



Florida Arbovirus Surveillance Week 31: July 28-August 3, 2013

Arbovirus surveillance in Florida includes endemic mosquito-borne viruses such as 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 July 28-August 3, 2013 the following arboviral activity was recorded in Florida:

DENV activity: No locally acquired dengue cases have been reported in 2013.

EEEV activity: No human cases of EEEV infection were reported this week. Six horses with EEEV infection was reported this week in Clay, Hillsborough, Levy, and Marion Counties. 10 sentinel chickens tested positive for antibodies to EEEV this week in Flagler, Nassau, Putnam, St. Johns and Walton Counties. In 2013, positive samples from two humans, three birds, 25 equines, and 86 sentinel chickens have been received from 25 counties.

WNV activity: No human cases of WNV infection have been reported in 2013. No horse cases of WNV infection were reported this week. Three sentinel chicken tested positive this week for antibodies to WNV in Nassau County. In 2013, positive samples from one equine and 55 sentinel chickens have been received from seven counties.

SLEV activity: No sentinel chickens tested positive for antibodies to SLEV this week. In 2013, two positive samples have been received from two counties.

HJV activity: Two sentinel chickens tested positive for antibodies to HJV this week in Duval and Walton Counties. In 2013, 23 positive samples have been received from eight counties.

Advisories/Alerts: Bradford, Gilchrist, Hillsborough, Levy, and Marion counties are 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: Two human cases of EEEV infection with onset in January (1) and March (1) have been reported in 2013 in Levy (1) and Hillsborough (1) County residents.

Imported Dengue: Fifty-Four 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: Angola, Bangladesh, Barbados, Bolivia, Brazil (3), The Caribbean, Columbia (3), Costa Rica, Dominican Republic (5), Haiti (2), Honduras, Indonesia, Jamaica (4), Nigeria, Panama, Philippines, Puerto Rico (24) and Saint Martin (2). Counties reporting cases were: Alachua, Brevard, Broward (4), Clay, Duval, Indian River, Lee, Miami-Dade (16), Orange (11), Osceola (4), Palm Beach (7), Pasco, Seminole (3), St. Lucie and Volusia. Seven of the cases were reported in non-Florida residents.

In 2013, 33 of the 54 cases of dengue reported in Florida have been serotyped by PCR. Additional serotyping and strain typing are being conducted.

	# of cases per serotype – 2013
DENV-1	23
DENV-2	0
DENV-3	3
DENV-4	7
	33

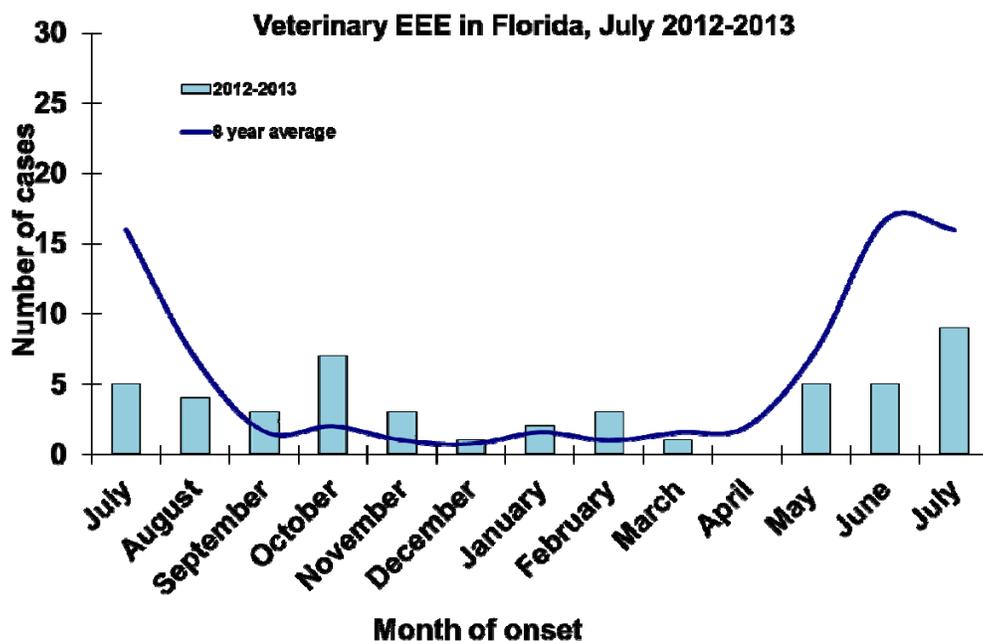
Imported Malaria: Thirty cases of malaria with onset in 2013 have been reported. Countries of origin were: Benin, Democratic Republic of the Congo, Guinea, Ghana (3), Guyana (6), Haiti (5), India (2), Kenya, Liberia, Nigeria (3), Peru, Sierra Leone (2), Solomon Islands, and Uganda (2). Counties reporting cases were: Alachua, Broward, Hillsborough (5), Lake, Lee, Miami-Dade (6), Orange (7), Palm Beach (5), Pinellas and Seminole (2). Two of the cases were reported in a non-Florida resident.

