



Florida Arbovirus Surveillance Week 38: September 16-22, 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 16-22, 2012, the following arboviral activity was recorded in Florida:

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

EEEV activity: Seven sentinel chickens in Leon, Manatee, Orange, St. Johns, and Walton counties tested positive for antibodies to EEEV. In 2012, positive samples from 1 human, 22 equines, and 48 sentinel chickens have been received from 23 counties.

WNV activity: Three human cases of WNV infection were reported in Santa Rosa (2) and Washington counties. Two horse cases of WNV infection were reported in Alachua and Levy counties. Thirteen sentinel chickens in Bay, Charlotte, Duval, Nassau, St. Johns, and Walton counties tested positive for antibodies to WNV. In 2012, positive samples from 43 humans, 6 horses, 194 sentinel chickens, 4 mosquito pools, and 1 bird have been received from 28 counties.

SLEV activity: One sentinel chicken in Lee County tested positive for antibodies to SLEV. In 2012, positive samples from 8 sentinel chickens and 1 bird have been received from 5 counties

HJV activity: Four sentinel chickens in Flagler, Leon, and Nassau counties tested positive for antibodies to HJV. In 2012, positive samples from 17 sentinel chickens have been received from 7 counties.

Advisories/Alerts: Duval, Escambia, Okaloosa, and Santa Rosa counties are currently under mosquito-borne illness alerts. Bay, Gadsden, 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 spent time in Washington County.

WNV Infection Acquired in Florida: Forty-three human cases of WNV infection were acquired in Florida in 2012. Twenty-three with onset in June (4), July (7), August (11), and September were reported in Duval County, three of which were presumptive positive blood donors who developed symptoms. Ten with onset in July (2), August (6), and September (2) and a presumptive positive blood donor were reported in Escambia County. Three with onset in August (2) and September were reported in Santa Rosa County, and two with onset in August were reported in Okaloosa County. One case with onset in August was reported in Hillsborough, Gadsden, and Leon counties (latter spent time in Jefferson County), and one with onset in September was reported in Walton and Washington counties. Two Florida residents in Broward, Manatee, and Volusia counties obtained 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.

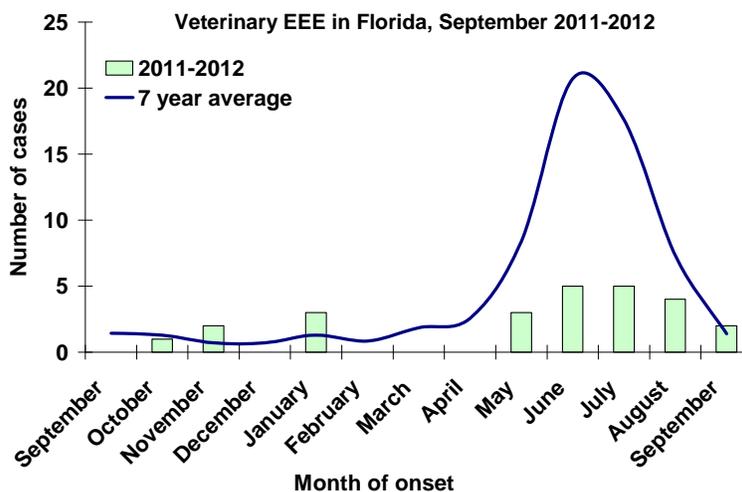
Imported Dengue: Sixty-seven cases of dengue with onset in 2012 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Brazil, Colombia, Cuba (15), Dominican Republic (7), Ecuador (4), El Salvador (2), Ghana, Guyana, Haiti (8), Jamaica (15), Mexico, Panama, Puerto Rico (4), South Africa, Sri Lanka, Suriname, Trinidad (2), and Turks & Caicos. Counties reporting cases were Brevard (2), Broward (13), Collier, Duval, Hillsborough (2), Lee (2), Marion, Miami-Dade (26), Orange (8), Palm Beach (3), Pinellas (2), Polk, Sarasota (2), Seminole (2), and Volusia. Eight of the cases were reported in non-Florida residents.

