



## Florida Arbovirus Surveillance Week 4: January 20 – January 26, 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 20 – January 26, 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:** One sentinel chicken tested positive this week in Walton County for antibodies to EEEV. No horse cases of EEEV infection were reported this week. In 2013, 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. No sentinel chickens tested positive this week for antibodies to WNV. In 2013, no positive samples have been received.

**SLEV activity:** One sentinel chicken collected in December 2012 tested positive this week from Sarasota County 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. No other counties are currently under mosquito-borne illness advisory or alert.

## 2013 Human Case Summary\*

### Imported Dengue:

**2012:** One hundred and fifty 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 (30), Dominican Republic (18), 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 (24), South Africa, Sri Lanka, St. Vincent, Suriname, Trinidad (4), Turks & Caicos, and Virgin Islands. Counties reporting cases were Brevard (3), Broward (24), Collier, Duval (3), Flagler, Hillsborough (8), Lee (3), Marion, Miami-Dade (56), Okaloosa, Orange (19), Osceola (5), Palm Beach (9), Pinellas (4), Polk (1), Sarasota (2), Seminole (4), St. Johns, St. Lucie, and Volusia (3). Eleven of the cases were reported in non-Florida residents.

**2013:** Three 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, and Dominican Republic. Counties reporting cases were: Clay and Orange (2). One of the cases was reported in a non-Florida resident.

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

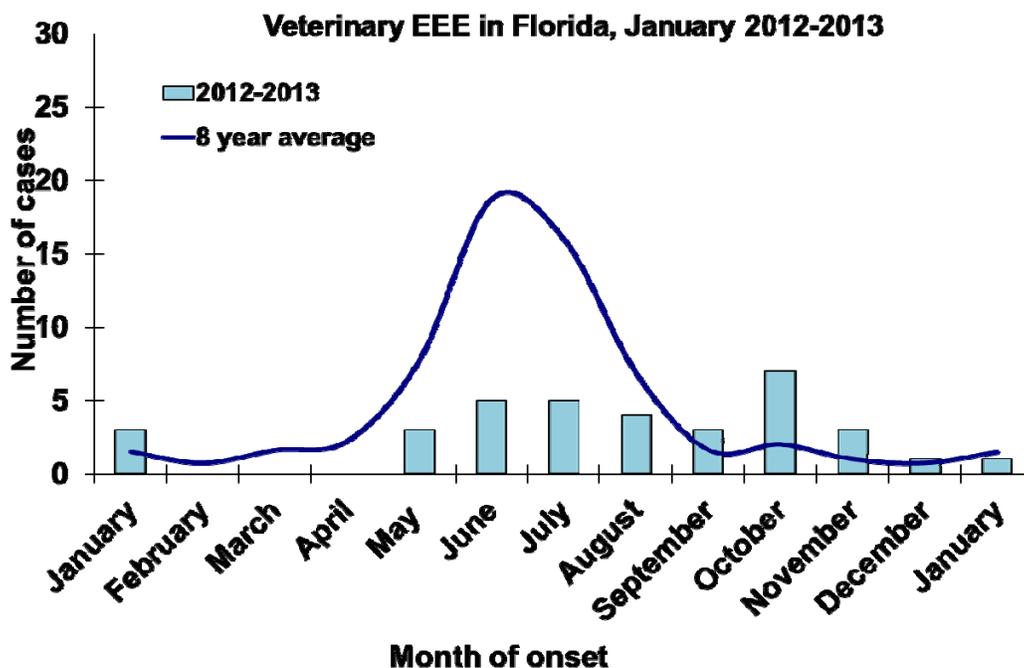
	# of cases per serotype - 2012	# of cases per serotype - 2013
DENV-1	45	0
DENV-2	5	0
DENV-3	1	0
DENV-4	23	1
	<b>74</b>	<b>1</b>

**Imported Malaria - 2012:** Sixty-three 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 (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 (4), Pinellas (3), Polk, Seminole, and Volusia (2). Six of the cases were reported in non-Florida residents.

