



Florida Arbovirus Surveillance Week 42: October 14- 20, 2012

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 of October 14-20 2012, the following arboviral activity was recorded in Florida:

DENV activity: No new cases of locally acquired dengue were reported this week. One human case of locally acquired dengue was reported in September in Miami-Dade County. This was the first locally acquired case reported in 2012.

EEEV activity: Nine sentinel chickens in Alachua, Citrus, Nassau, Orange, Putnam, and St. Johns counties tested positive for antibodies to EEEV. Two horse cases of EEEV infection was reported in Leon and Wakulla counties. In 2012, positive samples from 1 human, 25 equines, and 67 sentinel chickens have been received from 26 counties.

WNV activity: Two human cases of WNV infection were reported in Duval and Escambia counties. Seventeen sentinel chickens in Alachua, Flagler, Lee, Manatee, Putnam, St. Johns, St. Lucie, and Walton counties tested positive for antibodies to WNV. One horse case of WNV infection was reported in Santa Rosa County. In 2012, positive samples from 54 humans, 7 horses, 360 sentinel chickens, 4 mosquito pools, and 1 bird have been received from 34 counties.

SLEV activity: Three sentinel chicken in Lee and Martin Counties tested positive for antibodies to SLEV. In 2012, positive samples from 41 sentinel chickens, 1 mosquito pool, and 1 bird have been received from 11 counties

HJV activity: Three sentinel chicken in Leon, Nassau, and Walton Counties tested positive for antibodies to HJV. In 2012, positive samples from 25 sentinel chickens have been received from 9 counties.

Advisories/Alerts: Duval, Escambia, Okaloosa, Santa Rosa, and Walton counties are currently under mosquito-borne illness alerts. Alachua, Bay, Gadsden, Hillsborough, Holmes, Indian River, Jackson, Jefferson, Leon, Miami-Dade, Orange, St. Johns, and Washington counties are under mosquito-borne illness advisories. No other counties are currently under mosquito-borne illness advisory or alert.

Year to Date Human Case Summary*

EEEV Infection Acquired in Florida: One human case of EEEV infection with onset in June was reported in 2012 in a Holmes County resident who spent time in Washington County.

WNV Infection Acquired in Florida: Fifty-four human cases of WNV infection were acquired in Florida in 2012. Twenty-six with onset in June (4), July (7), August (11), September (3), and October were reported in Duval County, three of which were presumptive positive blood donors who developed symptoms. Fourteen with onset in July (2), August (7), and September (5), and a presumptive positive blood donor were reported in Escambia County. Three with onset in August (2) and September were reported in Santa Rosa County. Two with onset in August and one in

September were reported in Okaloosa County and two with onset in September in Walton County. One case with onset in August was reported in Hillsborough, Gadsden, and Leon counties (latter spent time in Jefferson County), and one with onset in September was reported in Bay, Jackson, and Washington counties. Three Florida residents in Broward, Manatee, and Volusia counties obtained WNV infection in the U.S. outside Florida. Two human cases of WNV infection in non-Florida residents who traveled to Florida were acquired in Oklahoma and South Carolina.

Dengue Infection Acquired in Florida: One human case of dengue with onset in September was reported in 2012 in a Miami-Dade County resident.

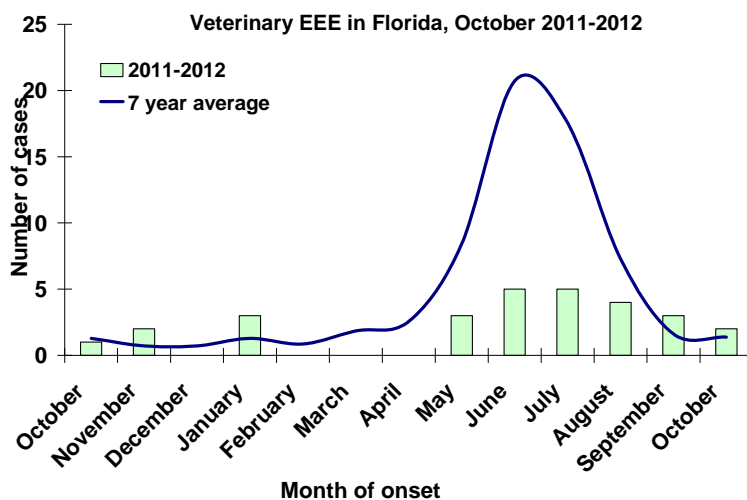
Imported Dengue: Eighty-seven cases of dengue with onset in 2012 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Brazil, Colombia, Cuba (21), Dominican Republic (8), Ecuador (4), El Salvador (2), Ghana, Guyana (2), Haiti (12), Honduras, Jamaica (16), Mexico (2), Nicaragua, Panama, Philippines, Puerto Rico (5), South Africa, Sri Lanka, St. Vincent, Suriname, Trinidad (3), and Turks & Caicos. Counties reporting cases were Brevard (3), Broward (16), Collier, Duval, Hillsborough (3), Lee (2), Marion, Miami-Dade (35), Orange (12), Palm Beach (5), Pinellas (2), Polk, Sarasota (2), Seminole (2), and Volusia. Nine of the cases were reported in non-Florida residents.

