



Florida Arbovirus Surveillance Week 32: August 8-14, 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 August 8-14, 2010, the following arboviral activity was recorded in Florida:

DENV activity: One locally acquired case of dengue in a Broward County resident and three cases associated with Key West were reported this week. In 2010, there have been 28 locally-acquired cases in Key West and one in Broward.

EEEV activity: Ten EEEV-confirmed positive horses were reported in Glades, Putnam, Jefferson, Jackson, Baker, Marion, Martin, and Pasco counties. Seven sentinel chickens from Alachua, Orange, Putnam, St. Johns, and Walton counties and four live wild birds from Okaloosa and Santa Rosa counties tested positive for antibodies to EEEV. In 2010, positive samples from 79 equines, 120 sentinel chickens, 30 live wild birds, and three mosquito pools have been received from 41 of Florida's 67 counties.

WNV activity: One human case of WNV was reported in Osceola County. Four sentinel chickens from Orange and Palm Beach counties tested positive for antibodies to WNV. In 2010, positive samples from six equines, 69 sentinel chickens, and one live wild bird (flavivirus positive) have been received from 11 counties.

HJV activity: Two sentinel chickens from Nassau and Orange counties tested positive for antibodies to HJV. In 2010, positive samples from 44 sentinel chickens have been received from 11 counties.

Advisories/Alerts: Broward, Marion, and Putnam counties issued mosquito-borne illness advisories this week. Monroe and Hillsborough counties are under mosquito-borne illness alerts. Walton, Volusia, Clay, Osceola, Miami-Dade, Collier, Glades, Polk, Lake, Jackson, Washington, Jefferson, Wakulla, Leon, and Madison 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 (1) and July (3).

West Nile Virus Infection Acquired in Florida: One human case of WNV has been reported in 2010 in Osceola County with onset in July.

Dengue Acquired in Florida: In 2010, one case of dengue has been reported as acquired in Broward County and twenty-eight cases of dengue have been reported as acquired in Key West. Of the Key West cases, 21 are Key West residents, six are residents of other Florida counties, and one resides out of state. Onset dates ranged from March 17 to August 4, 2010.

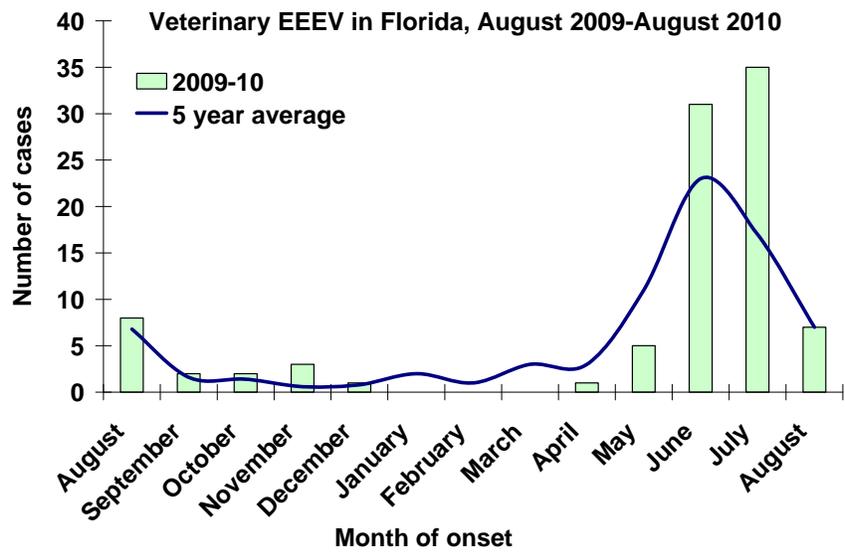
Imported Dengue: Sixty-seven cases of dengue with onset in 2010 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were: Brazil, Colombia (7), Costa Rica (3), Dominican Republic (11), Ecuador, El Salvador, Guatemala (2), Haiti (3), Honduras (3), Jamaica (2), Nicaragua (2), Philippines, Puerto Rico (20), Venezuela (8), Malaysia/Dubai/Bangladesh, and Panama/Venezuela (slash indicates travel to more than one country). Counties reporting cases were Alachua (2), Broward (10), Collier, Duval, Escambia, Hendry, Hillsborough (4), Lee, Marion, Miami-Dade (22), Monroe, Orange (6), Osceola (4), Palm Beach (6), Pasco, Pinellas, Seminole (2), St. Lucie, and Volusia.

