



## Florida Arbovirus Surveillance Week 36: September 2-8, 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 September 2-8, 2012, the following arboviral activity was recorded in Florida:

**DENV activity:** No cases of locally acquired dengue were reported this week.

**EEEV activity:** One horse case of EEE was reported in Leon County. In 2012, positive samples from 1 human, 20 equines, and 41 sentinel chickens have been received from 22 counties.

**WNV activity:** Five human cases of WNV infection were reported in Duval (2), Escambia (2), and Okaloosa counties. One horse case of WNV infection was reported in Palm Beach County. Forty-four sentinel chickens in Citrus, Duval, Hillsborough, Nassau, Sarasota, St. Johns, and Walton counties tested positive for antibodies to WNV. WNV was isolated from two mosquito pools in Duval County. In 2012, positive samples from 33 humans, 2 horses, 168 sentinel chickens, and 2 mosquito pools have been received from 21 counties.

**SLEV activity:** One sentinel chicken in Hillsborough County tested positive for antibodies to SLEV this week. In 2012, positive samples from 7 sentinel chickens have been received from 4 counties.

**HJV activity:** One sentinel chicken in Nassau County tested positive for antibodies to HJV this week. In 2012, positive samples from 13 sentinel chickens have been received from 6 counties.

**Advisories/Alerts:** Okaloosa County issued a mosquito-borne illness alert this week in response to WNV activity. Duval and Escambia counties are currently under mosquito-borne illness alerts. Bay, Hillsborough, Holmes, Jefferson, Leon, St. Johns, Walton, 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 also spent time in Washington County.

**WNV Infection Acquired in Florida:** Twenty-two human cases of WNV infection with onset in June (4), July (7), August (10), and September were reported in 2012 in Duval County, three of which were presumptive positive blood donors who later developed symptoms. Seven human cases of WNV infection with onset in July (2) and August (5) and a presumptive positive blood donor were reported in Escambia County. Two cases with onset in August were reported in Okaloosa County; one was a fatal infection. One case with onset in August was reported in Hillsborough and Leon counties (Leon County resident also spent time in Jefferson County). Two Florida residents in Broward and Manatee counties obtained WNV infection in New York and an unknown location outside Florida. Two human cases of WNV infection in non-Florida residents who traveled to Florida were acquired in Oklahoma and South Carolina.

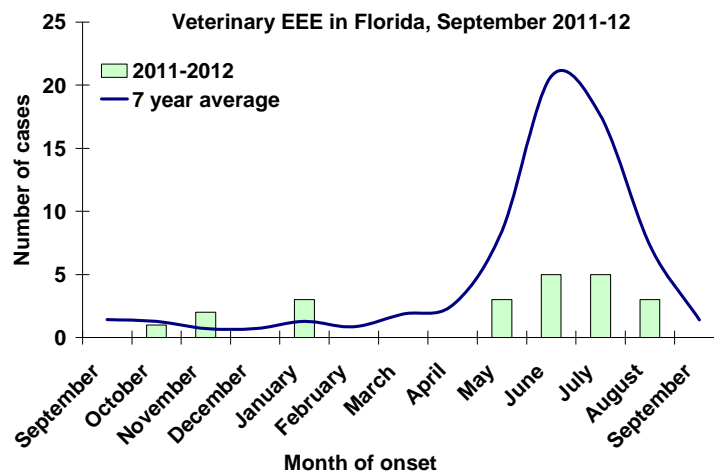
**Imported Dengue:** Fifty-six cases of dengue with onset in 2012 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Brazil, Colombia, Cuba (9), Dominican Republic (7), Ecuador (4), El Salvador, Ghana, Guyana, Haiti (8), Jamaica (12), Mexico, Puerto Rico (4), South Africa, Sri Lanka, Suriname, Trinidad (2), and Turks & Caicos. Counties reporting cases were Brevard (2), Broward (11), Collier, Duval, Hillsborough (2), Lee, Marion, Miami-Dade (20), Orange (8), Palm Beach (3), Pinellas, Polk, Sarasota (2), and Seminole (2). Eight of the cases were reported in non-Florida residents.

