



## Florida Arbovirus Surveillance Week 37: September 9-15, 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 9-15, 2012, the following arboviral activity was recorded in Florida:

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

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

**WNV activity:** Seven human cases of WNV infection were reported in Duval, Escambia (3), Gadsden, Santa Rosa, and Walton counties. Two horse cases of WNV infection were reported in Santa Rosa and Holmes counties. Thirteen sentinel chickens in Bay, Flagler, Indian River, Nassau, Palm Beach, and St. Johns counties tested positive for antibodies to WNV. WNV was isolated from two mosquito pools in Bay County and a goose in Clay County tested positive for antibodies to WNV. In 2012, positive samples from 40 humans, 4 horses, 181 sentinel chickens, 4 mosquito pools, and 1 bird have been received from 25 counties.

**SLEV activity:** A pigeon in DeSoto County tested positive for SLEV. In 2012, positive samples from 7 sentinel chickens and 1 bird have been received from 5 counties

**HJV activity:** No HJV activity was reported this week. In 2012, positive samples from 13 sentinel chickens have been received from 6 counties.

**Advisories/Alerts:** Gadsden and Santa Rosa counties issued mosquito-borne illness advisories this week in response to human cases of WNV infection. Duval, Escambia, and Okaloosa 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-three human cases of WNV infection with onset in June (4), July (7), August (11), and September were reported in 2012 in Duval County, three of which were presumptive positive blood donors who later developed symptoms. Ten human cases of WNV infection with onset in July (2), August (6), and September (2) 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, Gadsden, Santa Rosa, and Leon counties (Leon County resident also spent time in Jefferson County), and one with onset in September was reported in Walton 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.

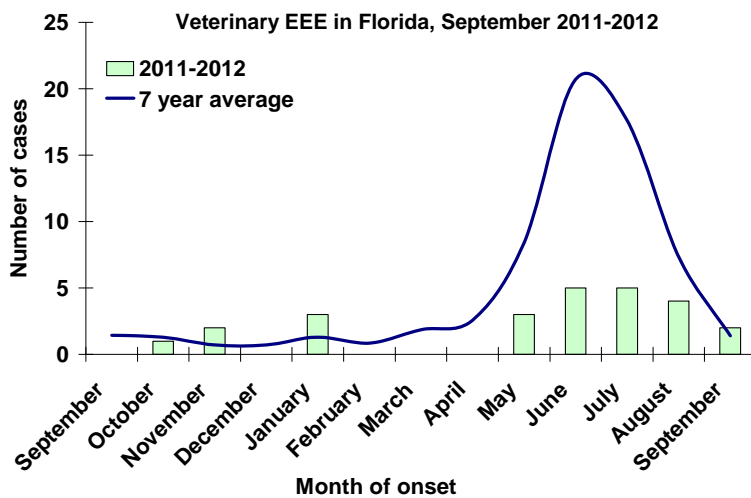
**Imported Dengue:** Sixty-two cases of dengue with onset in 2012 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Brazil, Colombia, Cuba (12), Dominican Republic (7), Ecuador (4), El Salvador (2), Ghana, Guyana, Haiti (8), Jamaica (13), Mexico, Panama, Puerto Rico (4), South Africa, Sri Lanka, Suriname, Trinidad (2), and Turks & Caicos. Counties reporting cases were Brevard (2), Broward (12), Collier, Duval, Hillsborough (2), Lee (2), Marion, Miami-Dade (23), Orange (8), Palm Beach (3), Pinellas, Polk, Sarasota (2), Seminole (2), and Volusia. Eight of the cases were reported in non-Florida residents.