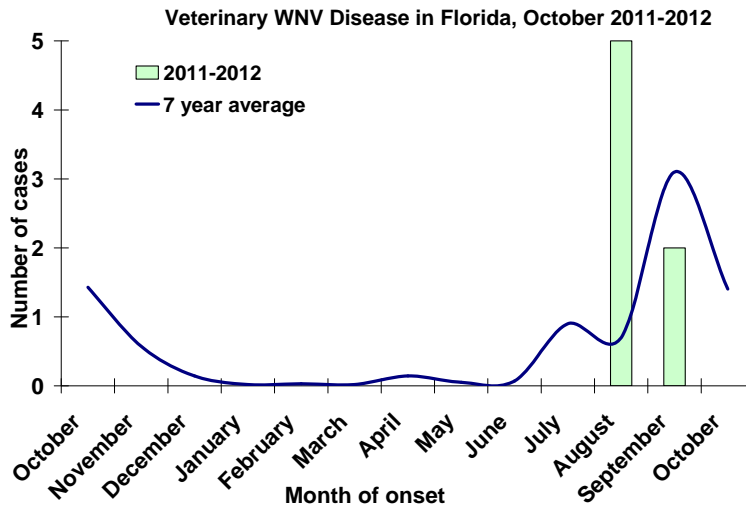
Imported Malaria: Fifty-three imported cases of malaria with onset in 2012 have been reported. Countries of origin were: Afghanistan (2), Cameroon, Central African Republic, Colombia, Costa Rica, Ethiopia, Ghana (5), Guyana (2), Haiti (9), Honduras (3), India, Ivory Coast (3), Kenya, Liberia (2), Nigeria (8), Pakistan, Peru, Sierra Leone (2), South Africa, Sub Saharan Africa, Sudan, Togo, Uganda, Zambia, and multiple African countries (2). Counties reporting cases were: Alachua, Brevard, Broward (8), Charlotte, Duval (6), Hillsborough (6), Lake (2), Leon, Manatee, Marion, Martin, Miami-Dade (7), Orange (5), Osceola (2), Palm Beach (4), Pinellas (3), Polk, Seminole, and Volusia. Five of the cases were reported in non-Florida residents.

Veterinary Cases

3 horses were reported as testing positive for EEEV this week, one in Leon County and one in Wakulla County. One horse was reported as testing positive for WNV in Santa Rosa County.

County	Onset Date	Species	Virus	Status	County YTD
Santa Rosa	8/23/2012	Equine	WNV	Euthanized	2 WNV, 1 EEEV
Leon	10/4/2012	Equine	EEEV	Euthanized	5 EEEV
Wakulla	10/9/2012	Equine	EEEV	Unknown	1 EEEV

