



Florida Arbovirus Surveillance Week 5: January 27 – February 2, 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 27 – February 2, 2013 the following arboviral activity was recorded in Florida:

This week's report includes 2012 and 2013 cases and positive samples.

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

EEEV activity: One human case of EEEV infection was reported this week in Levy County. No sentinel chickens tested positive for antibodies to EEEV this week. No horse cases of EEEV infection were reported this week. In 2013, positive samples from one human, one equine, and one sentinel chicken have been received from two counties.

WNV activity: No human cases of WNV infection were reported this week. No horse cases of WNV infection were reported this week. Four sentinel chickens tested positive this week in Citrus and Walton Counties for antibodies to WNV. In 2013, positive samples from four sentinel chickens have been received from two counties.

SLEV activity: No sentinel chickens tested positive for antibodies to SLEV this week. 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. Levy County is currently under a mosquito-borne illness advisory. No other counties are currently under mosquito-borne illness advisory or alert.

2013 Human Case Summary*

EEEV Infection Acquired in Florida: One human case of EEEV infection with onset in January was reported in 2013 in a Levy County resident.

Imported Dengue:

2012: One hundred and fifty-two 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 Colombia, Cuba (30), Dominican Republic (19), Ecuador (4), El Salvador (2), Ghana, Guatemala, Guyana (2), Haiti (19), Honduras, India, Jamaica (27), Mexico (2), Nicaragua (2), Panama, Philippines (2), Portugal, Puerto Rico (26), Sri Lanka, St. Vincent, Suriname, Trinidad (4), Turks & Caicos, Venezuela and Virgin Islands. Counties reporting cases were Brevard (4), Broward

(24), Collier, Duval (2), Flagler, Hillsborough (8), Lee (3), Marion, Miami-Dade (58), Okaloosa, Orange (19), Osceola (5), Palm Beach (9), Pinellas (4), Polk, Sarasota (2), Seminole (4), St. Johns, St. Lucie, and Volusia (3). Twelve of the cases were reported in non-Florida residents.

2013: Five cases of dengue with onset in 2013 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were: The Caribbean, Columbia, Dominican Republic, Jamaica, and Philippines. Counties reporting cases were: Clay, Lee, Orange (2), and Palm Beach. Two of the cases were reported in non-Florida residents.

In 2012, Seventy-six of the one hundred and fifty-two cases of dengue reported in Florida have been serotyped by PCR. In 2013, four of five cases of dengue reported in Florida have been serotyped by PCR. Additional serotyping and strain typing are being conducted.