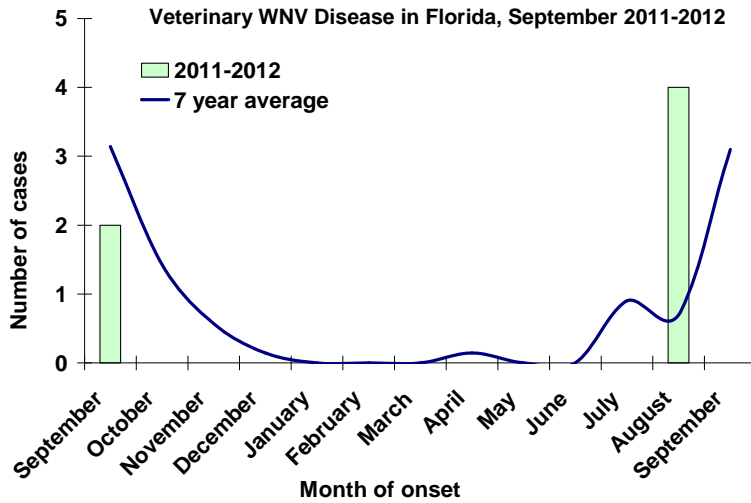
**Imported Malaria:** Fifty imported cases of malaria with onset in 2012 have been reported. Countries of origin were: Afghanistan (2), Cameroon, Central African Republic, Colombia, Costa Rica, Ethiopia, Ghana (5), Guyana (2), Haiti (8), Honduras (3), India, Ivory Coast (3), Liberia (2), Nigeria (7), 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), Charlotte, Duval (5), Hillsborough (5), Lake (2), Leon, Manatee, Marion, Martin, Miami-Dade (7), Orange (4), Osceola (2), Palm Beach (4), Pinellas (3), Polk, Seminole, and Volusia. Five of the cases were reported in non-Florida residents.

### Veterinary Cases

Two horses in Leon County tested positive for EEEV and two in Santa Rosa and Holmes counties tested positive for WNV this week.

County	Onset Date	Species	Virus	Status	County YTD
Leon	09/04/12	Equine	EEEV	Euthanized	
	08/30/12	Equine	EEEV	Euthanized	4 EEEV
Holmes	08/23/12	Equine	WNV	Euthanized	2 WNV, 2 EEEV
Santa Rosa	08/29/12	Equine	WNV	Euthanized	1 WNV, 1 EEEV