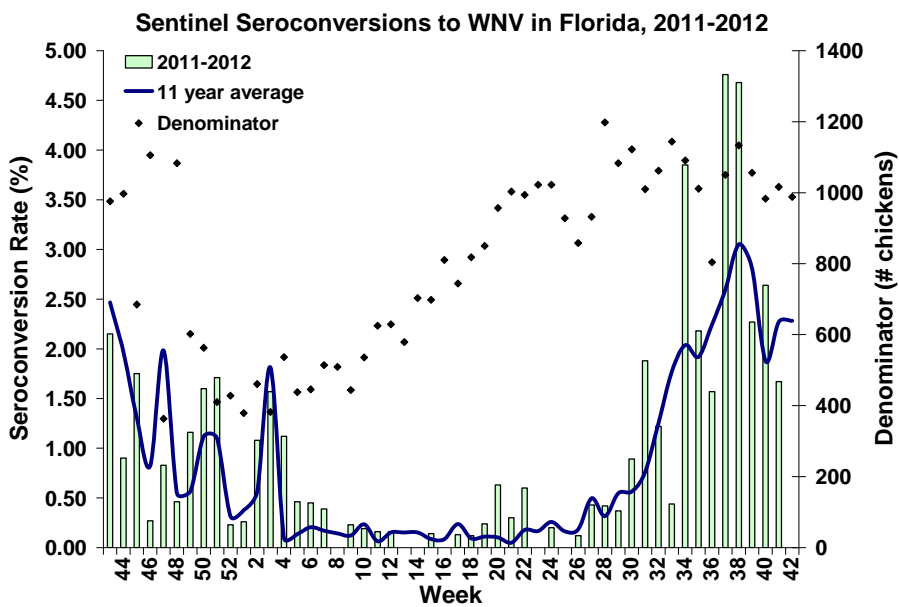
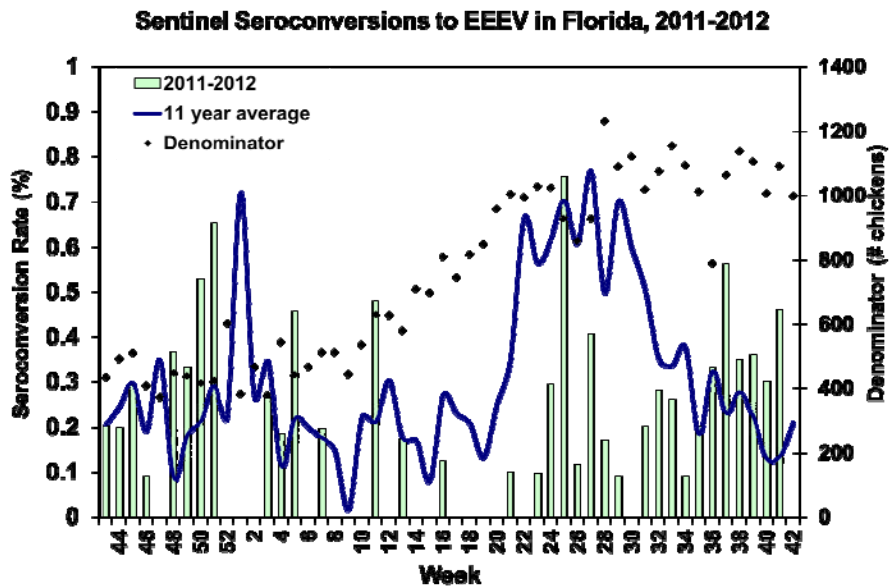




Sentinel Chickens

Nine sentinel chickens in Alachua, Citrus, Nassau, Orange, Putnam, and St. Johns counties tested positive for antibodies to EEEV, seventeen sentinel chickens in Alachua, Flagler, Lee, Manatee, Putnam, St. Johns, St. Lucie, and Walton counties tested positive for antibodies to WNV, three sentinel chicken in Lee and Martin Counties tested positive for antibodies to SLEV, three sentinel chicken in Leon, Nassau, and Walton Counties tested positive for antibodies to HJV. Seroconversion rates are calculated by week and include previously reported results.

