



Florida Arbovirus Surveillance Week 30: July 25-31, 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 25-31, 2010, the following arboviral activity was recorded in Florida:

DENV activity: Five locally-acquired cases of dengue associated with Key West were reported this week; two were travelers from other Florida counties. In 2010, there have been 24 locally-acquired cases in Key West.

EEEV activity: Two human cases of EEEV were reported in Hillsborough and Leon counties this week. Eleven EEEV-confirmed positive horses were reported in Hillsborough, Lake, Leon, Manatee, Okeechobee, Orange, Pasco, Seminole, and Washington counties. Twenty-four sentinel chickens from Citrus, Duval, Flagler, Nassau, Orange, Pasco, St. Johns, Volusia, and Walton counties and two live wild birds from Walton County tested positive for antibodies to EEEV. In 2010, positive samples from 63 equines, 95 sentinel chickens, 25 live wild birds, and three mosquito pools have been received from 36 of Florida's 67 counties.

WNV activity: Three sentinel chickens from Orange and Volusia tested positive for antibodies to WNV. In 2010, positive samples from two equines, 59 sentinel chickens, and one live wild bird (flavivirus positive) have been received from 11 counties.

HJV activity: Three sentinel chickens from Orange and Volusia counties tested positive for antibodies to HJV. In 2010, positive samples from 36 sentinel chickens have been received from 11 counties.

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

Dengue Acquired in Florida: Twenty-four cases of dengue have been reported as acquired in Key West in 2010. Of these, 18 are Key West residents, five are residents of other Florida counties, and one resides out of state. Onset dates ranged from March 17 to July 17, 2010.

Imported Dengue: Forty-nine 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), Ecuador

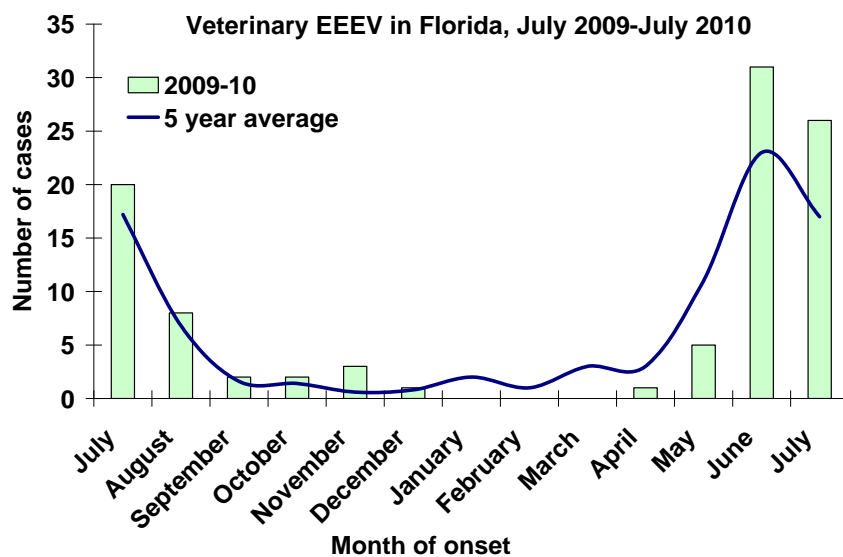
El Salvador, Guatemala (2), Haiti (3), Honduras (3), Jamaica, Nicaragua (2), Philippines, Puerto Rico (10), Venezuela (6), and Malaysia/Dubai/Bangladesh (slash indicates travel to more than one country). Counties reporting cases were Alachua (2), Broward (7), Collier, Duval, Hillsborough (3), Lee, Marion, Miami-Dade (17), Monroe, Orange (5), Osceola (2), Palm Beach (4), Pasco, Pinellas, Seminole, and St. Lucie.

