

Florida Arbovirus Surveillance

Week 28: July 11-17, 2010

Arbovirus surveillance in Florida includes endemic 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). During the period July 11-17, 2010, the following arboviral activity was recorded in Florida:

DENV activity: Three locally-acquired cases of dengue were reported this week in Key West residents. In 2010, there have been 17 locally-acquired cases associated with Key West (Monroe County).

EEEV activity: Fourteen EEEV-confirmed positive horses were reported in Osceola, Hillsborough, Jackson, Liberty, Okeechobee, Volusia, Madison, Washington, Miami-Dade, and Santa Rosa counties. Thirteen sentinel chickens from Nassau, Orange, Pasco, Seminole, Volusia, and Walton counties and three live wild birds from Okaloosa and Santa Rosa counties tested positive for antibodies to EEEV. In 2010, positive samples from 50 equines, 71 sentinel chickens, 18 live wild birds, and three mosquito pools have been received from 34 of Florida's 67 counties.

WNV activity: One sentinel chicken from Orange County tested positive for antibodies to WNV. In 2010, positive samples from 55 sentinel chickens and one live wild bird (flavivirus positive) have been received from six counties.

HJV activity: Ten sentinel chickens from Flagler, Hillsborough, Nassau, Orange, Pasco, and Walton counties tested positive for antibodies to HJV. In 2010, positive samples from 29 sentinel chickens have been received from eleven counties.

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

Year to Date Human Case Summary

Dengue Acquired in Florida: Seventeen cases of dengue have been reported as acquired in Key West in 2010. Of these, 14 are Key West residents, two are residents of other Florida counties, and one resides out of state. Onset dates ranged from March 17 to June 28, 2010.

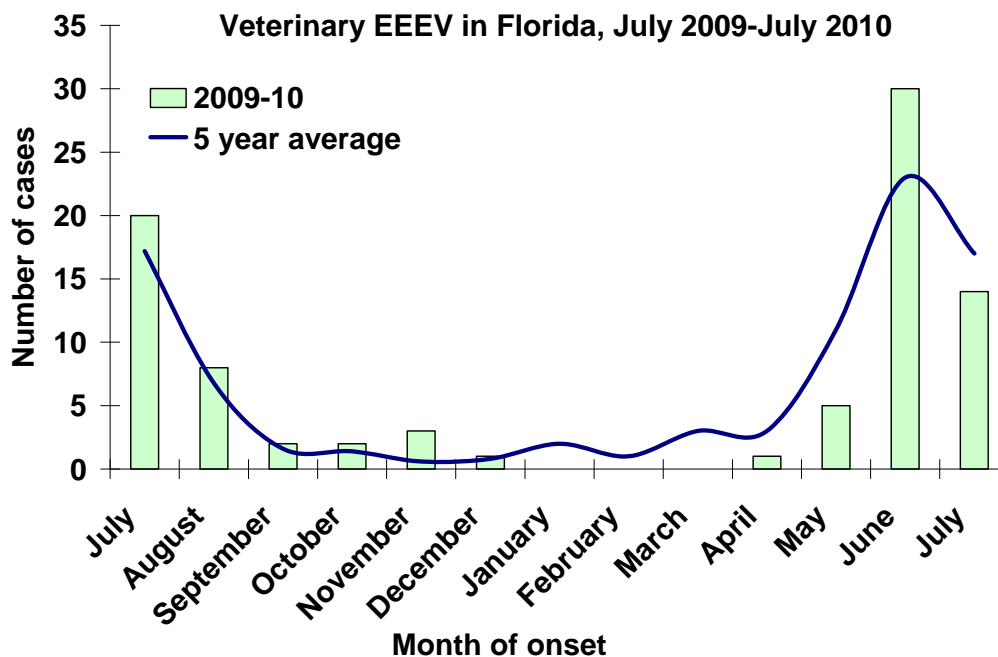
Imported Dengue: Thirty-six cases of dengue with onset in 2010 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin included Brazil, Colombia (5), Costa Rica (2), Dominican Republic (4), El Salvador, Guatemala, Haiti (3), Honduras (3), Jamaica, Nicaragua, Philippines, Puerto Rico (8), Venezuela (4), and Malaysia/Dubai/Bangladesh (slash indicates travel to more than one country).