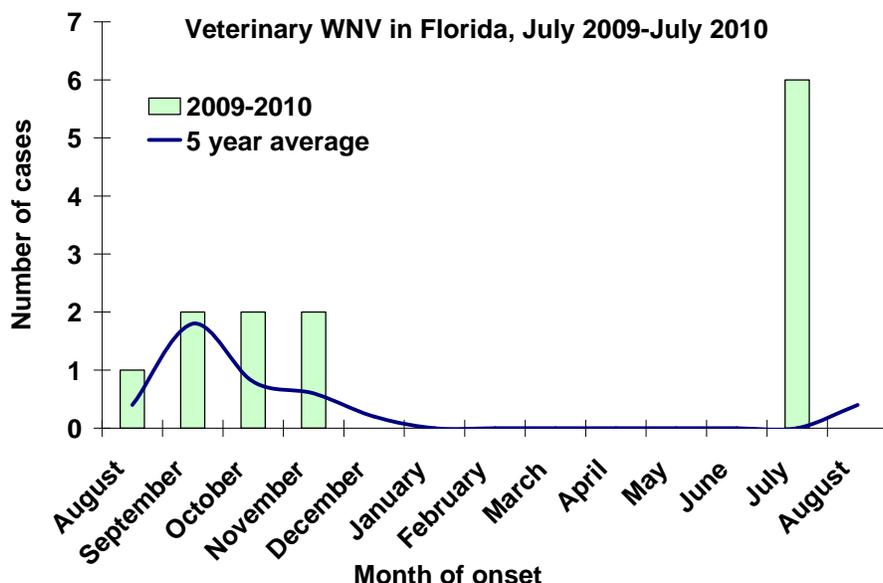
Imported Malaria: Sixty-eight imported cases of malaria with onset in 2010 have been reported. Countries of origin were: Angola, Dominican Republic, Ghana (3), Guyana, Haiti (44), Honduras (3), India, Ivory Coast, Nigeria (6), Philippines, South Africa, Togo, Uganda, West Africa, Zambia/South Africa, and unknown. Counties reporting cases were: Brevard, Broward (10), Charlotte, Citrus, Collier (2), Duval (2), Escambia (2), Hillsborough (3), Miami-Dade (16), Orange (14), Osceola (3), Palm Beach (8), Pinellas, Polk, Seminole, Volusia, and Wakulla.

Veterinary Cases

Ten horses in Putnam, Pasco, Martin, Marion, Jefferson, Jackson, Glades, and Baker counties tested positive for EEE this week. In 2010, six WNV positive horses and 79 EEEV positive horses have been reported.

County	Onset Date	Species	Virus	Status	County YTD
Putnam	08/08/2010	Equine	EEE	Euthanized	2 EEE
	07/26/2010	Equine	EEE	Euthanized	
Pasco	08/07/2010	Equine	EEE	Dead	3 EEE
Martin	08/04/2010	Equine	EEE	Euthanized	1 EEE
Marion	08/03/2010	Equine	EEE	Euthanized	4 EEE
	08/03/2010	Equine	EEE	Euthanized	
Jefferson	08/01/2010	Equine	EEE	Euthanized	1 WNV, 2 EEE
Jackson	08/01/2010	Equine	EEE	Euthanized	4 EEE
Glades	07/26/2010	Equine	EEE	Euthanized	3 EEE
Baker	07/26/2010	Equine	EEE	Euthanized	1 EEE