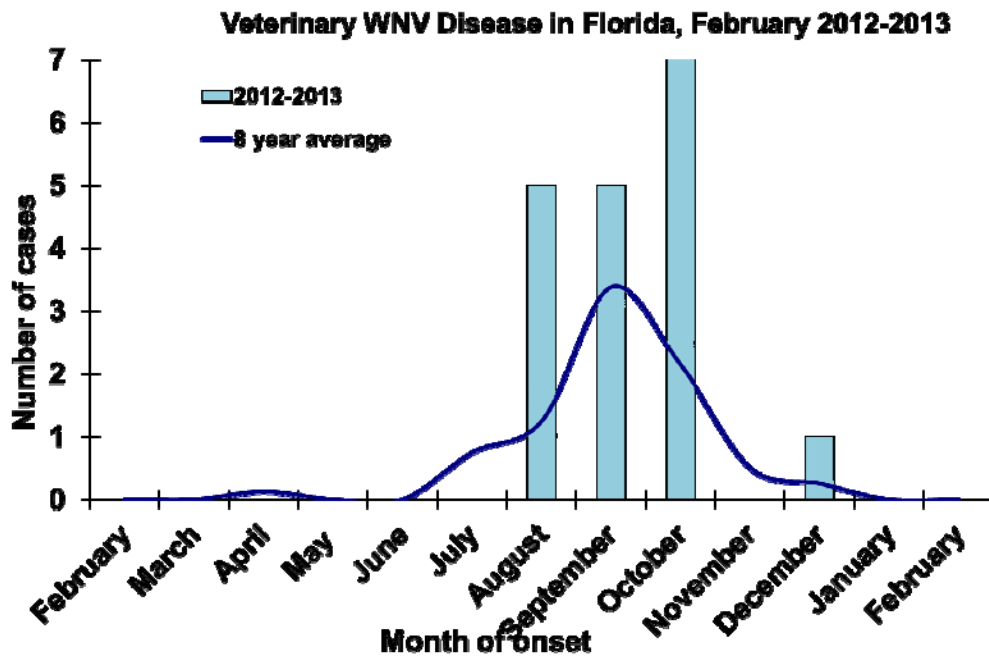
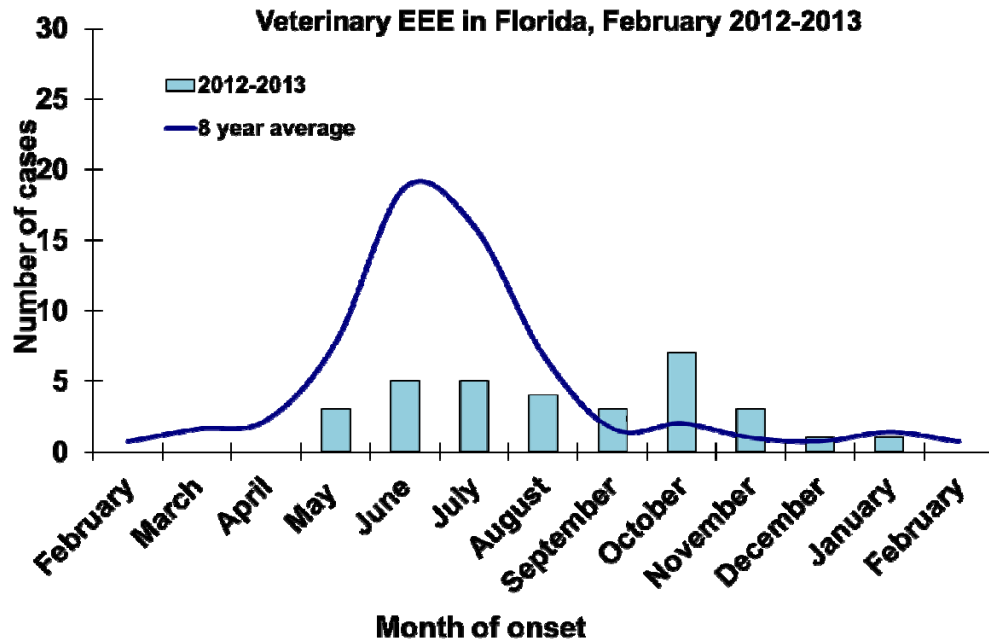
	# of cases per serotype - 2012	# of cases per serotype - 2013
DENV-1	46	1
DENV-2	5	0
DENV-3	1	1
DENV-4	24	2
	76	4

Imported Malaria - 2012: Sixty-four 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 (3), Haiti (11), Honduras (3), India (2), Ivory Coast (3), Kenya, Liberia (3), Nigeria (10), 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), Escambia, Hillsborough (7), Lake (2), Leon, Manatee, Marion, Martin, Miami-Dade (9), Orange (6), Osceola (2), Palm Beach (5), Pinellas (3), Polk, Seminole, and Volusia (2). Six of the cases were reported in non-Florida residents.

Imported Malaria - 2013: Three cases of malaria with onset in 2013 have been reported. Countries of origin were: Guinea, Guyana, and Haiti. County reporting case was: Miami-Dade (3).

Veterinary Cases

No horses were reported as testing positive this week.



