



Florida Arbovirus Surveillance Week 41: October 7- 13, 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 7-13 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: Two sentinel chickens in Hernando and Orange counties tested positive for antibodies to EEEV. In 2012, positive samples from 1 human, 23 equines, and 58 sentinel chickens have been received from 25 counties.

WNV activity: Four human cases of WNV infection were reported in Duval, Escambia, and Walton counties. Sixty sentinel chickens in Bay, Charlotte, Duval, Flagler, Indian River, Leon, Nassau, Polk, Putnam, St. Johns and Walton counties tested positive for antibodies to WNV. In 2012, positive samples from 52 humans, 6 horses, 343 sentinel chickens, 4 mosquito pools, and 1 bird have been received from 34 counties.

SLEV activity: Nineteen sentinel chicken in Lee, Manatee, Martin, Palm Beach, Putnam, Orange and Sarasota Counties tested positive for antibodies to SLEV. In 2012, positive samples from 38 sentinel chickens, 1 mosquito pool, and 1 bird have been received from 11 counties

HJV activity: No new cases of HJV were reported this week. In 2012, positive samples from 22 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-two human cases of WNV infection were acquired in Florida in 2012. Twenty-five with onset in June (4), July (7), August (11), and September (3) were reported in Duval County, three of which were presumptive positive blood donors who developed symptoms. Thirteen with onset in July (2), August (6), 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.

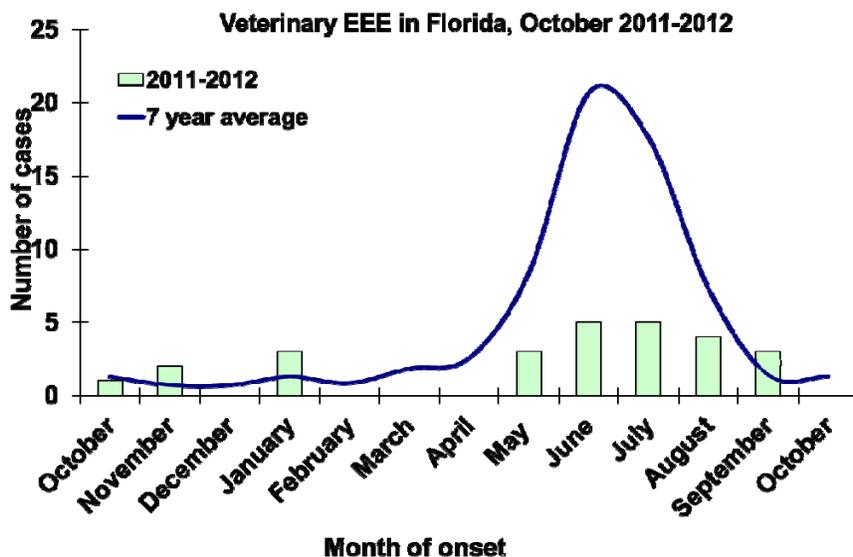
Dengue Infection Acquired in Florida: One human case of dengue with onset in September was reported in 2012 in a Miami-Dade County resident.

