



Florida Arbovirus Surveillance Week 43: October 21- 27, 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 21-27 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: One sentinel chicken in Nassau County tested positive for antibodies to EEEV. Three horse cases of EEEV infection were reported in Clay, Liberty, and Wakulla Counties. In 2012, positive samples from 1 human, 28 equines, and 68 sentinel chickens have been received from 28 counties.

WNV activity: No human cases of WNV infection were reported this week. Fourteen sentinel chickens in Alachua, Citrus, Leon, Palm Beach, Putnam, St. Johns, and Walton counties tested positive for antibodies to WNV. Seven horse cases of WNV infection were reported in Gilchrist, Holmes, Jackson, Suwannee, Walton and Washington counties. In 2012, positive samples from 54 humans, 14 horses, 374 sentinel chickens, 4 mosquito pools, and 1 bird have been received from 36 counties.

SLEV activity: Two sentinel chicken in Lee and Manatee Counties tested positive for antibodies to SLEV. In 2012, positive samples from 43 sentinel chickens, 1 mosquito pool, and 1 bird have been received from 11 counties

HJV activity: No sentinel chicken tested positive for antibodies to HJV this week. 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, Suwannee, 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.

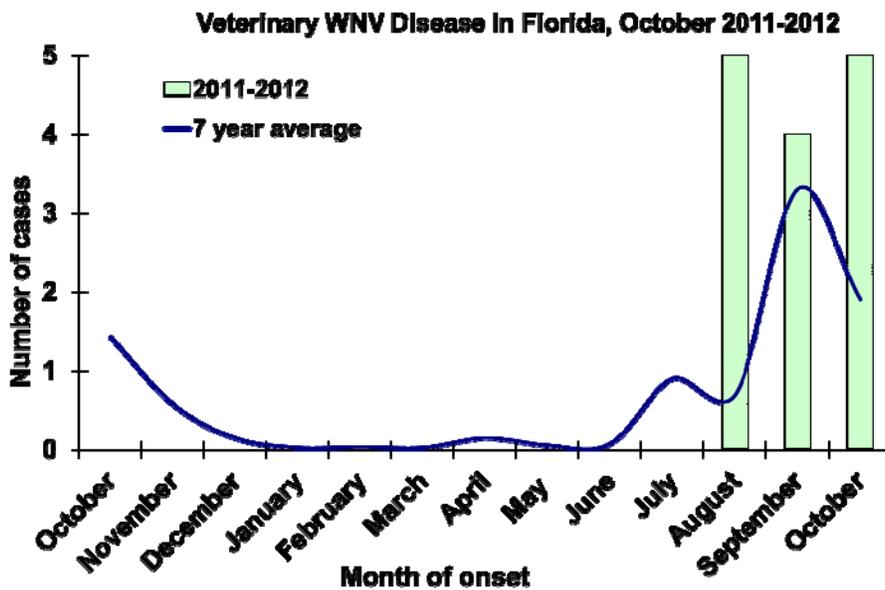
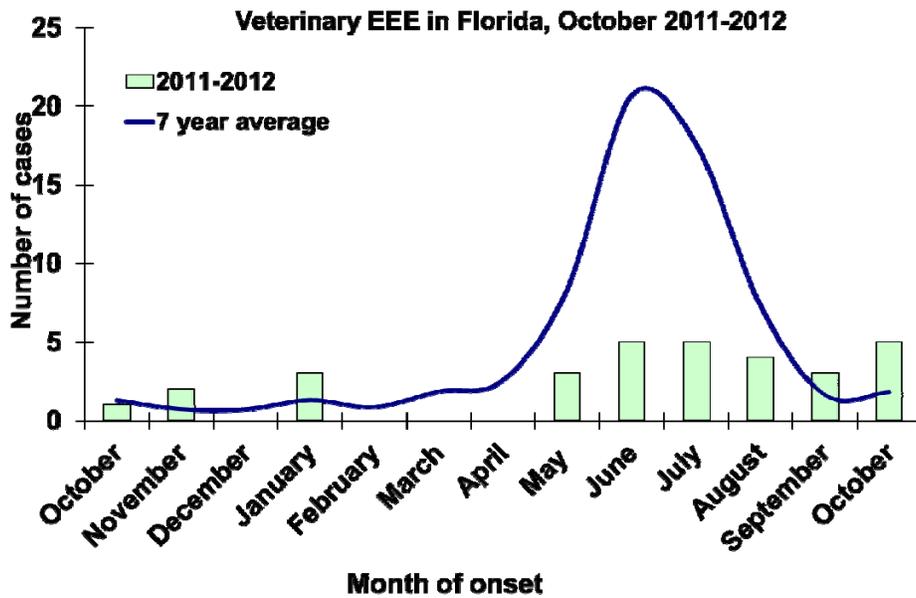
Imported Dengue: Ninety cases of dengue with onset in 2012 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Brazil, Colombia, Cuba (21), Dominican Republic (8), Ecuador (4), El Salvador (2), Ghana, Guyana (2), Haiti (13), Honduras, Jamaica (17), Mexico (2), Nicaragua, Panama, Philippines, Puerto Rico (6), 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 (6), Pinellas (2), Polk, Sarasota (2), Seminole (3), and Volusia (2). 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