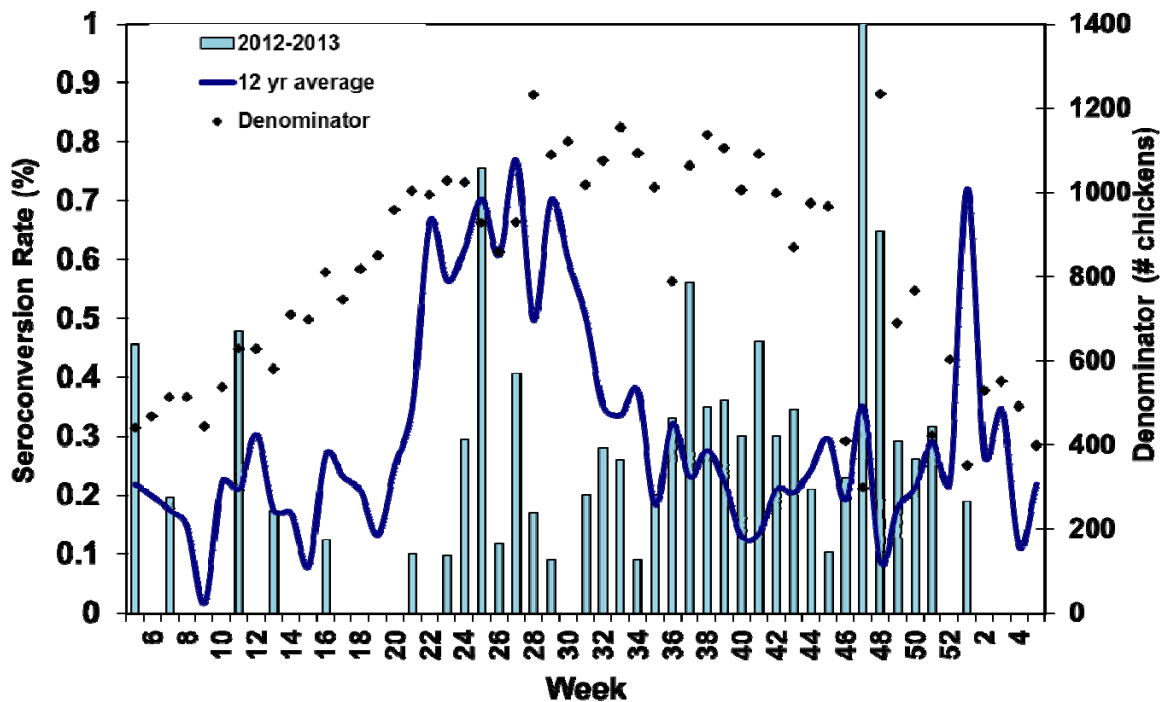
Sentinel Chickens

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.

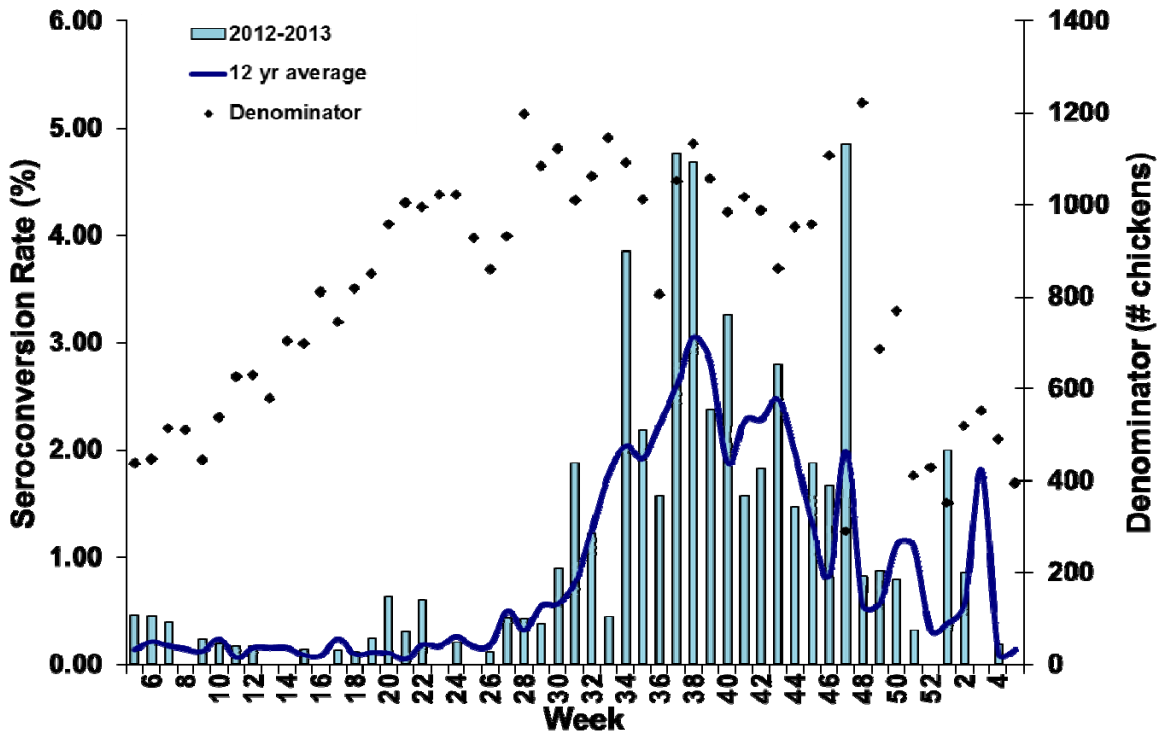
Four sentinel chickens tested positive this week in Citrus and Walton Counties for antibodies to WNV.