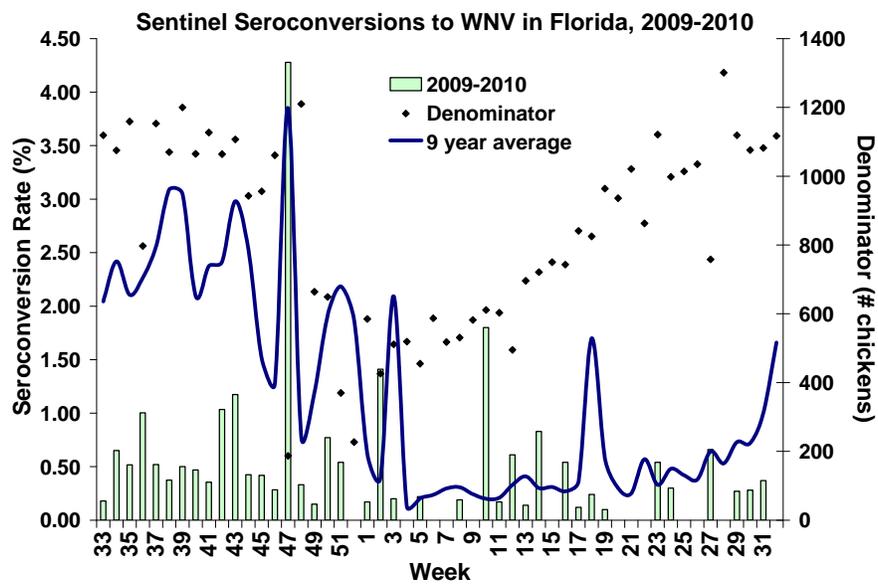
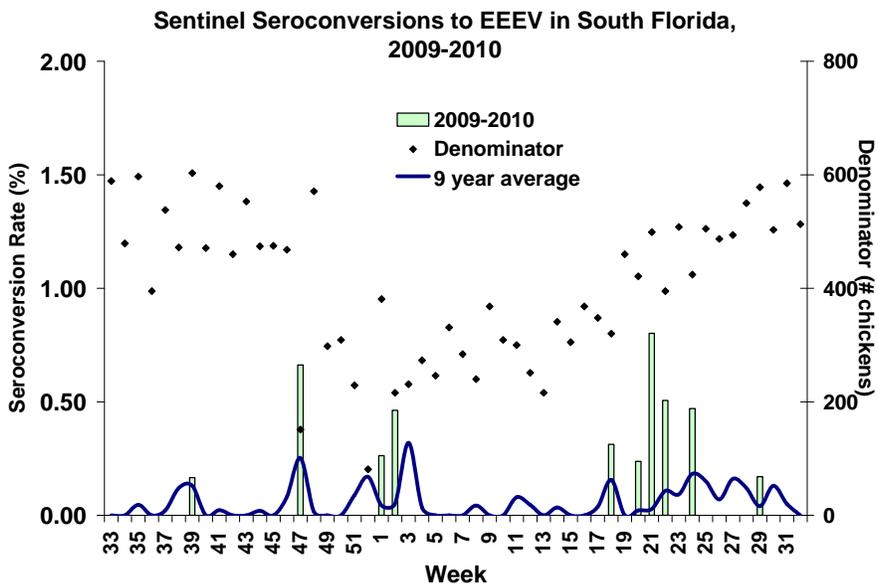
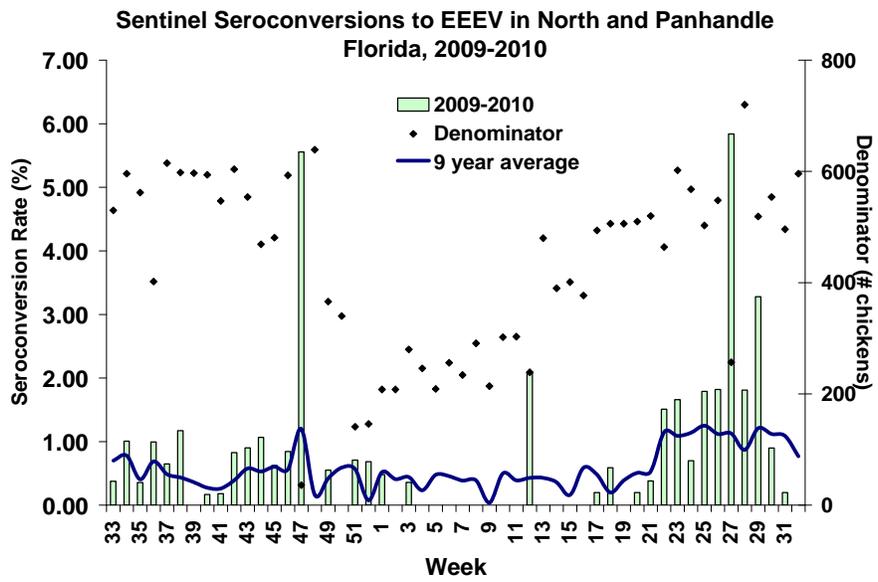




