



Florida Arbovirus Surveillance Week 45: November 4 - 10, 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 November 4 - 10, the following arboviral activity was recorded in Florida:

DENV activity: One case of locally acquired dengue was reported this week in Osceola County. Two human cases of locally acquired dengue were previously reported this year, one in Miami-Dade County and one in Seminole for a total of three locally acquired dengue cases reported in 2012.

EEEV activity: Three sentinel chickens in Leon and Orange Counties tested positive for antibodies to EEEV. Two horse cases of EEE infection were reported in Gadsden and Santa Rosa Counties. In 2012, positive samples from 1 human, 31 equines, and 73 sentinel chickens have been received from 29 counties.

WNV activity: One human case of WNV infection was reported this week in Leon County. Two WNV positive blood donors were reported in Suwannee County. Eleven sentinel chickens in Bay, Citrus, Leon, Orange, and Walton counties tested positive for antibodies to WNV. In 2012, positive samples from 56 humans, 17 horses, 402 sentinel chickens, 4 mosquito pools, and 3 birds have been received from 38 counties.

SLEV activity: Three sentinel chickens in Hillsborough and Sarasota Counties tested positive for antibodies to SLEV. In 2012, positive samples from 60 sentinel chickens, 1 mosquito pool, and 1 bird have been received from 13 counties

HJV activity: There were no sentinel chickens that tested positive for antibodies to HJV this week. In 2012, positive samples from 26 sentinel chickens have been received from 9 counties.

Advisories/Alerts: Duval, Escambia, Leon, Okaloosa, Santa Rosa, Suwannee and Walton counties are currently under mosquito-borne illness alerts. Alachua, Bay, Gadsden, Hamilton, Hillsborough, Holmes, Indian River, Jackson, Jefferson, Miami-Dade, Osceola, Orange, Seminole, St. Johns, Wakulla, 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 EEE 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-six 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 cases with onset in July (2), August (7), and September (5), and an asymptomatic presumptive positive blood donor were reported in Escambia County. Three cases with onset in August (2) and September were reported in Santa Rosa County. Three cases with onset in August (2) and one in September were reported in Okaloosa County. Two cases with onset

in September were reported in Walton County. Two cases with onset in August and October were reported in Leon County. Two presumptive positive blood donors in October were reported in Suwannee County. One case each with onset in August was reported in Hillsborough and Gadsden counties, and one case each with onset in September was reported in Bay, Hamilton, Jackson, and Washington counties. Three Florida residents in Broward, Manatee, and Volusia counties acquired 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: Three local cases of dengue have been reported in 2012; one each in Miami-Dade (August) Seminole (September) and Osceola (October) counties.