County	Collection Date	Seroconversion Rates (%)				Collection Week	County Totals
		SLEV	WNV	EEEV	HJV		
Citrus	1/21/2013		1.39			1 WNV	1 WNV
Walton	1/7/2013		6.52			3 WNV	3 WNV

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, 7 reports representing 7 dead birds, including 1 raptor were received from 6 counties.

In 2012, 540 reports representing a total of 1444 dead birds (70 crows, 41 jays, 76 raptors, 62 dove) were received from 56 of Florida's 67 counties.

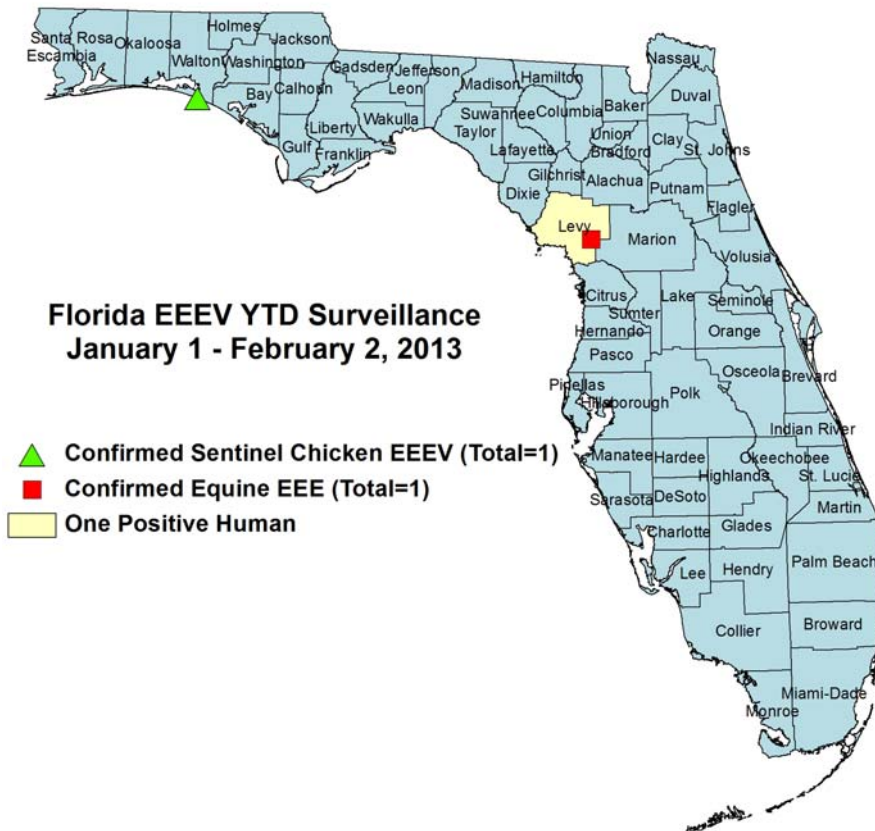
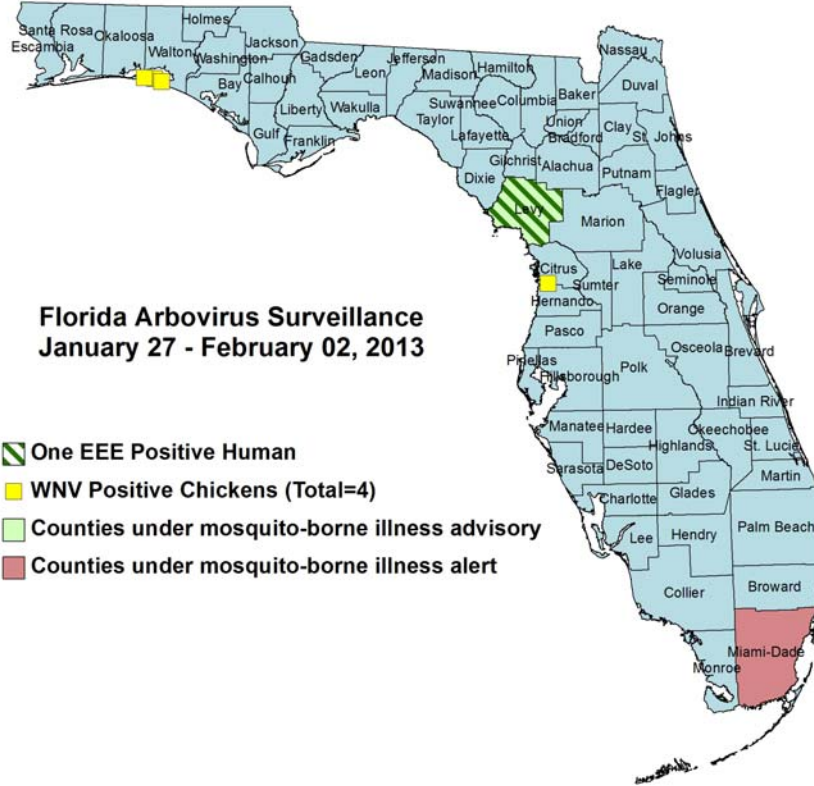
In 2013, 27 reports representing a total of 28 dead birds (0 crows, 0 jays, 7 raptors, 1 dove) were received from 17 of Florida's 67 counties. Please note that FWC collects reports of birds that have died from a variety of causes, not only arboviruses. Dead birds should be reported to