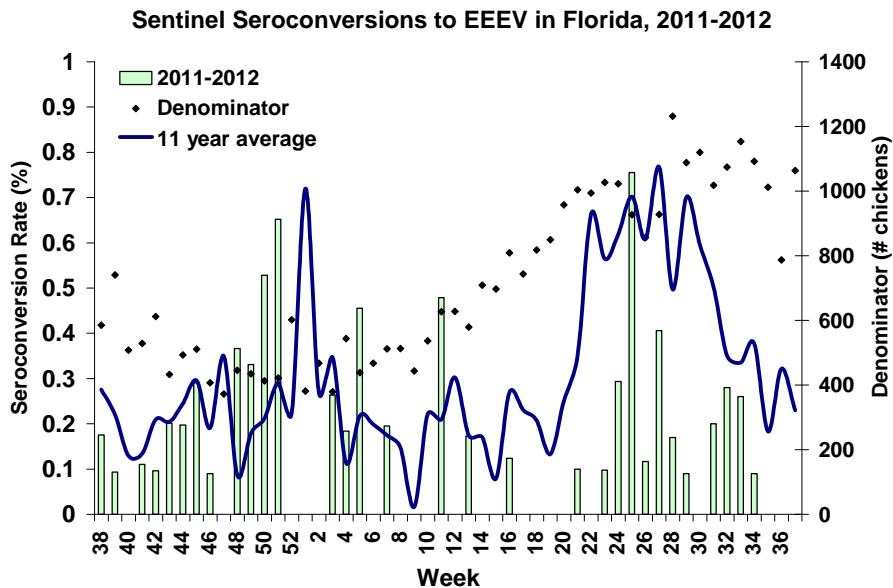


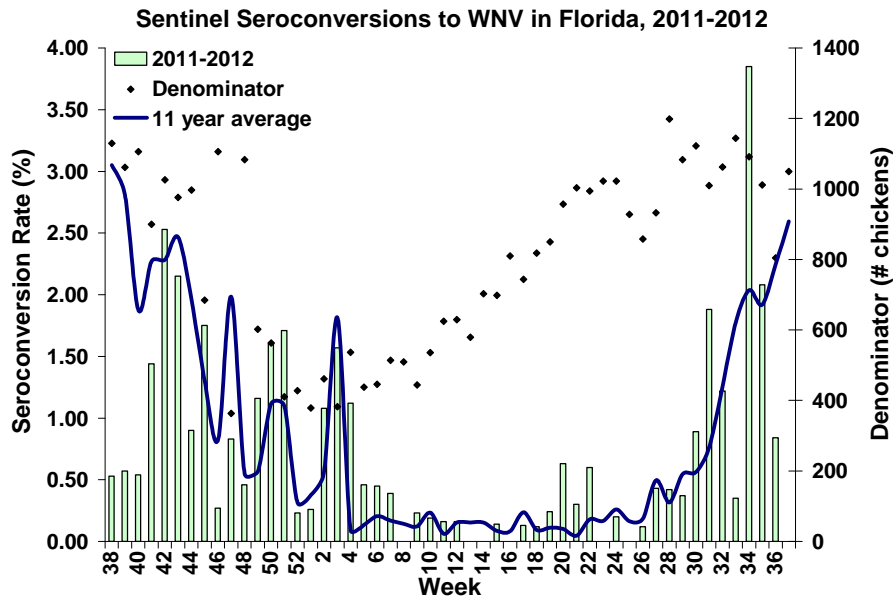


### Sentinel Chickens

Thirteen sentinels in Bay, Flagler, Indian River, Nassau, Palm Beach, and St. Johns counties tested positive for antibodies to WNV. Seroconversion rates are calculated by week and include previously reported results.

County	Collection Date	Seroconversion Rates (%)				County Totals	
		SLEV	WNV	EEEV	HJV	Week	YTD
Bay	09/04/12		20.0			3 WNV	13 WNV, 1 EEEV, 1 HJV
Flagler	09/04/12		8.3			1 WNV	1 WNV, 1 EEEV, 1 HJV
Indian River	08/30/12		4.3			2 WNV	4 WNV
Nassau	08/31/12		5.7			2 WNV	19 WNV, 3 EEEV, 3 HJV
Palm Beach	08/27/12		2.8			1 WNV	1 WNV, 1 SLEV
St. Johns	09/02/12		8.2			4 WNV	24 WNV, 2 HJV





### Mosquito Pools

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

County	Collection Date	Result	Species	County YTD
Bay	09/11/2012	WNV	<i>Culex nigripalpus</i>	
	09/06/2012	WNV	<i>Culex nigripalpus</i>	2 WNV