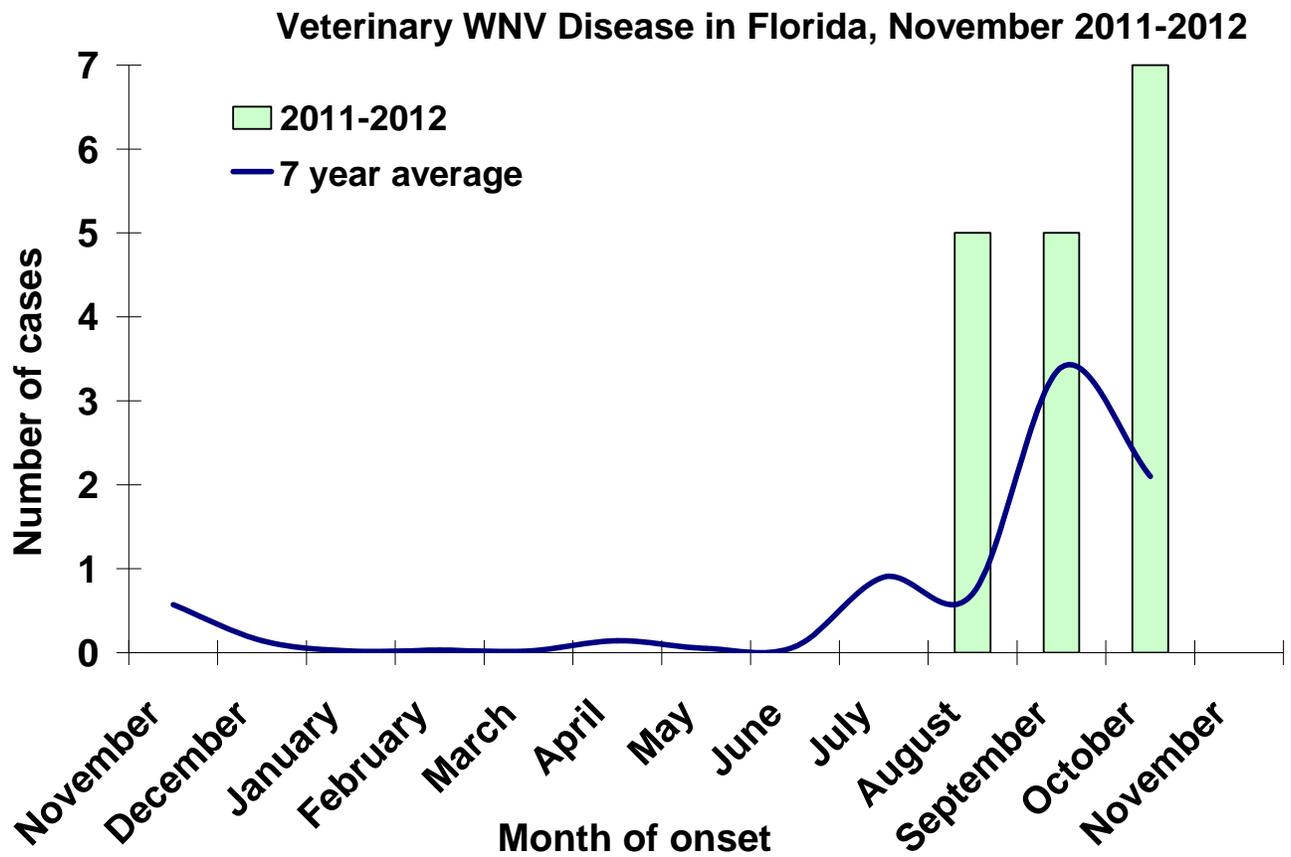
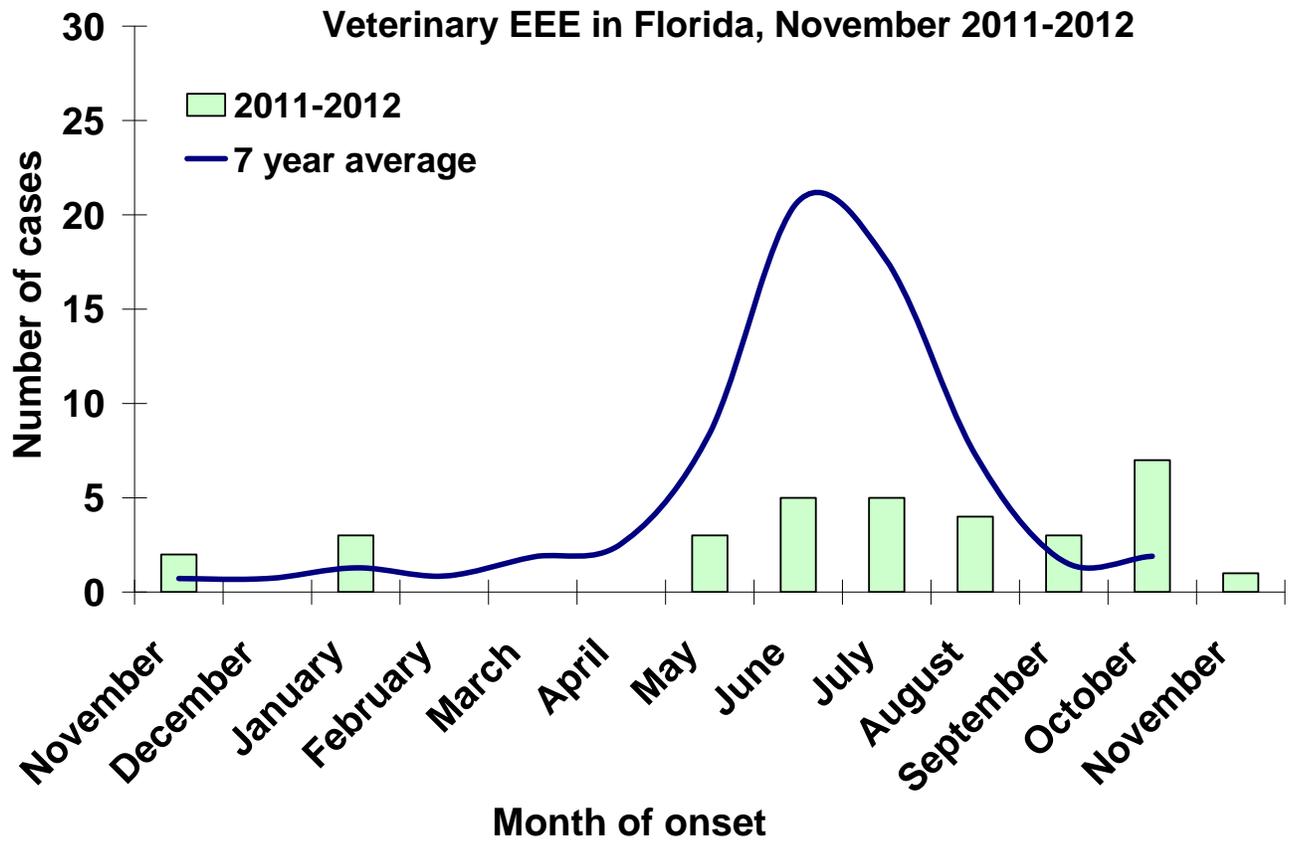
Imported Dengue: One hundred cases of dengue with onset in 2012 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Brazil, Colombia, Cuba (22), Dominican Republic (9), Ecuador (4), El Salvador (2), Ghana, Guyana (2), Haiti (15), Honduras, India, Jamaica (18), Mexico (2), Nicaragua, Panama, Philippines, Puerto Rico (9), South Africa, Sri Lanka, St. Vincent, Suriname, Trinidad (4), and Turks & Caicos. Counties reporting cases were Brevard (3), Broward (19), Collier, Duval (2), Hillsborough (4), Lee (2), Marion, Miami-Dade (37), Orange (14), Palm Beach (7), Pinellas (2), Polk, Sarasota (2), Seminole (3), and Volusia (2). Nine of the cases were reported in non-Florida residents.