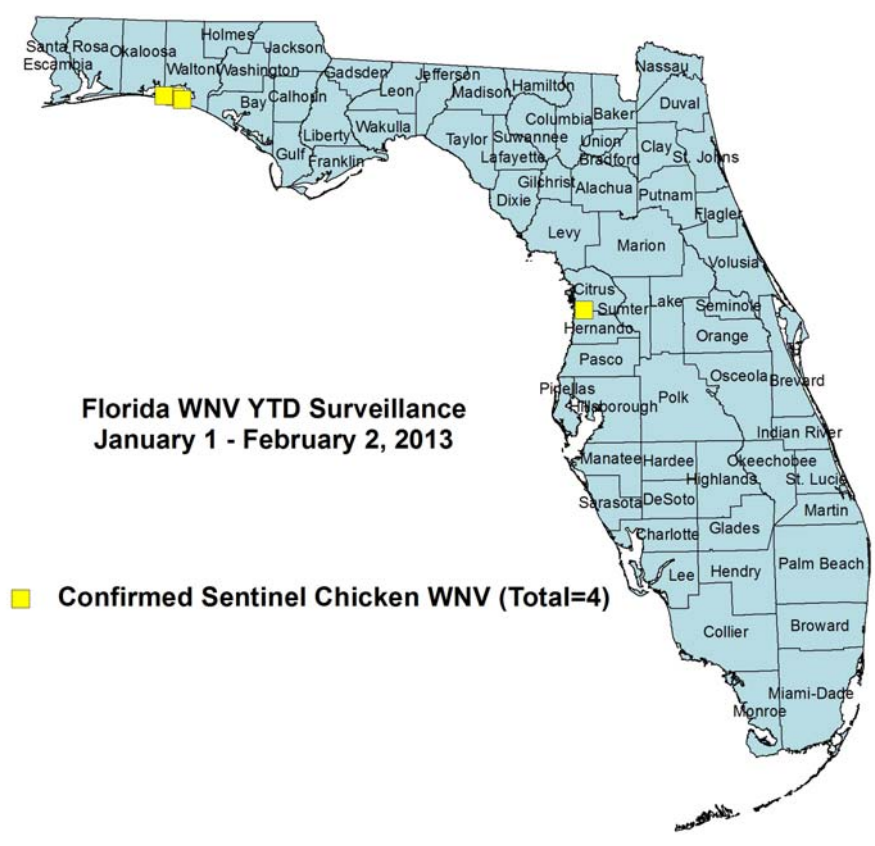
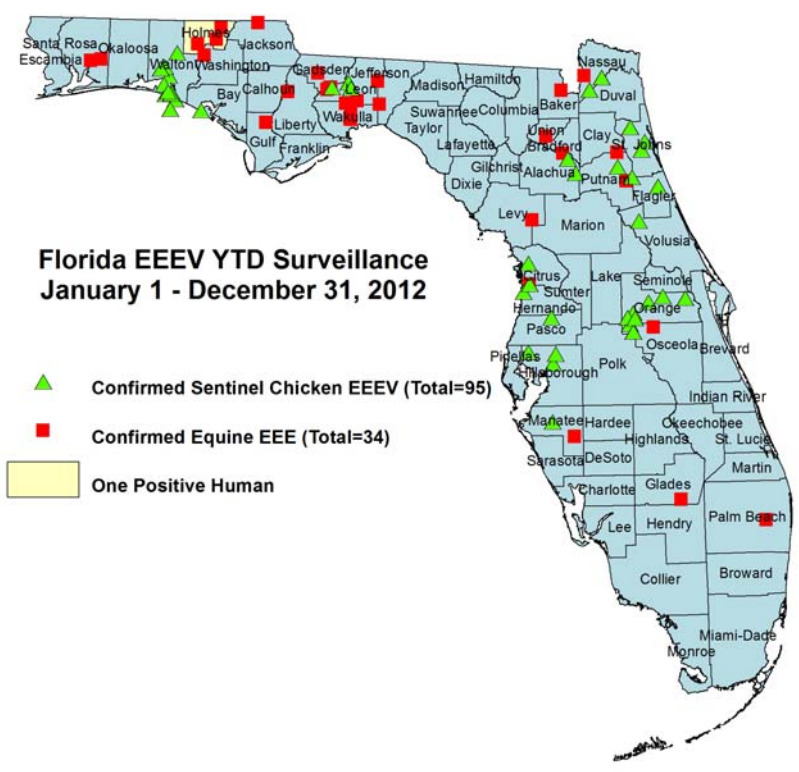
www.myfwc.com/bird/