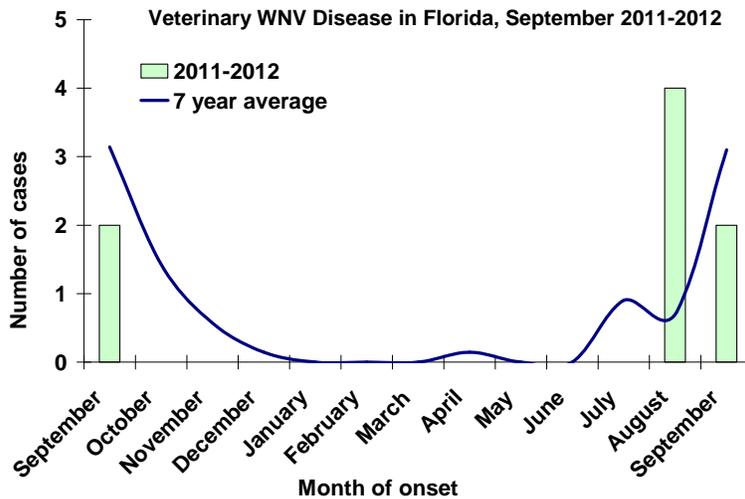
Imported Malaria: **Forty-eight** imported cases of malaria with onset in 2012 have been reported. Countries of origin were: Afghanistan (2), Cameroon, Central African Republic, Colombia, Costa Rica, Ethiopia, Ghana (5), Guyana (2), Haiti (8), Honduras (3), India, Ivory Coast (3), Liberia (2), Nigeria (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 Alachua and Levy counties tested positive for WNV this week.

County	Onset Date	Species	Virus	Status	County YTD
Alachua	09/11/12	Equine	WNV	Recovering	1 WNV, 1 EEEV
Levy	09/03/12	Equine	WNV	Recovering	1 WNV, 2 EEEV

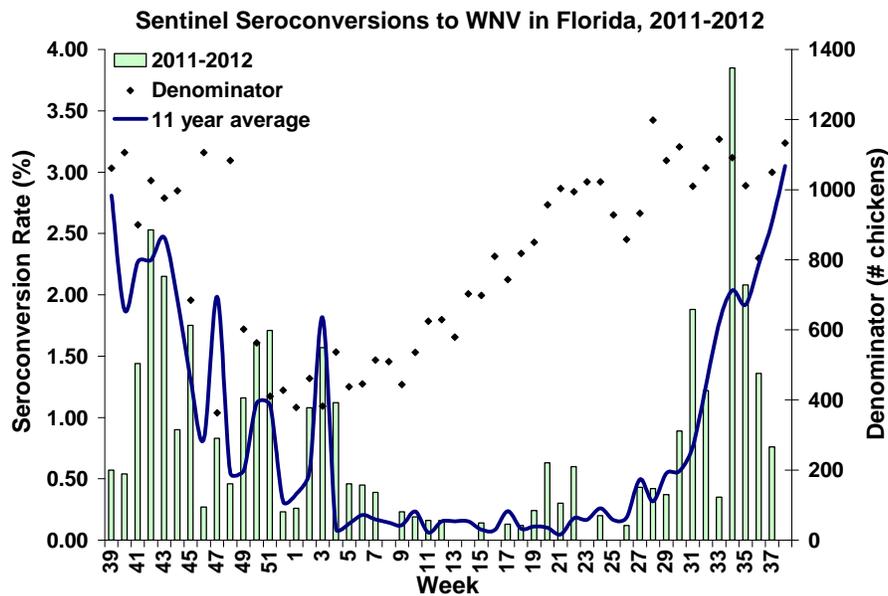
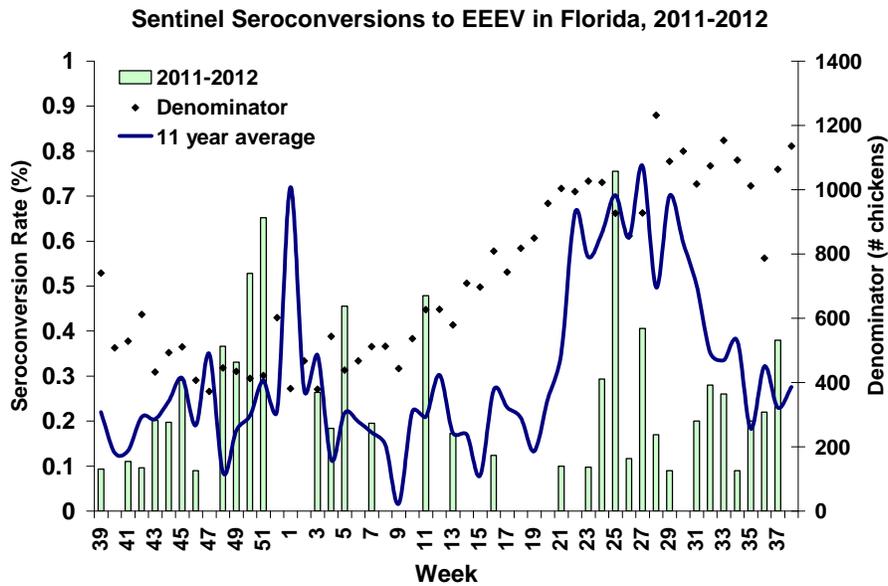