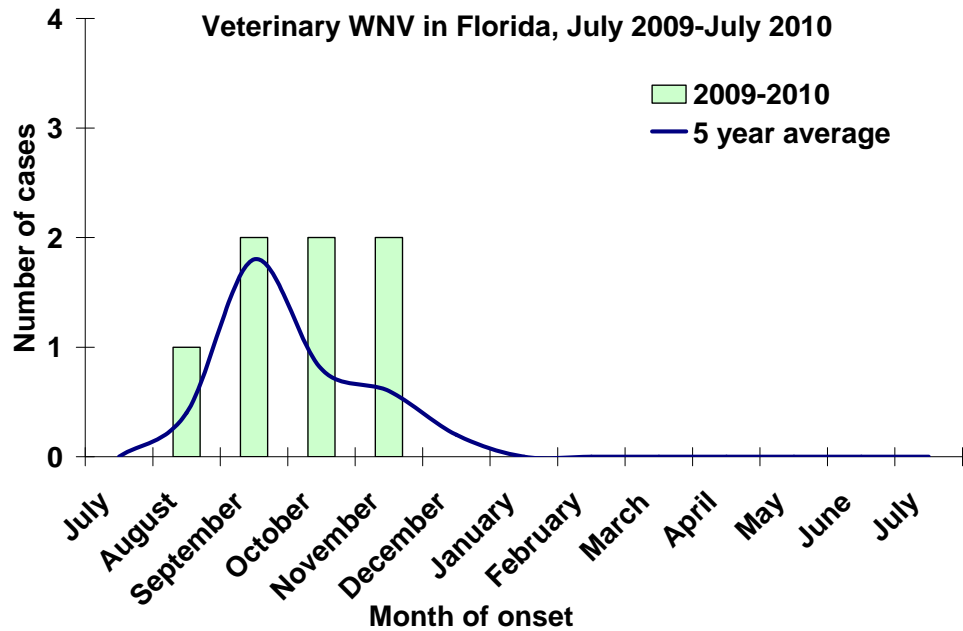
Imported Malaria: Fifty-four imported cases of malaria with onset in 2010 have been reported. Countries of origin included Angola, Dominican Republic, Ghana, Guyana, Haiti (38), Honduras (3), India, Nigeria (4), Philippines, Uganda, West Africa, and Zambia/South Africa.

Veterinary Cases

Fourteen horses in Osceola, Hillsborough, Jackson, Liberty, Okeechobee, Volusia, Madison, Washington, Miami-Dade, and Santa Rosa counties tested positive for EEEV this week. In 2010, 50 EEEV-positive horses have been reported from 21 counties.

County	Onset Date	Species	Virus	Status	County YTD
Liberty	07/11/2010	Equine	EEE	Dead	1
Jackson	07/10/2010	Equine	EEE	Alive	3
Osceola	07/09/2010	Equine	EEE	Dead	8
	07/09/2010	Equine	EEE	Dead	
	07/09/2010	Equine	EEE	Euthanized	
	07/08/2010	Equine	EEE	Dead	
Hillsborough	07/08/2010	Equine	EEE	Dead	4
	07/08/2010	Equine	EEE	Dead	
Miami-Dade	07/04/2010	Equine	EEE	Dead	4
Washington	07/04/2010	Equine	EEE	Euthanized	5
Madison	07/03/2010	Equine	EEE	Dead	2
Volusia	07/01/2010	Equine	EEE	Euthanized	2
Okeechobee	07/01/2010	Equine	EEE	Euthanized	2
Santa Rosa	06/29/2010	Equine	EEE	Euthanized	1



