



Florida Arbovirus Surveillance Week 38: September 19-25, 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 19-25, 2010, the following arboviral activity was recorded in Florida:

DENV activity: No new cases of dengue associated with Key West were reported this week. In 2010, there have been 44 locally-acquired cases in Key West and one in Broward.

EEEV activity: One sentinel chicken in Nassau County tested positive for antibodies to EEEV. In 2010, positive samples from four humans, 91 equines, 150 sentinel chickens, 30 live wild birds, and six mosquito pools have been received from 45 of Florida's 67 counties.

WNV activity: One human case of WNV was reported in Duval County this week. Eight WNV-confirmed positive horses were reported from De Soto, Polk, Hillsborough, Martin, Palm Beach, and Hendry counties. Three sentinel chickens in Palm Beach and Volusia counties tested positive for antibodies to WNV. In 2010, positive samples from seven humans, 15 equines, 180 sentinel chickens, and one live wild bird (flavivirus positive) have been received from 26 counties.

HJV activity: Three sentinel chickens in Volusia and Walton counties tested positive for antibodies to HJV. In 2010, positive samples from 63 sentinel chickens have been received from 13 counties.

Advisories/Alerts: Duval, De Soto, and Hendry counties issued mosquito-borne illness advisories this week. Monroe, Hillsborough, Orange and Collier counties are also under mosquito-borne illness alerts and Walton, Volusia, Clay, Osceola, Miami-Dade, Glades, Polk, Lake, Jackson, Washington, Jefferson, Wakulla, Leon, Madison, Broward, Marion, Putnam, Palm Beach, 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: Seven human cases of WNV have been reported in 2010 in Osceola, Orange (2), Collier (2), Broward, and Duval counties with onset in July (2), August (4), and September.

Dengue Acquired in Florida: In 2010, one case of dengue has been reported as acquired in Broward County and 44 cases of dengue have been reported as acquired in Key West (Monroe County). Of the Key West cases, 35 are Key West residents, eight are residents of other

Florida counties, and one resides out of state. Onset dates ranged from March 17 to September 6, 2010.