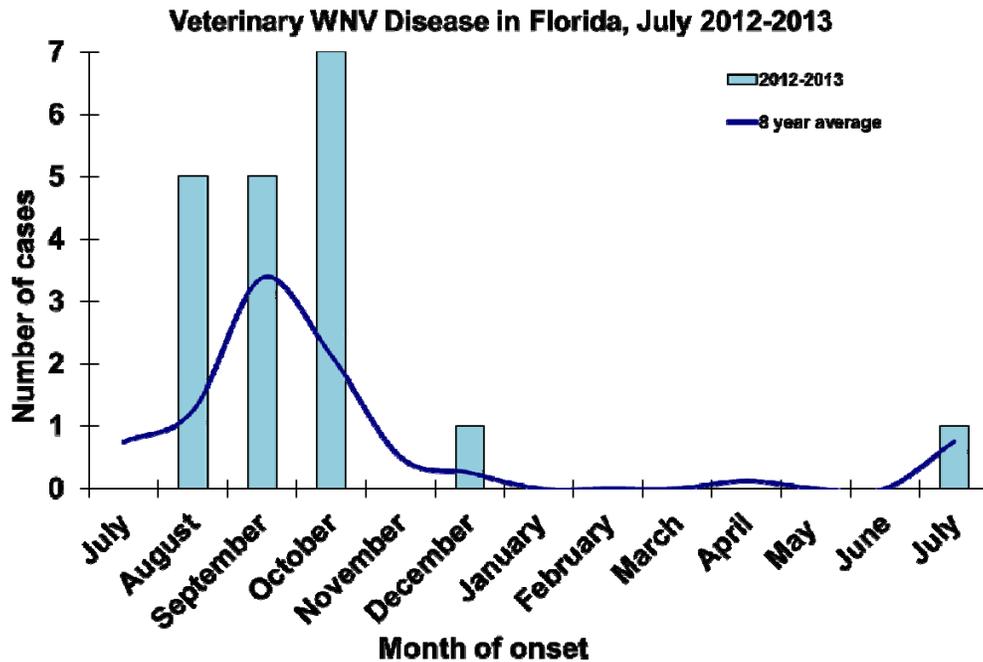
Twenty-two cases (73%) were diagnosed with *Plasmodium falciparum*, seven (23%) with *Plasmodium vivax*, and one mixed *Plasmodium falciparum/ Plasmodium vivax* (4%).

Veterinary Cases

Six horses with EEEV infection was reported this week in Clay, Hillsborough, Levy, and Marion Counties.

County	Onset Date	Species	Virus	Status	County YTD
Clay	7/17/13	Equine	EEEV	Recovered	1 EEEV
Hillsborough	7/20/13	Equine	EEEV	Euthanized	1 EEEV
Levy	7/21/13	Equine	EEEV	Euthanized	2 EEEV
Marion	7/11/13	Equine	EEEV	Euthanized	3 EEEV
Marion	7/12/13	Equine	EEEV	Euthanized	
Marion	7/18/13	Equine	EEEV	Euthanized	





