



Florida Arbovirus Surveillance Week 39: September 23-29, 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 September 23-29, 2012, the following arboviral activity was recorded in Florida:

DENV activity: One human case of locally acquired dengue was reported this week in Miami-Dade County. This is the first locally acquired case reported in 2012.

EEEV activity: Five sentinel chickens in Nassau and St. Johns counties tested positive for antibodies to EEEV. In 2012, positive samples from 1 human, 22 equines, and 53 sentinel chickens have been received from 23 counties.

WNV activity: Two human cases of WNV infection were reported in Escambia (2) county. Sixty-four sentinel chickens in Alachua, Bay, Charlotte, Citrus, Duval, Hernando, Hillsborough, Indian River, Lee, Leon, Manatee, Martin, Nassau, Orange, Palm Beach, Pasco, Polk, Putnam, Sarasota, St. Johns, St. Lucie, Volusia, and Walton counties tested positive for antibodies to WNV. In 2012, positive samples from 45 humans, 6 horses, 258 sentinel chickens, 4 mosquito pools, and 1 bird have been received from 33 counties.

SLEV activity: 8 sentinel chicken in Brevard, Lee, Manatee, and Palm Beach Counties tested positive for antibodies to SLEV. In 2012, positive samples from 16 sentinel chickens and 1 bird have been received from 7 counties

HJV activity: Three sentinel chickens in Leon, Sarasota, and Walton counties tested positive for antibodies to HJV. In 2012, positive samples from 20 sentinel chickens have been received from 8 counties.

Advisories/Alerts: Duval, Escambia, Okaloosa, and Santa Rosa counties are currently under mosquito-borne illness alerts. Alachua, Bay, Gadsden, Hillsborough, Holmes, Indian River, Jefferson, Leon, Miami-Dade, St. Johns, Walton, 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: Forty-five human cases of WNV infection were acquired in Florida in 2012. Twenty-three with onset in June (4), July (7), August (11), and September were reported in Duval County, three of which were presumptive positive blood donors who developed symptoms. Twelve with onset in July (2), August (6), and September (4) 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, and two with onset in August were reported in Okaloosa 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 Walton 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.

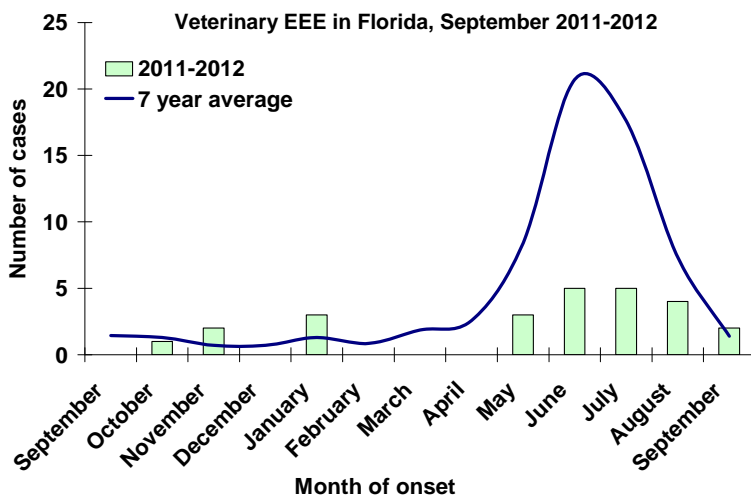
Dengue Infection Acquired in Florida: One human case of dengue with onset in September was reported in 2012 in a Miami-Dade County resident.