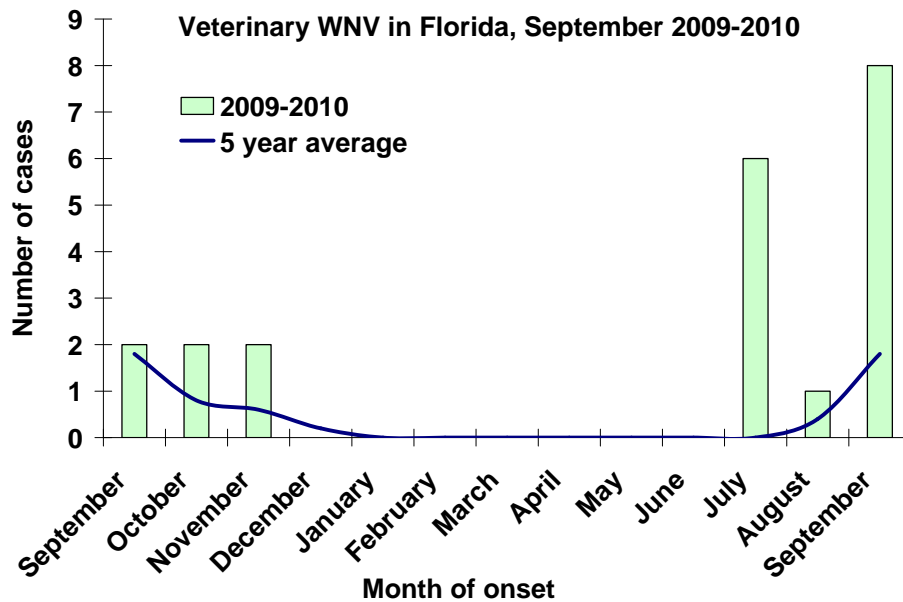
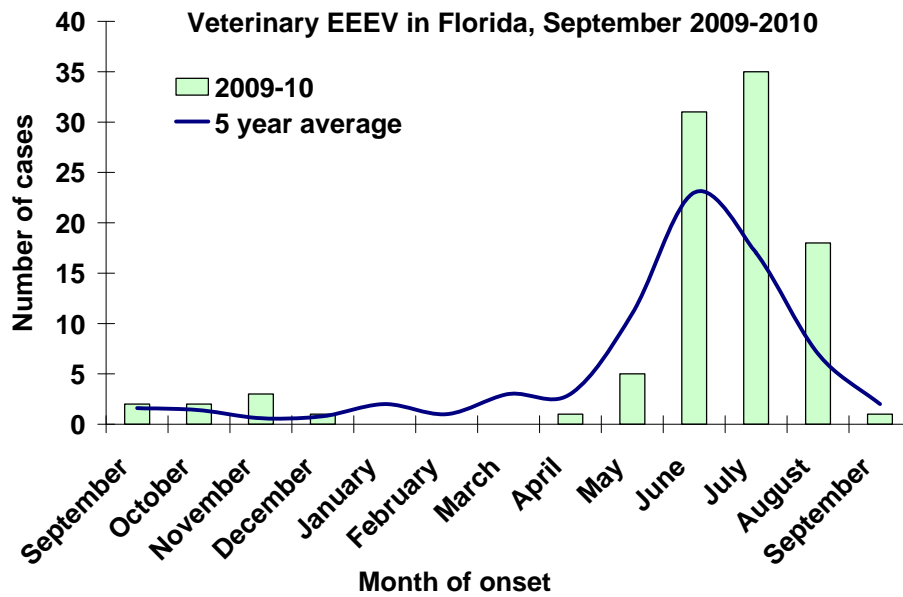
Imported Dengue: One hundred and one cases of dengue with onset in 2010 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were: Brazil, Colombia (8), Costa Rica (4), Dominican Republic (12), Ecuador, El Salvador, Grenada (3), Guatemala (2), Haiti (5), Honduras (6), Jamaica (4), Martinique, Nicaragua (4), Philippines, Puerto Rico (32), Venezuela (12), Virgin Islands (2), Malaysia/Dubai/Bangladesh, and Panama/Venezuela (slash indicates travel to more than one country). Counties reporting cases were Alachua (2), Broward (17), Collier (2), Duval (2), Escambia, Flagler, Hendry, Hillsborough (7), Lake, Lee, Marion, Miami-Dade (32), Monroe, Orange (9), Osceola (4), Palm Beach (8), Pasco, Pinellas, Polk, Seminole (3), St. Lucie (2), and Volusia (3).

Imported Malaria: Eighty-eight imported cases of malaria with onset in 2010 have been reported. Countries of origin were: Angola, Dominican Republic, Ghana (4), Guyana, Haiti (52), Honduras (3), India (7), Ivory Coast, Malawi (2), Nigeria (7), Philippines, South Africa, Togo, Uganda, West Africa, Zambia/South Africa, Africa, and unknown (2). Counties reporting cases were: Brevard (2), Broward (13), Charlotte, Citrus, Collier (4), Duval (4), Escambia (3), Hillsborough (4), Lake, Leon, Miami-Dade (16), Manatee (2), Orange (15), Osceola (3), Palm Beach (11), Pasco, Pinellas, Polk, Seminole, St. Lucie, Volusia, and Wakulla.

Veterinary Cases

Eight horses in De Soto, Polk, Hillsborough, Martin, Palm Beach, and Hendry counties tested positive for WNV. In 2010, 15 WNV positive horses and 91 EEEV positive horses have been reported.