County	Collection Date	Seroconversion Rates (%)				Week	County Totals	
		SLEV	WNV	EEEV	HJV		YTD	
Alachua	10/08/12		2.78	2.78		1 EEEV, 1 WNV	4 WNV, 3 EEEV, 1 HJV	
Citrus	10/08/12			1.41		1 EEEV	6 WNV, 2 EEEV, 1 HJV	
Flagler	10/9/12		22.22			2 WNV	4 WNV, 2 EEEV, 2 HJV	
Lee	10/8, 10/9/12	2.90						
Lee	10/9/12		1.45			1 WNV, 2 SLEV	4 WNV, 11 SLEV	
Leon	10/2/12				3.85	6 WNV, 1 HJV	17 WNV, 3 EEEV, 4 HJV	
Manatee	10/10/12		1.54			1 WNV	8 WNV, 3 SLEV, 1 EEEV	
Martin	10/5/12	5.00				1 SLEV	1 WNV, 3 SLEV	
Nassau	9/28/12			6.90	3.45	2 WNV, 2 EEEV, 1 HJV	36 WNV, 8 EEEV, 6 HJV	
Orange	10/1, 10/4/12			1.80		2 EEEV, 3 SLEV		
Orange	10/8/12			0.90		1 EEEV	14 WNV, 20 EEEV, 3 SLEV	
Putnam	10/9/12		41.18	5.00		7 WNV, 1 EEEV	13 WNV, 1 SLEV, 3 EEEV	
St. Johns	10/8/12		5.56	2.17		1 EEEV, 2 WNV	43 WNV, 5 EEEV, 2 HJV	
St. Lucie	10/8/12		4.17			1 WNV	2 WNV	
Walton	10/8/12		2.70			2 WNV		
Walton	10/1/12				1.15	11 WNV, 1 HJV	94 WNV, 14 EEEV, 7 HJV	