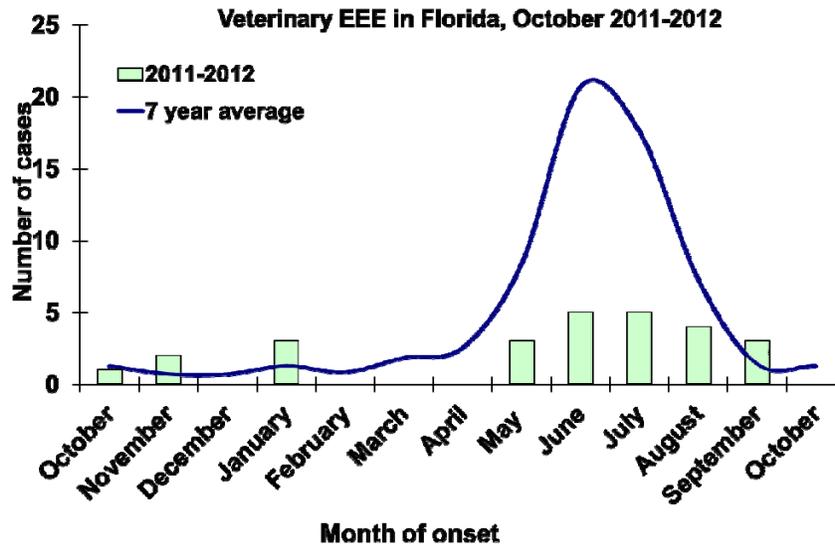
Imported Dengue: Seventy-eight cases of dengue with onset in 2012 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Brazil, Colombia, Cuba (17), Dominican Republic (8), Ecuador (4), El Salvador (2), Ghana, Guyana, Haiti (11), Jamaica (15), Mexico (2), Panama, Philippines, Puerto Rico (5), South Africa, Sri Lanka, St. Vincent, Suriname, Trinidad (3), and Turks & Caicos. Counties reporting cases were Brevard (3), Broward (15), Collier, Duval, Hillsborough (3), Lee (2), Marion, Miami-Dade (28), Orange (12), Palm Beach (4), 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

No reported positive veterinary cases this week.