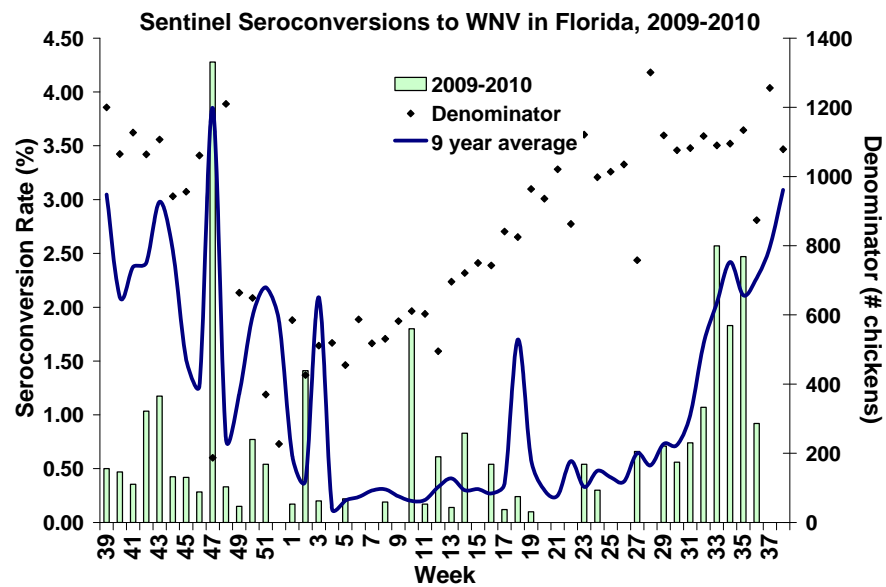
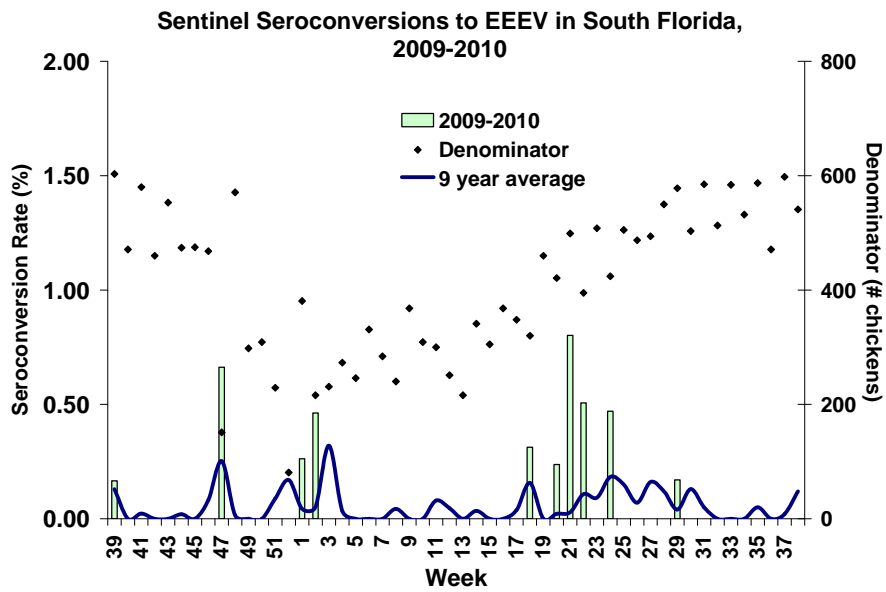
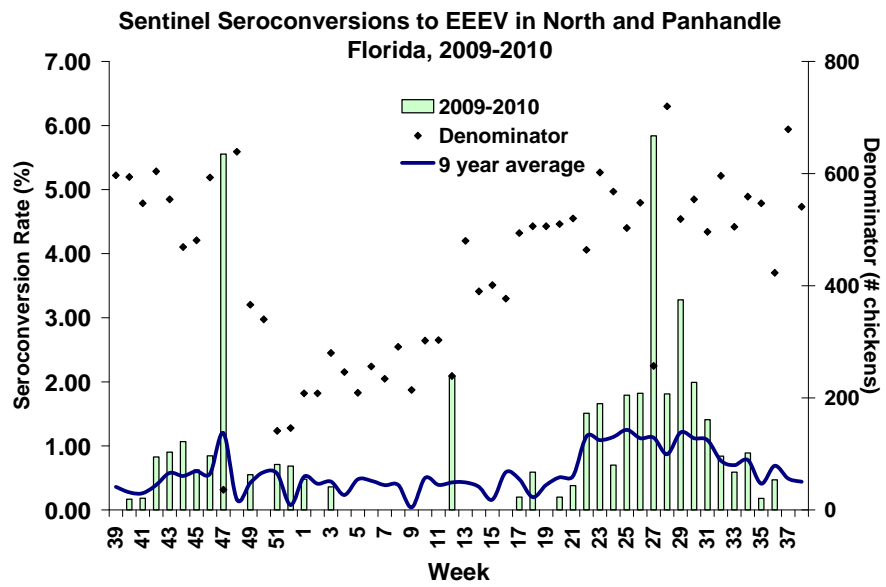
County	Onset Date	Species	Virus	Status	County YTD
Hendry	09/15/2010	Equine	WNV	Alive	1 WNV, 1 EEE
Martin	09/11/2010	Equine	WNV	Alive	1 WNV, 1 EEE
De Soto	09/10/2010	Equine	WNV	Alive	2 WNV, 1 EEE
	09/06/2010	Equine	WNV	Euthanized	
Polk	09/10/2010	Equine	WNV	Euthanized	2 WNV, 4 EEE
	09/01/2010	Equine	WNV	Euthanized	
Palm Beach	09/09/2010	Equine	WNV	Euthanized	1 WNV, 2 EEE
Hillsborough	09/03/2010	Equine	WNV	Dead	1 WNV, 5 EEE