Sentinel Chickens

There were seven seroconversions to EEE in sentinel chickens from Alachua, Orange, Putnam, St. Johns, and Walton counties, four seroconversions to WNV in Orange and Palm Beach counties, and two to HJV in Nassau and Orange counties 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	08/02/2010	6.9			2 WNV	3 WNV
Orange	08/02/2010	2.0			2 WNV	10 WNV, 21 EEE, 16 HJV
	07/29/2010	2.8	0.9		3 WNV, 1 EEE	
	07/19, 07/22/10	1.9	4.8	1.9	2 WNV, 5 EEE, 2 HJV	
Walton (South)	08/02/2010		3.1		1 EEE	3 WNV, 14 EEE, 2 HJV
Putnam	07/30/2010		7.7		1 EEE	4 EEE, 1 HJV
St. Johns	07/26/2010		1.7		1 EEE	3 EEE, 3 HJV
Nassau	07/26/2010			2.9	1 HJV	3 EEE, 6 HJV
Walton (North)	07/19, 07/20/10		6.1		2 EEE	34 WNV, 16 EEE, 5 HJV
Alachua	07/16/2010		6.7		1 EEE	2 EEE



Live Wild Birds

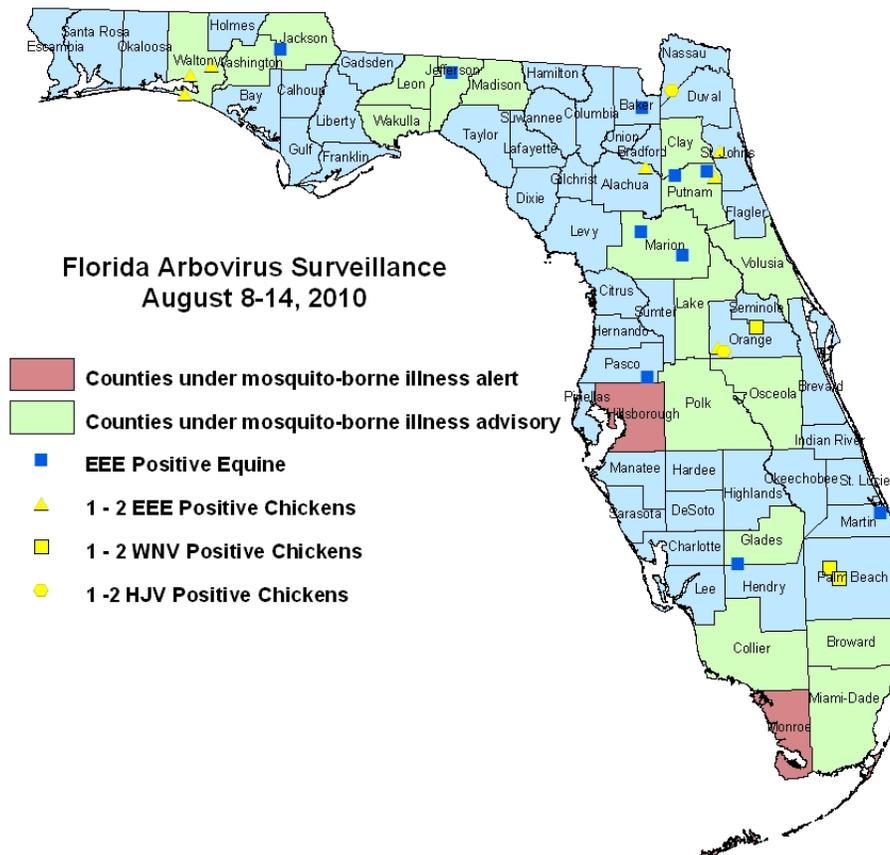
Out of 26 live wild birds collected from two counties on July 26-August 5, 2010, four from Okaloosa and Santa Rosa counties tested positive for antibodies to EEEV.