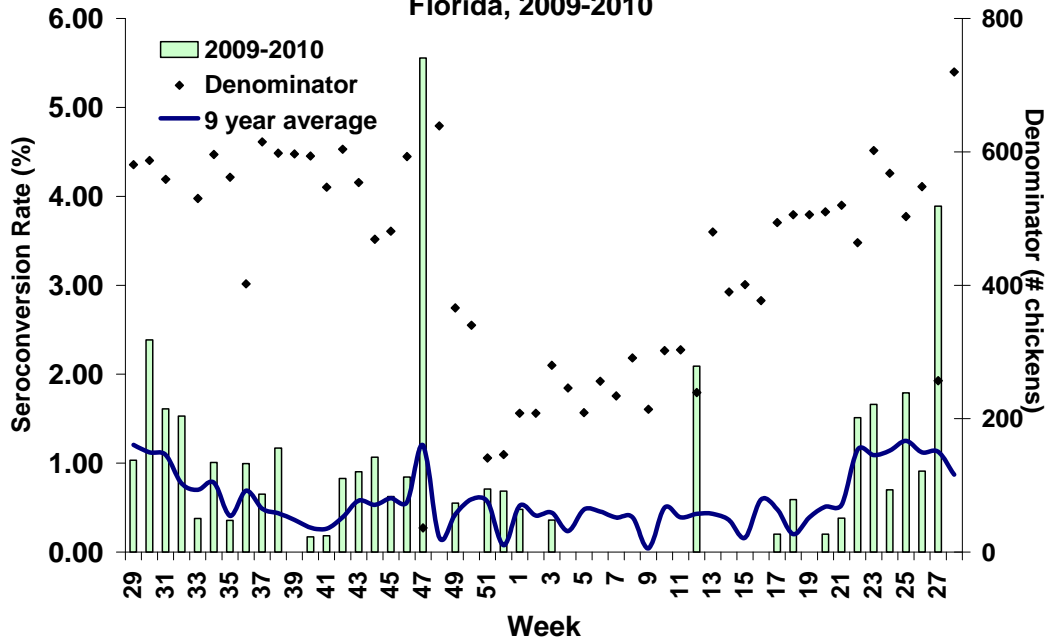


Sentinel Chickens

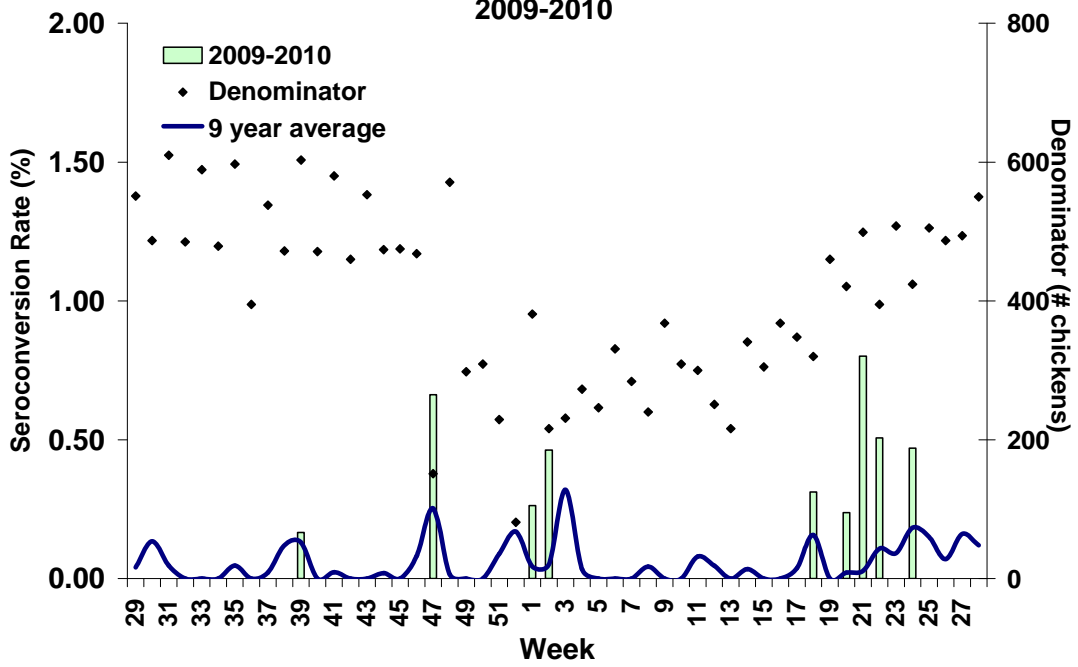
There were 13 seroconversions to EEEV in sentinel chickens from Nassau, Orange, Pasco, Seminole, Volusia, and Walton counties, one to WNV in Orange County, and ten to HJV in Flagler, Hillsborough, Nassau, Orange, Pasco, and Walton counties this week. Seroconversion rates are calculated by week and include previously reported results.