Sentinel Chickens

Seven sentinels in Leon, Manatee, Orange, St. Johns, and Walton counties tested positive for antibodies to EEEV, thirteen in Bay, Charlotte, Duval, Nassau, St. Johns, and Walton counties tested positive for antibodies to WNV, one in Lee County tested positive for antibodies to SLEV, and four in Flagler, Leon, and Nassau counties 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
Bay	09/11/12		3.9			1 WNV	14 WNV, 1 EEEV, 1 HJV
Charlotte	09/07/12		4.2			1 WNV	1 WNV
Duval	09/10/12		4.4			1 WNV	18 WNV
Flagler	08/27/12				8.3	1 HJV	1 WNV, 1 EEEV, 2 HJV
Lee	08/30/12	1.3				1 SLEV	1 WNV, 2 SLEV
Leon	09/04/12				2.4	1 HJV	2 EEEV, 2 HJV
	08/28/12		2.4	0	0	1 EEEV, 1 HJ	
Manatee	09/11/12			1.3		1 EEEV	4 WNV, 1 EEEV
Nassau	09/10/12		2.9			1 WNV	22 WNV, 3 EEEV,
	09/08/12		10.5			2 WNV	4 HJV
	08/31/12		5.7		2.8	2 WNV, 1 HJV	
Orange	09/10/12			0.9		1 EEEV	10 WNV, 16 EEEV
St. Johns	09/11/12		11.6	2.1		5 WNV, 1 EEEV	29 WNV, 2 EEEV,
	09/02/12		8.2	1.9		4 WNV, 1 EEEV	2 HJV
Walton	09/10/12			1.8		1 EEEV	49 WNV, 14 EEEV,
	09/06/12		3.6	1.8		2 WNV, 1 EEEV	5 HJV