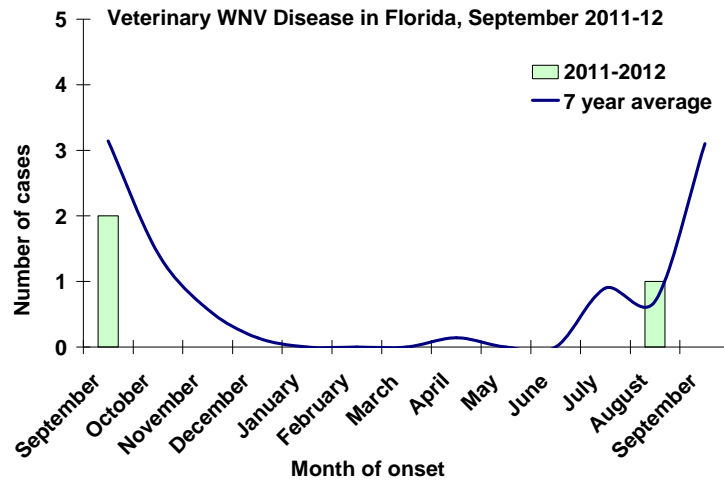
**Imported Malaria:** Forty-eight imported cases of malaria with onset in 2012 have been reported. Countries of origin were: Afghanistan (2), Cameroon, Central African Republic, Colombia, Costa Rica, Ethiopia, Ghana (5), Guyana (2), Haiti (7), Honduras (3), India, Ivory Coast (3), Liberia (2), Nigeria (6), 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), Duval (5), Hillsborough (5), Lake (2), Leon, Manatee, Marion, Martin, Miami-Dade (7), Orange (4), Osceola (2), Palm Beach (4), Pinellas (3), Polk, and Seminole. Five of the cases were reported in non-Florida residents.

## Veterinary Cases

One horse in Leon County tested positive for EEEV and one in Palm Beach County tested positive for WNV this week.

County	Onset Date	Species	Virus	Status	County YTD
Leon	09/3/12	Equine	EEEV	Euthanized	2 EEEV
Palm Beach	08/29/12	Equine	WNV	Euthanized	1 WNV

