



Florida Arbovirus Surveillance Week 33: August 15-21, 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 15-21, 2010, the following arboviral activity was recorded in Florida:

DENV activity: Five cases associated with Key West were reported this week. In 2010, there have been 33 locally-acquired cases in Key West and one in Broward.

EEEV activity: Two EEEV-confirmed positive horses were reported in Leon and Holmes counties. Nine sentinel chickens from Alachua, Flagler, Leon, Volusia, and Walton counties tested positive for antibodies to EEEV. In 2010, positive samples from 81 equines, 129 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. Twelve sentinel chickens from Brevard, Indian River, Lee, Orange, Volusia, and Walton counties tested positive for antibodies to WNV. In 2010, positive samples from six equines, 81 sentinel chickens, and one live wild bird (flavivirus positive) have been received from 12 counties.

HJV activity: Three sentinel chickens from Orange, Seminole, and Walton counties tested positive for antibodies to HJV. In 2010, positive samples from 47 sentinel chickens have been received from 11 counties.

Advisories/Alerts: 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, Madison, Broward, Marion, and Putnam 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 33 cases of dengue have been reported as acquired in Key West. Of the Key West cases, 24 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 8, 2010.

Imported Dengue: Seventy-four 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.

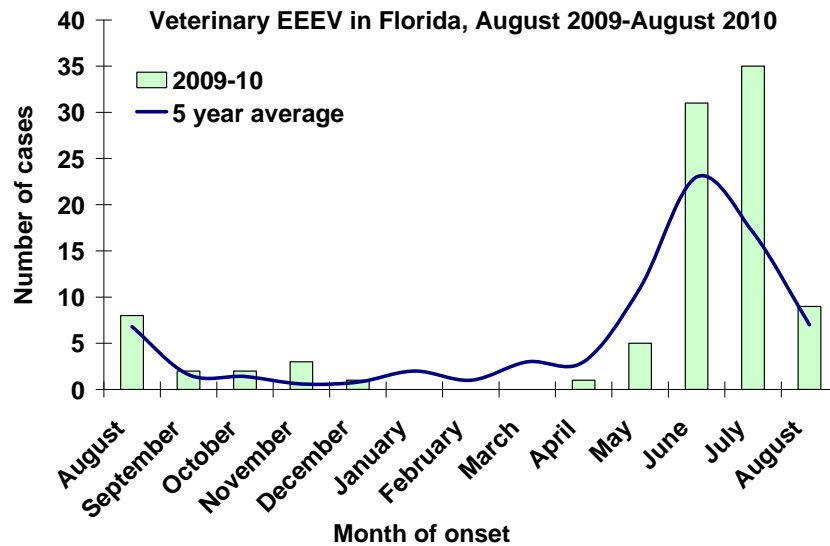
Countries of origin were: Brazil, Colombia (7), Costa Rica (3), Dominican Republic (11), Ecuador, El Salvador, Guatemala (2), Haiti (3), Honduras (4), Jamaica (3), Nicaragua (2), Philippines, Puerto Rico (22), St. Thomas, Venezuela (10), Malaysia/Dubai/Bangladesh, and Panama/Venezuela (slash indicates travel to more than one country). Counties reporting cases were Alachua (2), Broward (12), Collier, Duval, Escambia, Flagler, Hendry, Hillsborough (4), Lee, Marion, Miami-Dade (25), Monroe, Orange (6), Osceola (4), Palm Beach (6), Pasco, Pinellas, Seminole (2), St. Lucie, and Volusia (2).

