



Florida Arbovirus Surveillance Week 2: January 6 – January 12, 2013

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 January 6 – January 12, 2013 the following arboviral activity was recorded in Florida:

This week's report includes both 2012 and 2013 cases and positive samples but all were reported in 2013.

DENV activity: No cases of locally acquired dengue were reported this week. No locally acquired dengue cases have been reported in 2013.

EEEV activity: No sentinel chickens tested positive this week for antibodies to EEEV. No horse cases of EEEV infection were reported this week. No sentinel chickens tested positive this week for antibodies to EEEV. In 2013, no positive samples have been received.

WNV activity: No human cases of WNV infection were reported this week. No horse cases of WNV infection were reported this week. Nine sentinel chickens collected in December 2012 from Bay, Hillsborough, Sarasota, Volusia and Walton Counties tested positive for antibodies to WNV.

SLEV activity: No sentinel chickens tested positive this week for antibodies to SLEV. In 2013, no positive samples have been received.

HJV activity: No sentinel chickens tested positive for antibodies to HJV this week. In 2013, no positive samples have been received.

Advisories/Alerts: Miami-Dade County is currently under mosquito-borne illness alert. Osceola County is currently under mosquito-borne illness advisory. No other counties are currently under mosquito-borne illness advisory or alert.

2013 Human Case Summary*

Imported Dengue:

One hundred and forty-six 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 (29), Dominican Republic (18), Ecuador (4), El Salvador (2), Ghana, Guatemala, Guyana (2), Haiti (19), Honduras, India, Jamaica (26), Mexico (2), Nicaragua (2), Panama, Philippines (2), Portugal, Puerto Rico (22), South Africa, Sri Lanka, St. Vincent, Suriname, Trinidad (4), Turks & Caicos, and Virgin Islands. Counties reporting cases were Brevard (3), Broward (23), Collier, Duval (3), Flagler, Hillsborough (7), Lee (3), Marion, Miami-Dade (54), Okaloosa, Orange (19), Osceola (5), Palm Beach (10), Pinellas (4), Polk (1), Sarasota (2), Seminole (4), St. Johns, St. Lucie, and Volusia (2). Eleven of the cases were reported in non-Florida residents.

One case of dengue with onset in 2013 has been reported in an individual with travel history to a dengue endemic country in the two weeks prior to onset. Country of origin was Columbia. County reporting case was Orange. Case was reported in non-Florida resident.

Seventy-four of the one hundred and forty-six cases of dengue reported in Florida have been serotyped by PCR. Additional serotyping and strain typing are being conducted.

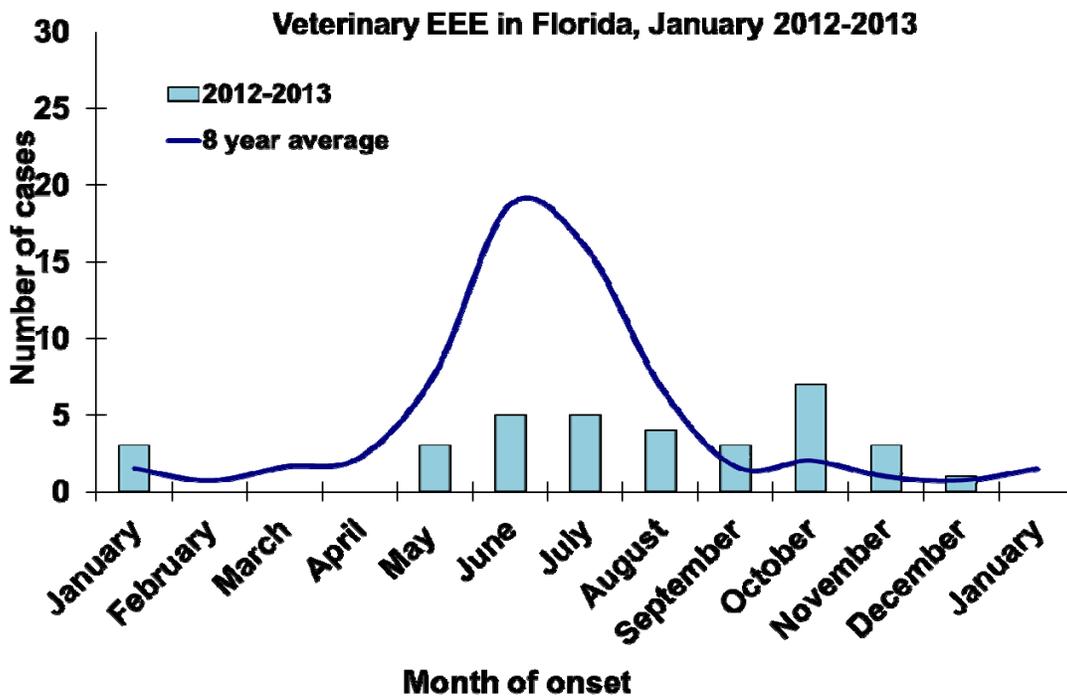
	# of cases per serotype - 2012	# of cases per serotype - 2013
DENV-1	44	
DENV-2	5	
DENV-3	1	
DENV-4	24	
	74	0