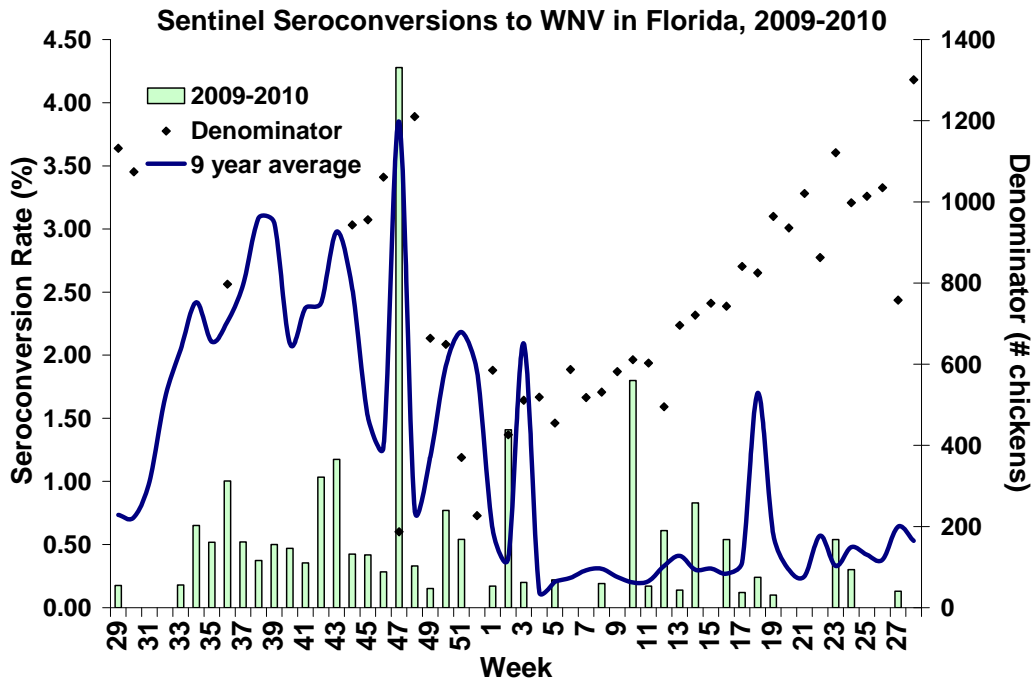
County	Collection Date	Seroconversion Rates (%)				County Totals	
		SLEV	WNV	EEEV	HJV	Week	YTD
Orange	07/06/2010		1.5	6.3		1 WNV, 4 EEE	3 WNV, 13 EEE, 10 HJV
	06/24/2010			1.9	1.0	2 EEE, 1 HJV	
Pasco	07/06/2010			9.5		2 EEE	2 EEE, 1 HJ
	06/28/2010				5.6	1 HJ	
Walton (South)	07/06/2010			8.5		4 EEE	3 WNV, 7 EEE, 1 HJ
Seminole	07/02/2010			4.2		1 EEE	1 EEE
Volusia	06/28/2010			8.3		2 EEE	12 EEE
Nassau	06/28/2010			2.8	8.3	1 EEE, 3 HJV	1 EEE, 3 HJV
Flagler	06/28/2010				7.7	1 HJV	10 EEE, 1 HJV
Hillsborough	06/28/2010				1.2	1 HJV	14 WNV, 2 EEE, 1 HJV
Walton (North)	06/23/2010				7.5	3 HJV	31 WNV, 5 EEE, 5 HJV