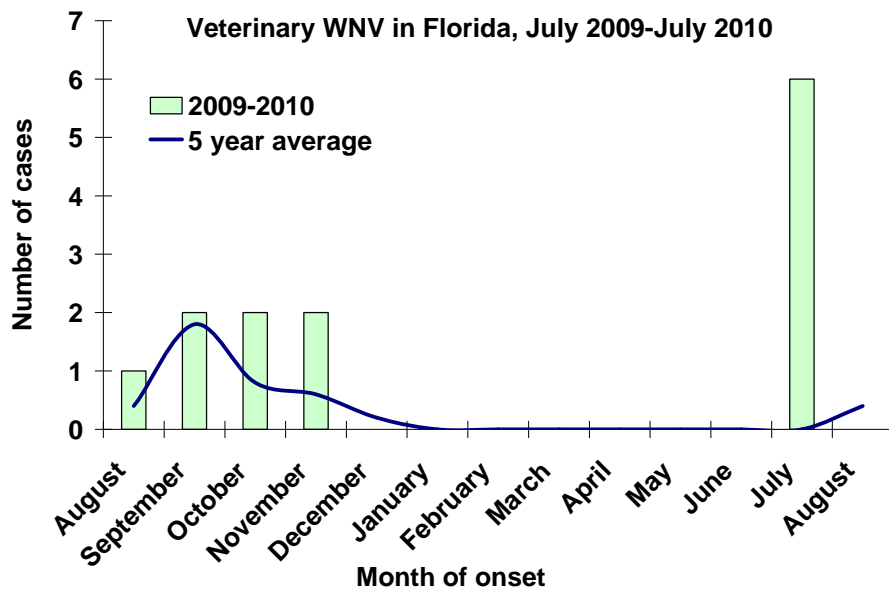
Imported Malaria: Seventy-two imported cases of malaria with onset in 2010 have been reported. Countries of origin were: Angola, Dominican Republic, Ghana (3), Guyana, Haiti (47), Honduras (3), India (2), Ivory Coast, Nigeria (6), Philippines, South Africa, Togo, Uganda, West Africa, Zambia/South Africa, and unknown. Counties reporting cases were: Brevard, Broward (10), Charlotte, Citrus, Collier (4), Duval (2), Escambia (2), Hillsborough (3), Miami-Dade (16), Manatee, Orange (14), Osceola (3), Palm Beach (9), Pinellas, Polk, Seminole, Volusia, and Wakulla.

Veterinary Cases

Two horses in Holmes and Leon counties tested positive for EEE this week. In 2010, six WNV positive horses and 81 EEEV positive horses have been reported.

County	Onset Date	Species	Virus	Status	County YTD
Holmes	08/09/2010	Equine	EEE	Dead	2 EEE
Leon	08/05/2010	Equine	EEE	Euthanized	2 EEE