Imported Malaria - 2012: Sixty-one imported cases of malaria with onset in 2012 have been reported. Countries of origin were: Afghanistan (2), Cameroon, Central African Republic, Colombia, Congo, Costa Rica, Ethiopia (2), Ghana (6), Guyana (2), Haiti (11), Honduras (3), India (2), Ivory Coast (3), Kenya, Liberia (2), Nigeria (9), Pakistan, Peru, Sierra Leone (2), South Africa, Sub Saharan Africa, Sudan, Togo, Uganda, Zambia, and multiple or unspecified African countries (3). Counties reporting cases were: Alachua (2), Brevard, Broward (9), Charlotte, Duval (8), Hillsborough (7), Lake (2), Leon, Manatee, Marion, Martin, Miami-Dade (8), Orange (6), Osceola (2), Palm Beach (4), Pinellas (3), Polk, Seminole, and Volusia (2). Six of the cases were reported in non-Florida residents.

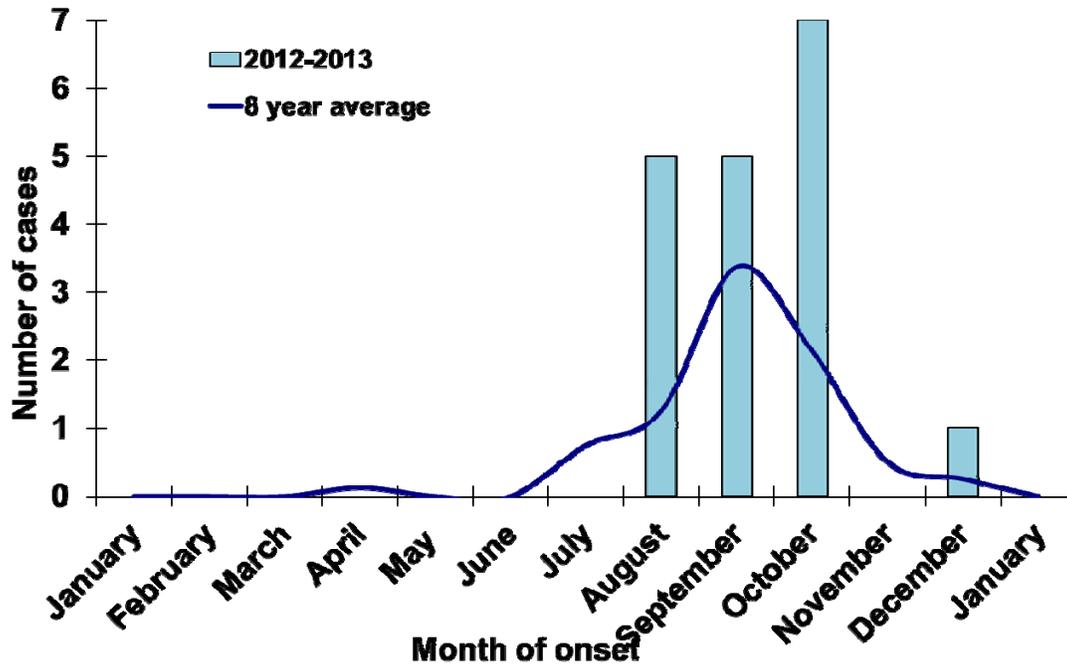
No Imported Malaria has been reported with onset in 2013.