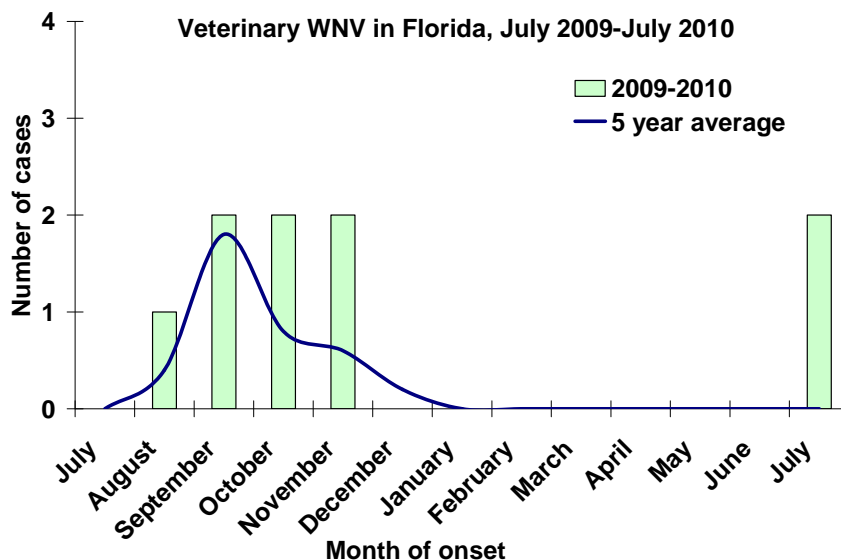
Imported Malaria: Sixty-one imported cases of malaria with onset in 2010 have been reported. Countries of origin were: Angola, Dominican Republic, Ghana (3), Guyana, Haiti (39), Honduras (3), Ivory Coast, India, Nigeria (5), Philippines, South Africa, Uganda, West Africa, Zambia/South Africa, and unknown. Counties reporting cases were: Brevard, Broward (10), Charlotte, Citrus, Collier (2), Duval (2), Escambia, Hillsborough (3), Miami-Dade (14), Orange (11), Osceola (3), Palm Beach (7), Pinellas, Polk, Seminole, Volusia, and Wakulla.

Veterinary Cases

Eleven horses in Hillsborough, Lake, Leon, Manatee, Okeechobee, Orange, Pasco, Seminole, and Washington counties tested positive for WNV this week. In 2010, two WNV positive horses have been reported from two counties and 63 EEEV positive horses have been reported from 25 counties.

County	Onset Date	Species	Virus	Status	County YTD
Manatee	07/21/2010	Equine	EEE	Euthanized	1 EEE
Washington	07/20/2010	Equine	EEE	Euthanized	7 EEE
	07/16/2010	Equine	EEE	Euthanized	
Hillsborough	07/17/2010	Equine	EEE	Euthanized	5 EEE
Okeechobee	07/17/2010	Equine	EEE	Euthanized	4 EEE
	07/07/2010	Equine	EEE	Euthanized	
Orange	07/16/2010	Equine	EEE	Euthanized	1 EEE
Pasco	07/16/2010	Equine	EEE	Euthanized	2 EEE
Lake	07/15/2010	Equine	EEE	Euthanized	6 EEE
Seminole	07/15/2010	Equine	EEE	Euthanized	2 EEE
Leon	06/29/2010	Equine	EEE	Euthanized	1 EEE