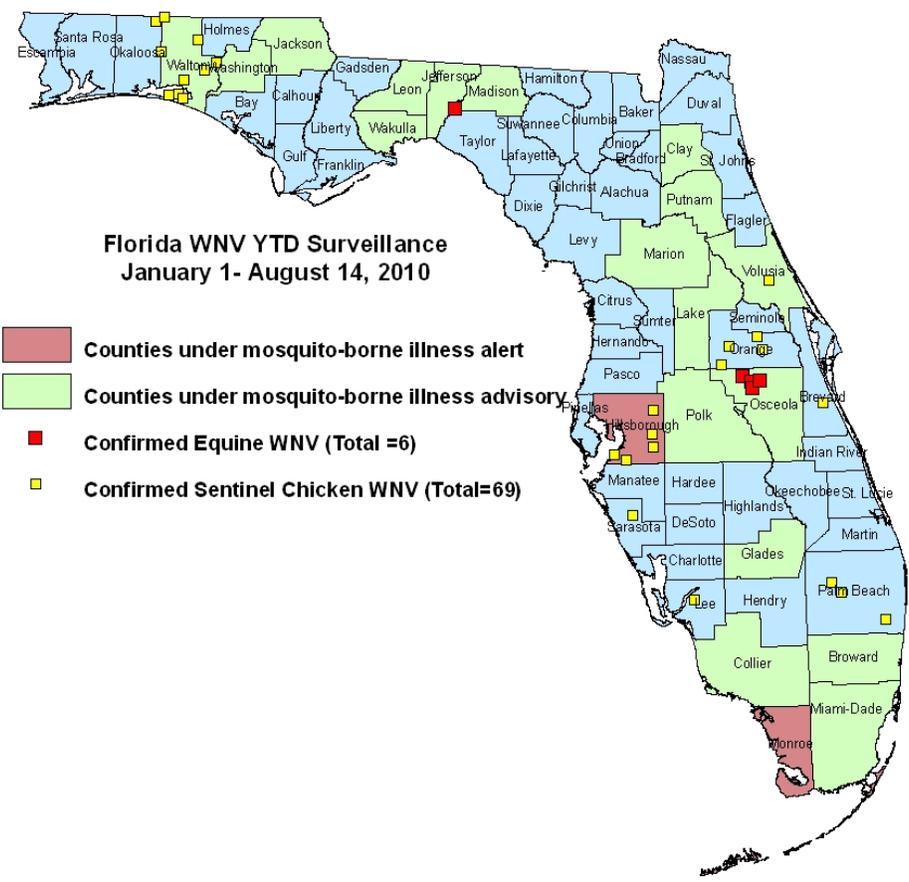
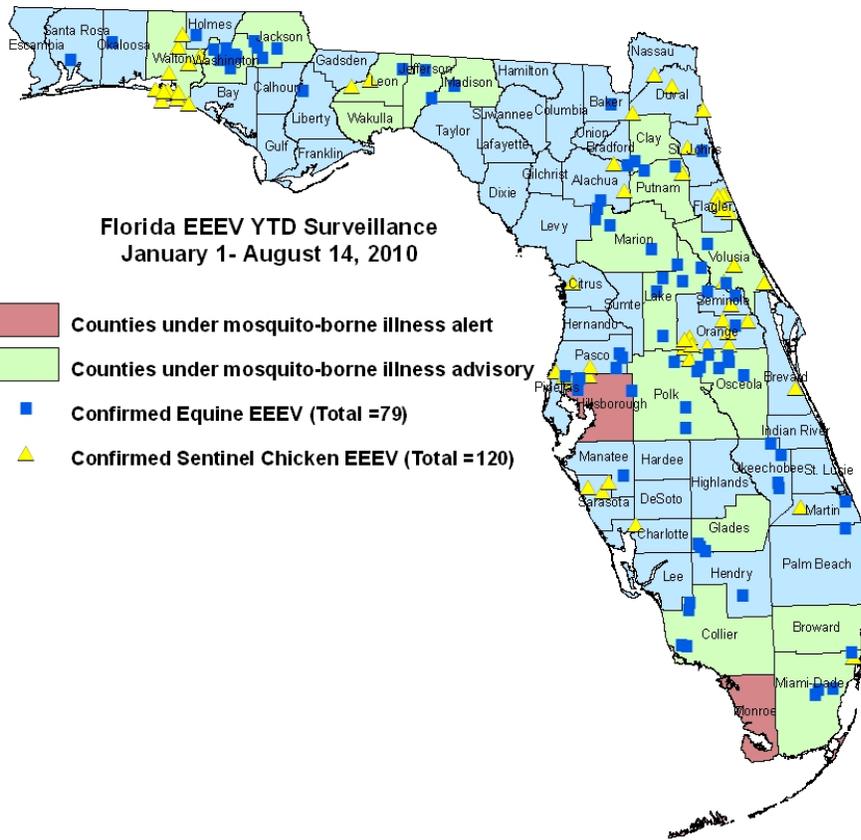
County	Collection Date	EEEV	Flavi	Species	EEEV Rate	Flavi Rate	County YTD
Okaloosa	08/05/2010	1		Cardinal	1 out of 6	N/A	11 EEE,
	07/26/2010	1		Blue jay	1 out of 6	N/A	1 flavi
Santa Rosa	08/03/2010	1		Cardinal	1 out of 8	N/A	13 EEE
	07/27/2010	1		Cardinal	1 out of 6	N/A	