Veterinary Cases

No horses were reported as testing positive this week.



Veterinary WNV Disease in Florida, January 2012-2013



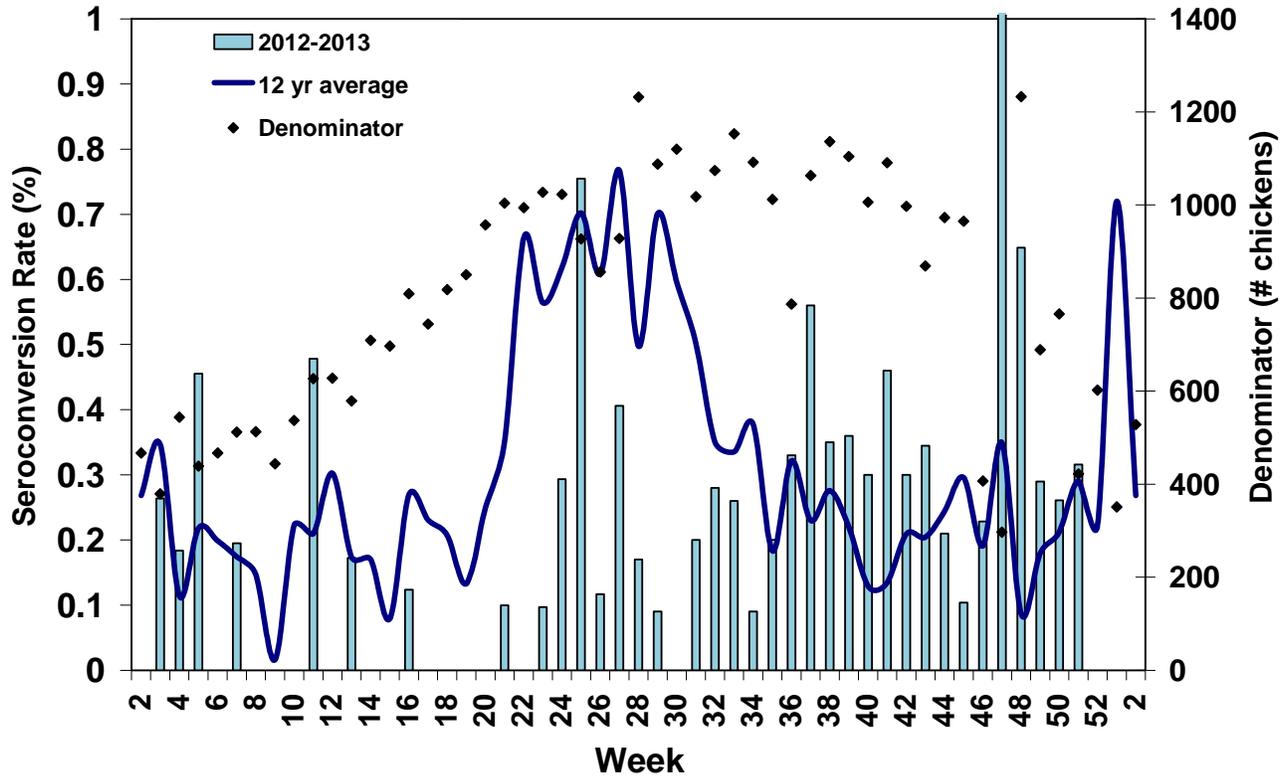
Sentinel Chickens

The table below is for the reporting of confirmatory laboratory results from this week. Some of the samples were collected at earlier dates. The date of collection is recorded for samples collected on that day along with the total number of positives and the corresponding seroconversion rate for the week the sample was collected.