Sentinel Seroconversions to EEEV in North and Panhandle Florida, 2009-2010



Sentinel Seroconversions to EEEV in South Florida, 2009-2010





Live Wild Birds

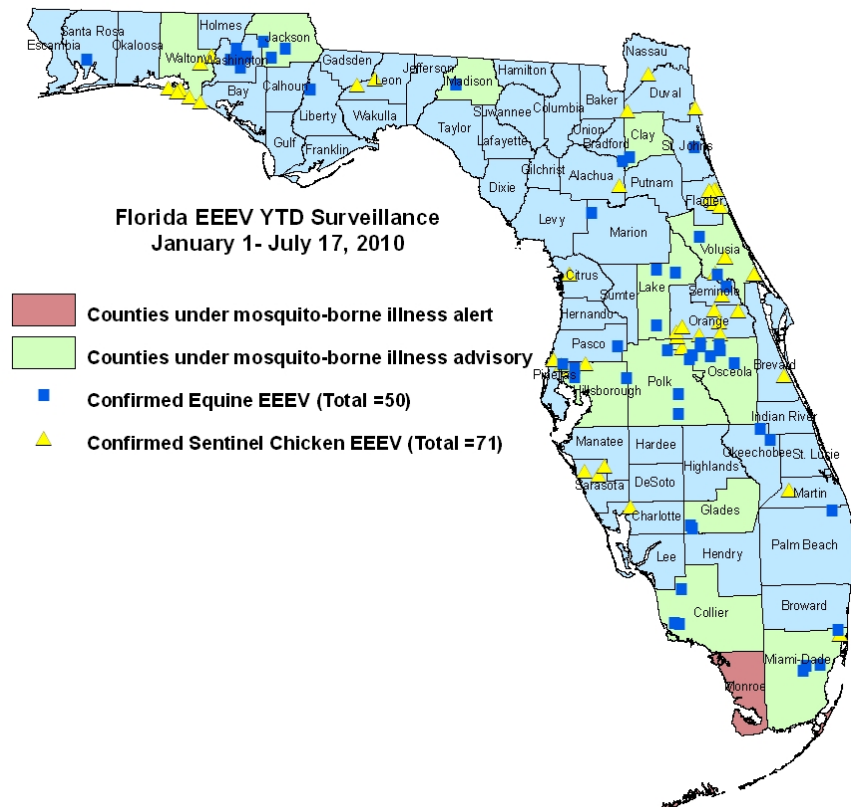
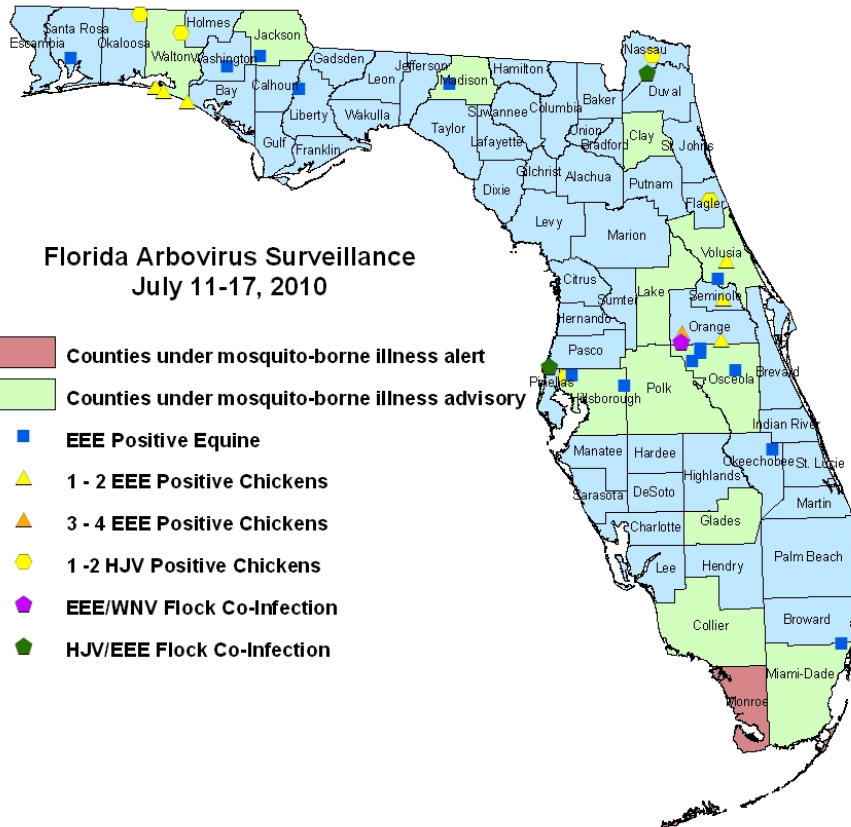
Out of 14 live wild birds collected from two counties on June 21-24, 2010 and 44 collected from three counties on June 28-July 9, 2010, two from Okaloosa County and one from Santa Rosa County tested positive for antibodies to EEEV.