Three horses were reported as testing positive for EEEV this week in Clay, Liberty, and Wakulla Counties. Seven horses were reported as testing positive for WNV in Gilchrist, Holmes, Jackson, Suwannee (2), Walton, and Washington counties.

County	Onset Date	Species	Virus	Status	County YTD
Clay	10/14/2012	Equine	EEEV	Euthanized	1 EEEV
Gilchrist	10/12/2012	Equine	WNV	Euthanized	1 WNV
Holmes	9/26/2012	Equine	WNV	Recovered	3 WNV, 2 EEEV
Jackson	10/9/2012	Equine	WNV	Recovered	1 WNV, 1 EEEV
Liberty	10/19/2012	Equine	EEEV	Died	1 EEEV
Suwannee	10/15/2012	Equine	WNV	Recovering	
Suwannee	10/18/2012	Equine	WNV	Euthanized	2 WNV
Wakulla	10/21/2012	Equine	EEEV	Euthanized	2 EEEV
Walton	10/16/2012	Equine	WNV	Euthanized	1 WNV
Washington	9/19/2012	Equine	WNV	Recovered	1 WNV, 1 EEEV



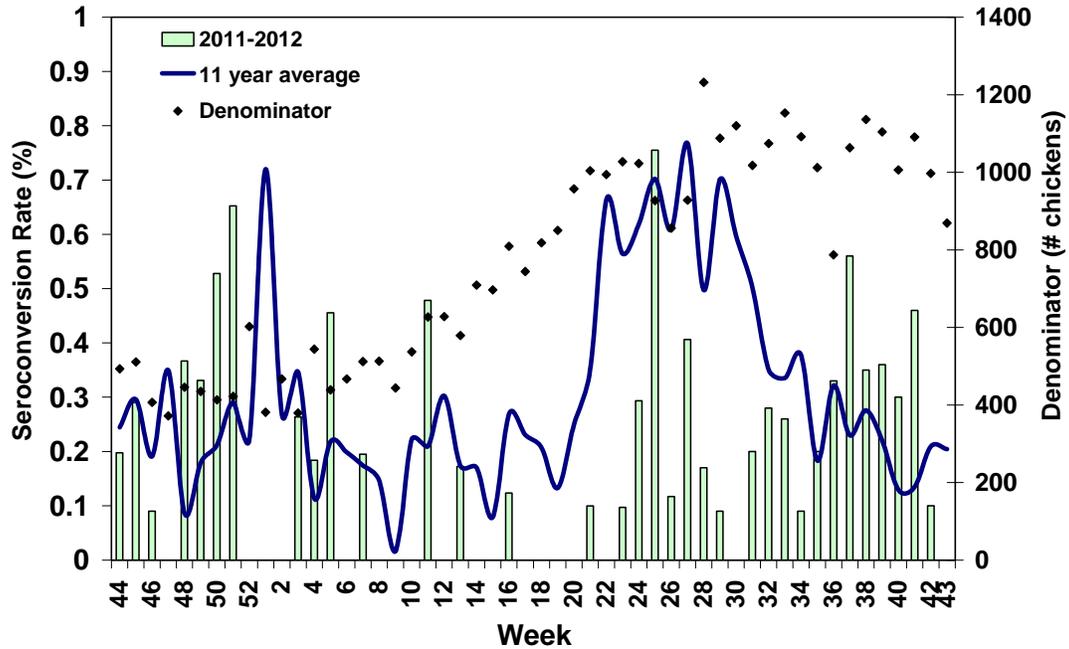
Sentinel Chickens

One sentinel chicken in Nassau County tested positive for antibodies to EEEV, fourteen sentinel chickens in Alachua, Citrus, Leon, Palm Beach, Putnam, St. Johns, and Walton counties tested positive for antibodies to WNV, two sentinel chicken in Lee and Manatee Counties tested positive for antibodies to SLEV. Seroconversion rates are calculated by week and include previously reported results.