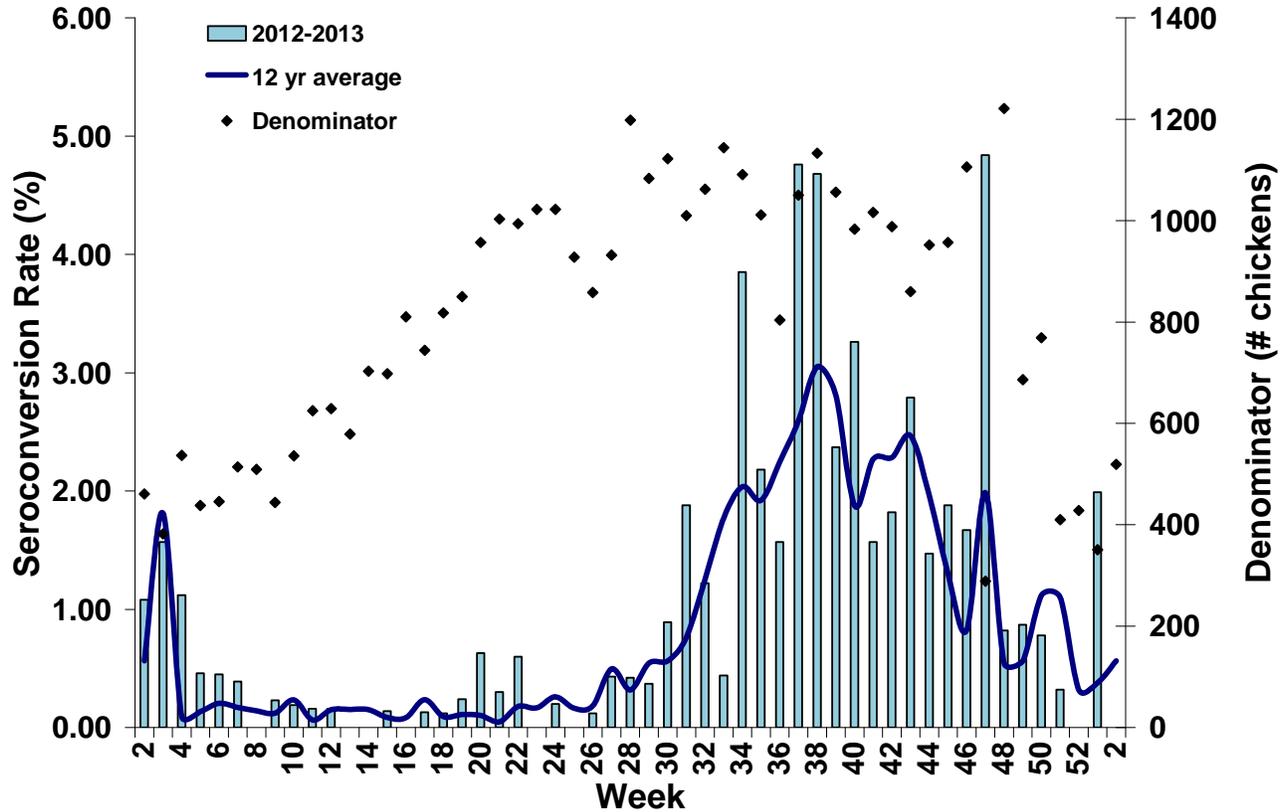
Nine sentinel chickens with samples collected in December 2012 from Bay, Hillsborough, Sarasota, Volusia and Walton Counties tested positive this week for antibodies to WNV.

County	Collection Date	Seroconversion Rates (%)				Collection Week	County Totals	
		SLEV	WNV	EEEV	HJV		YTD	
Bay	12/18/12		5.88			1 WNV	25 WNV, 1 EEEV, 1 HJV	
Hillsborough	12/31/12		5.13			4 WNV	24 WNV, 11 SLEV, 4 EEEV	
Sarasota	12/31/12		1.64			1 WNV	23 WNV, 13 SLEV, 1 HJV 1 Flavi*	
Volusia	12/31/12		3.23			2 WNV	7 WNV, 1 EEEV	
Walton	12/17/12		1.12			1 WNV, 1 EEEV	133 WNV, 21 EEEV, 7 HJV, 2 Flavi*	