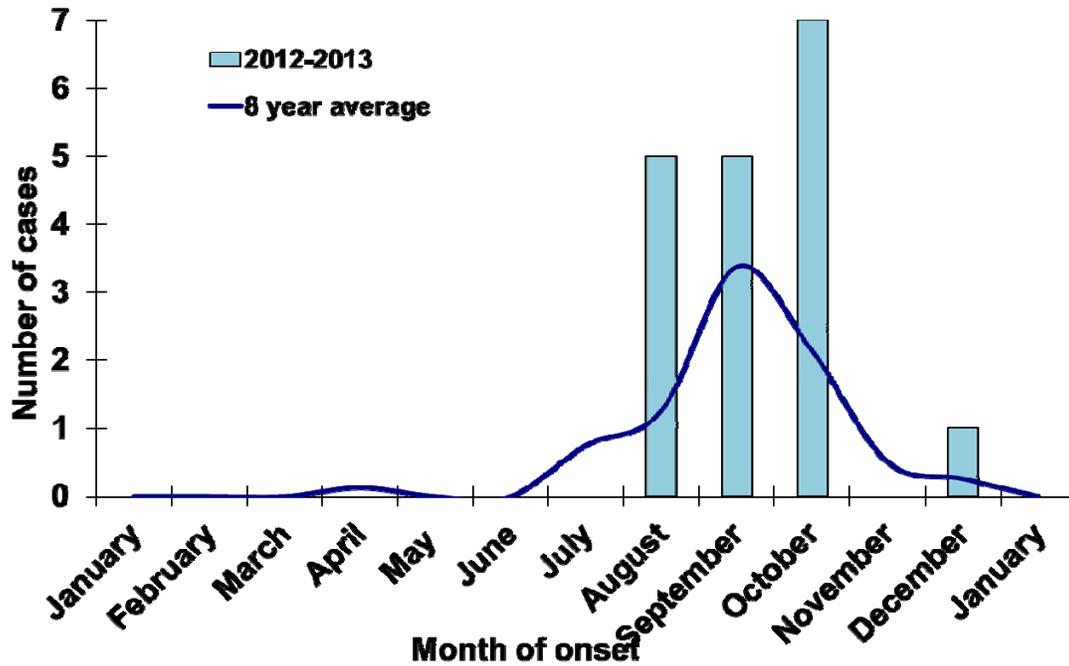
**Imported Malaria - 2013:** Three cases of malaria with onset in 2013 have been reported. Countries of origin were: Guinea, Guyana, and Haiti. County reporting case was: Miami-Dade (3).

### Veterinary Cases

No horses were reported as testing positive this week.