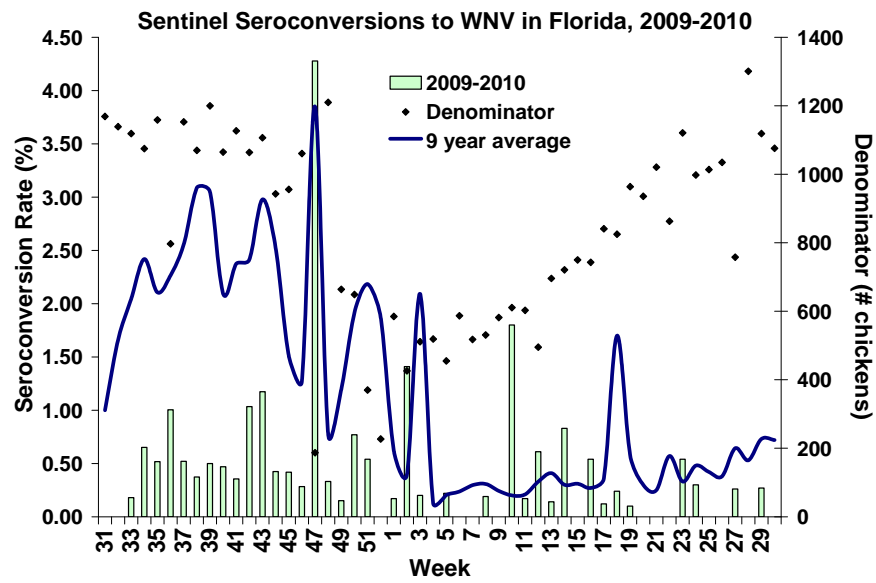
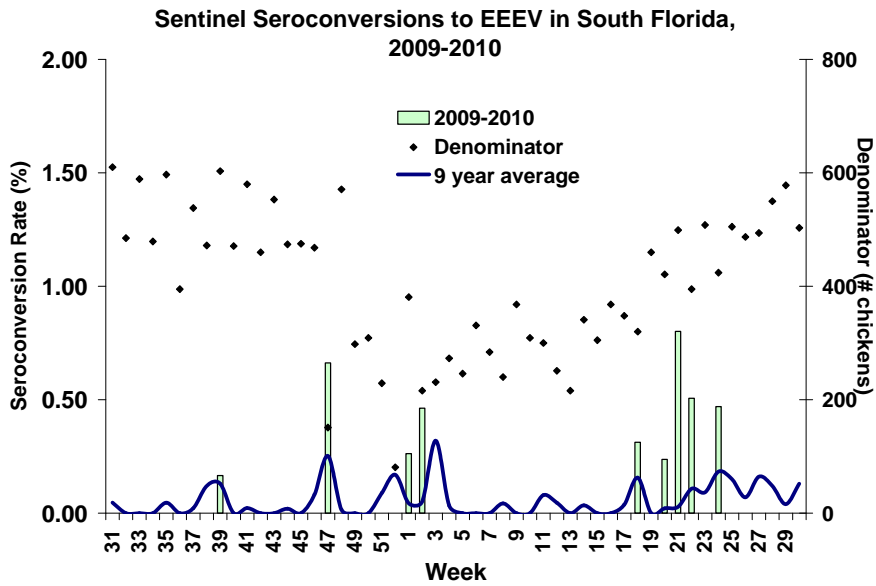
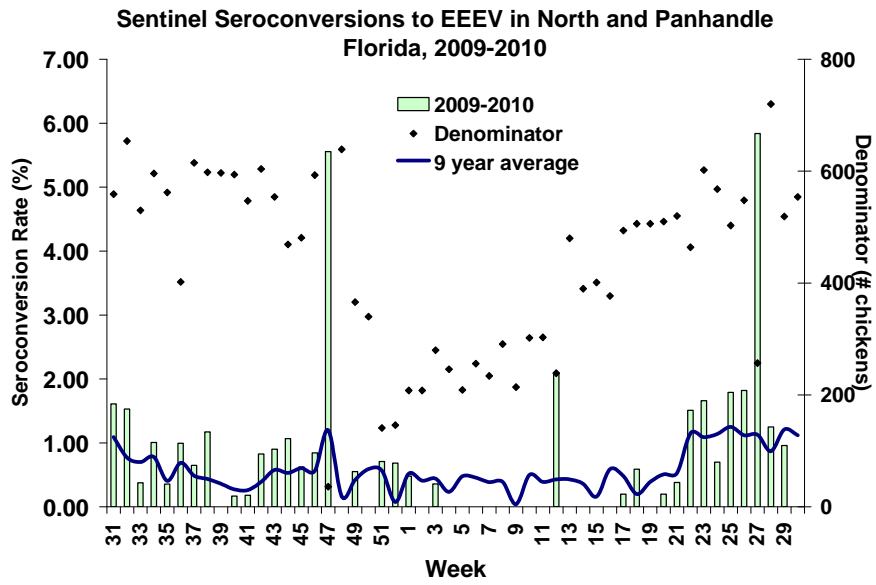