Sentinel Seroconversions to EEEV in Florida, 2012-2013



Sentinel Seroconversions to WNV in Florida, 2012-2013



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, 5 reports representing 6 dead birds, including 2 raptor were received from 5 counties. In 2012, 541 reports representing a total of 1445 dead birds (70 crows, 41 jays, 77 raptors, 62 dove) were received from 56 of Florida's 67 counties. In 2013, 13 reports representing a total of 15 dead birds (0 crows, 0 jays, 3 raptors, 0 dove) were received from 10 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/

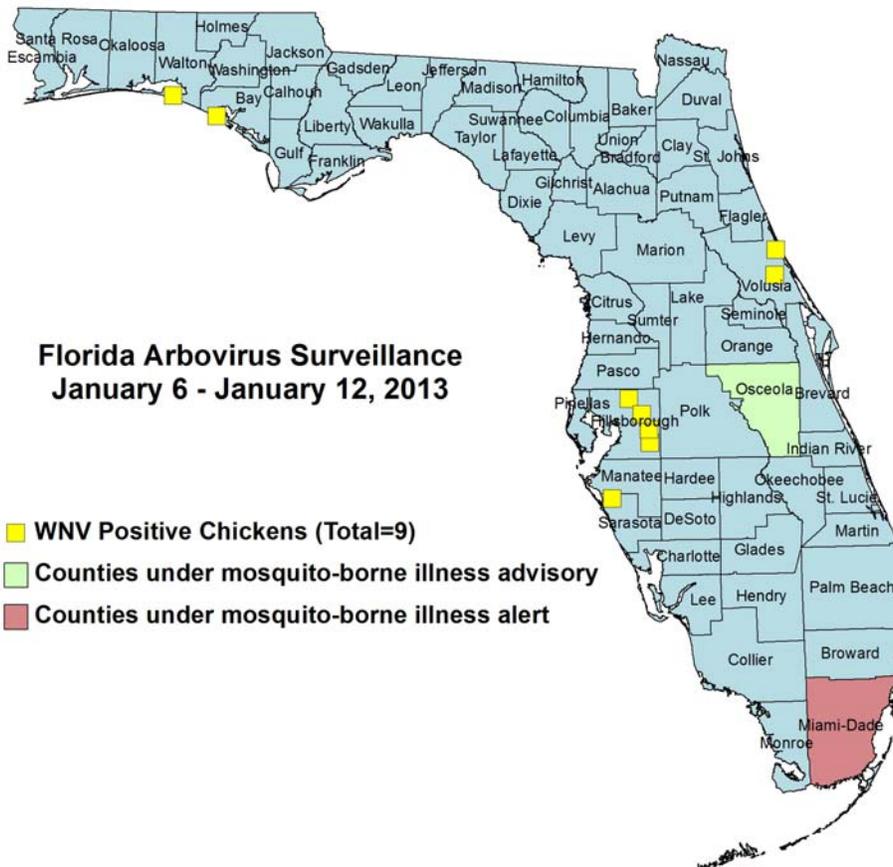
2012

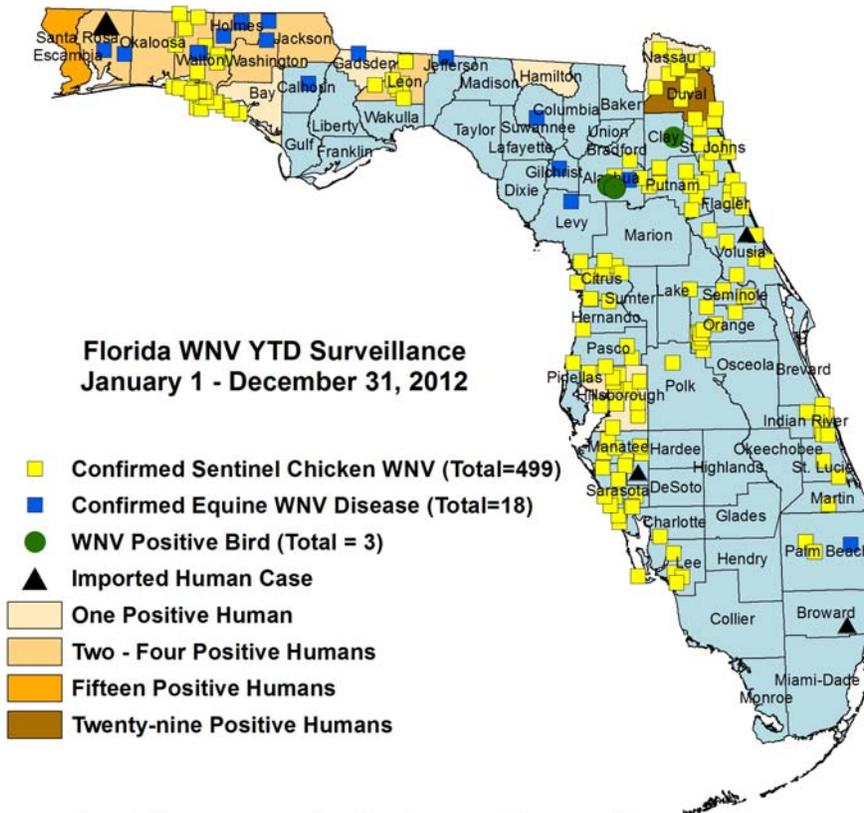
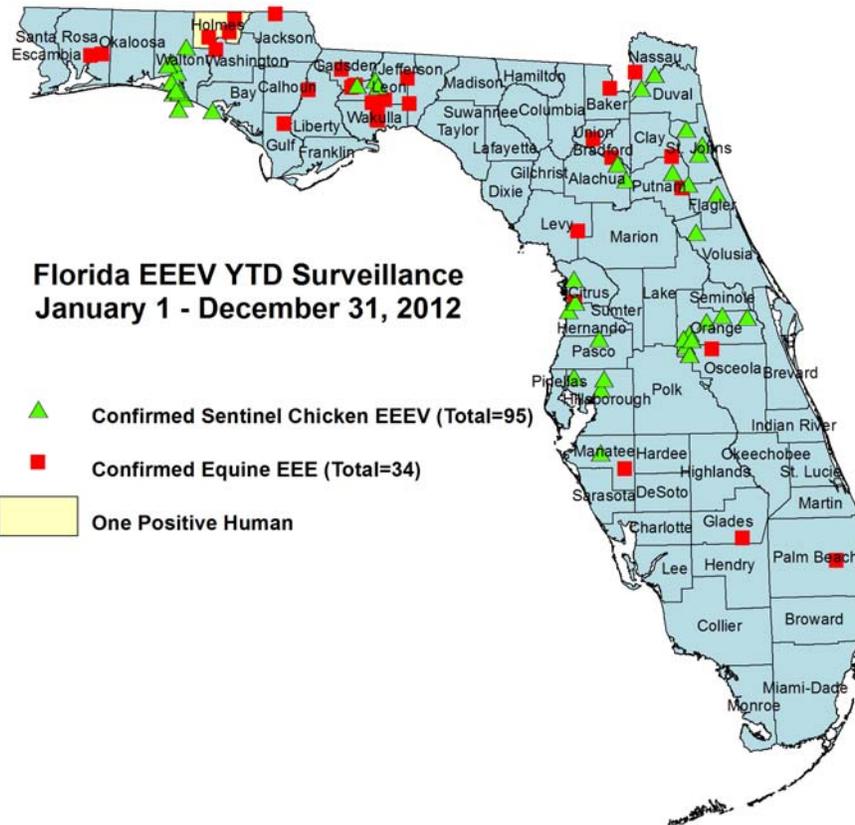
County	Total Dead Birds	Crows	Jays	Raptors
Monroe	1	0	0	0

2013

County	Total Dead Birds	Crows	Jays	Raptors
Bay	1	0	0	0
Hillsborough	1	0	0	1
Sarasota	2	0	0	0
Volusia	1	0	0	1

Maps





Imported human case markers do not represent the case residences.