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, four reports representing five dead birds were received from four counties. One was identified as a crow and one as a raptor; none were identified as jays. In 2010, 220 reports representing a total of 686 dead birds (36 crows, 10 jays, 40 raptors, 600 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/

Maps





YTD Arbovirus Activity by County

County	Arbovirus Activity
Alachua	EEE: 1 horse (7/21); 2 sentinels (7/16, 7/19)
Baker	EEE: 1 horse (7/26)
Bradford	EEE: 1 horse (6/16)
Brevard	WNV: 1 sentinel (7/7) EEE: 1 sentinel (6/2)
Broward	DENV: 2 humans (1 acquired in Broward, 1 acquired in Key West)
Citrus	EEE: 5 sentinels (5/24, 6/7, 6/28, 7/12, 7/19) HJV: 2 sentinels (5/17, 5/24)
Clay	EEE: 1 horse (6/16)
Collier	EEE: 4 horses (6/9, 6/22, 6/29, 7/9)
Duval	EEE: 5 sentinels (6/21, 7/8, 7/21)
Flagler	EEE : 13 sentinels (3/22, 4/26, 5/3, 6/7, 6/21, 7/12/7/19); 3 mosquito pools (<i>Culiseta melanura</i> 4/27, 5/11, 6/15) HJV: 2 sentinels (6/14, 6/28)
Glades	EEE : 3 horses (6/20, 6/24, 7/26)
Hendry	EEE : 1 horse (7/21)
Hillsborough	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)
Holmes	EEE: 1 horse (7/23)
Jackson	EEE: 4 horses (6/14, 6/28, 7/10, 8/1)
Jefferson	WNV: 1 horse (7/4) EEE: 2 horses (7/20, 8/1)
Lake	EEE: 6 horses (5/20, 6/29, 7/4, 7/9, 7/15, 7/17)
Lee	WNV: 2 sentinels (3/30, 4/20)
Leon	DENV: 2 humans (acquired in Key West) EEE: 1 human (July); 1 horse (6/29); 2 sentinels (6/1, 6/21)
Liberty	EEE: 1 horse (7/11)
Madison	EEE: 2 horses (6/21, 7/3)
Manatee	EEE: 1 horse (7/21)
Marion	EEE: 4 horses (5/7, 7/22, 8/3)
Martin	EEE: 1 horse (8/4); 1 sentinel (5/28)
Miami-Dade	DENV: 1 human (acquired in Key West) EEE: 4 horses (6/7, 6/17, 7/4); 2 sentinels (6/14)
Monroe	DENV: 21 humans (acquired in Key West)
Nassau	EEE: 3 sentinels (6/28, 7/13, 7/19) HJV: 4 sentinels (6/28, 7/13, 7/19, 7/26)
Okaloosa	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)
Okeechobee	EEE : 4 horses (6/14, 7/1, 7/7, 7/17)
Orange	WNV : 10 sentinels (6/14, 7/6, 7/19, 7/26, 8/2) 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 : 16 sentinels (5/17, 6/7, 6/10, 6/14, 6/24, 7/6, 7/8, 7/15, 7/19, 7/22)
Osceola	WNV: 1 human (July); 5 horses (7/14, 7/15, 7/20, 7/24, 7/26) EEE: 7 horses (5/15 (donkey), 6/8, 6/10, 6/13, 7/9)
Palm Beach	WNV: 3 sentinels (3/15, 8/2) EEE: 1 horse (6/22)
Pasco	EEE: 3 horses (6/11, 7/16, 8/7); 3 sentinels (7/6, 7/12) HJV: 2 sentinels (6/28, 7/6)
Pinellas	DENV: 1 human (acquired in Key West) EEE: 3 sentinels (5/24, 7/19) HJV: 2 sentinels (4/26, 7/6)
Polk	EEE: 3 horses (4/28, 6/25, 6/28)
Putnam	EEE: 2 horses (7/26, 8/8); 4 sentinels (6/4, 7/23, 7/30) HJV: 1 sentinel (5/14)
St. Johns	EEE: 1 horse (6/18); 3 sentinels (6/1, 7/12, 7/26) HJV: 3 sentinels (4/26, 5/3, 7/12)
Santa Rosa	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)
Sarasota	DENV: 1 human (acquired in Key West) EEE: 3 sentinels (1/5, 1/11, 6/1) WNV : 1 sentinel (1/8)
Seminole	EEE : 2 horses (6/26, 7/15) ; 1 sentinel (7/2)
Volusia	WNV : 1 sentinel (7/19) EEE : 2 horses (5/7, 7/1) ; 15 sentinels (5/24, 6/1, 6/7, 6/14, 6/21, 6/28, 7/6, 7/12, 7/26) HJV : 2 sentinels (5/12)
Wakulla	EEE: 1 human (July)
Walton	WNV : 37 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) EEE : 30 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, 8/2); 6 live wild birds (5 cardinals 6/24, 7/16, 7/22, 1 blue jay 6/24) HJV : 7 sentinels (3/22, 5/17, 6/23, 7/19)
Washington	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.