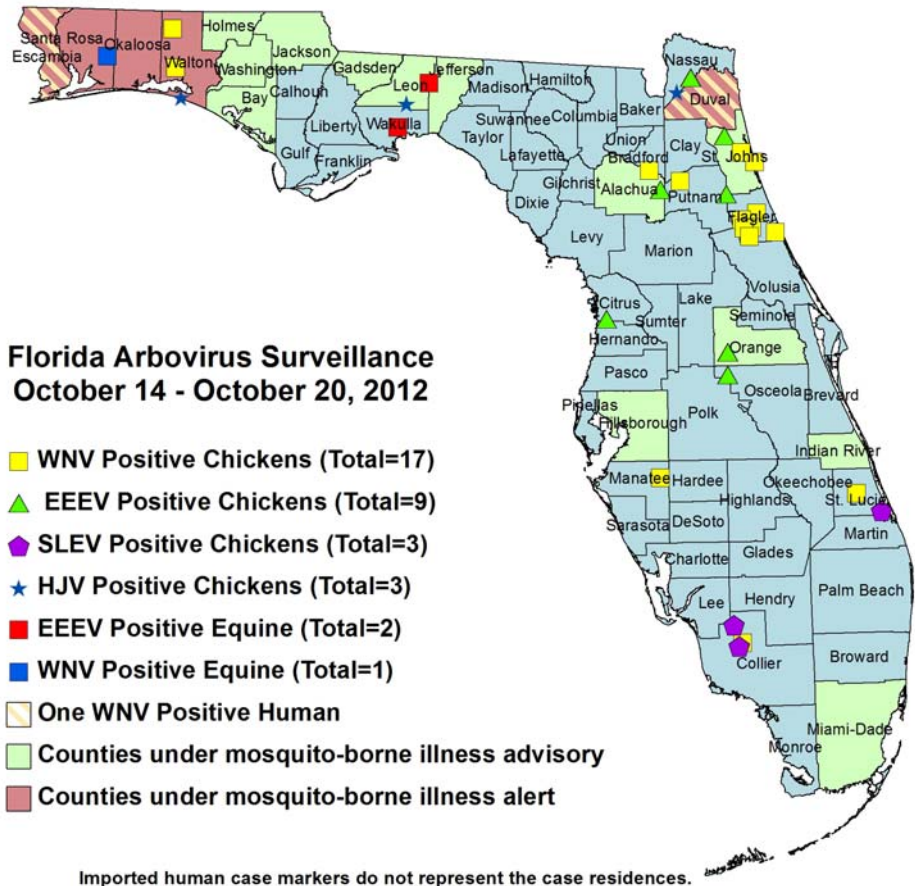


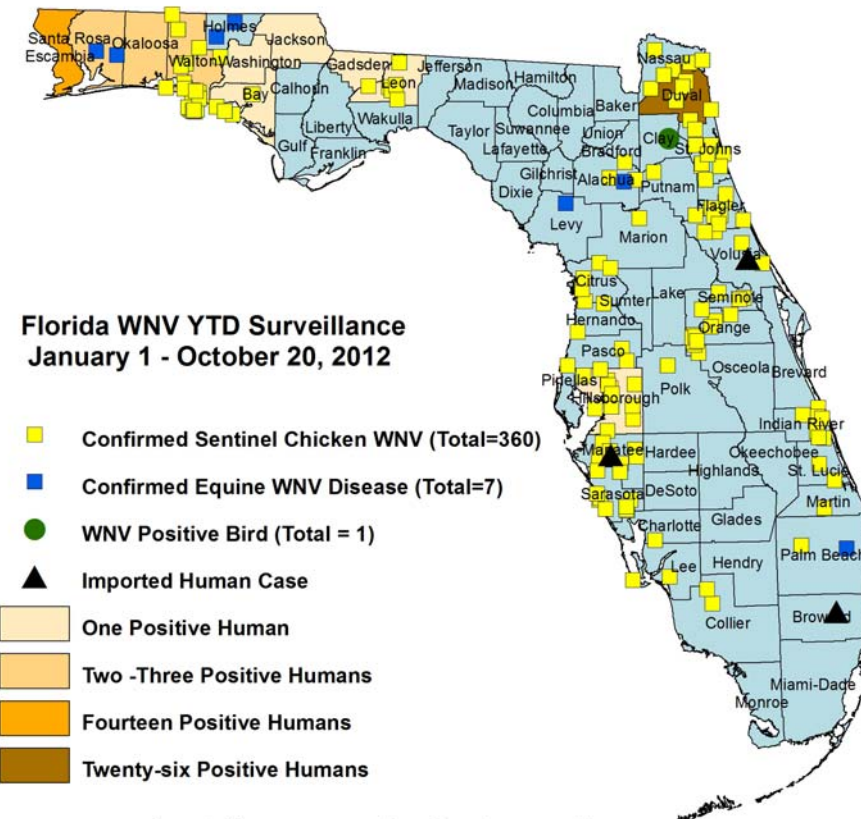
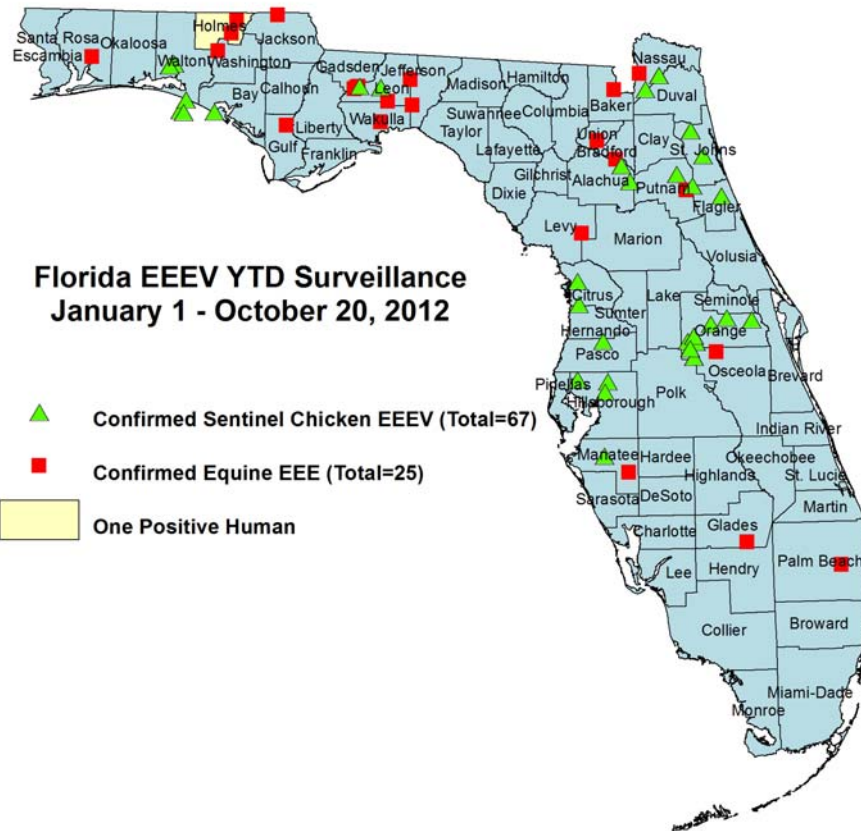
Dead Birds

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, 10 reports representing 23 dead birds were received from 7 counties. Two were identified as raptors. In 2012, 418 reports representing a total of 1215 dead birds (49 crows, 40 jays, 58 raptors) were received from 54 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/

County	Total Dead Birds	Crows	Jays	Raptors
Bay	9	0	0	0
Broward	5	0	0	0
Dade	4	2	0	0
Escambia	2	0	0	0
Hillsborough	1	0	0	0
Leon	1	0	0	0
Polk	1	0	0	0

Maps





Imported human case markers do not represent the case residences.