2012 Arbovirus Activity by County

County	Arbovirus Activity
Alachua	EEEV : 1 horse (7/27) ; 3 sentinels (7/9, 9/18, 10/8) WNV : 1 horse (9/11) ; 5 sentinels (9/17, 9/18, 10/8, 10/15), 2 wild birds (10/7) HJV : 2 sentinels (9/18, 10/8)
Bay	EEEV : 1 sentinel (7/10) WNV : 1 human (September) ; 25 sentinels (7/24, 7/31, 8/7, 8/14, 8/21, 9/4, 9/11, 9/18, 10/2, 10/23, 10/30, 11/14, 11/27, 12/18) ; 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)
Calhoun	WNV : 1 horse (12/8)
Charlotte	WNV : 4 sentinels (9/7, 9/14, 9/28) SLEV : 3 sentinels (10/19, 11/2)
Citrus	EEEV : 4 sentinels (1/30, 10/8, 11/26, 12/17), 1 horse (11/5) WNV: 16 sentinels (5/29, 8/27, 9/17, 9/24, 10/15, 10/22, 11/13, 11/26, 12/10) HJV: 1 sentinel (1/3)
Clay	EEEV: 1 horse (10/14) WNV: 1 goose
DeSoto	SLEV: 1 pigeon
Duval	WNV: 29 humans (4 June, 7 July, 11 August, 3 September, 4 October); 29 sentinels (7/30, 8/3, 8/13, 8/20, 8/23, 8/28, 9/10, 9/13, 9/17, 10/1, 10/18, 10/22, 11/5, 11/7, 11/13); 2 mosquito pools (8/7, 8/8)
Escambia	WNV: 15 humans (2 July, 8 August, 5 September)
Flagler	EEEV: 2 sentinels (8/6, 9/24) WNV: 11 sentinels (9/4, 10/1, 10/9, 10/22, 10/29, 11/13, 11/19, 11/26, 12/3) HJV: 2 sentinels (7/30, 8/27) Flavi: 1 Sentinel (12/3)
Gadsden	WNV: 1 human (August); 1 horse (10/14) EEEV: 1 horse (10/31)
Gilchrist	WNV: 1 horse (10/12)
Glades	EEEV: 2 horses (6/25, 7/14)
Gulf	EEEV: 1 horse (8/21)
Hamilton	WNV: 1 human (September)
Hernando	EEEV: 2 sentinels (10/1, 10/22) WNV: 2 sentinels (1/23, 9/17)
Hillsborough	EEEV : 4 sentinels (2/14, 3/13, 4/17) WNV: 1 human (August); 24 sentinels (1/3, 1/17, 1/24, 1/31, 2/14, 3/6, 6/12, 8/28, 9/18, 9/25, 10/30, 12/11, 12/31) SLEV: 11 sentinels (1/3, 8/28, 10/9, 10/16, 10/30, 11/6)
Holmes	EEEV : 1 human (June); 3 horses (5/21, 6/25, 11/2) WNV : 3 human (2 October, November) ; 3 horses (8/11, 8/23, 9/26)
Indian River	WNV: 17 sentinels (5/24, 8/9, 8/30, 9/13, 9/20, 9/27, 11/8, 11/15)
Jackson	EEEV: 1 horse (9/9) WNV: 2 human (September), 1 horse (10/9)
Jefferson	EEEV: 1 horse (8/6) WNV: 1 horse (10/25)
Lee	WNV: 6 sentinels (1/24, 9/17, 9/18, 10/9, 10/23, 11/5) SLEV: 30 sentinels (3/7, 8/30, 9/4, 9/10, 9/17, 9/18, 10/1, 10/2, 10/8, 10/9, 10/15, 10/22, 10/23, 10/29, 10/30, 11/5, 11/12, 11/20, 12/3, 12/4) Flavi: 1 sentinel (12/4)
Leon	EEEV : 5 horses (8/21, 8/30, 9/3, 9/4, 10/4), 10 sentinels (8/13, 8/28, 9/22, 10/22, 10/29, 11/5, 11/13, 11/26) WNV : 2 humans (August, October), 37 sentinels (9/17, 9/22, 10/2, 10/15, 10/22, 10/29, 11/5, 11/13, 11/19) HJV : 6 sentinels (8/28, 9/4, 9/11, 10/2, 12/10)