### Other Animal Surveillance

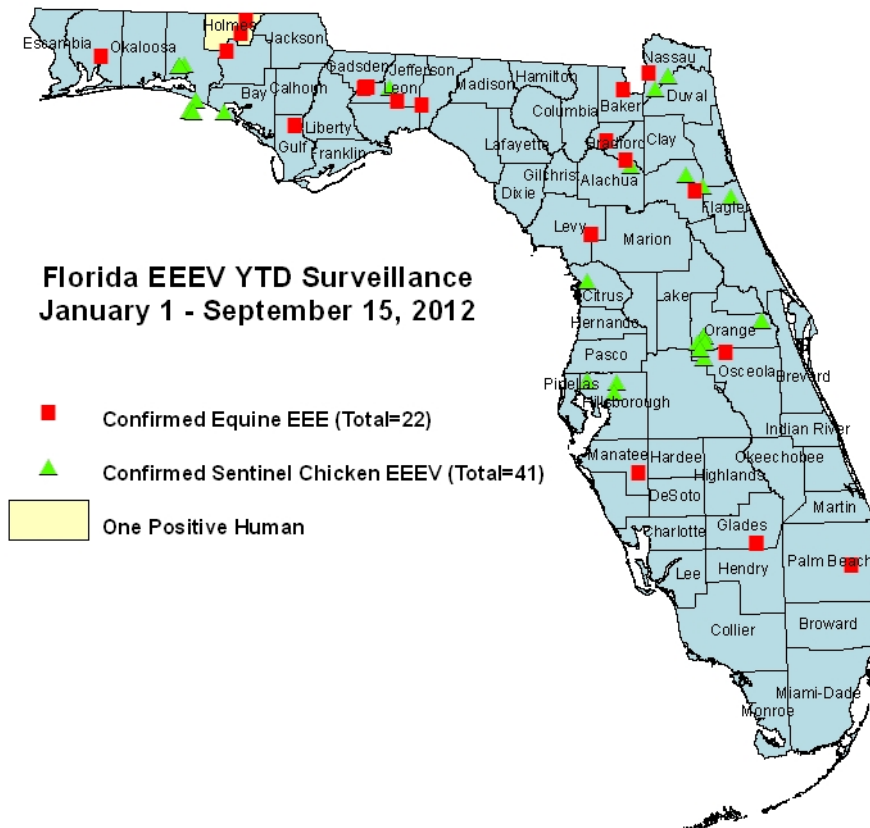
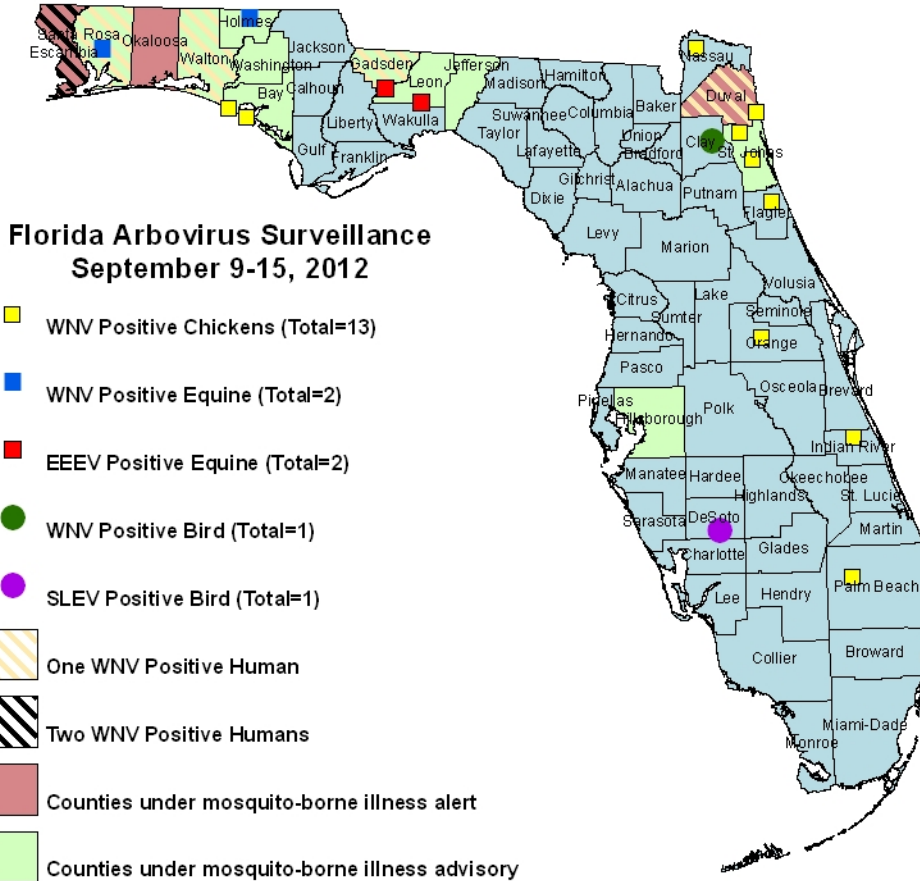
A goose in Clay County tested positive for antibodies to WNV and a pigeon in DeSoto County tested positive for SLEV.