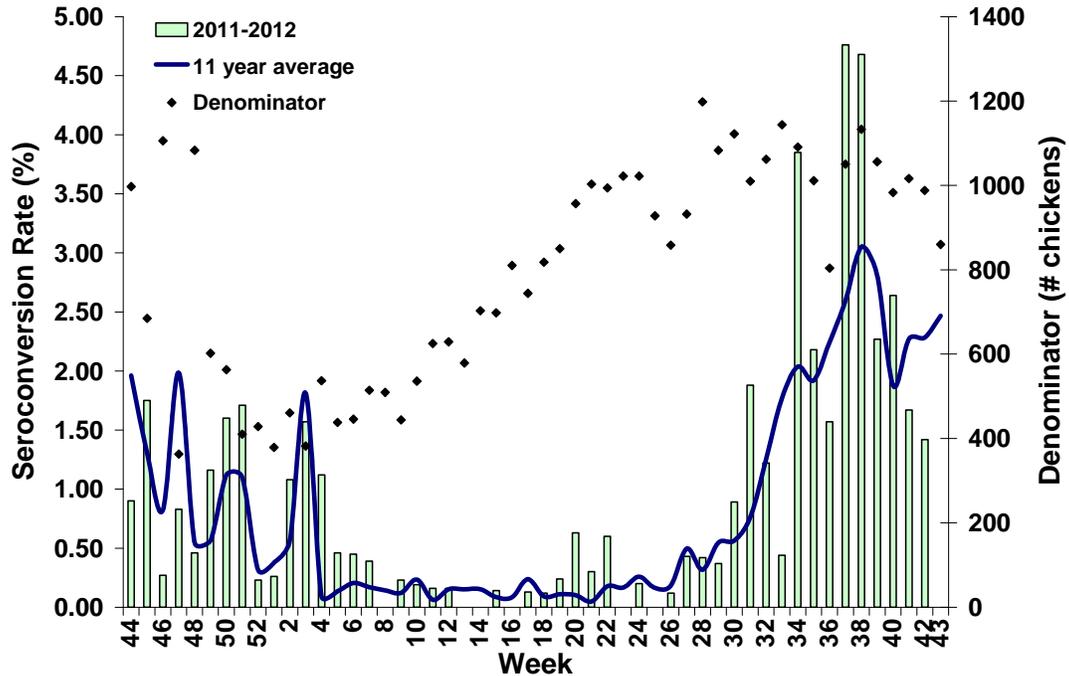
County	Collection Date	Seroconversion Rates (%)				Week	County Totals
		SLEV	WNV	EEEV	HJV		YTD
Alachua	10/15/12		4.55			1 WNV	5 WNV, 3 EEEV, 1 HJV
Citrus	10/15/12		1.39			1 WNV	7 WNV, 2 EEEV, 1 HJV
Lee	10/15/12	3.85				1 SLEV	4 WNV, 12 SLEV
Leon	10/15/12		13.16			5 WNV	22 WNV, 3 EEEV, 4 HJV
Manatee	10/16/12	1.49				1 SLEV	8 WNV, 4 SLEV, 1 EEEV

Nassau	10/15/12	3.85	1 EEEV	36 WNV, 9 EEEV, 6 HJV
Palm Beach	10/15/12	5.00	1 WNV	3 WNV, 8 SLEV
Putnam	10/16/12	14.29	1 WNV	14 WNV, 1 SLEV, 3 EEEV
St. Johns	10/15/12	9.09	4 WNV	47 WNV, 5 EEEV, 2 HJV
Walton	10/15/12	1.39	1 WNV	95 WNV, 14 EEEV, 7 HJV