### Veterinary WNV Disease in Florida, January 2012-2013



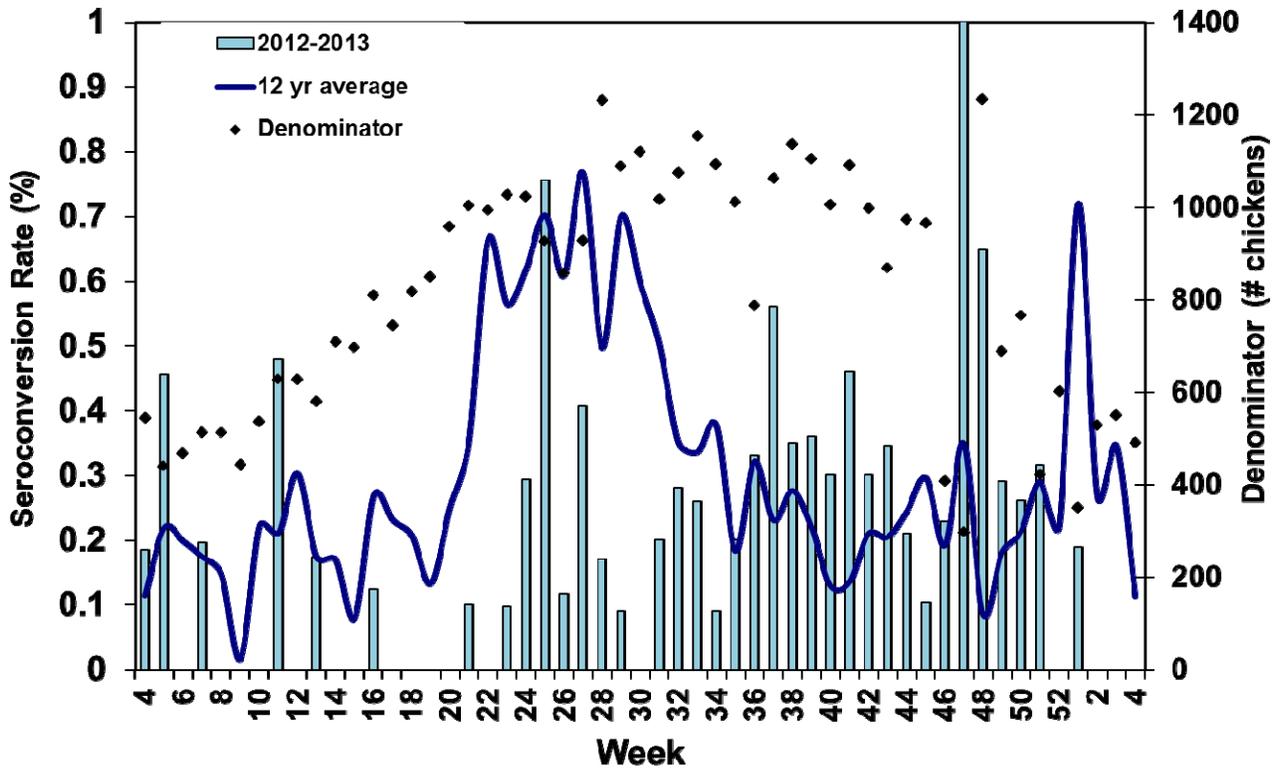
### Sentinel Chickens

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.

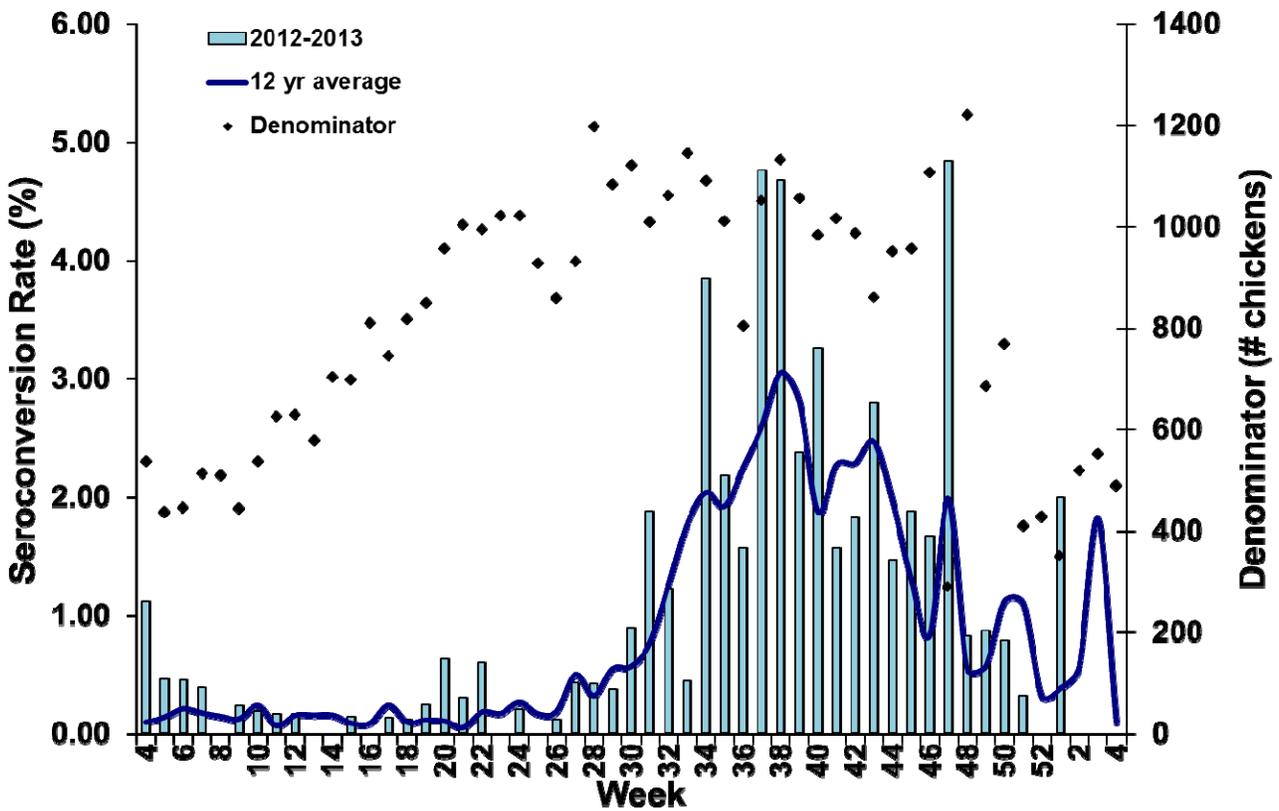
One sentinel chicken tested positive this week in Walton County for antibodies to EEEV. One sentinel chicken collected in December 2012 tested positive this week from Sarasota County for antibodies to SLEV.