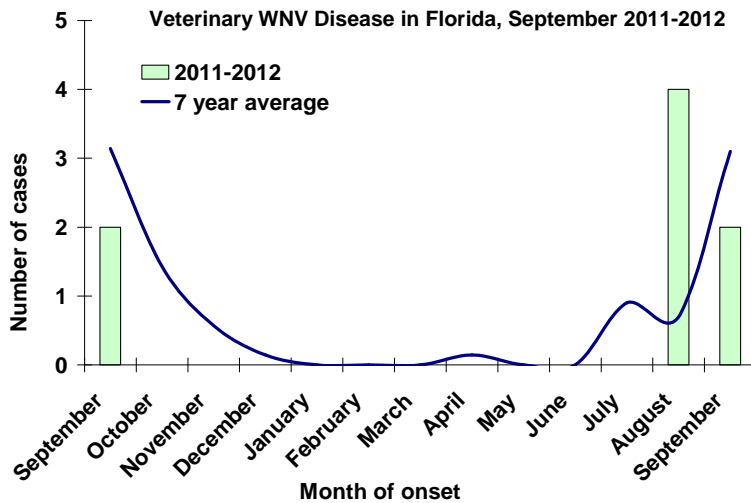
Imported Dengue: Sixty-nine cases of dengue with onset in 2012 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Brazil, Colombia, Cuba (15), Dominican Republic (7), Ecuador (4), El Salvador (2), Ghana, Guyana, Haiti (10), Jamaica (15), Mexico, Panama, Puerto Rico (4), South Africa, Sri Lanka, Suriname, Trinidad (2), and Turks & Caicos. Counties reporting cases were Brevard (2), Broward (14), Collier, Duval, Hillsborough (2), Lee (2), Marion, Miami-Dade (26), Orange (8), Palm Beach (4), Pinellas (2), Polk, Sarasota (2), Seminole (2), and Volusia. Eight of the cases were reported in non-Florida residents.

Imported Malaria: Fifty-Two 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 (8), 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 (4), Osceola (2), Palm Beach (4), Pinellas (3), Polk, Seminole, and Volusia. Five of the cases were reported in non-Florida residents.

Veterinary Cases

No positive horses were reported this week.