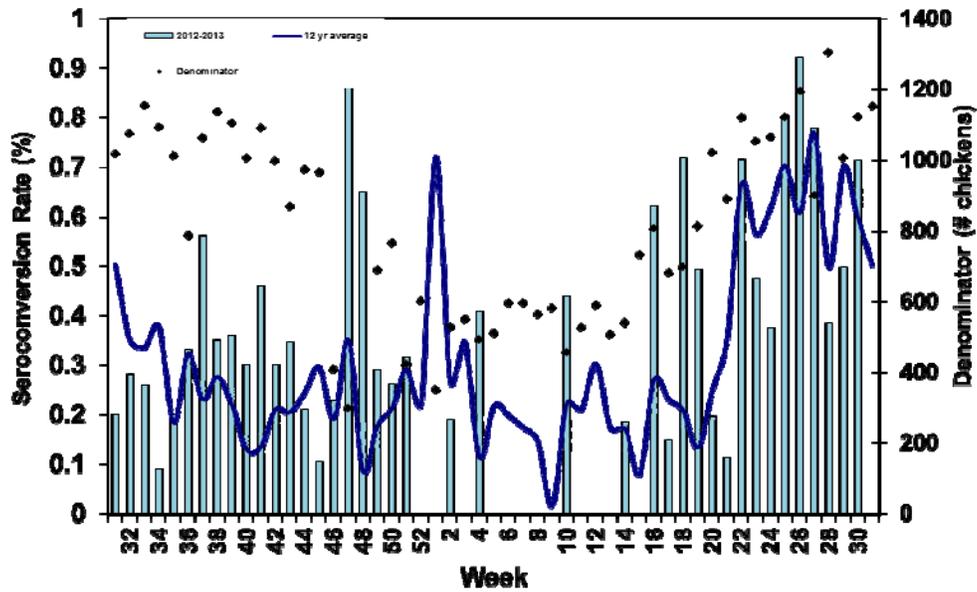
Sentinel Chickens

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.

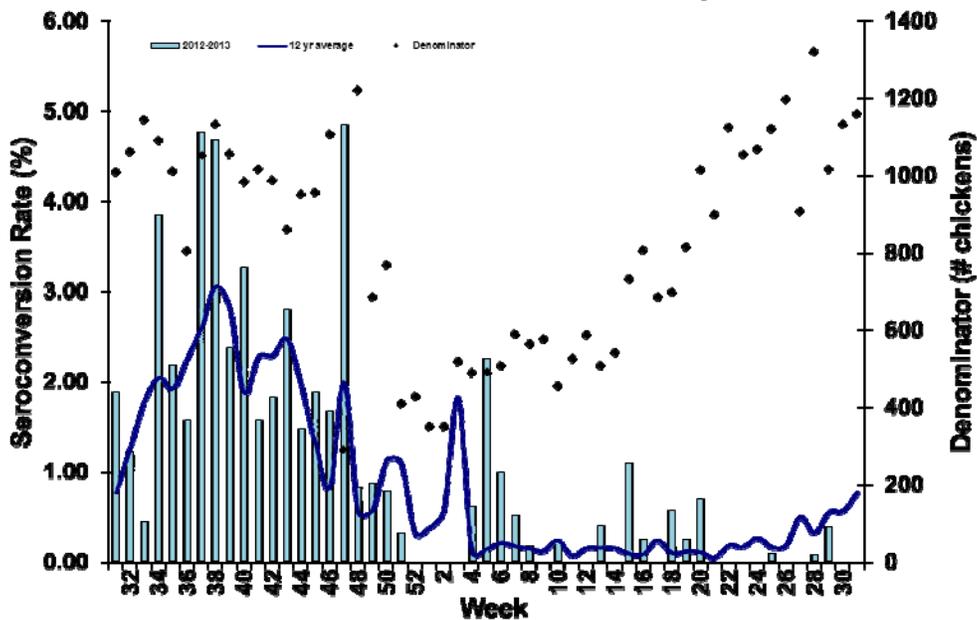
10 sentinel chickens tested positive for antibodies to EEEV this week in Flagler, Nassau, Putnam, St. Johns and Walton Counties. Three sentinel chicken tested positive this week for antibodies to WNV in Nassau County. Two sentinel chickens tested positive for antibodies to HJV this week in Duval and Walton Counties.