Sentinel Chickens

There were 24 seroconversions to EEE in sentinel chickens from Citrus, Duval, Flagler, Nassau, Orange, Pasco, St. Johns, Volusia, and Walton counties, three seroconversions to WNV in Orange and Volusia counties, and three to HJV in Orange and Volusia 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
Volusia	07/19/2010	3.7			1 WNV	1 WNV, 14 EEE, 2 HJV
	07/12/2010		4.2	4.2	1 EEE, 1 HJV	
	07/06/2010		4.2		1 EEE	
Orange	07/19/2010	1.9	1.0		2 WNV, 1 EEE	5 WNV, 15 EEE, 13 HJV
	07/12, 07/15/10		0.7	0.7	1 EEE, 1 HJV	
	07/06, 07/08/10	1.5	6.3	1.6	1 WNV, 4 EEE, 1 HJV	
Walton (South)	07/18, 07/19/10		4.7		2 EEE	3 WNV, 12 EEE, 1 HJV
	07/12/10		7.1		3 EEE	
Flagler	07/19/2010		7.7		1 EEE	11 EEE, 2 HJV
Citrus	07/19/2010		1.5		1 EEE	5 EEE, 2 HJV
	07/12/2010		1.6		1 EEE	
Nassau	07/13/2010		1.6		1 EEE	2 EEE, 3 HJV
Pasco	07/12/2010		4.8		1 EEE	3 EEE, 2 HJV
St. Johns	07/12/2010		0.8		1 EEE	2 EEE, 2 HJV
Duval	07/08/2010		3.4		1 EEE	2 EEE
Walton (North)	07/06/2010		7.1		3 EEE	31 WNV, 13 EEE, 5 HJV
	06/28, 06/30/10		11.9		5 EEE	



Live Wild Birds

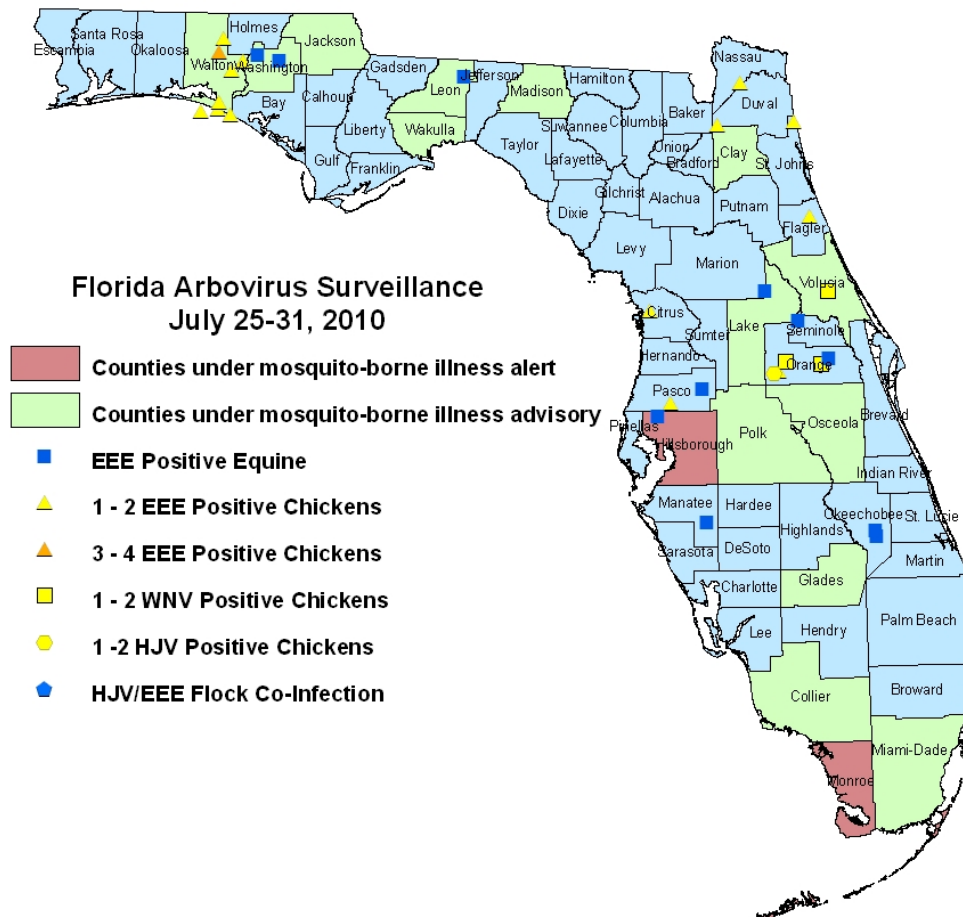
Out of 20 live wild birds collected from three counties on July 19-22, 2010, two from Walton County tested positive for antibodies to EEEV.