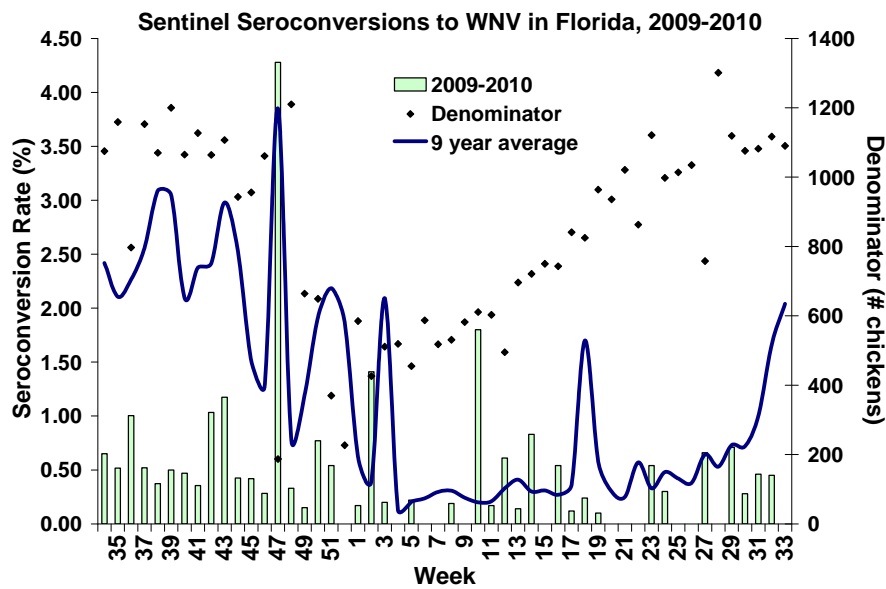
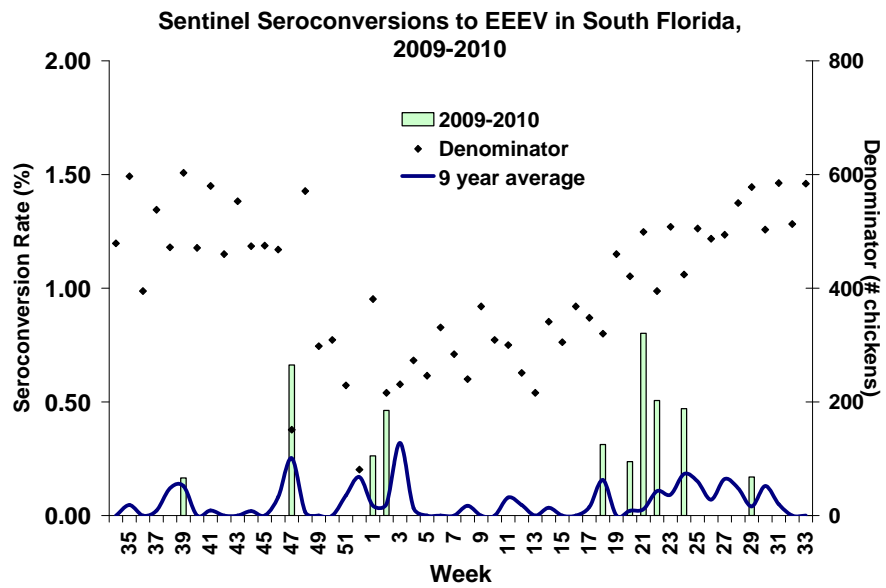
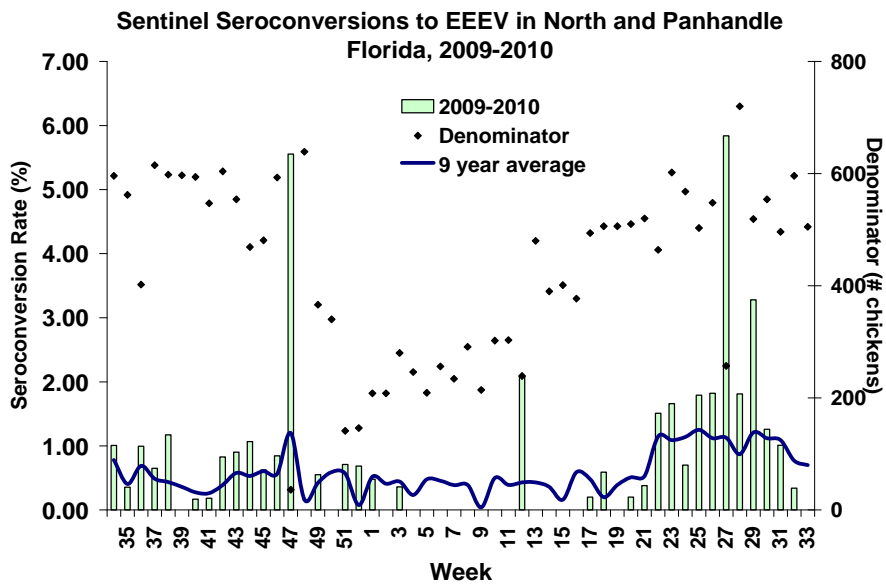




Sentinel Chickens

There were nine seroconversions to EEE in sentinel chickens from Alachua, Flagler, Leon, Volusia, and Walton counties, 12 seroconversions to WNV in Brevard, Indian River, Lee, Orange, Volusia, and Walton counties, and three to HJV in Orange, Seminole, and Walton 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	08/09/2010	9.1	4.5		2 WNV, 1 EEE	3 WNV, 16 EEE, 2 HJV
Lee	08/09/2010	9.1			2 WNV	4 WNV
Orange	08/09/2010	1.2			1 WNV	11 WNV, 21 EEE, 17 HJV
Flagler	08/02/2010	2.0		0.9	2 WNV, 1 HJV	
	08/09/2010		8.3		1 EEE	17 EEE, 2 HJV
	08/02/2010		16.7		2 EEE	
Leon	07/26/2010		18.1		2 EEE	
	08/09/2010		1.3		1 EEE	3 EEE
Brevard	08/04/2010	1.6			1 WNV	3 WNV, 1 EEE
	07/21/2010	1.6			1 WNV	
Walton (North)	08/03/2010		2.9		1 EEE	38 WNV, 18 EEE, 5 HJV
	07/28/2010		4.3		1 EEE	
	07/19-7/22/10	12.1	6.1		4 WNV, 2 EEE	
Alachua	08/02/2010		6.7		1 EEE	3 EEE
Walton (South)	08/02/2010		3.1	3.1	1 EEE, 1 HJV	3 WNV, 14 EEE, 3 HJV
Seminole	07/27/2010			4.2	1 HJV	1 EEE, 1 HJV
Indian River	07/22/2010	1.6			1 WNV	1 WNV