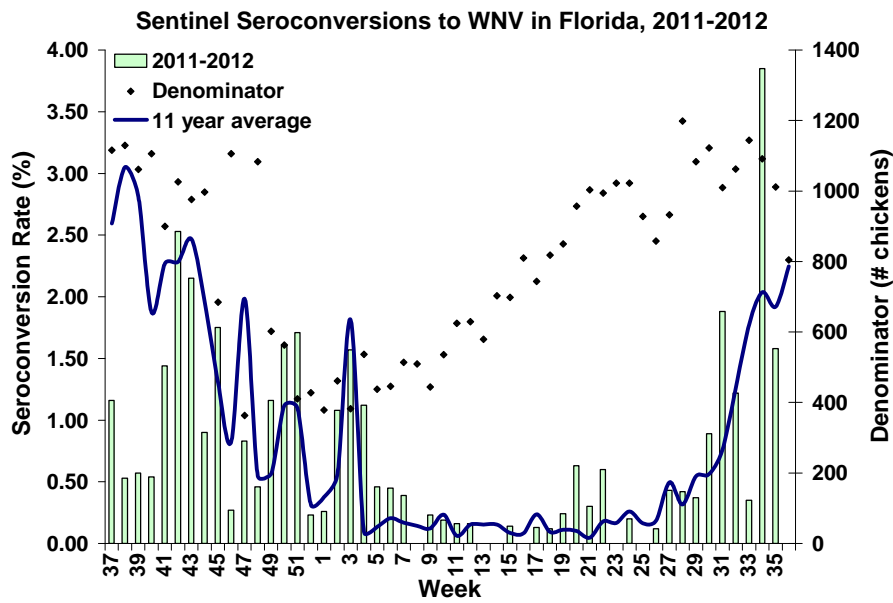
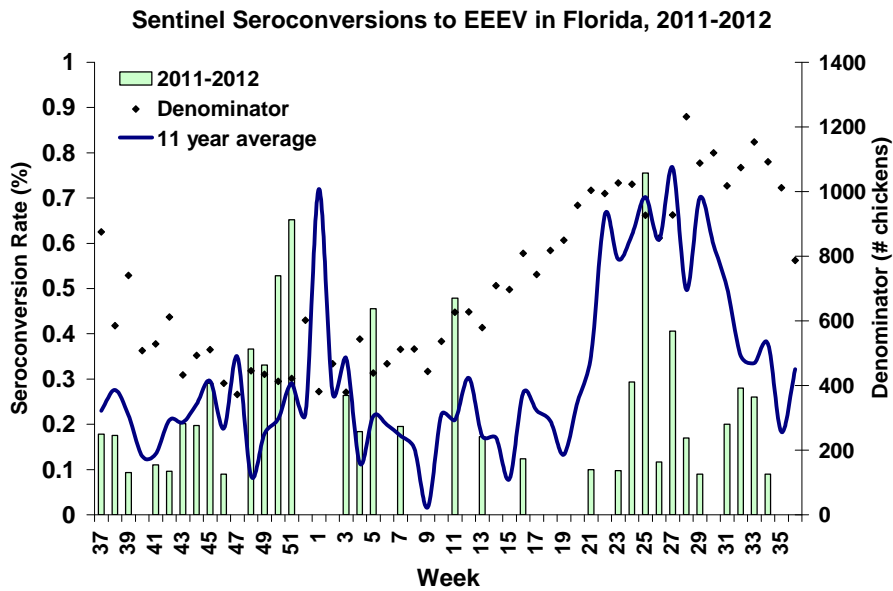




### Sentinel Chickens

Forty-four sentinels in Citrus, Duval, Hillsborough, Nassau, Sarasota, St. Johns, and Walton counties tested positive for antibodies to WNV, one in Hillsborough County tested positive for antibodies to SLEV, and one in Nassau County tested positive for antibodies to HJV. Seroconversion rates are calculated by week and include previously reported results.

County	Collection Date	Seroconversion Rates (%)				County Totals	
		SLEV	WNV	EEEV	HJV	Week	YTD
Citrus	08/27/12		2.8			2 WNV	3 WNV, 1 EEEV, 1 HJV
Duval	08/28/12		38.1			8 WNV	
	08/23/12		11.5			3 WNV	17 WNV
Hillsborough	08/28/12	1.2	3.6			3 WNV, 1 SLEV	16 WNV, 4 EEEV, 4 SLEV
Nassau	08/25/12		44.4			16 WNV	
	08/18/12				2.8	1 HJV	17 WNV, 3 EEEV, 3 HJV
Sarasota	08/24/12		2.6			2 WNV	15 WNV, 1 SLEV
St. Johns	08/27/12		5.3			3 WNV	20 WNV, 2 HJV
Walton	08/21/12		18.0			14 WNV	47 WNV, 12 EEEV, 5 HJV



**Mosquito Pools**

WNV was isolated from two mosquito pools collected in Duval County.