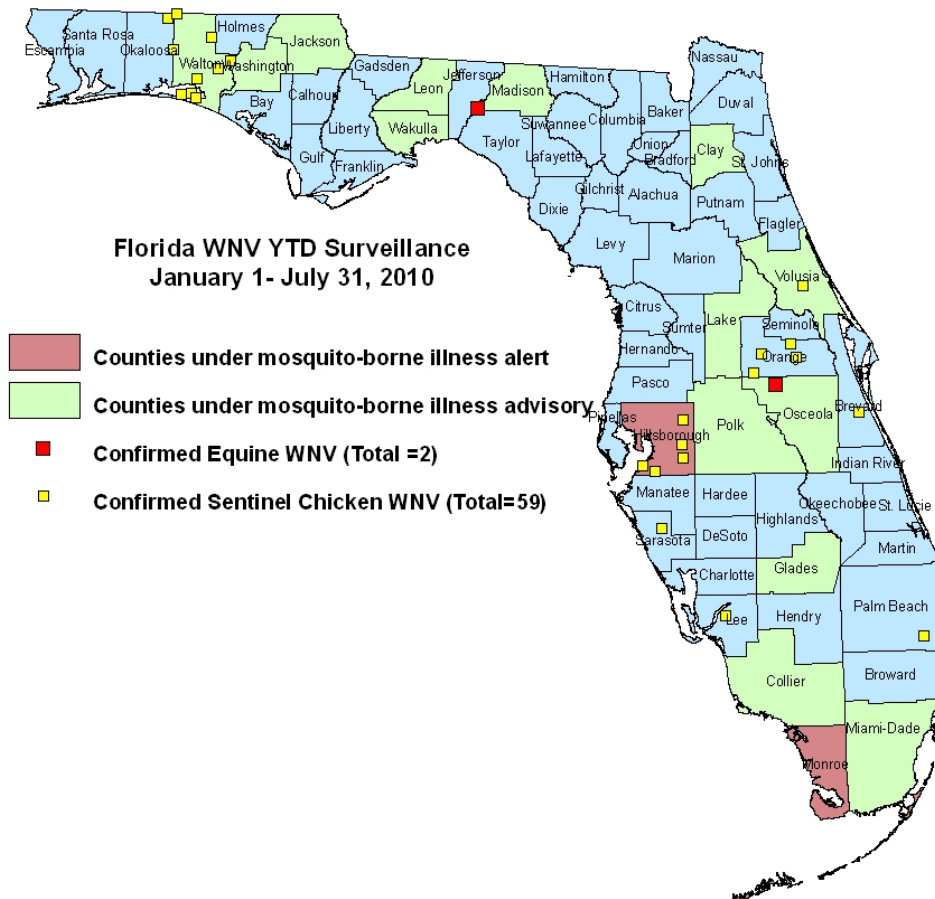
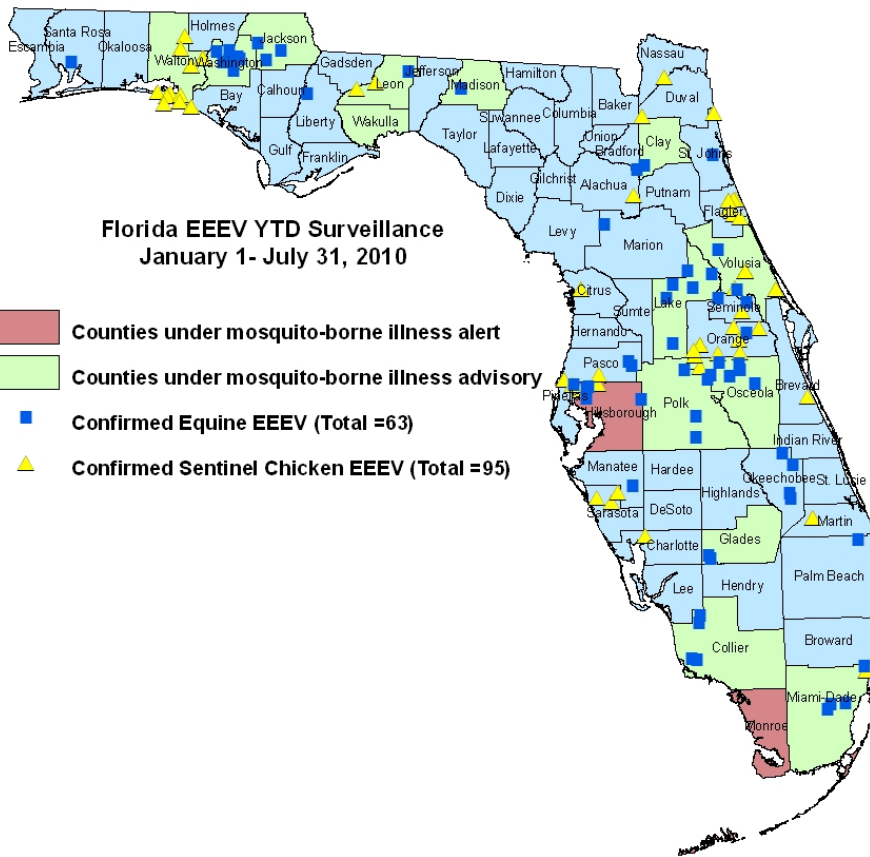
County	Collection Date	EEEV	Flavi	Species	EEEV Rate	Flavi Rate	County YTD
Walton	07/22/10	2		2 Cardinals	2 out of 6	N/A	6 EEE