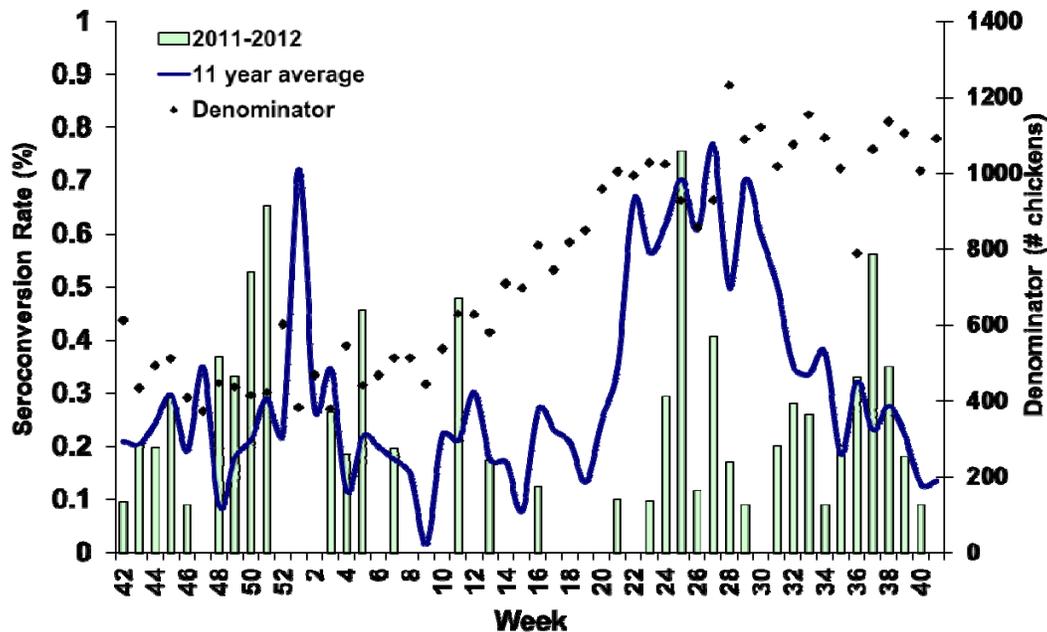
Sentinel Chickens

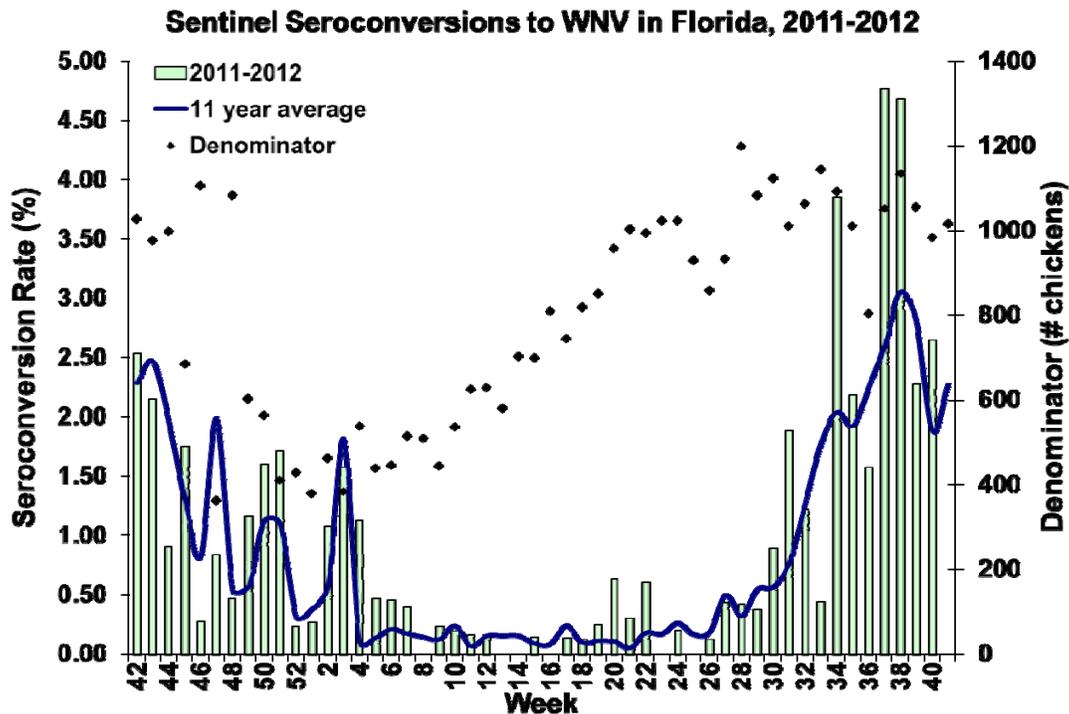
Two sentinel chickens in Hernando and Orange counties tested positive for antibodies to EEEV, sixty sentinel chickens in Bay, Charlotte, Duval, Flagler, Indian River, Leon, Nassau, Polk, Putnam, St. Johns and Walton counties tested positive for antibodies to WNV, nineteen sentinel chicken in Lee, Manatee, Martin, Palm Beach, Putnam, Orange and Sarasota Counties tested positive for antibodies to SLEV. Seroconversion rates are calculated by week and include previously reported results.

County	Collection Date	Seroconversion Rates (%)				County Totals	
		SLEV	WNV	EEEV	HJV	Week	YTD
Bay	10/2/2012		28.57			4 WNV	19 WNV, 1 EEEV, 1 HJV