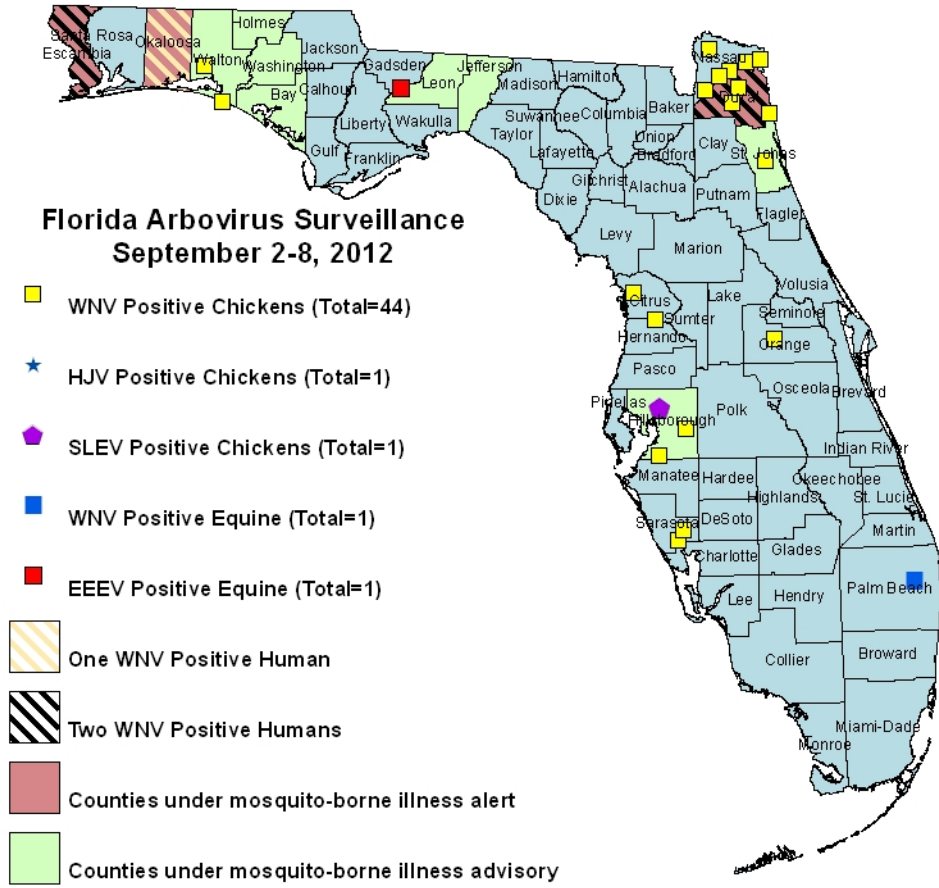
County	Collection Date	Result	Species	County YTD
Duval	08/08/2012	WNV	<i>Culex nigripalpus</i>	
	08/07/2012	WNV	<i>Culex nigripalpus</i>	2 WNV