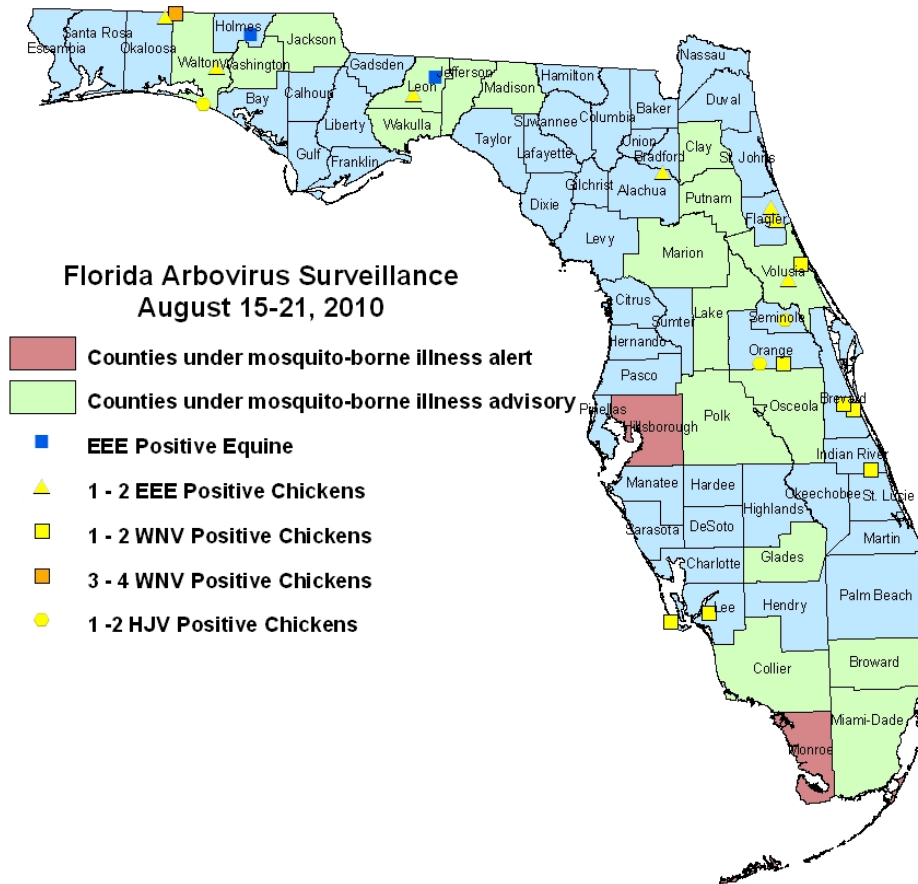
Live Wild Birds

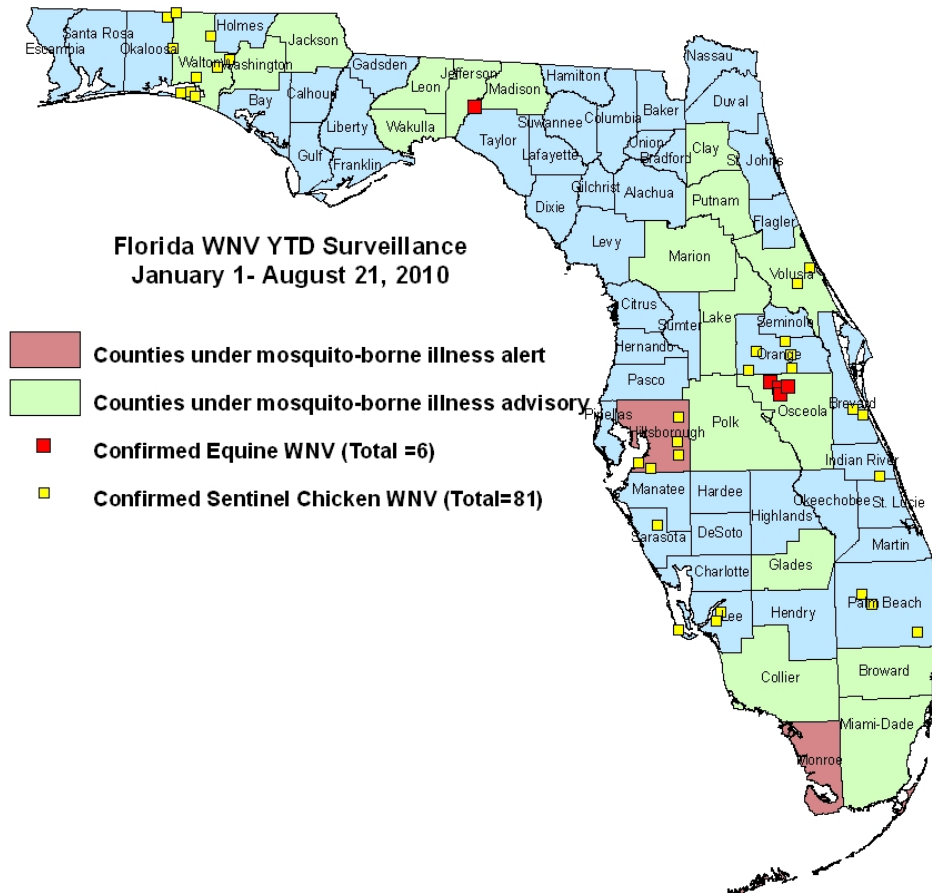
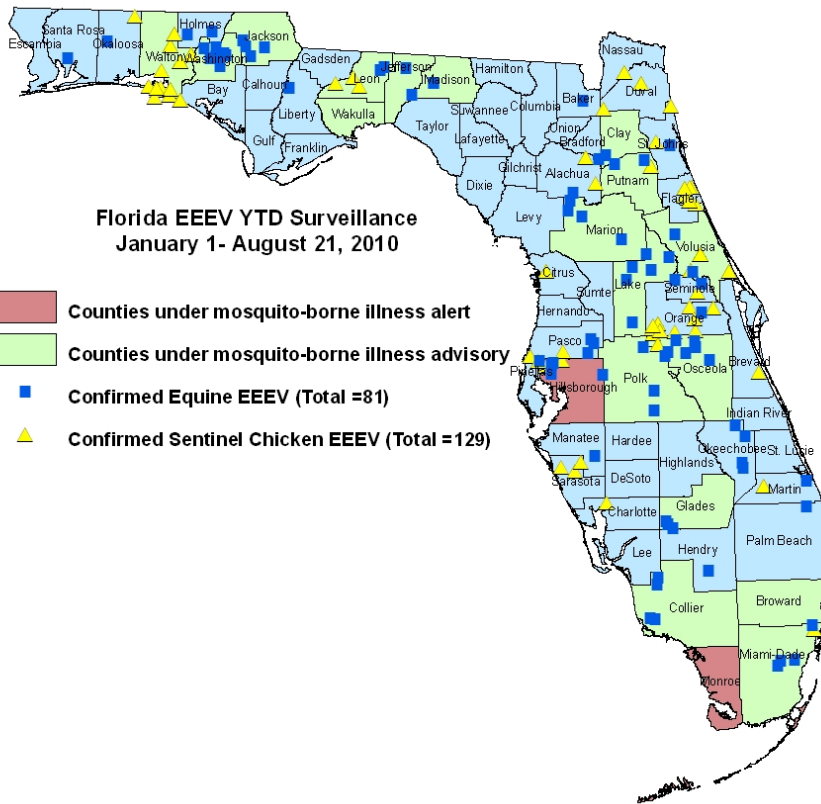
No live wild birds were reported positive this week.

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, seven reports representing 38 dead birds were received from five counties. Four were identified as crows and one as a raptor; none were identified as jays. In 2010, 227 reports representing a total of 724 dead birds (340 crows, 10 jays, 41 raptors, 633 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); 3 sentinels (7/16, 7/19, 8/2)
Baker	EEE: 1 horse (7/26)
Bradford	EEE: 1 horse (6/16)
Brevard	WNV: 3 sentinels (7/7, 7/21, 8/4) EEE: 1 sentinel (6/2)
Broward	DENV: 3 humans (1 acquired in Broward, 2 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 : 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: 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: 2 horses (7/23, 8/9)
Indian River	WNV: 1 sentinel (7/22)
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: 4 sentinels (3/30, 4/20, 8/9)
Leon	DENV: 2 humans (acquired in Key West) EEE: 1 human (July); 2 horses (6/29, 8/5); 3 sentinels (6/1, 6/21, 8/9)
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: 24 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 : 11 sentinels (6/14, 7/6, 7/19, 7/26, 8/2, 8/9) 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: 2 humans (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 : 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) HJV : 2 sentinels (5/12)
Wakulla	EEE: 1 human (July)
Walton	WNV : 41 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) EEE : 32 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); 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.