Sentinel Seroconversions to EEEV in Florida, 2011-2012



Sentinel Seroconversions to WNV in Florida, 2011-2012

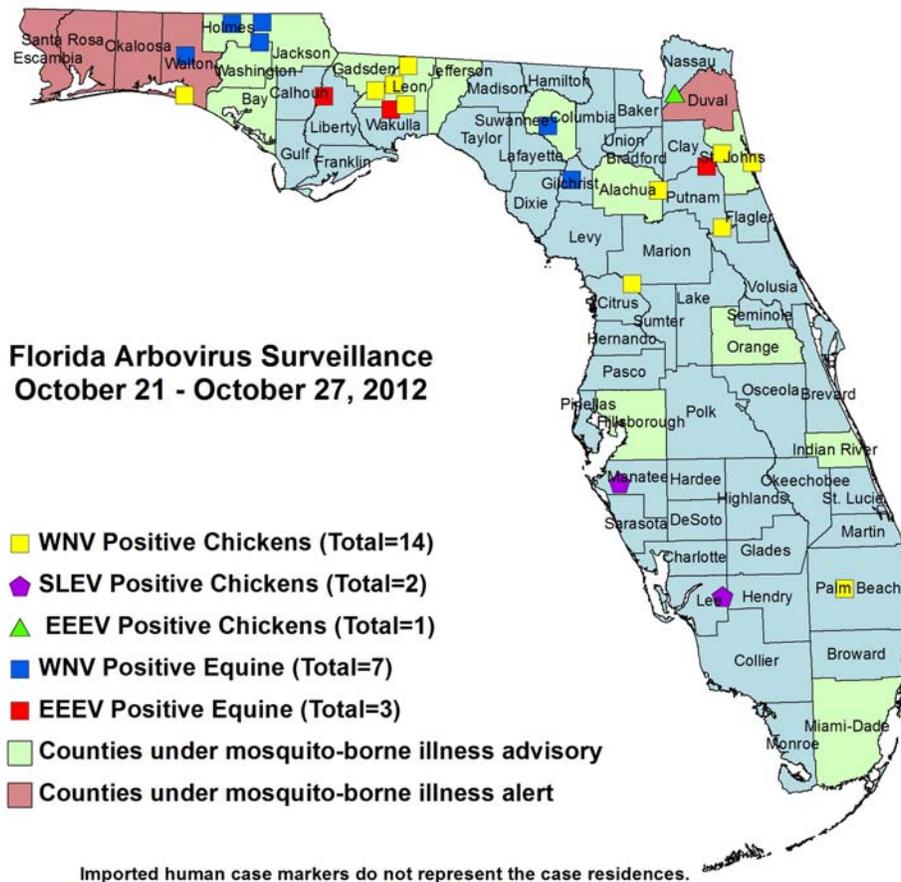


Dead Birds

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, 3 reports representing 5 dead birds were received from 2 counties. One was identified as a raptor. In 2012, 421 reports representing a total of 1220 dead birds (49 crows, 40 jays, 59 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
Hillsborough	4	0	0	1
Lake	1	0	0	0

Maps



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) ; 5 sentinel (9/17, 9/18, 10/8, 10/15) 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: 7 sentinel (5/29, 8/27, 9/17, 9/24, 10/15) HJV: 1 sentinel (1/3)
Clay	EEEV: 1 horse (10/14) 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)
Gilchrist	WNV: 1 horse (10/12)
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 : 3 horses (8/11, 8/23, 9/26)
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), 1 horse (10/9)
Jefferson	EEEV: 1 horse (8/6)
Liberty	EEEV: 1 horse (10/19)
Lee	WNV: 4 sentinel (1/24, 9/17, 9/18, 10/9) SLEV: 12 sentinels (3/7, 8/30, 9/4, 9/10, 9/17, 9/18, 10/1, 10/2, 10/8, 10/9, 10/15)
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), 22 sentinels (9/17, 9/22, 10/2, 10/15) 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: 4 sentinel (9/19, 9/25, 10/1, 10/16)
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) ; 9 sentinels (6/16, 6/23, 9/8, 9/14, 9/28, 10/15)

County	Arbovirus Activity
	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)
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), 3 sentinel (8/17, 8/27, 10/15) 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 : 14 sentinel (9/18, 9/25, 10/9, 10/16) 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 : 47 sentinels (5/14, 5/22, 5/29, 8/5, 8/20, 8/27, 9/2, 9/11, 9/18, 9/28, 10/8, 10/15) HJV : 2 sentinels (4/30, 7/3)
St. Lucie	WNV : 2 sentinel (9/14, 10/8)
Suwannee	WNV : 2 horses (10/15, 10/18)
Union	EEEV : 1 horse (5/12)
Volusia	WNV : 3 sentinels (5/29, 6/25, 9/17)
Wakulla	EEEV : 2 horse (10/9, 10/21)
Walton	WNV : 2 human (September) ; 1 horse (9/16) ; 95 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, 10/15) 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), 1 horse (9/19)

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.