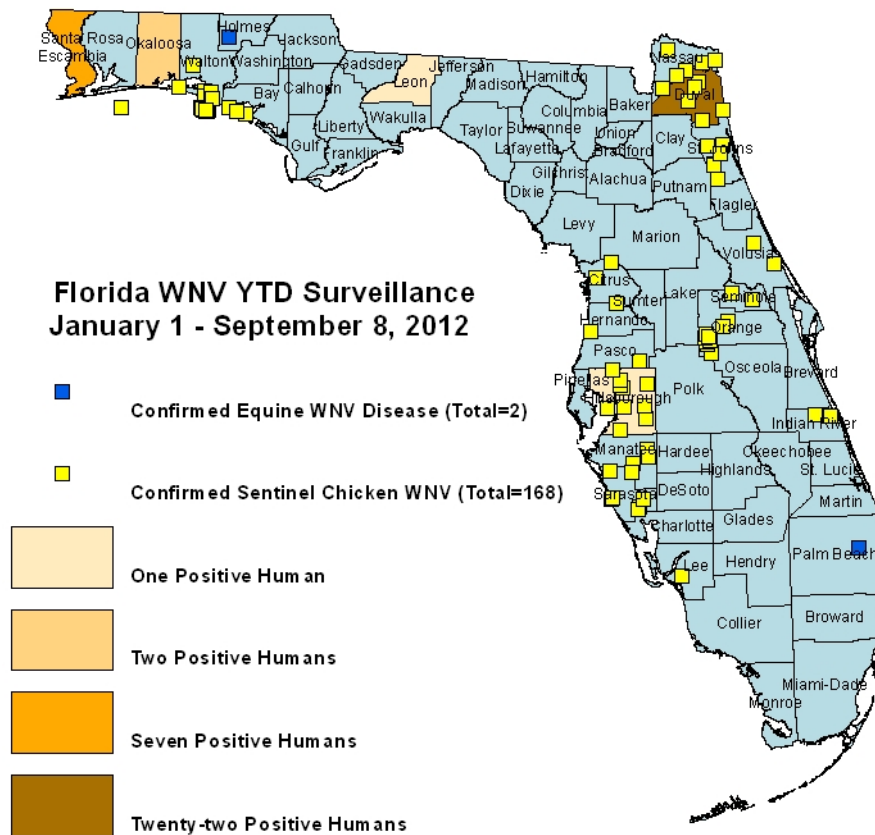
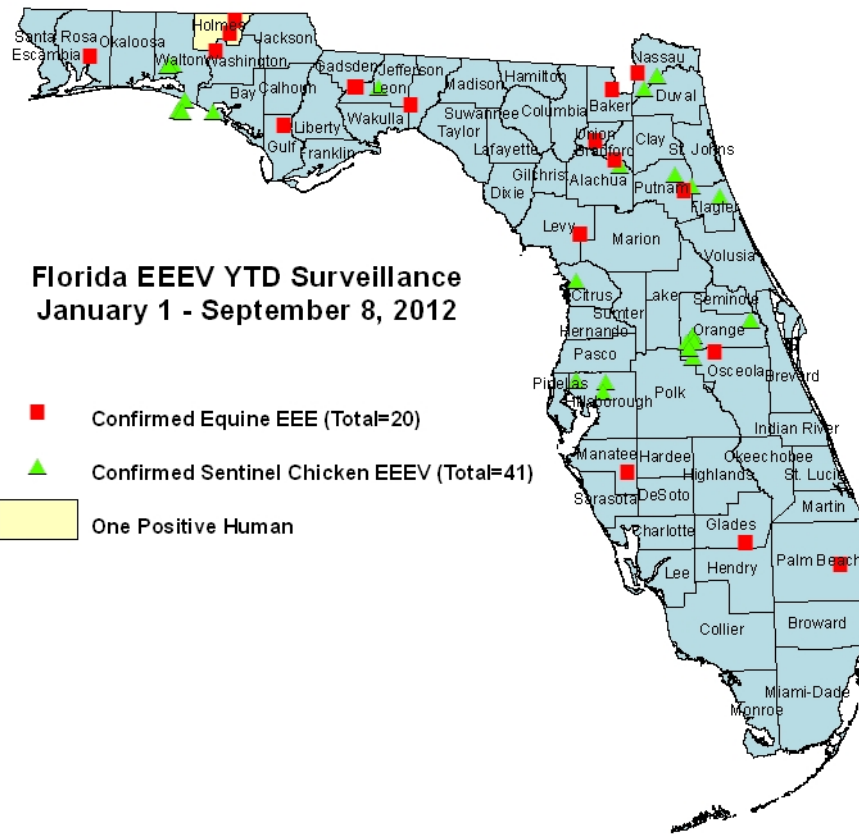
**Dead Birds**

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, 11 reports representing 13 dead birds were received from 8 counties. Three were identified as jays; none were identified as crows or

raptors. In 2012, 340 reports representing a total of 1055 dead birds (37 crows, 30 jays, 51 raptors) were received from 53 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/)