Imported Malaria: Fifty-five 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 (2), Ivory Coast (3), Kenya, Liberia (2), Nigeria (8), 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, Brevard, Broward (8), Charlotte, Duval (7), Hillsborough (6), Lake (2), Leon, Manatee, Marion, Martin, Miami-Dade (7), Orange (6), Osceola (2), Palm Beach (4), Pinellas (3), Polk, Seminole, and Volusia. Six of the cases were reported in non-Florida residents.

Veterinary Cases

Two horses were reported as testing positive for EEE in Gadsden and Santa Rosa Counties.

County	Onset Date	Species	Virus	Status	County YTD
Gadsden	10/31/2012	Equine	EEEV	Died	1 WNV, 1 EEEV
Santa Rosa	11/1/2012	Equine	EEEV	Died	2 WNV, 2 EEEV

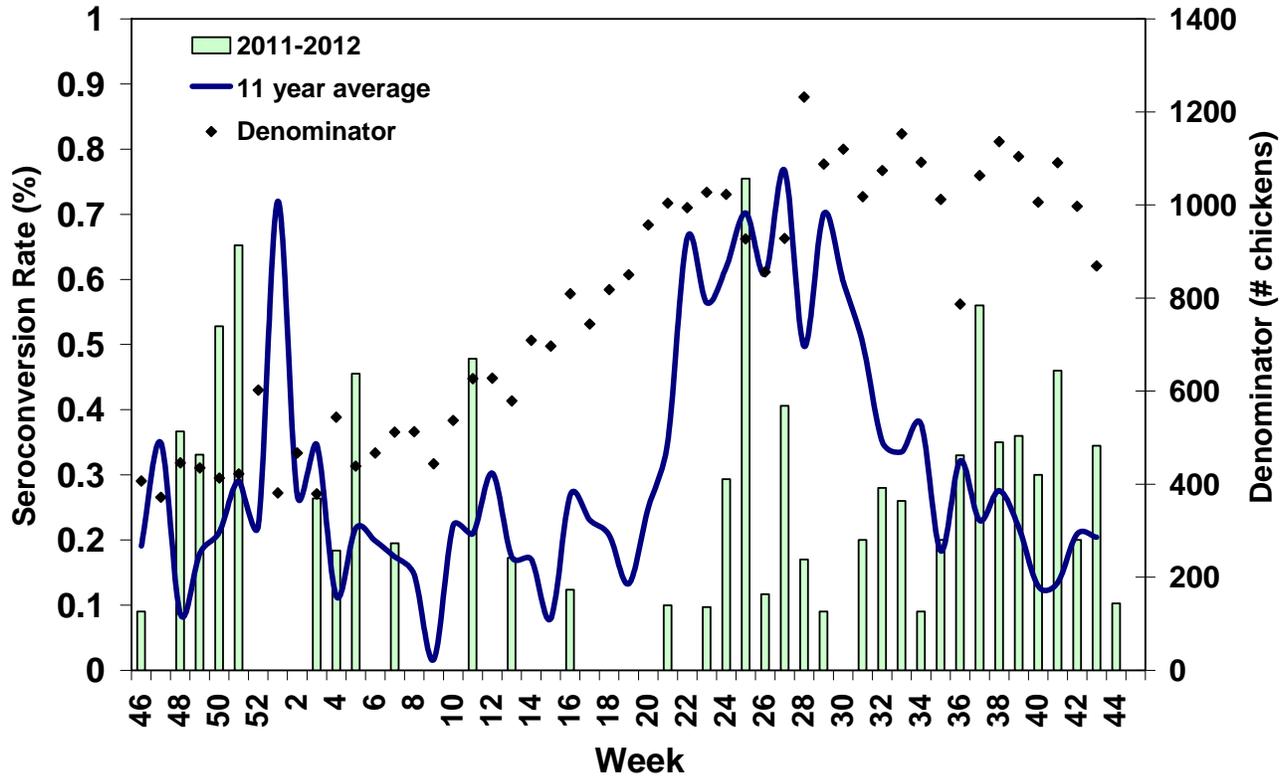


Sentinel Chickens

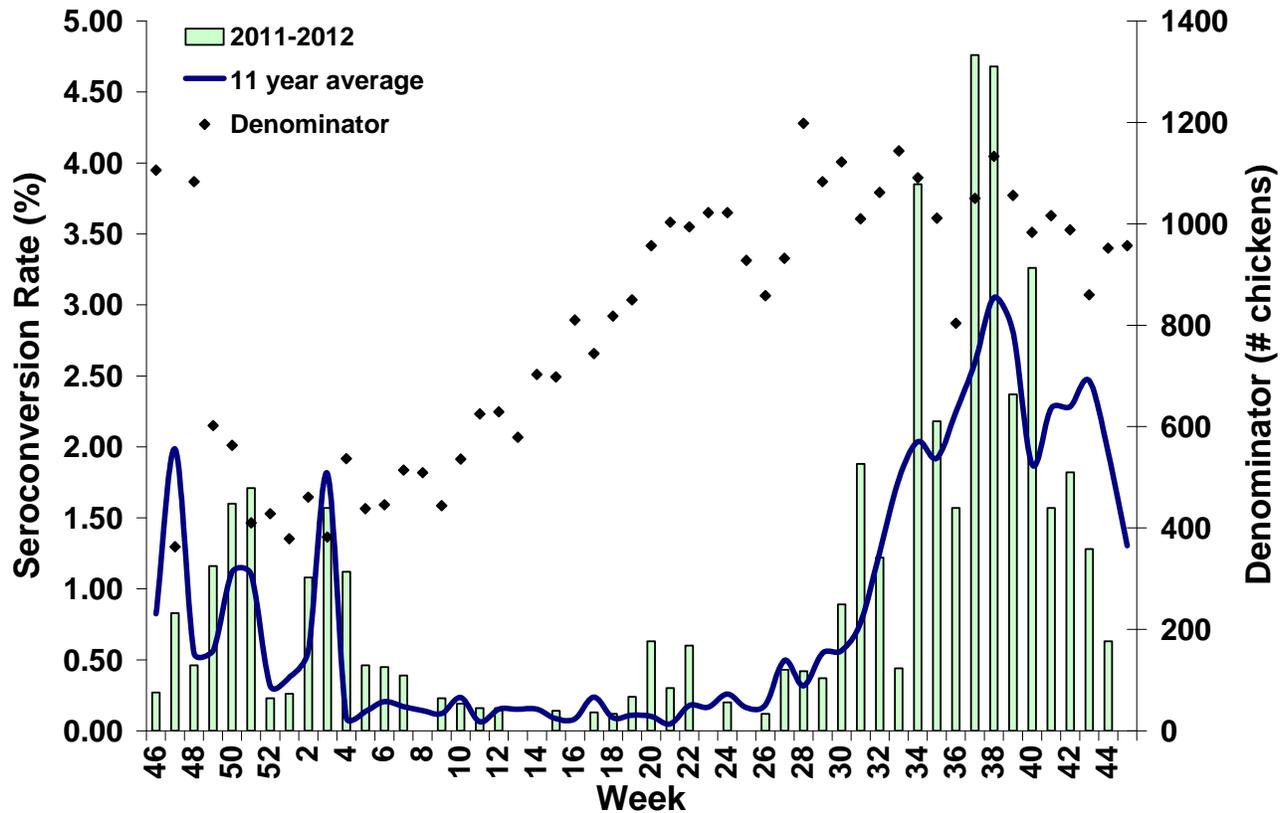
Three sentinel chickens in Leon and Orange Counties tested positive for antibodies to EEEV, Eleven sentinel chickens in Bay, Citrus, Leon, Orange, and Walton counties tested positive for antibodies to WNV, Three sentinel chickens in Hillsborough and Sarasota Counties tested positive for antibodies to SLEV. Seroconversion rates are calculated by week and include previously reported results.