Charlotte	9/28/2012		10.00			2 WNV	4 WNV
Duval	10/1/2012		5.56			1 WNV	23 WNV
Flagler	10/1/2012		8.33			1 WNV	2 WNV, 2 EEEV, 2 HJV
Hernando	10/1/2012			6.67		1 EEEV	2 WNV, 1 EEEV
Indian River	9/27/2012		2.50			1 WNV	15 WNV
Lee	9/10/2012	1.54				1 SLEV	
Lee	9/17,9/18/2012		3.08			2 WNV	
Lee	9/17,9/18/2013	3.08				2 SLEV	
Lee	10/1,10/2/2012	11.54				3 SLEV	3 WNV, 9 SLEV
Leon	9/17/2012		26.19			11 WNV	
Leon	9/22/2012			2.56		1 EEEV	
Leon	10/2/2012		17.14			6 WNV	17 WNV, 3 EEEV, 3 HJV
Manatee	10/1/2012	1.52				1 SLEV	7 WNV, 3 SLEV, 1 EEEV
Martin	9/28/2012	10.00				2 SLEV	1 WNV, 2 SLEV
Nassau	9/14/2012		20.59			7 WNV	
Nassau	9/14/2012			5.56		2 EEEV	
Nassau	9/14/2012				2.78	1 HJV	
Nassau	9/28/2012		6.90			2 WNV	