Sentinel Chickens

There was one seroconversion to EEE in a sentinel chicken from Nassau County, three to WNV in Palm Beach and Volusia counties, and three to HJV in Volusia and Walton counties this week. Seroconversion rates are calculated by week and include previously reported results.

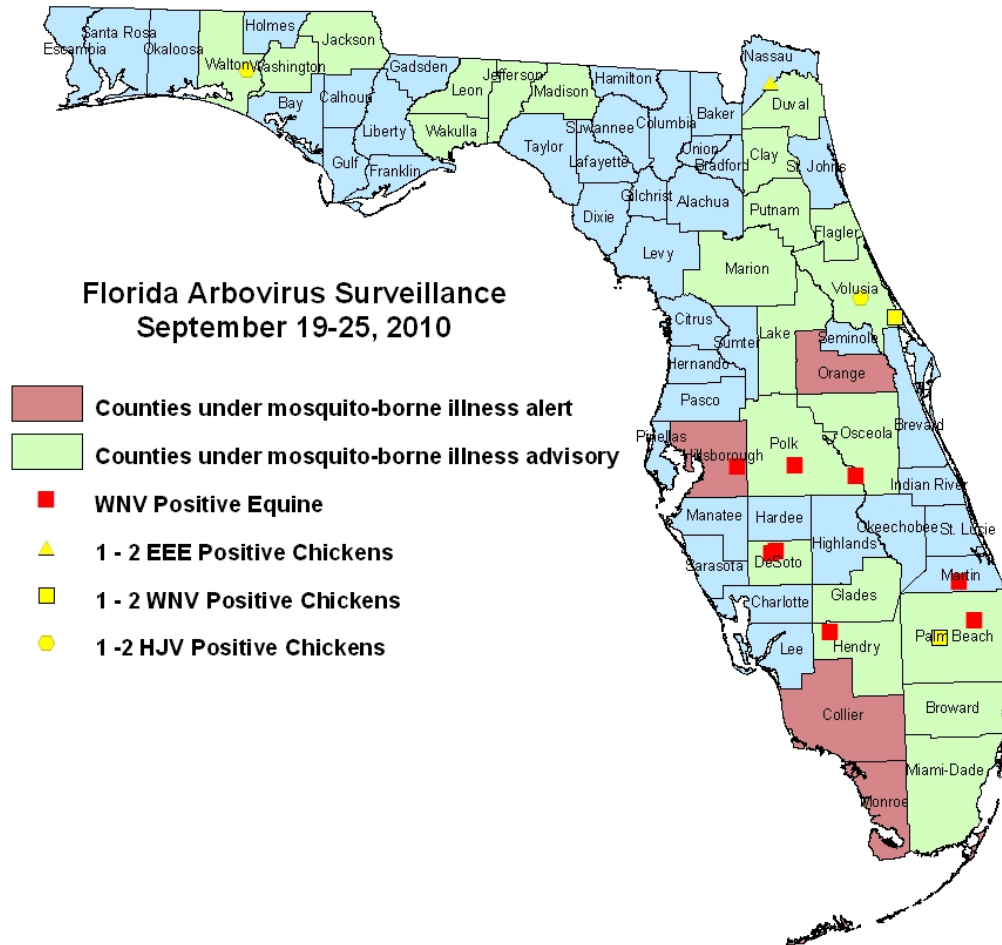
County	Collection Date	Seroconversion Rates (%)			County Totals	
		WNV	EEEV	HJV	Week	YTD
Volusia	09/07/2010	8.7		4.0	2 WNV, 1 HJV	9 WNV, 16 EEE, 3 HJV
	08/30/2010	4.8			1 WNV	
Walton (North)	09/02/2010			6.7	2 HJV	46 WNV, 27 EEE, 7 HJV
Nassau	08/31/2010		3.0		1 EEE	1 WNV, 6 EEE, 8 HJV
	08/30/2010	4.8			3 WNV	
Palm Beach	08/30/2010	21.7			5 WNV	21 WNV
	08/17/2010					