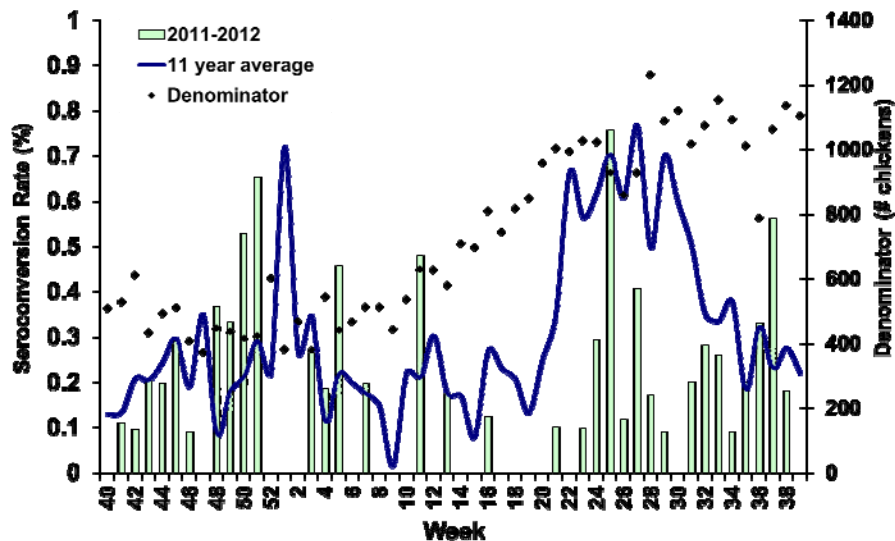
Sentinel Chickens

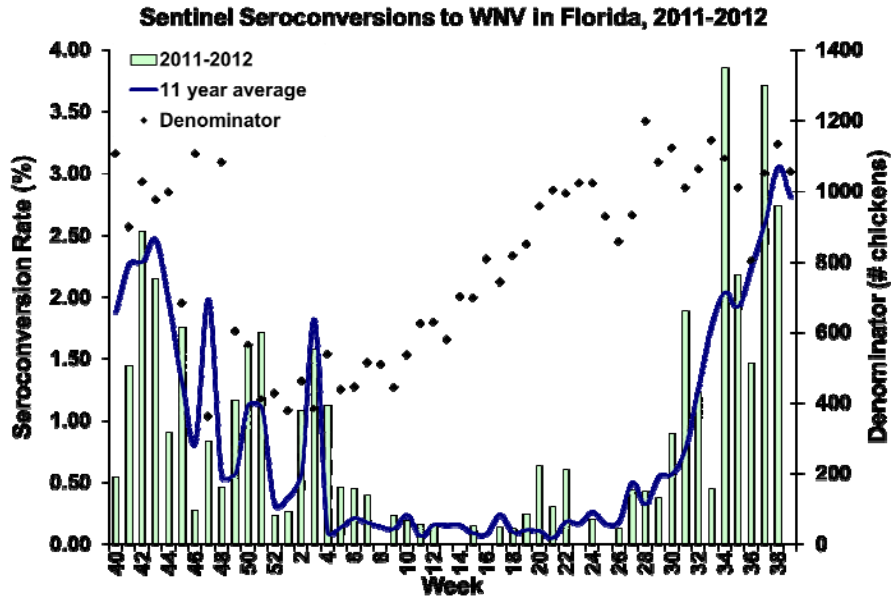
Five sentinels in Nassau and St. Johns counties tested positive for antibodies to EEEV, Sixty-four in Alachua, Bay, Charlotte, Citrus, Duval, Hernando, Hillsborough, Indian River, Lee, Leon, Manatee, Martin, Nassau, Orange, Palm Beach, Pasco, Polk, Putnam, Sarasota, St. Johns, St. Lucie, Volusia, and Walton counties tested positive for antibodies to WNV, Eight in Brevard, Lee, Manatee, and Palm Beach Counties tested positive for antibodies to SLEV, and Three in Leon, Sarasota, 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 YTD
		SLEV	WNV	EEEV	HJV		
Alachua	9/17, 9/18/12		10.71			3 WNV	3 WNV, 1 EEEV
Bay	9/18/2012		7.14			1 WNV	15 WNV, 1 EEEV, 1 HJV
Brevard	8/29/2012	1.85				1 SLEV	1 SLEV
Charlotte	9/14/2012		4.17			1 WNV	2 WNV
Citrus	9/17/2012		2.78			2 WNV	5 WNV, 1 EEEV, 1 HJV
Duval	9/13/2012		13.04			3 WNV	
Duval	9/17/2012		16.67			2 WNV	22 WNV
Hernando	9/17/2012		5.00			1 WNV	2 WNV
Hillsborough	9/18/2012		1.25			1 WNV	17 WNV, 4 EEEV, 4 SLEV
Indian River	9/13/2012		17.39			8 WNV	12 WNV
Lee	9/17,9/18/12	1.54	3.08			2 WNV, 1 SLEV	
Lee	9/4/2012	2.60				2 SLEV	3 WNV, 4 SLEV
Leon	9/17/2012		7.14			2 WNV	
Leon	9/11/2012				2.44	1 HJV	3 WNV, 2 EEEV, 3 HJV
Manatee	9/19/2012	1.35	2.70			2 WNV, 1 SLEV	6 WNV, 1 EEEV, 1 SLEV
Martin	9/14/2012		4.76			1 WNV	1 WNV
Nassau	9/10, 9/14/2012		14.71	5.56		5 WNV, 2 EEEV	

County	Collection Date	Seroconversion Rates (%)				Week	County Totals YTD
		SLEV	WNV	EEEV	HJV		
Nassau	9/8/2012		10.53	2.94		2 WNV, 1 EEEV	26 WNV, 6 EEEV, 4 HJV
Orange	9/10, 9/13/2012		0.91	0.91		1 WNV, 1 EEEV	
Orange	9/17/2012		1.77			2 WNV	13 WNV, 16 EEEV
Palm Beach	8/20/2012	3.57				1 SLEV	
Palm Beach	8/27/2012	5.56	2.78			1 WNV, 2 SLEV	
Palm Beach	9/17/2012	3.33	3.33			1 WNV, 1 SLEV	2 WNV, 5 SLEV
Pasco	9/19/2012		5.56			1 WNV	2 WNV
Polk	9/5/2012		12.50			1 WNV	1 WNV
Putnam	9/18/2012		8.33			1 WNV	1 WNV, 2 EEEV
Sarasota	8/31/2012		1.32			1 Flavivirus	
Sarasota	9/7/2012				1.33	1 HJV	
Sarasota	9/14/2012		4.11			3 WNV	
Sarasota	9/17/2012		1.49			1 WNV	19 WNV, 1 SLEV, 1 HJV, 1 Flavivirus
St. Johns	9/18/2012		4.65	4.35		2 WNV, 2 EEEV	31 WNV, 4 EEEV, 2 HJV
St. Lucie	9/14/2012		4.17			1 WNV	1 WNV
Volusia	9/17/2012		3.57			1 WNV	3 WNV
Walton	9/6/2012		3.57	1.79	1.79	2 WNV, 1 EEEV, 1 HJV	
Walton	9/10/2012		17.86	1.79		10 WNV, 1 EEEV	
Walton	9/17, 9/18/2012		4.44			6 WNV	65 WNV, 14 EEEV, 6 HJV