**Maps**





## Arbovirus Activity by County

County	Arbovirus Activity
<b>Alachua</b>	EEEV : 1 horse (7/27) ; 1 sentinel (7/9)
<b>Bay</b>	EEEV : 1 sentinel (7/10) WNV : 10 sentinels (7/24, 7/31, 8/7, 8/14, 8/21) HJV : 1 sentinel (5/29)
<b>Baker</b>	EEEV : 1 horse (6/21)
<b>Citrus</b>	EEEV : 1 sentinel (1/30) WNV: 3 sentinel (5/29, 8/27) HJV: 1 sentinel (1/3)
<b>Duval</b>	WNV: 22 humans (4 June, 7 July, 10 August, 1 September); 17 sentinels (7/30, 8/3, 8/13, 8/20, 8/23, 8/28); 2 mosquito pools (8/7, 8/8)
<b>Escambia</b>	WNV: 7 humans (2 July, 5 August)
<b>Flagler</b>	EEEV: 1 sentinel (8/6) HJV: 1 sentinel (7/30)
<b>Glades</b>	EEEV: 2 horses (6/25, 7/14)
<b>Gulf</b>	EEEV: 1 horse (8/21)
<b>Hernando</b>	WNV: 1 sentinel (1/23)
<b>Hillsborough</b>	EEEV : 4 sentinels (2/14, 3/13, 4/17) WNV: 1 human (August); 16 sentinels (1/3, 1/17, 1/24, 1/31, 2/14, 3/6, 6/12, 8/28) SLEV: 4 sentinels (1/3)
<b>Holmes</b>	EEEV : 1 human (June); 2 horses (5/21, 6/25) WNV : 1 horse (8/11)
<b>Indian River</b>	WNV: 2 sentinels (5/24, 8/9)
<b>Jefferson</b>	EEEV: 1 horse (8/6)
<b>Lee</b>	WNV: 1 sentinel (1/24) SLEV: 1 sentinel (3/7)
<b>Leon</b>	EEEV : 2 horses (8/21, 9/3), 1 sentinel (8/13) WNV : 1 human (August)
<b>Levy</b>	EEEV: 2 horses (1/2)
<b>Manatee</b>	WNV: 4 sentinels (2/1, 3/14, 5/30, 8/15) EEEV: 1 horse (6/14)
<b>Nassau</b>	EEEV : 1 horse (7/18) ; 3 sentinels (6/16, 6/23) WNV : 17 sentinels (8/6, 8/25) HJV : 3 sentinels (7/13, 8/13)
<b>Okaloosa</b>	WNV : 2 humans (August)
<b>Orange</b>	EEEV : 15 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) WNV: 10 sentinels (1/9,1/12, 1/19, 1/25, 3/1, 7/26)
<b>Osceola</b>	EEEV : 1 horse (7/25)
<b>Palm Beach</b>	EEEV : 1 horse (6/20) WNV : 1 horse (8/29) SLEV : 1 sentinel (7/23)
<b>Pasco</b>	WNV : 1 sentinel (5/29)
<b>Putnam</b>	EEEV: 1 horse (1/1) ; 2 sentinels (7/20, 8/3)
<b>Santa Rosa</b>	EEEV : 1 horse (5/11)
<b>Sarasota</b>	WNV: 15 sentinels (1/9, 2/6, 3/19, 5/7, 5/14, 7/9, 7/16, 7/27, 8/3, 8/24) SLEV: 1 sentinel (7/2)
<b>Seminole</b>	WNV : 2 sentinels (8/7)
<b>St. Johns</b>	WNV : 20 sentinels (5/14, 5/22, 5/29, 8/7, 8/20, 8/27) HJV : 2 sentinels (4/30, 7/3)
<b>Union</b>	EEEV : 1 horse (5/12)
<b>Volusia</b>	WNV : 2 sentinels (5/29, 6/25)
<b>Walton</b>	WNV : 47 sentinels (4/9, 4/23, 4/30, 7/2, 7/3, 7/9, 7/10,7/16, 7/23, 7/30, 8/5, 8/13, 8/20, 8/21) EEEV : 12 sentinels (6/4, 6/18, 6/25, 7/2, 7/30) HJV : 5 sentinels (5/14, 6/11, 6/18, 7/16, 7/23)
<b>Washington</b>	EEEV : 1 horse (7/1)

## Acknowledgements and Data Sources

Contributors: 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](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.