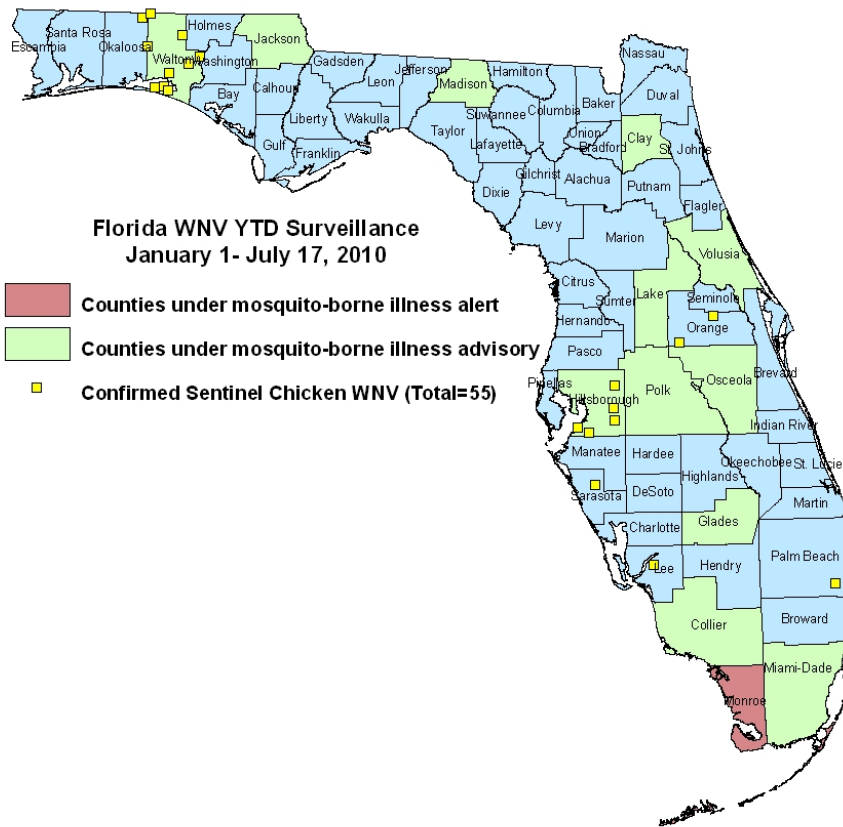
County	Collection Date	EEEV	Flavi	Species	EEEV Rate	Flavi Rate	County YTD
Okaloosa	07/05/2010	2		1 Cardinal, 1 Blue jay	2 out of 6	N/A	8 EEE, 1 flavi
Santa Rosa	06/22/2010	1		1 Cardinal	1 out of 6	N/A	8 EEE