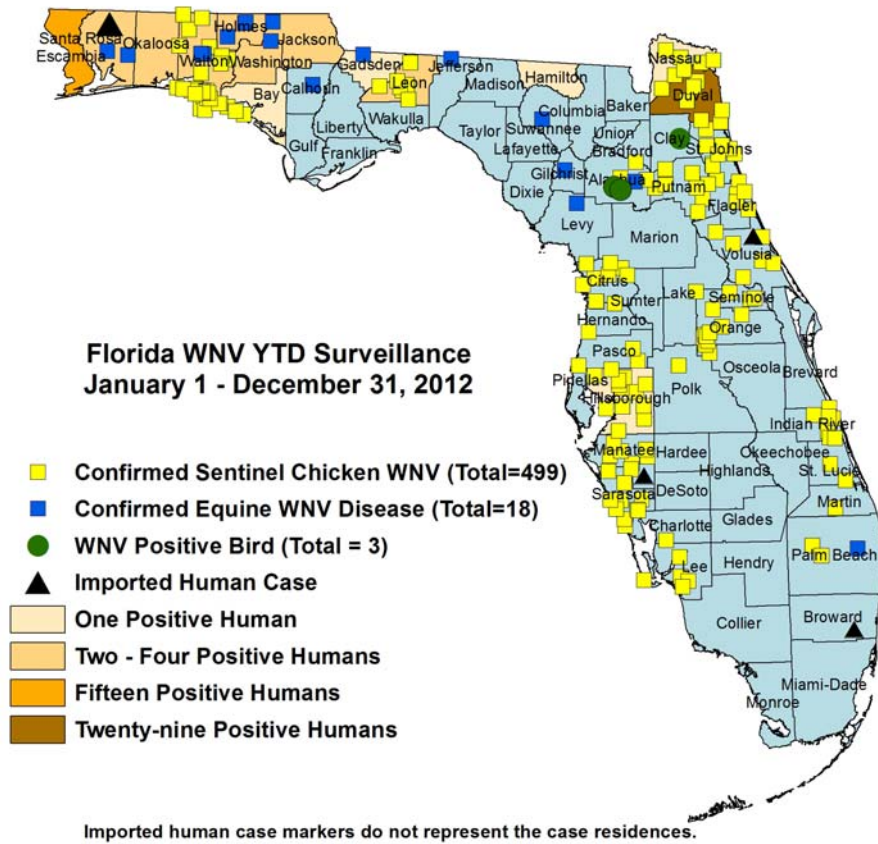
2013

County	Total Dead Birds	Crows	Jays	Raptors	Dove
Alachua	1	0	0	0	0
Brevard	1	0	0	0	0
Hillsborough	1	0	0	0	0
Orange	1	0	0	1	0
St. Johns	2	0	0	0	0
Wakulla	1	0	0	0	0

Maps







2013 Arbovirus Activity by County

County	Arbovirus Activity
Citrus	WNV: 1 sentinel (1/21)
Levy	EEEV : 1 human (January) ; 1 horse (1/7)
Walton	EEEV : 1 sentinel (1/7) WNV : 3 sentinels (1/7)

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)

County	Arbovirus Activity
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)
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)

County	Arbovirus Activity
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: 14 sentinels (7/2, 9/7, 10/1, 10/19, 10/26, 11/2, 11/9, 11/16, 12/28) 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)
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 Public Health 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.