Sentinel Seroconversions to EEEV in Florida, 2011-2012



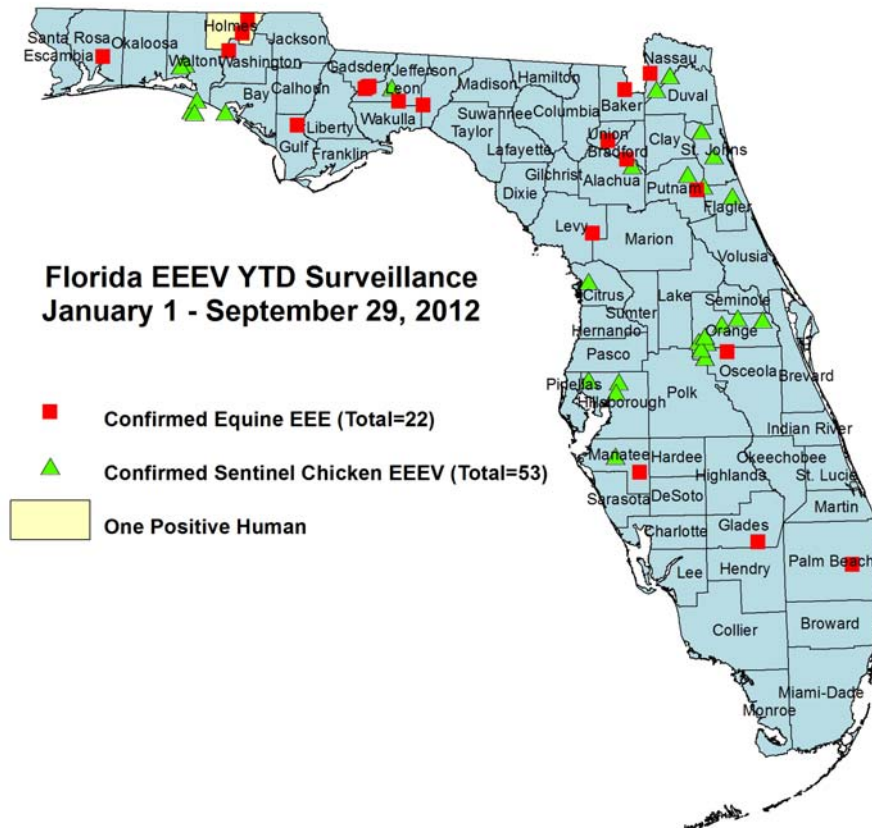
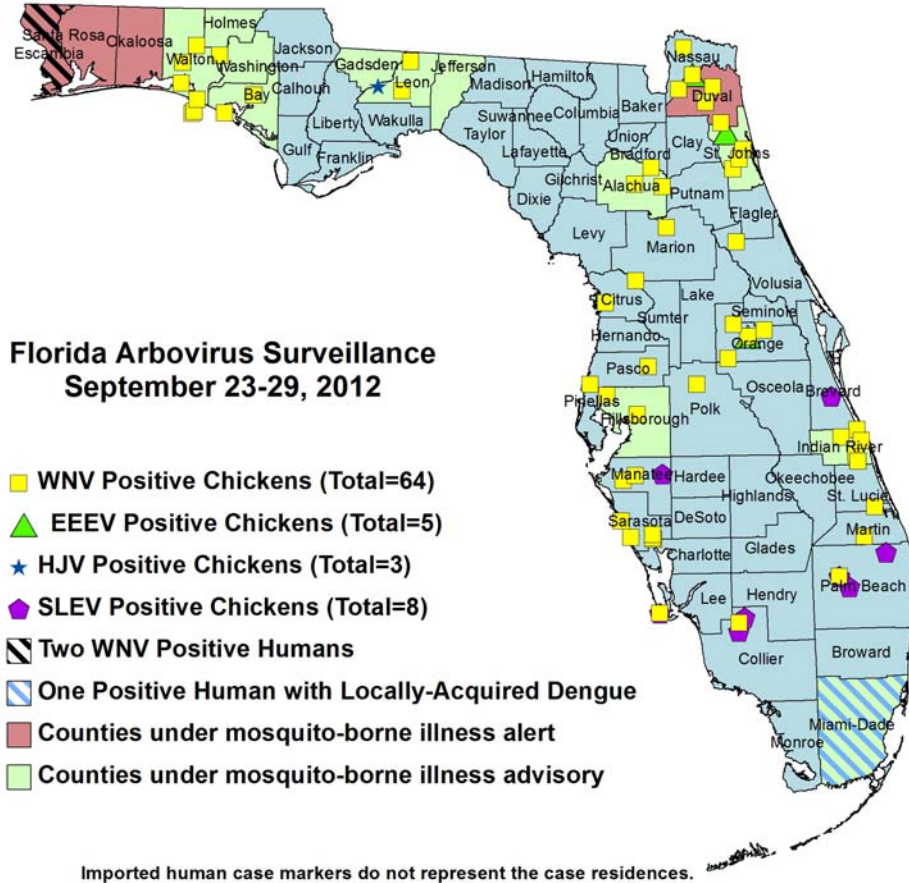