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, four reports representing nine dead birds were received from three counties. None were identified as crows, jays, or raptors. In 2010, 189 reports representing a total of 612 dead birds (21 crows, 10 jays, 36 raptors, 545 others) have been received from 43 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
Bradford	EEE: 1 horse (6/16)
Brevard	EEE: 1 sentinel (6/2)
Citrus	EEE: 3 sentinels (5/24, 6/7, 6/28) HJV: 2 sentinels (5/17, 5/24)
Clay	EEE: 1 horse (6/16)
Collier	EEE: 3 horses (6/9, 6/22, 6/29)
Duval	EEE: 1 sentinel (6/21)
Flagler	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) HJV: 1 sentinel (6/28)
Glades	EEE : 2 horses (6/20, 6/24)
Hillsborough	WNV : 14 sentinels (1/12, 1/19, 2/22, 3/9, 3/22, 4/20, 5/11, 6/15) EEE: 4 horses (5/29, 6/11, 7/8); 2 sentinels (5/4, 5/18) HJV : 1 sentinel (6/28)
Jackson	EEE: 3 horses (6/14, 6/28, 7/10)
Lake	EEE: 3 horses (5/20, 6/29, 7/4)
Lee	WNV: 2 sentinels (3/30, 4/20)
Leon	DENV: 2 humans (acquired in Key West) EEE: 2 sentinels (6/1, 6/21)
Liberty	EEE: 1 horse (7/11)
Madison	EEE: 2 horses (6/21, 7/3)
Marion	EEE: 1 horse (5/7)
Martin	EEE: 1 sentinel (5/28)
Miami-Dade	EEE: 4 horses (6/7, 6/17, 7/4); 2 sentinels (6/14)
Monroe	DENV: 13 humans
Nassau	EEE: 1 sentinel (6/28) HJV: 1 sentinel (6/28)
Okalooosa	WNV: 1 live wild bird (flavivirus positive, blue jay 6/14) 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)
Okeechobee	EEE : 2 horses (6/14, 7/1)

Orange	WNV : 3 sentinels (6/14, 7/6) EEE : 13 sentinels (1/7, 5/3, 5/17, 6/7, 6/10, 6/14, 6/21) HJV : 10 sentinels (5/17, 6/7, 6/10, 6/14, 6/24)
Osceola	EEE: 7 horses (6/8, 6/10, 6/13, 7/8, 7/9), 1 donkey (5/15)
Palm Beach	WNV: 1 sentinel (3/15) EEE: 1 horse (6/22)
Pasco	EEE: 1 horse (6/11); 2 sentinels (7/6) HJV: 1 sentinel (6/28)
Pinellas	EEE: 2 sentinels (5/24) HJV: 1 sentinel (4/26)
Polk	EEE: 3 horses (4/28, 6/25, 6/28)
Putnam	EEE: 1 sentinel (6/4) HJV: 1 sentinel (5/14)
St. Johns	EEE: 1 horse (6/18); 1 sentinel (6/1) HJV: 2 sentinels (4/26, 5/3)
Santa Rosa	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)
Sarasota	EEE: 3 sentinels (1/5, 1/11, 6/1) WNV : 1 sentinel (1/8)
Seminole	EEE : 1 horse (6/26) ; 1 sentinel (7/2)
Volusia	EEE : 2 horses (5/7, 7/1) ; 12 sentinels (5/24, 6/1, 6/7, 6/14, 6/21, 6/28) HJV : 1 sentinel (5/17)
Walton	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) 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) HJV : 6 sentinels (3/22, 5/17, 6/23)
Washington	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.