COUNTY	DATE	SLE	WN	EEE	HJ	Week	YTD
Bay	10/30/12		5.88			1 WNV	21 WNV, 1 EEEV, 1 HJV
Citrus	10/15/12		2.78			2 WNV	10 WNV, 2 EEEV, 1 HJV
Hillsborough	10/16/12	1.35				1 SLEV	18 WNV, 8 SLEV, 4 EEEV
Leon	10/22/12			1.25		1 EEEV	
Leon	10/22/12		2.50			2 WNV	
Leon	10/29/12			1.25		1 EEEV	
Leon	10/29/12		2.50			2 WNV	26 WNV, 5 EEEV, 4 HJV
Orange	10/25/12		0.94	0.94		1 EEEV, 1 WNV	
Orange	10/29/12			0.91		1 WNV	16 WNV, 21 EEEV, 3 SLEV
Sarasota	10/26/12		3.23			2 SLEV	22 WNV, 10 SLEV, 1 HJV
Walton	10/15/12		2.78	1.35		2 WNV, 1 EEE	
Walton	10/22/12		1.10			1 WNV	
Walton	10/29/12		2.20			2 WNV	102 WNV, 15 EEEV, 7 HJV

Sentinel Seroconversions to EEEV in Florida, 2011-2012



Sentinel Seroconversions to WNV in Florida, 2011-2012

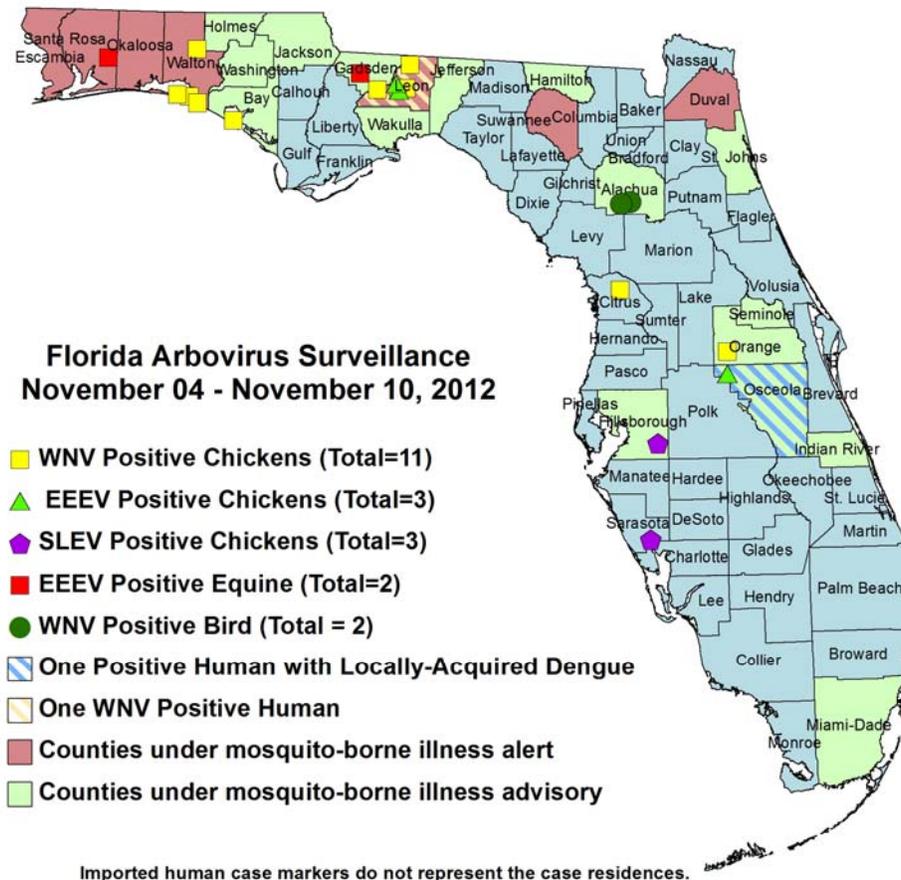


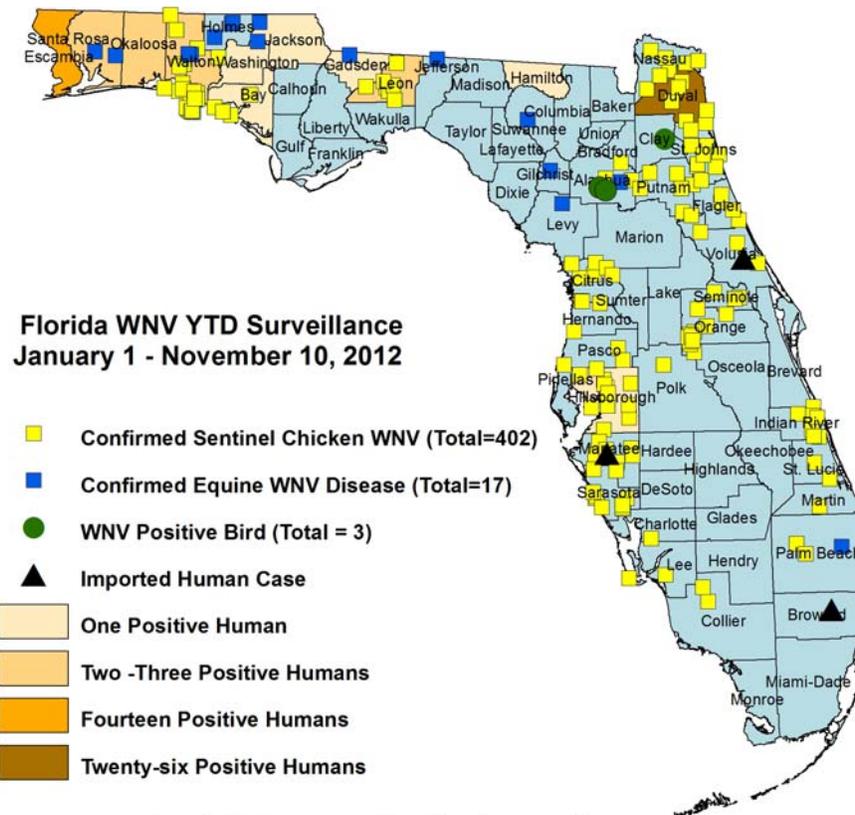
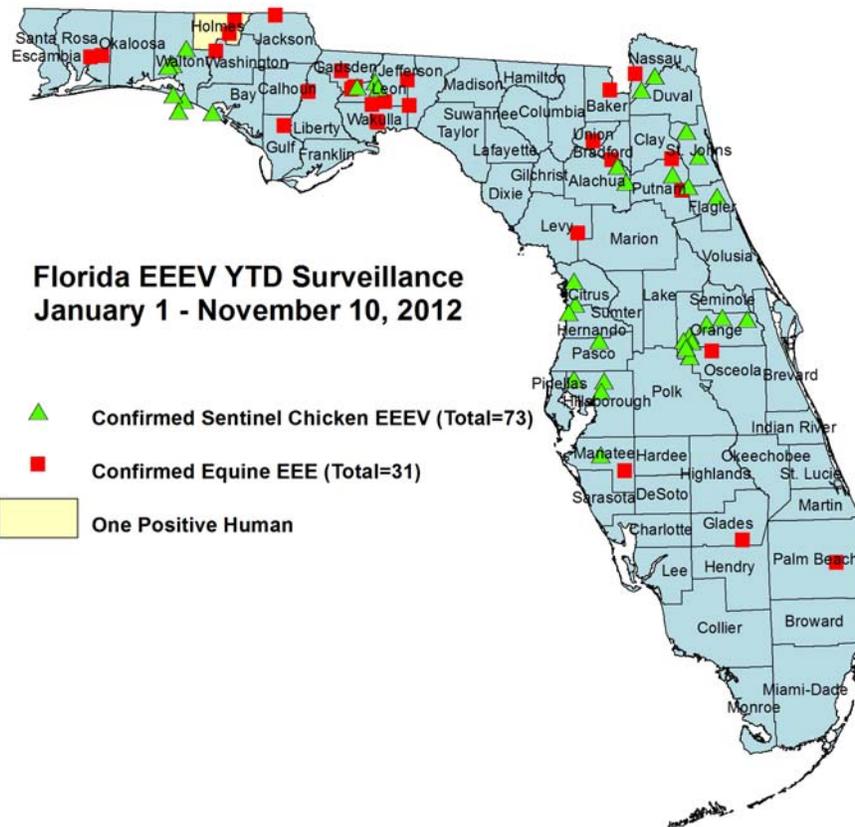
Dead Birds