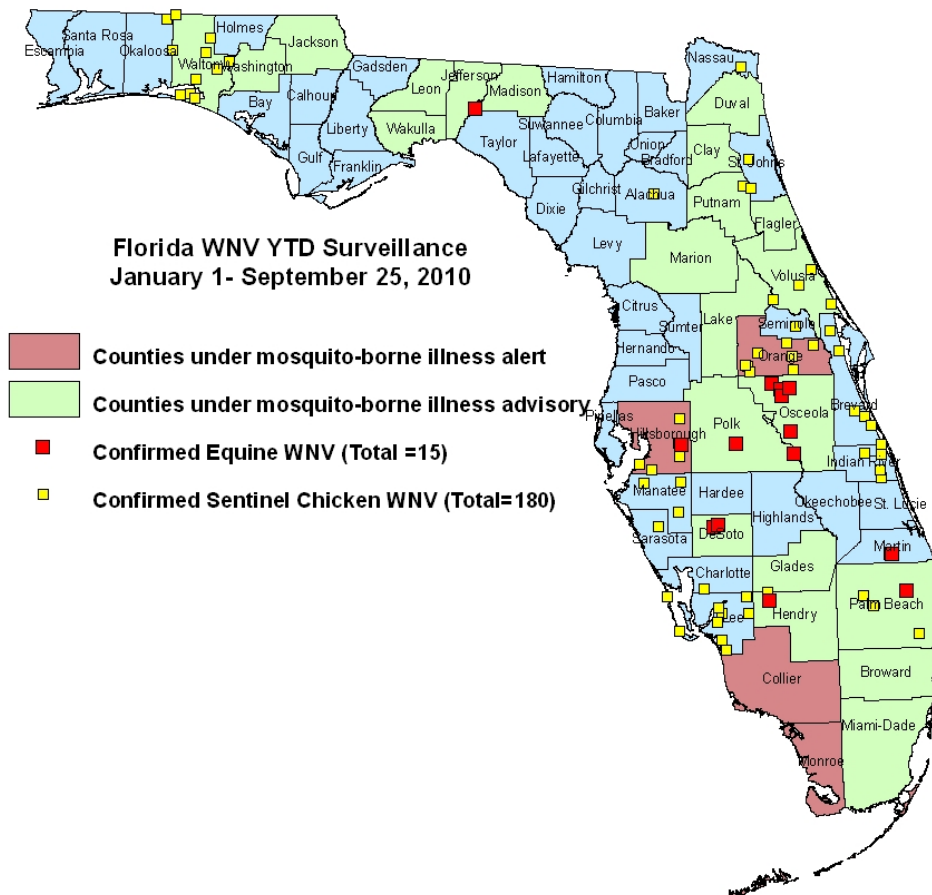
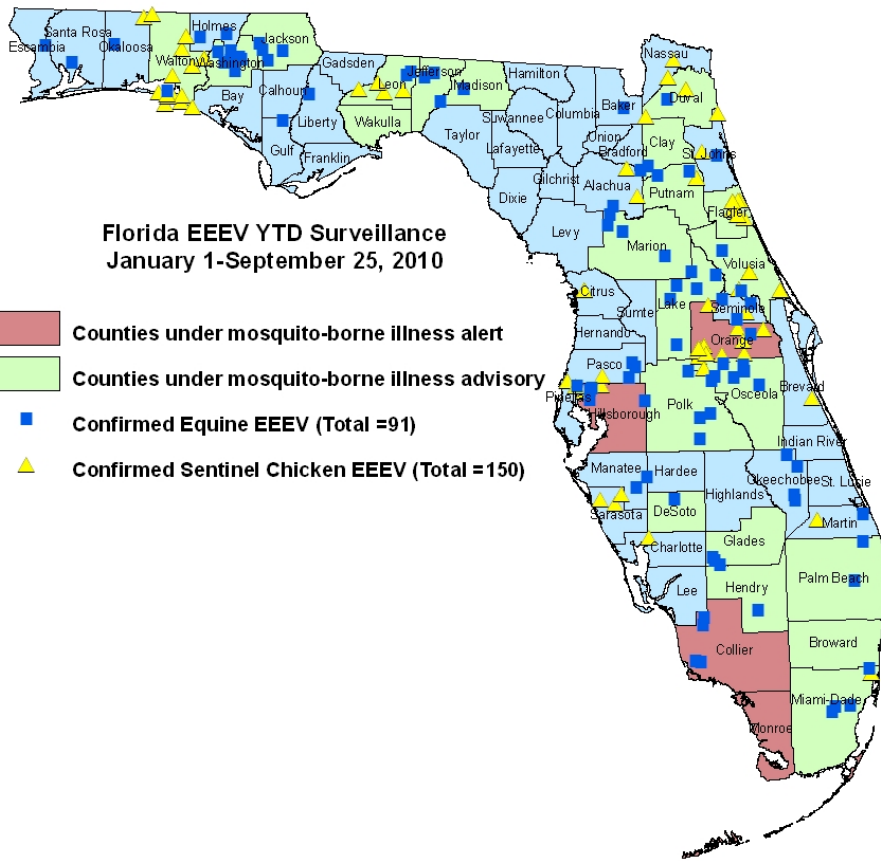