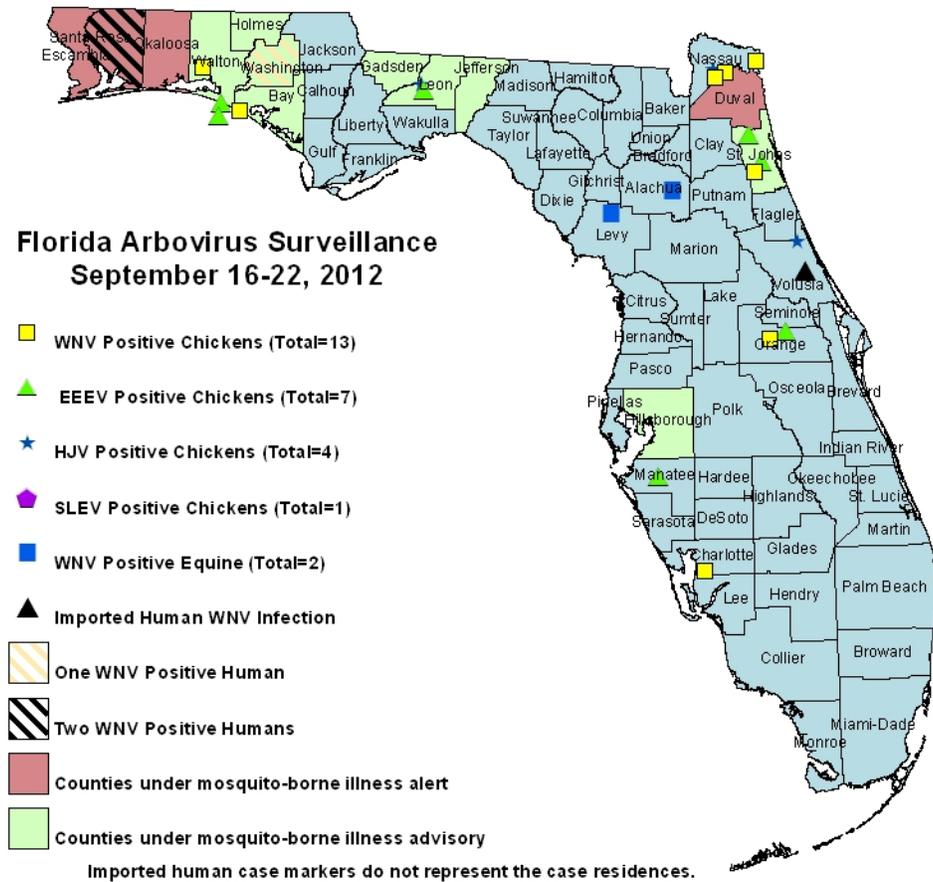
Dead Birds

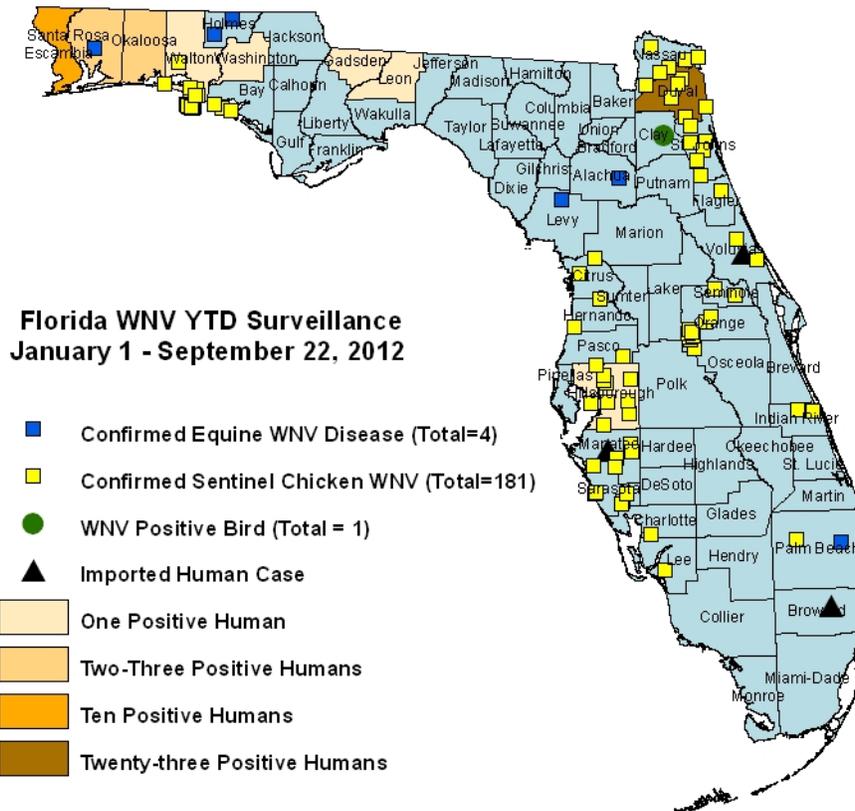
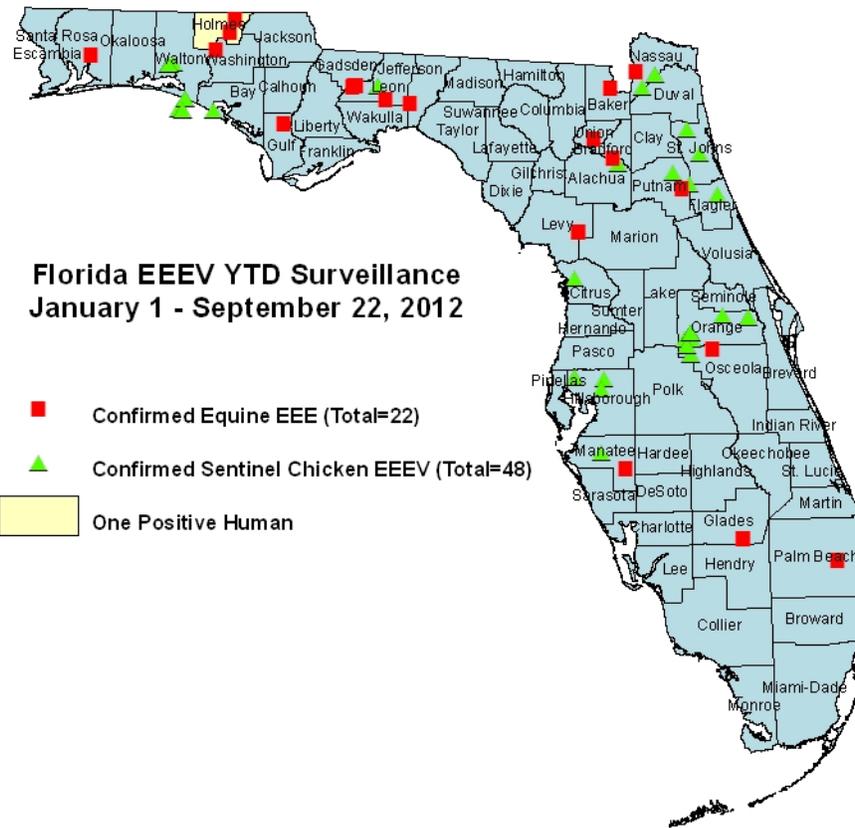
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 11 reports representing 25 dead birds were received from 8 counties. One was identified as a crow, one as a jay, and one as a raptor. In 2012, 370 reports representing a total of 1119 dead birds (44 crows, 31 jays, 54 raptors) were received from 54 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	6	0	0	0
Broward	5	0	0	0
Duval	6	0	0	0
Escambia	4	0	0	0
Hillsborough	1	0	0	1