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, 12 reports representing 27 dead birds were received from 11 counties. Two were identified as crows and two were identified as raptors. In 2012, 439 reports representing a total of 1270 dead birds (67 crows, 40 jays, 64 raptors) were received from 55 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	0	0
Dade	1	0	0	1
Escambia	10	0	0	0
Gulf	2	2	0	0
Holmes	1	0	0	0
Marion	3	0	0	0
Okaloosa	1	0	0	0
Orange	4	0	0	0
Seminole	1	0	0	1
Sumter	1	0	0	0
Taylor	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 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) ; 21 sentinels (7/24, 7/31, 8/7, 8/14, 8/21, 9/4, 9/11, 9/18, 10/2, 10/23, 10/30) ; 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 sentinels (9/7, 9/14, 9/28) SLEV : 1 sentinel (10/19)
Citrus	EEEV : 2 sentinels(1/30, 10/8) WNV: 10 sentinels (5/29, 8/27, 9/17, 9/24, 10/15, 10/22) 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); 25 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); 2 mosquito pools (8/7, 8/8)
Escambia	WNV: 14 humans (2 July, 7 August, 5 September)
Flagler	EEEV: 2 sentinels (8/6, 9/24) WNV: 5 sentinels (9/4, 10/1, 10/9, 10/22) HJV: 2 sentinels (7/30, 8/27)
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); 18 sentinels (1/3, 1/17, 1/24, 1/31, 2/14, 3/6, 6/12, 8/28, 9/18, 9/25) SLEV: 8 sentinels (1/3, 8/28, 10/9, 10/16)
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) WNV: 1 horse (10/25)
Liberty	EEEV: 1 horse (10/19)
Lee	WNV: 4 sentinels (1/24, 9/17, 9/18, 10/9) SLEV: 16 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)
Leon	EEEV : 5 horses (8/21, 8/30, 9/3, 9/4, 10/4), 5 sentinels (8/13, 8/28, 9/22, 10/22, 10/29) WNV : 2 humans (August, October), 26 sentinels (9/17, 9/22, 10/2, 10/15, 10/22, 10/29) 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)

County	Arbovirus Activity
	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: 1 human (August)
Nassau	EEEV : 1 horse (7/18) ; 9 sentinels (6/16, 6/23, 9/8, 9/14, 9/28, 10/15) 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 : 21 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) WNV: 16 sentinels (1/9, 1/12, 1/19, 1/25, 3/1, 7/26, 9/13, 9/17, 9/19, 10/22, 10/29) 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 (8/17, 8/27, 10/15) SLEV : 9 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 : 16 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: 22 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, 10/19); 1 of the positives were flavivirus positive (8/31 tallied under WNV) SLEV: 10 sentinels (7/2, 9/7, 10/1, 10/19, 10/26) HJV: 1 sentinel (9/7)
Seminole	WNV : 3 sentinels (8/7, 9/25) Dengue: 1 human (September)
St. Johns	EEEV : 5 sentinels (9/2, 9/11, 9/18, 10/8) WNV : 49 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) 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 : 3 sentinels (5/29, 6/25, 9/17)
Wakulla	EEEV : 3 horses (10/9, 10/21, 10/22)
Walton	WNV : 2 humans (September) ; 2 horses (9/16, 9/29); 102 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, 10/22, 10/29) EEEV : 15 sentinels (6/4, 6/18, 6/25, 7/2, 7/30, 9/6, 9/10, 10/15) 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

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.