/22)
<b>Hendry</b>	EEE : 1 horse (7/21)
<b>Hillsborough</b>	WNV : 14 sentinels (1/12, 1/19, 2/22, 3/9, 3/22, 4/20, 5/11, 6/15) EEE: 2 humans (June, July) ; 5 horses (5/29, 6/11, 7/8, 7/17); 2 sentinels (5/4, 5/18) HJV : 1 sentinel (6/28)
<b>Holmes</b>	EEE: 2 horses (7/23, 8/9)
<b>Indian River</b>	WNV: 1 sentinel (7/22)
<b>Jackson</b>	EEE: 4 horses (6/14, 6/28, 7/10, 8/1)
<b>Jefferson</b>	WNV: 1 horse (7/4) EEE: 3 horses (7/20, 8/1, 8/25)
<b>Lake</b>	EEE: 6 horses (5/20, 6/29, 7/4, 7/9, 7/15, 7/17)
<b>Lee</b>	WNV: 12 sentinels (3/30, 4/20, 8/2, 8/9, 8/16, 8/24, 8/30)
<b>Leon</b>	DENV: 2 humans (acquired in Key West) EEE: 1 human (July); 2 horses (6/29, 8/5); 6 sentinels (6/1, 6/21, 8/2, 8/9, 8/16) HJV: 1 sentinel (8/16)
<b>Liberty</b>	EEE: 1 horse (7/11)
<b>Madison</b>	EEE: 2 horses (6/21, 7/3)
<b>Manatee</b>	WNV: 1 sentinel (8/30) EEE: 1 horse (7/21)
<b>Marion</b>	EEE: 4 horses (5/7, 7/22, 8/3)
<b>Martin</b>	WNV: 1 sentinel (8/27) EEE: 1 horse (8/4); 2 sentinels (5/28)
<b>Miami-Dade</b>	DENV: 1 human (acquired in Key West) EEE: 4 horses (6/7, 6/17, 7/4); 2 sentinels (6/14)
<b>Monroe</b>	DENV: 30 humans (acquired in Key West)
<b>Nassau</b>	EEE: 5 sentinels (6/28, 7/13, 7/19, 8/9, 8/16) HJV: 7 sentinels (6/28, 7/13, 7/19, 7/26, 8/16)
<b>Okaloosa</b>	WNV: 1 live wild bird (flavivirus positive, blue jay 6/14) EEE : 1 horse (7/25); 11 live wild birds (1 house sparrow 1/4, 7 blue jays 1/27, 4/19, 4/21, 4/26, 7/5, 7/26, 3 cardinals 7/5, 7/22, 8/5)
<b>Okeechobee</b>	EEE : 4 horses (6/14, 7/1, 7/7, 7/17)
<b>Orange</b>	WNV : 1 human (July) ; 19 sentinels (6/14, 7/6, 7/19, 7/26, 8/2, 8/23, 8/30) EEE : 1 horse (7/16); 21 sentinels (1/7, 5/3, 5/17, 6/7, 6/10, 6/14, 6/21, 7/6, 7/12, 7/19, 7/22, 7/29) HJV : 21 sentinels (5/17, 6/7, 6/10, 6/14, 6/24, 7/6, 7/8, 7/15, 7/19, 7/22, 8/5, 8/16)
<b>Osceola</b>	WNV: 1 human (July); 6 horses (7/14, 7/15, 7/20, 7/24, 7/26, 8/30) EEE: 7 horses (5/15 (donkey), 6/8, 6/10, 6/13, 7/9)
<b>Palm Beach</b>	WNV: 12 sentinels (3/15, 8/2, 8/9, 8/17, 8/23, 8/30) EEE: 2 horses (6/22, 8/31)
<b>Pasco</b>	EEE: 3 horses (6/11, 7/16, 8/7); 3 sentinels (7/6, 7/12) HJV: 3 sentinels (6/28, 7/6, 8/16)
<b>Pinellas</b>	DENV: 1 human (acquired in Key West)

	EEE: 3 sentinels (5/24, 7/19) HJV: 2 sentinels (4/26, 7/6)
<b>Polk</b>	EEE: 4 horses (4/28, 6/25, 6/28, 8/19)
<b>Putnam</b>	WNV: 2 sentinels (8/27) EEE: 2 horses (7/26, 8/8); 5 sentinels (6/4, 7/23, 7/30, 8/6) HJV: 2 sentinels (5/14, 8/6)
<b>St. Johns</b>	WNV : 7 sentinels (8/16, 8/23, 8/30) EEE: 1 horse (6/18); 3 sentinels (6/1, 7/12, 7/26) HJV: 3 sentinels (4/26, 5/3, 7/12)
<b>Santa Rosa</b>	EEE: 1 horse (6/29); 13 live wild birds (9 blue jays 2/2, 3/22, 4/13, 4/19, 5/11, 5/18, 7/13, 4 cardinals 6/22, 7/13, 7/27, 8/3)
<b>Sarasota</b>	DENV: 2 humans (acquired in Key West) WNV: 1 sentinel (1/8) EEE: 3 sentinels (1/5, 1/11, 6/1)
<b>Seminole</b>	EEE : 3 horses (6/26, 7/15, 8/14) ; 1 sentinel (7/2) HJV : 1 sentinel (7/27)
<b>Volusia</b>	WNV : 3 sentinels (7/19, 8/9) EEE : 2 horses (5/7, 7/1) ; 16 sentinels (5/24, 6/1, 6/7, 6/14, 6/21, 6/28, 7/6, 7/12, 7/26, 8/9) ; 3 mosquito pools ( <i>Culiseta melanura</i> 6/15, 6/22, 6/29) HJV : 2 sentinels (5/17, 7/12)
<b>Wakulla</b>	EEE: 1 human (July)
<b>Walton</b>	WNV : 44 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, 7/8, 7/9, 7/22, 7/30) EEE : 1 horse (8/5); 39 sentinels (1/19, 3/22, 5/3, 6/8, 6/21, 7/6, 6/28, 6/30, 7/6, 7/12, 7/15, 7/18, 7/19, 7/20, 7/26, 7/28, 8/2, 8/3, 8/9, 8/23); 6 live wild birds (5 cardinals 6/24, 7/16, 7/22, 1 blue jay 6/24) HJV : 8 sentinels (3/22, 5/17, 6/23, 7/19, 8/2)
<b>Washington</b>	EEE : 7 horses (6/17, 6/22, 6/25, 6/28, 7/4, 7/16, 7/20)

### 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.