County	Total Dead Birds	Crows	Jays	Raptors
Holmes	1	1	0	0
Santa Rosa	1	0	0	0
Sarasota	1	0	1	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) ; 1 sentinel (7/9) WNV : 1 horse (9/11)
Bay	EEEV : 1 sentinel (7/10) WNV : 14 sentinels (7/24, 7/31, 8/7, 8/14, 8/21, 9/4, 9/11) ; 2 mosquito pools (9/6, 9/11) HJV : 1 sentinel (5/29)
Baker	EEEV : 1 horse (6/21)
Charlotte	WNV : 1 sentinel (9/7)
Citrus	EEEV : 1 sentinel (1/30) WNV: 3 sentinel (5/29, 8/27) HJV: 1 sentinel (1/3)
Clay	WNV: 1 goose
DeSoto	SLEV: 1 pigeon
Duval	WNV: 23 humans (4 June, 7 July, 11 August, 1 September); 18 sentinels (7/30, 8/3, 8/13, 8/20, 8/23, 8/28, 9/10); 2 mosquito pools (8/7, 8/8)
Escambia	WNV: 10 humans (2 July, 6 August, 2 September)
Flagler	EEEV: 1 sentinel (8/6) WNV: 1 sentinel (9/4) HJV: 2 sentinels (7/30, 8/27)
Gadsden	WNV: 1 human (August)
Glades	EEEV: 2 horses (6/25, 7/14)
Gulf	EEEV: 1 horse (8/21)
Hernando	WNV: 1 sentinel (1/23)
Hillsborough	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)
Holmes	EEEV : 1 human (June); 2 horses (5/21, 6/25) WNV : 2 horses (8/11, 8/23)
Indian River	WNV: 4 sentinels (5/24, 8/9, 8/30)
Jefferson	EEEV: 1 horse (8/6)
Lee	WNV: 1 sentinel (1/24) SLEV: 2 sentinels (3/7, 8/30)
Leon	EEEV : 4 horses (8/21, 8/30, 9/3, 9/4), 2 sentinels (8/13, 8/28) WNV : 1 human (August) HJV : 2 sentinels (8/28, 9/4)
Levy	EEEV: 2 horses (1/2) WNV : 1 horse (9/3)
Manatee	EEEV: 1 horse (6/14); 1 sentinel (9/11) WNV: 4 sentinels (2/1, 3/14, 5/30, 8/15)
Nassau	EEEV : 1 horse (7/18) ; 3 sentinels (6/16, 6/23) WNV : 22 sentinels (8/6, 8/25, 8/31, 9/8, 9/10) HJV : 4 sentinels (7/13, 8/13, 8/31)
Okaloosa	WNV : 2 humans (August)
Orange	EEEV : 16 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) WNV: 10 sentinels (1/9, 1/12, 1/19, 1/25, 3/1, 7/26)
Osceola	EEEV : 1 horse (7/25)
Palm Beach	EEEV : 1 horse (6/20) WNV : 1 horse (8/29), 1 sentinel (8/27) SLEV : 1 sentinel (7/23)
Putnam	EEEV: 1 horse (1/1) ; 2 sentinels (7/20, 8/3)
Santa Rosa	EEEV : 1 horse (5/11) WNV : 3 humans (2 August, 1 September) ; 1 horse (8/29)
Sarasota	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)

County	Arbovirus Activity
Seminole	WNV : 2 sentinels (8/7)
St. Johns	EEEV : 2 sentinels (9/2, 9/11) WNV : 29 sentinels (5/14, 5/22, 5/29, 8/7, 8/20, 8/27, 9/2, 9/11) HJV : 2 sentinels (4/30, 7/3)
Union	EEEV : 1 horse (5/12)
Volusia	WNV : 2 sentinels (5/29, 6/25)
Walton	WNV : 1 human (September) ; 49 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) EEEV : 14 sentinels (6/4, 6/18, 6/25, 7/2, 7/30, 9/6, 9/10) HJV : 5 sentinels (5/14, 6/11, 6/18, 7/16, 7/23)
Washington	EEEV : 1 horse (7/1) WNV : 1 human (September)

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

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.