County	Collection Date	Seroconversion Rates (%)				Collection Week	County Totals
		SLEV	WNV	EEEV	HJV		YTD
Sarasota	12/28/2012	1.67				1 SLEV	23 WNV, 14 SLEV, 1 HJV
Walton	1/7/2013			1.37		1 EEEV	1 EEEV

### 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 3 raptors and 1 dove were received from 7 counties. In 2012, 543 reports representing a total of 1447 dead birds (70 crows, 41 jays, 78 raptors, 62 dove) were received from 56 of Florida's 67 counties.

In 2013, 13 reports representing a total of 20 dead birds (0 crows, 0 jays, 6 raptors, 1 dove) were received from 14 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/](http://www.myfwc.com/bird/)

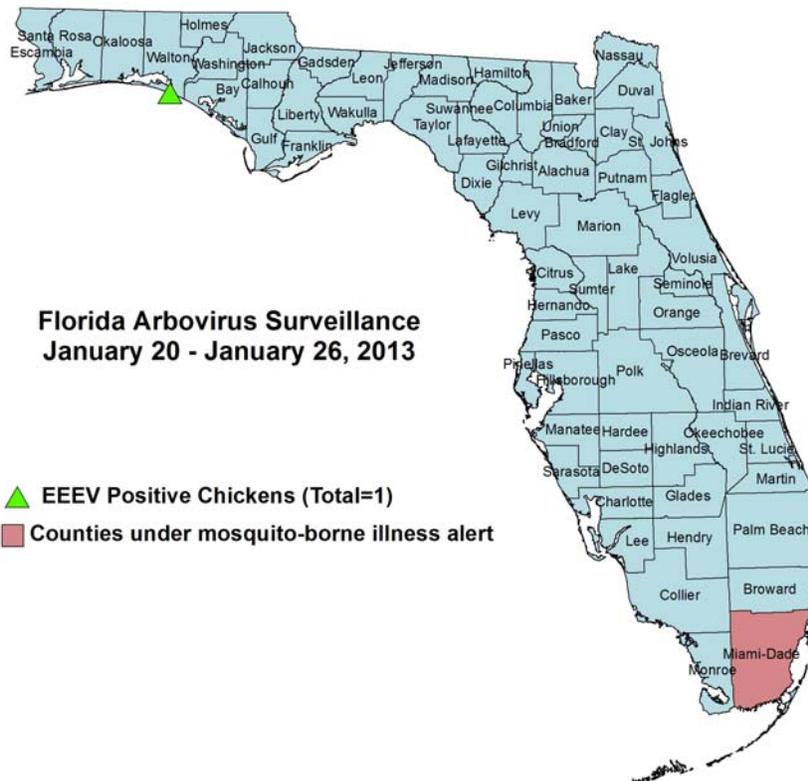
### 2012

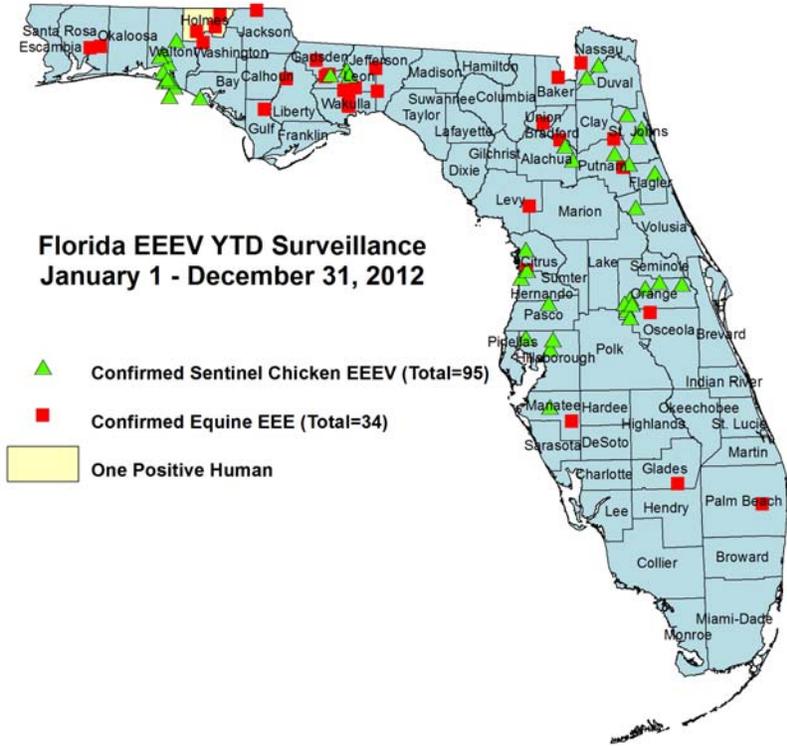
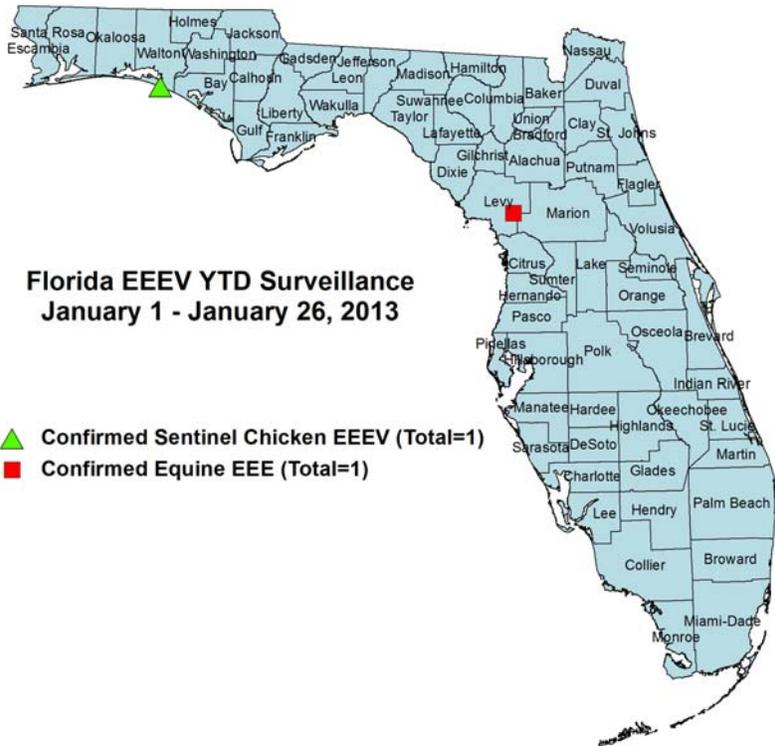
County	Total Dead Birds	Crows	Jays	Raptors	Dove
Volusia	1	0	0	1	0