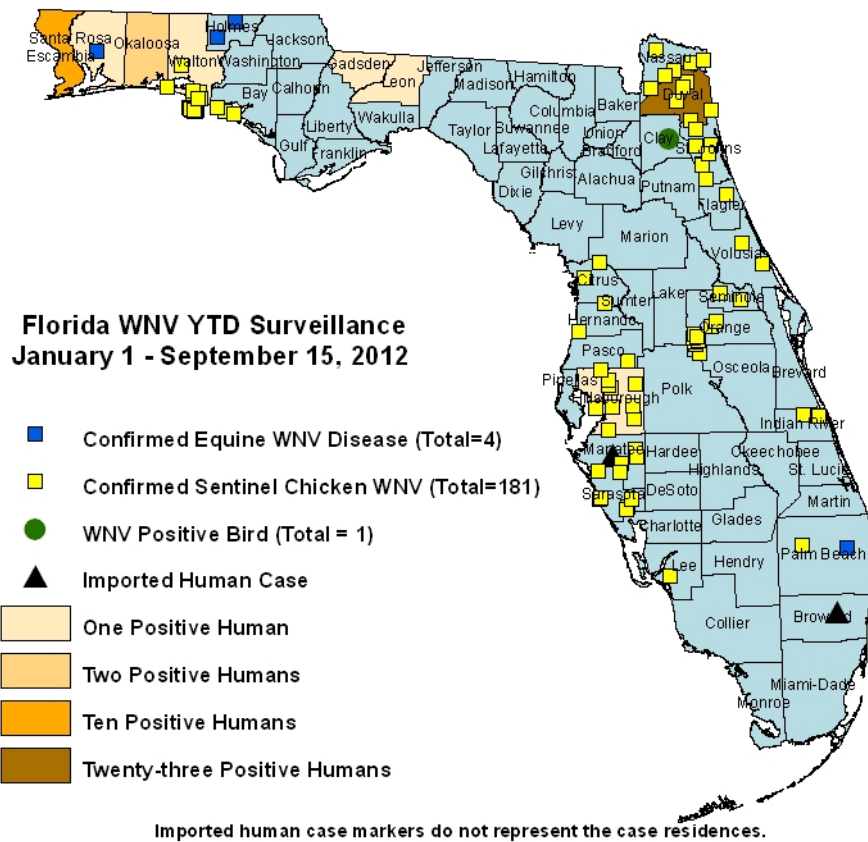
County	Result	Animal	County YTD
Clay	WNV	Goose	1 WNV
DeSoto	SLEV	Pigeon	1 SLEV

### 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, 19 reports representing 39 dead birds were received from 12 counties. Six were identified as crows and two as raptors; none were identified as jays. In 2012, 359 reports representing a total of 1094 dead birds (43 crows, 30 jays, 53 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 : 13 sentinels (7/24, 7/31, 8/7, 8/14, 8/21, 9/4) ; 2 mosquito pools (9/6, 9/11) 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>Clay</b>	WNV: 1 goose
<b>DeSoto</b>	SLEV: 1 pigeon
<b>Duval</b>	WNV: 23 humans (4 June, 7 July, 11 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: 10 humans (2 July, 6 August, 2 September)
<b>Flagler</b>	EEEV: 1 sentinel (8/6) WNV: 1 sentinel (9/4) HJV: 1 sentinel (7/30)
<b>Gadsden</b>	WNV: 1 human (August)
<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, 8/28)
<b>Holmes</b>	EEEV : 1 human (June); 2 horses (5/21, 6/25)

<b>County</b>	<b>Arbovirus Activity</b>
	WNV : 2 horses (8/11, 8/23)
<b>Indian River</b>	WNV: 4 sentinels (5/24, 8/9, 8/30)
<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 : 4 horses (8/21, 8/30, 9/3, 9/4), 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 : 19 sentinels (8/6, 8/25, 8/31) 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), 1 sentinel (8/27) 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) WNV : 1 human (August) ; 1 horse (8/29)
<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 : 24 sentinels (5/14, 5/22, 5/29, 8/7, 8/20, 8/27, 9/2) 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 : 1 human (September) ; 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.