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, five reports representing seven dead birds were received from three counties. Two were identified as crows and two as raptors; none were identified as jays. In 2010, 210 reports representing a total of 670 dead birds (29 crows, 10 jays, 39 raptors, 592 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
Bradford	EEE: 1 horse (6/16)
Brevard	WNV: 1 sentinel (7/7) EEE: 1 sentinel (6/2)
Broward	DENV: 1 human (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: 2 sentinels (6/21, 7/8)
Flagler	EEE : 11 sentinels (3/22, 4/26, 5/3, 6/7, 6/21, 7/19) ; 3 mosquito pools (<i>Culiseta melanura</i> 4/27, 5/11, 6/15) HJV: 2 sentinels (6/14, 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: 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)
Jackson	EEE: 3 horses (6/14, 6/28, 7/10)
Jefferson	WNV: 1 horse (7/4)
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: 1 horse (5/7)
Martin	EEE: 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: 18 humans (acquired in Key West)
Nassau	EEE: 2 sentinels (6/28, 7/13) HJV: 1 sentinel (6/28)
Okaloosa	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 : 4 horses (6/14, 7/1, 7/7, 7/17)
Orange	WNV : 5 sentinels (6/14, 7/6, 7/19) EEE : 1 horse (7/16); 15 sentinels (1/7, 5/3, 5/17, 6/7, 6/10, 6/14, 6/21, 7/6, 7/12, 7/19) HJV : 13 sentinels (5/17, 6/7, 6/10, 6/14, 6/24, 7/6, 7/8, 7/15)
Osceola	WNV: 1 horse (7/14) EEE: 7 horses (5/15 (donkey), 6/8, 6/10, 6/13, 7/9)
Palm Beach	WNV: 1 sentinel (3/15) EEE: 1 horse (6/22)
Pasco	EEE: 2 horses (6/11, 7/16); 3 sentinels (7/6, 7/12) HJV: 2 sentinels (6/28, 7/6)
Pinellas	DENV: 1 human (acquired in Key West) EEE: 2 sentinels (5/24) HJV: 2 sentinels (4/26, 7/6)
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); 2 sentinel (6/1, 7/12) HJV: 2 sentinels (4/26, 5/3)
Santa Rosa	EEE: 1 horse (6/29); 11 live wild birds (9 blue jays 2/2, 3/22, 4/13, 4/19, 5/11, 5/18, 7/13, 2 cardinals 6/22, 7/13)
Sarasota	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) ; 14 sentinels (5/24, 6/1, 6/7, 6/14, 6/21, 6/28, 7/6, 7/12)

	HJV : 2 sentinels (5/12)
Wakulla	EEE: 1 human (July)
Walton	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) EEE : 25 sentinels (1/19, 3/22, 5/3, 6/8, 6/21, 7/6, 6/28, 6/30, 7/6, 7/12, 7/18, 7/19) ; 6 live wild birds (5 cardinals 6/24, 7/16, 7/22, 1 blue jay 6/24) HJV : 6 sentinels (3/22, 5/17, 6/23)
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.