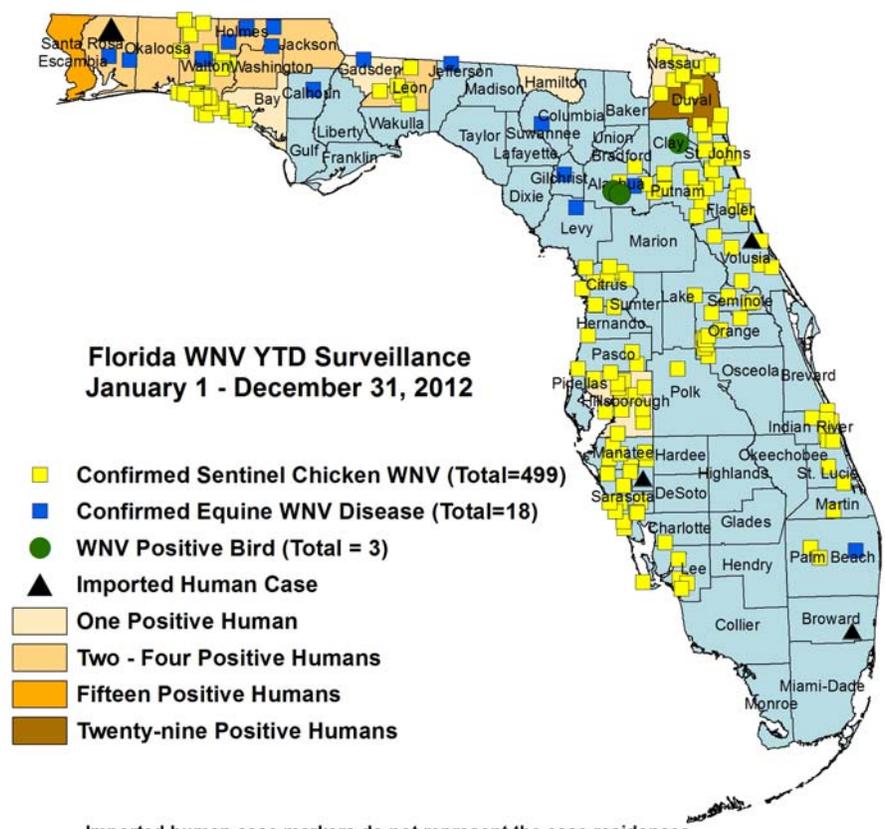
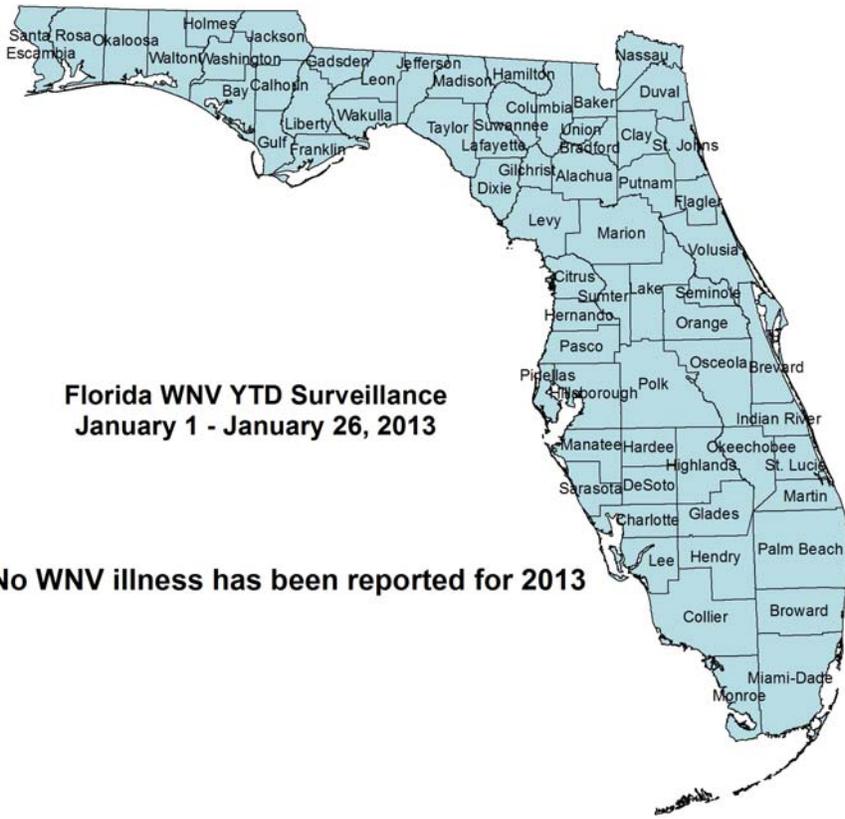
### 2013