County	Arbovirus Activity
Levy	EEEV: 2 horses (1/2) WNV : 1 horse (9/3)
Liberty	EEEV: 1 horse (10/19)
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 sentinels (9/19, 9/25, 10/1, 10/16)
Martin	WNV: 1 sentinel (9/14) SLEV: 4 sentinels (9/28, 10/5, 10/18)
Miami-Dade	Dengue: 2 humans (August, October)
Nassau	EEEV : 1 horse (7/18) ; 9 sentinels (6/16, 6/23, 9/8, 9/14, 9/28, 10/15) WNV : 1 human (October) ; 36 sentinels (8/6, 8/25, 8/31, 9/8, 9/10, 9/14, 9/20, 9/28, 10/1) HJV : 6 sentinels (7/13, 8/18, 8/31, 9/14, 9/28)
Okaloosa	WNV : 3 humans (2 August, 1 September)
Orange	EEEV : 27 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, 10/25, 11/15, 11/20, 11/26, 11/29, 12/6) WNV: 20 sentinels (1/9,1/12, 1/19, 1/25, 3/1, 7/26, 9/13, 9/17, 9/19, 10/22, 10/29, 11/29, 12/3, 12/10) SLEV: 3 sentinels (10/1)
Osceola	EEEV : 1 horse (7/25) Dengue : 1 human (October)
Palm Beach	EEEV : 1 horse (6/20) WNV : 1 horse (8/29), 3 sentinels (8/27, 9/17, 10/15) SLEV : 11 sentinels (7/23, 8/20, 8/27, 9/17, 10/22)
Pasco	WNV : 2 sentinels (5/29, 9/19)
Polk	WNV : 4 sentinels (9/5, 9/18, 10/2)
Putnam	EEEV: 1 horse (1/1) ; 3 sentinels (7/20, 8/3, 10/9) WNV : 19 sentinels (9/18, 9/25, 10/2 10/9, 10/16, 10/23) SLEV : 1 sentinel (10/2)
Santa Rosa	EEEV : 2 horses (5/11, 11/1) WNV : 3 humans (2 August, 1 September) ; 2 horses (8/23, 8/29)
Sarasota	WNV: 23 sentinels (1/9, 2/6, 3/19, 5/7, 5/14, 7/9, 7/16, 7/27, 8/3, 8/24, 8/31, 9/14, 9/17, 9/24, 10/19, 11/9, 12/31) SLEV: 13 sentinels (7/2, 9/7, 10/1, 10/19, 10/26, 11/2, 11/9, 11/16) HJV: 1 sentinel (9/7) Flavi: 1 sentinel (8/31)
Seminole	WNV : 3 sentinels (8/7, 9/25) Dengue: 1 human (September)
St. Johns	EEEV : 7 sentinels (9/2, 9/11, 9/18, 10/8, 10/29, 11/27) WNV : 61 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, 10/22, 11/5, 11/13, 11/19, 12/10) HJV : 2 sentinels (4/30, 7/3)
St. Lucie	WNV : 2 sentinels (9/14, 10/8) SLEV : 3 sentinels (10/8, 10/22)
Suwannee	WNV : 2 asymptomatic blood donors (October) 2 horses (10/15, 10/18)
Union	EEEV : 1 horse (5/12)
Volusia	WNV : 7 sentinels (5/29, 6/25, 9/17, 11/5, 11/19, 12/31) EEEV : 1 sentinel (11/19)
Wakulla	EEEV : 4 horses (10/9, 10/21, 10/22, 12/15)
Walton	WNV : 4 humans (2 September, October, November) ; 2 horses (9/29, 10/16); 133 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, 8/21, 9/6, 9/10, 9/17, 9/18, 9/24, 10/1, 10/8, 10/15, 10/22, 10/29, 11/5, 11/19 11/26, 12/4, 12/10, 12/17) EEEV : 21 sentinels (6/4, 6/18, 6/25, 7/2, 7/30, 9/6, 9/10, 10/15, 11/19, 11/26, 12/4, 12/10, 12/17) HJV : 7 sentinels (5/14, 6/11, 6/18, 7/16, 7/23, 9/6, 10/1) Flavi : 2 sentinels (11/26)

County	Arbovirus Activity
Washington	EEEV : 1 horse (7/1) WNV : 2 human (September, October), 1 horse (9/19)

Acknowledgements and Data Sources

Contributors: Stephanie Moody-Geissler, 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.