County	Collection Date	Seroconversion Rates (%)				County Totals	
		SLEV	WNV	EEEV	HJV	Week	YTD
Nassau	10/1/2012		10.34			3 WNV	36 WNV, 6 EEEV, 5 HJV
Orange	9/27/2012			0.88		1 EEEV	
Orange	10/1/2012	2.73				3 SLEV	14 WNV, 3 SLEV, 17 EEEV
Palm Beach	9/17/2012	13.33				4 SLEV	2 WNV, 8 SLEV
Polk	9/18/2012		12.50			1 WNV	2 WNV
Putnam	9/18/2012		25.00			3 WNV	
Putnam	10/2/2012	8.33				1 SLEV	6 WNV, 1 SLEV, 2 EEEV
Sarasota	10/1/2012	6.56				4 SLEV	21 WNV, 7 SLEV, 1 HJV
St. Johns	9/28/2012		23.81			10 WNV	41 WNV, 4 EEEV, 2 HJV
Walton	9/17, 9/18/12		8.15			11 WNV	
Walton	9/10/2012		33.93			19 WNV	
Walton	9/10/2012			1.79		1 EEEV	
Walton	10/1/2012		13.10			11 WNV	92 WNV, 14 EEEV, 6 HJV

Sentinel Seroconversions to EEEV in Florida, 2011-2012



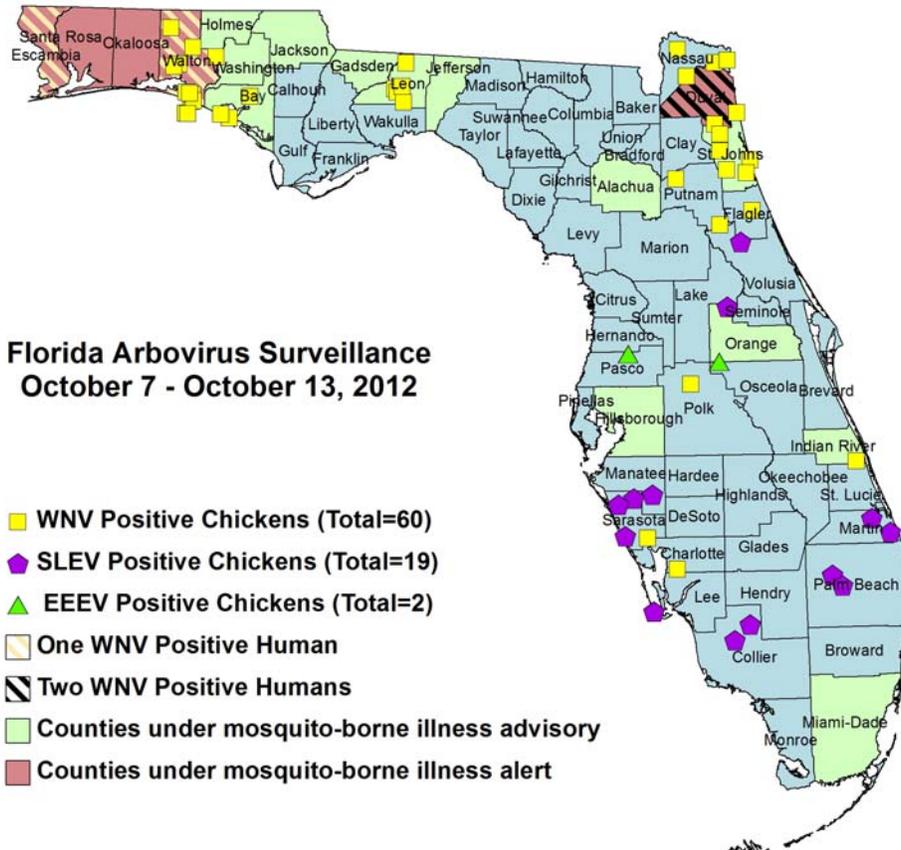


Dead Birds

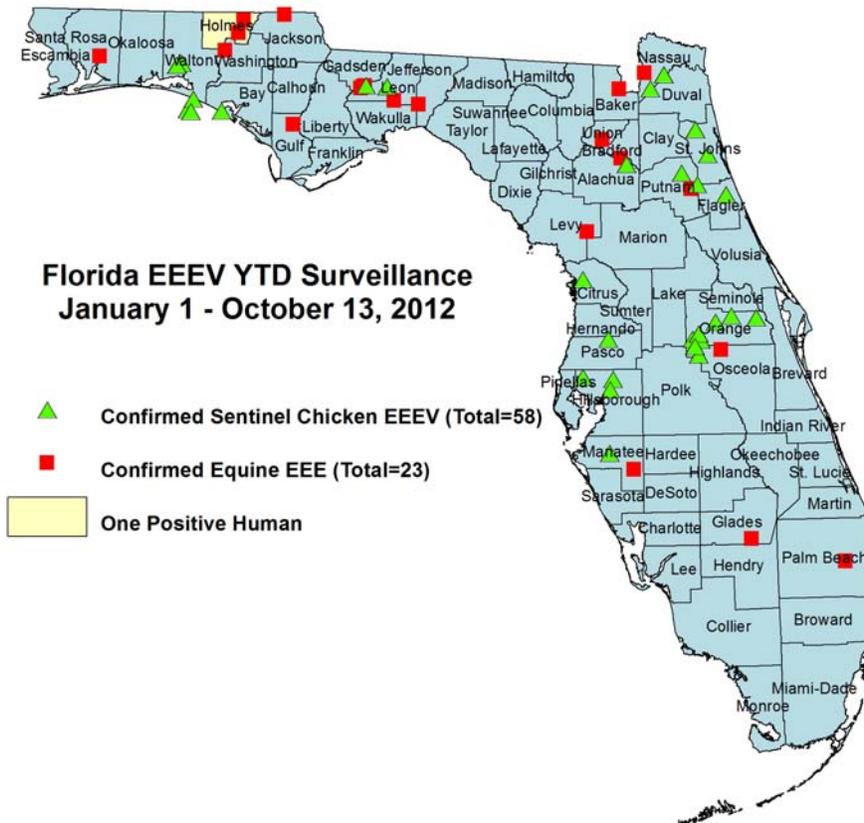
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 18 reports representing 36 dead birds were received from 12 counties. Three were identified as crows, five as jays, and two as raptors. In 2012, 408 reports representing a total of 1192 dead birds (49 crows, 40 jays, 56 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/