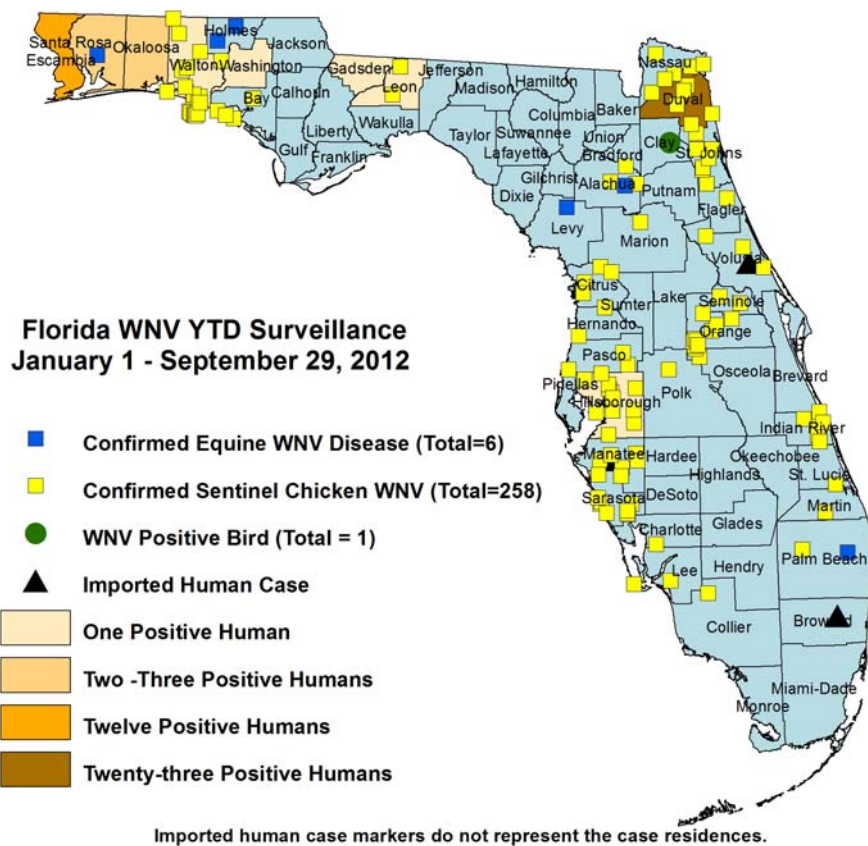
Dead Birds

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, 14 reports representing 28 dead birds were received from 10 counties. One was identified as a crow and two as jays. In 2012, 384 reports representing a total of 1147 dead birds (45 crows, 33 jays, 54 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
Alachua	2	1	0	0
Bay	1	0	1	0
Indian River	3	0	0	0
Leon	2	0	0	0
Okaloosa	2	0	1	0
Palm Beach	1	0	0	0
Pasco	7	0	0	0
Santa Rosa	3	0	0	0
Sarasota	6	0	0	0
Walton	1	0	0	0