Dead Birds

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 26 dead birds were received from five counties. Two were identified as jays; none were identified as crows or raptors. In 2010, 262 reports representing a total of 834 dead birds (46 crows, 12 jays, 44 raptors, 732 others) have been reported from 45 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	WNV: 2 sentinels (8/2, 8/16) 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: 16 sentinels (7/7, 7/21, 8/4, 8/11, 8/18, 8/20, 9/1, 9/3) EEE: 1 sentinel (6/2)
Broward	DENV: 3 humans (1 acquired in Broward, 2 acquired in Key West) WNV: 1 human (August)
Charlotte	WNV: 1 setinel (8/27)
Citrus	EEE: 5 sentinels (5/24, 6/7, 6/28, 7/12, 7/19) HJV: 3 sentinels (5/17, 5/24, 8/9)
Clay	EEE: 1 horse (6/16)
Collier	WNV: 2 humans (August) EEE: 4 horses (6/9, 6/22, 6/29, 7/9)
De Soto	WNV: 2 horses (9/6, 9/10) EEE: 1 horse (8/23)
Duval	WNV: 1 human (September) EEE: 1 horse (8/18); 5 sentinels (6/21, 7/8, 7/21)
Escambia	EEE: 1 horse (8/16)
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: 3 sentinels (6/14, 6/28, 8/16)
Glades	EEE : 3 horses (6/20, 6/24, 7/26)
Gulf	EEE : 1 horse (9/5)
Hardee	EEE : 1 horse (8/22)
Hendry	WNV : 1 horse (9/15) ; 5 sentinels (8/18, 8/31) EEE : 1 horse (7/21)
Hillsborough	WNV : 1 horse (9/3) ; 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: 8 sentinels (7/22, 8/12, 8/19, 9/2)
Jackson	EEE: 4 horses (6/14, 6/28, 7/10, 8/1)
Jefferson	WNV: 1 horse (7/4) EEE: 3 horses (7/20, 8/1, 8/25)
Lake	EEE: 6 horses (5/20, 6/29, 7/4, 7/9, 7/15, 7/17)
Lee	WNV: 15 sentinels (3/30, 4/20, 8/2, 8/9, 8/16, 8/24, 8/30)
Leon	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: 2 sentinels (8/16, 8/23)
Liberty	EEE: 1 horse (7/11)
Madison	EEE: 2 horses (6/21, 7/3)
Manatee	WNV: 3 sentinels (8/30, 9/7) EEE: 1 horse (7/21)
Marion	EEE: 4 horses (5/7, 7/22, 8/3)
Martin	WNV: 1 horse (9/11); 2 sentinels (8/13, 8/27) EEE: 1 horse (8/4); 2 sentinels (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: 35 humans (acquired in Key West)
Nassau	WNV: 1 sentinel (9/6) EEE: 6 sentinels (6/28, 7/13, 7/19, 8/9, 8/16, 8/31) HJV: 8 sentinels (6/28, 7/13, 7/19, 7/26, 8/16, 8/23)
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 : 2 humans (1 July, 1 August) ; 23 sentinels (6/14, 7/6, 7/19, 7/26, 8/2, 8/16, 8/23, 8/30) EEE : 1 horse (7/16); 22 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, 9/7) HJV : 22 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, 8/19)

Osceola	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)
Palm Beach	WNV: 1 horse (9/9); 21 sentinels (3/15, 8/2, 8/9, 8/17, 8/23, 8/30, 9/7) EEE: 2 horses (6/22, 8/31)
Pasco	EEE: 3 horses (6/11, 7/16, 8/7); 3 sentinels (7/6, 7/12) HJV: 3 sentinels (6/28, 7/6, 8/16)
Pinellas	DENV: 1 human (acquired in Key West) EEE: 3 sentinels (5/24, 7/19) HJV: 2 sentinels (4/26, 7/6)
Polk	WNV: 2 horses (9/1, 9/10) EEE: 4 horses (4/28, 6/25, 6/28, 8/19)
Putnam	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)
St. Johns	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)
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) WNV: 1 sentinel (1/8) EEE: 3 sentinels (1/5, 1/11, 6/1)
Seminole	WNV : 1 sentinel (9/2) EEE : 3 horses (6/26, 7/15, 8/14) ; 1 sentinel (7/2) HJV : 1 sentinel (7/27)
Volusia	WNV : 9 sentinels (7/19, 8/9, 8/16, 8/30, 9/7) 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 : 3 sentinels (5/17, 7/12, 9/7)
Wakulla	EEE: 1 human (July)
Walton	WNV : 49 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, 8/12, 8/19, 8/20) EEE : 1 horse (8/5); 45 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, 8/27, 9/7); 6 live wild birds (5 cardinals 6/24, 7/16, 7/22, 1 blue jay 6/24) HJV : 10 sentinels (3/22, 5/17, 6/23, 7/19, 8/2, 9/2)
Washington	EEE : 7 horses (6/17, 6/22, 6/25, 6/28, 7/4, 7/16, 7/20)

Acknowledgements and Data Sources

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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.