Arbovirus Activity by County

County	Arbovirus Activity
Alachua	EEEV : 1 horse (7/27) ; 3 sentinel (7/9, 9/18, 10/8) WNV : 1 horse (9/11) ; 4 sentinel (9/17/, 9/18, 10/8) HJV : 1 sentinel (9/18)
Bay	EEEV : 1 sentinel (7/10) WNV : 1 human (september) ; 19 sentinels (7/24, 7/31, 8/7, 8/14, 8/21, 9/4, 9/11, 9/18, 10/2) ; 2 mosquito pools (9/6, 9/11) HJV : 1 sentinel (5/29) SLEV : 1 mosquito pool (10/2)
Baker	EEEV : 1 horse (6/21)
Brevard	SLEV : 1 sentinel (8/29)
Charlotte	WNV : 4 sentinel (9/7, 9/14, 9/28)
Citrus	EEEV : 2 sentinel (1/30, 10/8) WNV: 6 sentinel (5/29, 8/27, 9/17, 9/24) HJV: 1 sentinel (1/3)
Clay	WNV: 1 goose
DeSoto	SLEV: 1 pigeon
Duval	WNV: 26 humans (4 June, 7 July, 11 August, 3 September, October); 23 sentinel (7/30, 8/3, 8/13, 8/20, 8/23, 8/28, 9/10, 9/13, 9/17, 10/1); 2 mosquito pools (8/7, 8/8)
Escambia	WNV: 14 humans (2 July, 7 August, 5 September)
Flagler	EEEV: 2 sentinel (8/6, 9/24) WNV: 4 sentinel (9/4, 10/1, 10/9) HJV: 2 sentinels (7/30, 8/27)
Gadsden	WNV: 1 human (August)
Glades	EEEV: 2 horses (6/25, 7/14)
Gulf	EEEV: 1 horse (8/21)
Hernando	EEEV: 1 sentinel (10/1) WNV: 2 sentinel (1/23, 9/17)
Hillsborough	EEEV : 4 sentinels (2/14, 3/13, 4/17) WNV: 1 human (August); 18 sentinels (1/3, 1/17, 1/24, 1/31, 2/14, 3/6, 6/12, 8/28, 9/18, 9/25) SLEV: 4 sentinels (1/3, 8/28)
Holmes	EEEV : 1 human (June); 2 horses (5/21, 6/25) WNV : 2 horses (8/11, 8/23)
Indian River	WNV: 15 sentinels (5/24, 8/9, 8/30, 9/13, 9/20, 9/27)
Jackson	EEEV: 1 horse (9/9) WNV: 1 human (September)
Jefferson	EEEV: 1 horse (8/6)
Lee	WNV: 4 sentinel (1/24, 9/17, 9/18, 10/9) SLEV: 11 sentinels (3/7, 8/30, 9/4, 9/10, 9/17, 9/18, 10/1, 10/2, 10/8, 10/9)
Leon	EEEV : 5 horses (8/21, 8/30, 9/3, 9/4, 10/4), 3 sentinels (8/13, 8/28, 9/22) WNV : 1 human (August), 17 sentinels (9/17, 9/22, 10/2) HJV : 4 sentinels (8/28, 9/4, 9/11, 10/2)
Levy	EEEV: 2 horses (1/2) WNV : 1 horse (9/3)
Manatee	EEEV: 1 horse (6/14); 1 sentinel (9/11) WNV: 8 sentinels (2/1, 3/14, 5/30, 8/15, 9/19, 9/25, 10/10) SLEV: 3 sentinel (9/19, 9/25, 10/1)
Martin	WNV: 1 sentinel (9/14) SLEV: 3 sentinel (9/28, 10/5)
Miami-Dade	Dengue: 1 human (September)
Nassau	EEEV : 1 horse (7/18) ; 8 sentinels (6/16, 6/23, 9/8, 9/14, 9/28) WNV : 36 sentinels (8/6, 8/25, 8/31, 9/8, 9/10, 9/14, 9/20) HJV : 6 sentinels (7/13, 8/18, 8/31, 9/14, 9/28)
Okaloosa	WNV : 3 humans (2 August, 1 September)