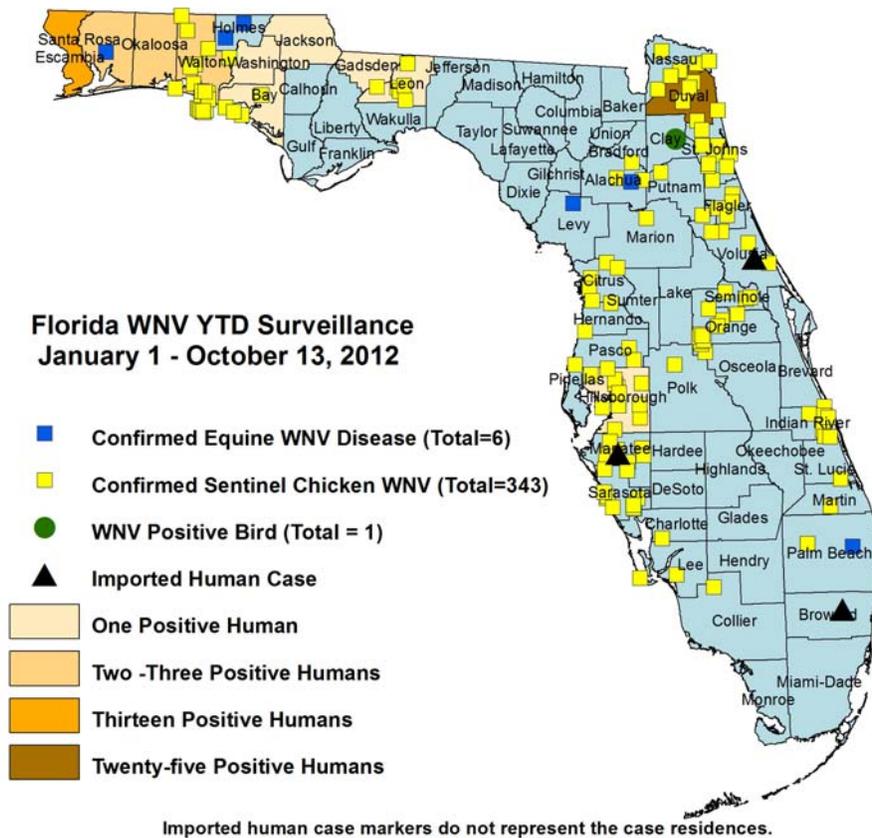
County	Total Dead Birds	Crows	Jays	Raptors
Bay	2	0	2	0
Charlotte	1	0	0	0
Dade	7	0	0	0
Lee	1	1	0	0
Leon	2	1	0	0
Marion	1	1	0	0
Okaloosa	2	0	1	0
Palm Beach	1	0	0	1
Pinellas	3	0	1	0
Sarasota	13	0	0	1
St. Lucie	1	0	0	0
Washington	2	0	1	0

Maps



Imported human case markers do not represent the case residences.





Arbovirus Activity by County

County	Arbovirus Activity
Alachua	EEEV : 1 horse (7/27) ; 2 sentinel (7/9, 9/18) WNV : 1 horse (9/11) ; 3 sentinel (9/17, 9/18) 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 : 1 sentinel (1/30) 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: 25 humans (4 June, 7 July, 11 August, 3 September); 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: 13 humans (2 July, 6 August, 5 September)
Flagler	EEEV: 2 sentinel (8/6, 9/24) WNV: 2 sentinel (9/4, 10/1) HJV: 2 sentinels (7/30, 8/27)
Gadsden	WNV: 1 human (August)
Glades	EEEV: 2 horses (6/25, 7/14)

County	Arbovirus Activity
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: 3 sentinel (1/24, 9/17, 9/18) SLEV: 9 sentinels (3/7, 8/30, 9/4, 9/10, 9/17, 9/18, 10/1, 10/2)
Leon	EEEV : 4 horses (8/21, 8/30, 9/3, 9/4), 3 sentinels (8/13, 8/28, 9/22) WNV : 1 human (August), 17 sentinels (9/17, 9/22, 10/2) 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: 7 sentinels (2/1, 3/14, 5/30, 8/15, 9/19, 9/25) SLEV: 3 sentinel (9/19, 9/25, 10/1)
Martin	WNV: 1 sentinel (9/14) SLEV: 2 sentinel (9/28)
Miami-Dade	Dengue: 1 human (September)
Nassau	EEEV : 1 horse (7/18) ; 6 sentinels (6/16, 6/23, 9/8, 9/14) WNV : 36 sentinels (8/6, 8/25, 8/31, 9/8, 9/10, 9/14, 9/20) HJV : 5 sentinels (7/13, 8/18, 8/31, 9/14)
Okaloosa	WNV : 3 humans (2 August, 1 September)
Orange	EEEV : 17 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) 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) ; 2 sentinels (7/20, 8/3) WNV : 6 sentinel (9/18, 9/25) SLEV : 1 sentinel (10/2)
Santa Rosa	EEEV : 1 horse (5/11) WNV : 3 humans (2 August, 1 September) ; 1 horse (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 : 4 sentinels (9/2, 9/11, 9/18) WNV : 41 sentinels (5/14, 5/22, 5/29, 8/5, 8/20, 8/27, 9/2, 9/11, 9/18, 9/28) 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)

County	Arbovirus Activity
Walton	WNV : 2 human (September) ; 92 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) 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.