Maps





Arbovirus Activity by County

County	Arbovirus Activity
Alachua	EEEV : 1 horse (7/27) ; 1 sentinel (7/9) WNV : 1 horse (9/11) ; 3 sentinel (9/17, 9/18)
Bay	EEEV : 1 sentinel (7/10) WNV : 15 sentinels (7/24, 7/31, 8/7, 8/14, 8/21, 9/4, 9/11, 9/18) ; 2 mosquito pools (9/6, 9/11) HJV : 1 sentinel (5/29)
Baker	EEEV : 1 horse (6/21)
Brevard	SLEV : 1 sentinel (8/29)
Charlotte	WNV : 2 sentinel (9/7, 9/14)
Citrus	EEEV : 1 sentinel (1/30) WNV: 5 sentinel (5/29, 8/27, 9/17) HJV: 1 sentinel (1/3)
Clay	WNV: 1 goose
DeSoto	SLEV: 1 pigeon
Duval	WNV: 23 humans (4 June, 7 July, 11 August, 1 September); 22 sentinel (7/30, 8/3, 8/13, 8/20, 8/23, 8/28, 9/10, 9/13, 9/17); 2 mosquito pools (8/7, 8/8)
Escambia	WNV: 12 humans (2 July, 6 August, 4 September)
Flagler	EEEV: 1 sentinel (8/6) WNV: 1 sentinel (9/4) 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	WNV: 2 sentinel (1/23, 9/17)

County	Arbovirus Activity
Hillsborough	EEEV : 4 sentinels (2/14, 3/13, 4/17) WNV: 1 human (August); 17 sentinels (1/3, 1/17, 1/24, 1/31, 2/14, 3/6, 6/12, 8/28, 9/18) 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: 12 sentinels (5/24, 8/9, 8/30, 9/13)
Jefferson	EEEV: 1 horse (8/6)
Lee	WNV: 3 sentinels (1/24, 9/17, 9/18) SLEV: 4 sentinels (3/7, 8/30, 9/4, 9/17)
Leon	EEEV : 4 horses (8/21, 8/30, 9/3, 9/4), 2 sentinels (8/13, 8/28) WNV : 1 human (August) ; 3 sentinels (9/17) HJV : 3 sentinels (8/28, 9/4, 9/11)
Levy	EEEV: 2 horses (1/2) WNV : 1 horse (9/3)
Manatee	EEEV: 1 horse (6/14); 1 sentinel (9/11) WNV: 6 sentinels (2/1, 3/14, 5/30, 8/15, 9/19) SLEV: 1 sentinel (9/19)
Martin	WNV: 1 sentinel (9/14)
Miami-Dade	Dengue: 1 human (September)
Nassau	EEEV : 1 horse (7/18) ; 6 sentinels (6/16, 6/23, 9/8, 9/14) WNV : 26 sentinels (8/6, 8/25, 8/31, 9/8, 9/10, 9/14) HJV : 4 sentinels (7/13, 8/18, 8/31)
Okaloosa	WNV : 2 humans (August)
Orange	EEEV : 16 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) WNV: 13 sentinels (1/9, 1/12, 1/19, 1/25, 3/1, 7/26, 9/13, 9/17)
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 : 5 sentinel (7/23, 8/20, 8/27, 9/17)
Pasco	WNV : 2 sentinels (5/29, 9/19)
Polk	WNV : 1 sentinel (9/5)
Putnam	EEEV: 1 horse (1/1) ; 2 sentinels (7/20, 8/3) WNV : 1 sentinel (9/18)
Santa Rosa	EEEV : 1 horse (5/11) WNV : 3 humans (2 August, 1 September) ; 1 horse (8/29)
Sarasota	WNV: 19 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) SLEV: 1 sentinel (7/2) HJV: 1 sentinel (9/7) Flavivirus: 1 sentinel (8/31)
Seminole	WNV : 2 sentinels (8/7)
St. Johns	EEEV : 4 sentinels (9/2, 9/11, 9/18) WNV : 31 sentinels (5/14, 5/22, 5/29, 8/5, 8/20, 8/27, 9/2, 9/11, 9/18) HJV : 2 sentinels (4/30, 7/3)
St. Lucie	WNV : 1 sentinel (9/14)
Union	EEEV : 1 horse (5/12)
Volusia	WNV : 3 sentinels (5/29, 6/25, 9/17)
Walton	WNV : 1 human (September) ; 65 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) EEEV : 14 sentinels (6/4, 6/18, 6/25, 7/2, 7/30, 9/6, 9/10) HJV : 6 sentinels (5/14, 6/11, 6/18, 7/16, 7/23, 9/6)
Washington	EEEV : 1 horse (7/1) WNV : 1 human (September)

Acknowledgements and Data Sources

Contributors: Stephanie Moody-Geissler, MPH, Elizabeth Radke, MPH, Shaiasia Itwaru-Womack, Danielle Stanek, DVM, and Carina Blackmore, DVM, Ph.D., DOH Bureau of Epidemiology; Holly Hughes, Ph.D. and Valerie Mock, DOH Bureau of Laboratories.

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.