County	Arbovirus Activity
Orange	EEEV : 20 sentinels (1/5, 1/9, 1/19, 1/23, 2/6, 3/15, 3/29, 5/21, 6/14, 7/2, 8/8, 8/13, 8/20, 9/10, 9/27, 10/1, 10/4, 10/8) WNV: 14 sentinels (1/9,1/12, 1/19, 1/25, 3/1, 7/26, 9/13, 9/17, 9/19) SLEV: 3 sentinel (10/1)
Osceola	EEEV : 1 horse (7/25)
Palm Beach	EEEV : 1 horse (6/20) WNV : 1 horse (8/29), 2 sentinel (8/17, 8/27) SLEV : 8 sentinel (7/23, 8/20, 8/27, 9/17)
Pasco	WNV : 2 sentinels (5/29, 9/19)
Polk	WNV : 2 sentinel (9/5, 9/18)
Putnam	EEEV: 1 horse (1/1) ; 3 sentinels (7/20, 8/3, 10/9) WNV : 13 sentinel (9/18, 9/25, 10/9) SLEV : 1 sentinel (10/2)
Santa Rosa	EEEV : 1 horse (5/11) WNV : 3 humans (2 August, 1 September) ; 2 horse (8/23, 8/29)
Sarasota	WNV: 21 sentinels (1/9, 2/6, 3/19, 5/7, 5/14, 7/9, 7/16, 7/27, 8/3, 8/24, 9/14, 9/17, 9/24); 1 of the positives were flavivirus positive (8/31 tallied under WNV) SLEV: 7 sentinel (7/2, 9/7, 10/1) HJV: 1 sentinel (9/7)
Seminole	WNV : 3 sentinels (8/7, 9/25)
St. Johns	EEEV : 5 sentinels (9/2, 9/11, 9/18, 10/8) WNV : 43 sentinels (5/14, 5/22, 5/29, 8/5, 8/20, 8/27, 9/2, 9/11, 9/18, 9/28, 10/8) HJV : 2 sentinels (4/30, 7/3)
St. Lucie	WNV : 2 sentinel (9/14, 10/8)
Union	EEEV : 1 horse (5/12)
Volusia	WNV : 3 sentinels (5/29, 6/25, 9/17)
Wakulla	EEEV : 1 horse (10/9)
Walton	WNV : 2 human (September) ; 94 sentinels (4/9, 4/23, 4/30, 7/2, 7/3, 7/9, 7/10,7/16, 7/23, 7/30, 8/7, 8/13, 8/20, 8/21, 9/6, 9/10, 9/17, 9/18, 9/24, 10/1, 10/8) EEEV : 14 sentinels (6/4, 6/18, 6/25, 7/2, 7/30, 9/6, 9/10) HJV : 7 sentinels (5/14, 6/11, 6/18, 7/16, 7/23, 9/6, 10/1)
Washington	EEEV : 1 horse (7/1) WNV : 1 human (September)

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>

For arbovirus surveillance information for the United States, please see the Centers for Disease Control and Prevention website at:

<http://www.cdc.gov/ncidod/dvbid/westnile/surv&control.htm>

*Case tallies included in the weekly Florida arbovirus surveillance report include confirmed and probable cases for EEE, WNV infection, SLE, dengue, and malaria. In addition, dengue and malaria tallies may also include suspect cases. Case definitions being used in Florida are consistent with national criteria provided by the Council of State and Territorial Epidemiologists (CSTE) and may be viewed at:

http://www.doh.state.fl.us/Disease_ctrl/epi/surv/CaseDefinitions/2012CaseDef_FINAL.pdf

Case tallies reported by CDC do not include suspect cases and cases are reported by patient state of residence rather than where the exposure occurred.

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 provided by the Department of Agriculture and Consumer Services.