County	Total Dead Birds	Crows	Jays	Raptors	Dove
Alachua	1	0	0	1	0
Brevard	1	0	0	0	0
Broward	1	0	0	0	0
Hernando	1	0	0	0	1
Pinellas	1	0	0	1	0
Santa Rosa	1	0	0	0	0

## Maps







### 2013 Arbovirus Activity by County

County	Arbovirus Activity
Levy	EEEV : 1 horse (1/7)
Walton	EEEV : 1 sentinel (1/7)

### 2012 Arbovirus Activity by County

County	Arbovirus Activity
<b>Alachua</b>	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)
<b>Bay</b>	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)
<b>Baker</b>	EEEV : 1 horse (6/21)
<b>Brevard</b>	SLEV : 1 sentinel (8/29)
<b>Calhoun</b>	WNV : 1 horse (12/8)
<b>Charlotte</b>	WNV : 4 sentinels (9/7, 9/14, 9/28) SLEV : 3 sentinels (10/19, 11/2)
<b>Citrus</b>	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)
<b>Clay</b>	EEEV: 1 horse (10/14) WNV: 1 goose
<b>DeSoto</b>	SLEV: 1 pigeon
<b>Duval</b>	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)
<b>Escambia</b>	WNV: 15 humans (2 July, 8 August, 5 September)
<b>Flagler</b>	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)
<b>Gadsden</b>	WNV: 1 human (August); 1 horse (10/14) EEEV: 1 horse (10/31)
<b>Gilchrist</b>	WNV: 1 horse (10/12)
<b>Glades</b>	EEEV: 2 horses (6/25, 7/14)
<b>Gulf</b>	EEEV: 1 horse (8/21)
<b>Hamilton</b>	WNV: 1 human (September)
<b>Hernando</b>	EEEV: 2 sentinels (10/1, 10/22) WNV: 2 sentinels (1/23, 9/17)
<b>Hillsborough</b>	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)
<b>Holmes</b>	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)
<b>Indian River</b>	WNV: 17 sentinels (5/24, 8/9, 8/30, 9/13, 9/20, 9/27, 11/8, 11/15)
<b>Jackson</b>	EEEV: 1 horse (9/9) WNV: 2 human (September), 1 horse (10/9)
<b>Jefferson</b>	EEEV: 1 horse (8/6) WNV: 1 horse (10/25)
<b>Lee</b>	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)

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

<b>County</b>	<b>Arbovirus Activity</b>
<b>Walton</b>	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)
<b>Washington</b>	EEEV : 1 horse (7/1) WNV : 2 human (September, October), 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](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.