County	Collection Date	Seroconversion Rates (%)				County Totals	
		SLEV	WNV	EEEV	HJV	Collection Week	YTD
Duval	7/08/13				1.56	1 HJV	1 WNV, 2 HJV
Flagler	7/22/13			11.11		1 EEEV	4 EEEV, 2 HJV
Nassau	7/19/2013		8.33	2.94		1 EEEV 3 WNV	7 EEEV, 2 HJV, 3 WNV
Putnam	7/23/13			4.35		1 EEEV	2 EEEV
St. Johns	7/22/2013			3.70		2 EEEV	14 EEEV, 3 HJV
Walton	7/8/2013			3.85	0.96	4 EEEV, 1 WNV, 1 HJV	46 WNV, 35 EEEV, 9 HJV
	7/23/2013			4.08		4 EEEV	

Sentinel Seroconversions to EEEV in Florida, 2012-2013



Sentinel Seroconversions to WNV in Florida, 2012-2013



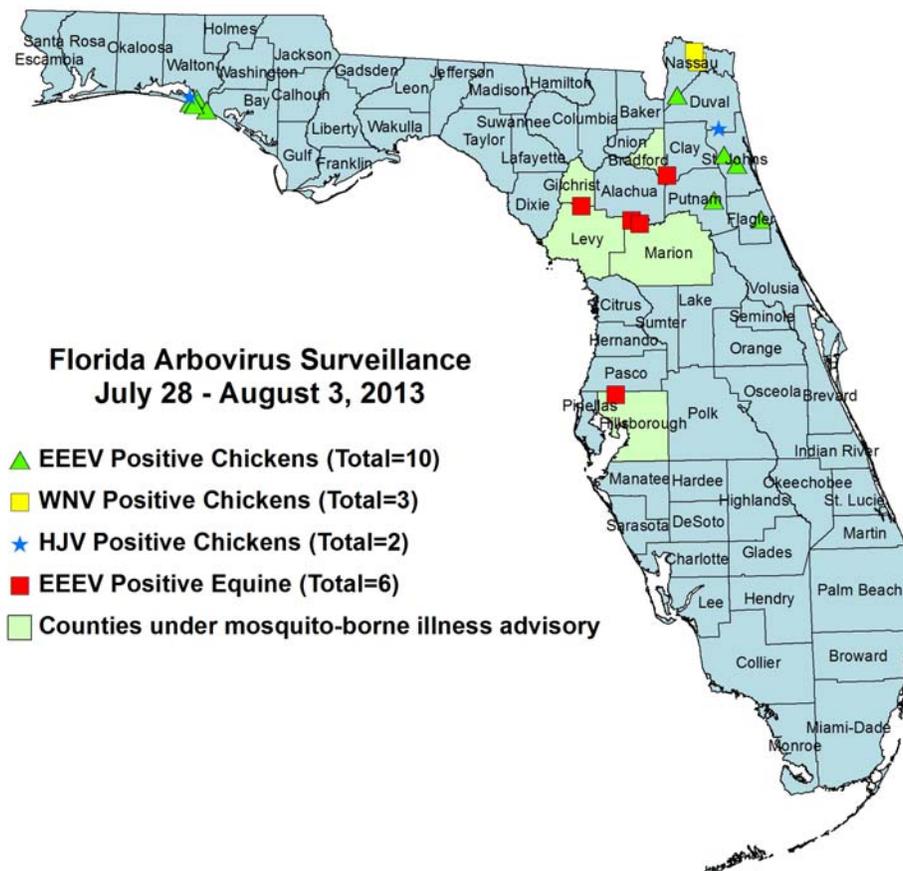
Dead Birds

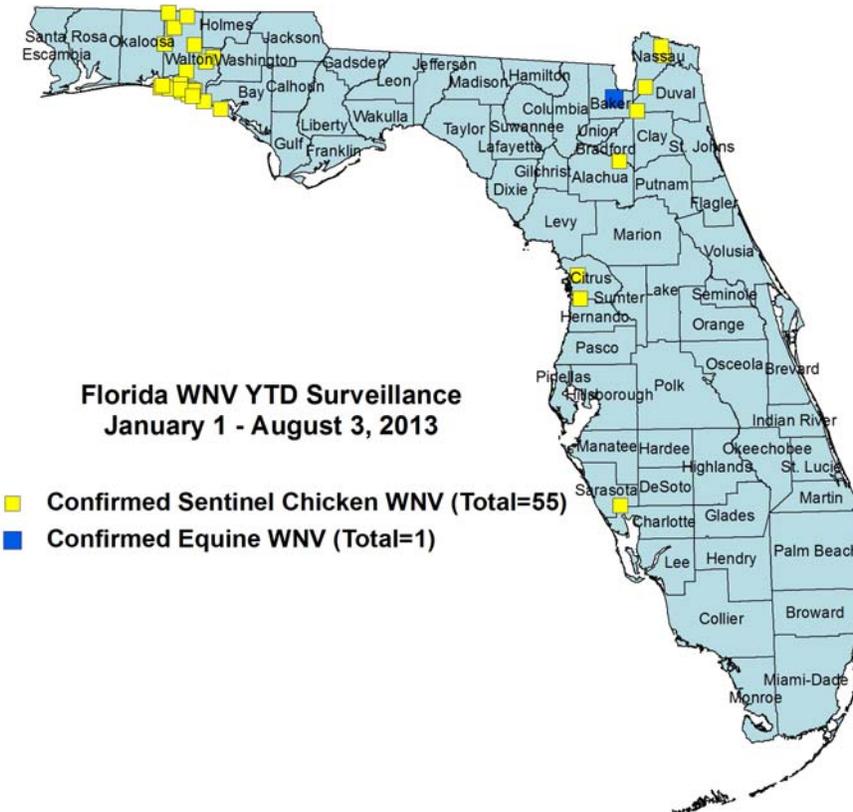
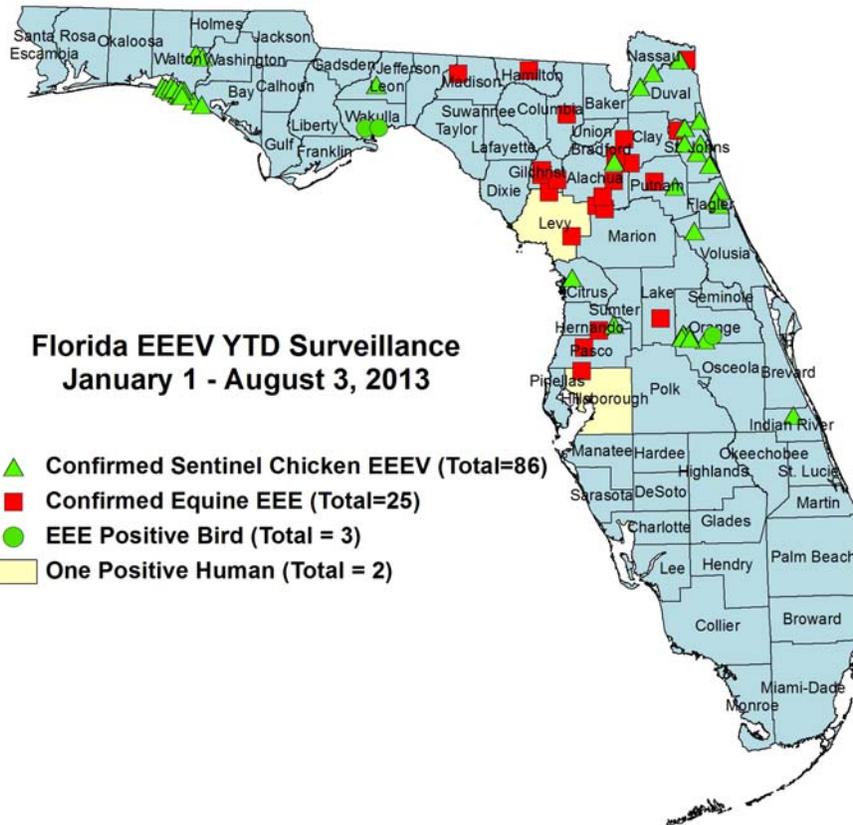
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 5 reports representing 20 dead birds, including 2 crows and 2 raptors were received from 4 counties.

In 2013, 504 reports representing a total of 1638 dead birds (21 crow, 8 jays, 98 raptors, 24 doves) were received from 47 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	Dove
Dade	6	0	0	0	0
Duval	10	0	0	0	0
Hillsborough	2	0	0	2	0
Seminole	2	2	0	0	0

Maps





2013 Arbovirus Activity by County

County	Arbovirus Activity
Alachua	EEEV: 2 horses (2/13, 7/11) ; 3 sentinels (6/17, 6/24)
Baker	WNV: 1 horse (7/9)
Bay	EEEV: 1 sentinel (5/21) WNV: 1 sentinel (5/7) HJV: 2 sentinels (5/7, 5/28)
Bradford	EEEV: 2 horses (5/27, 5/30)
Citrus	EEEV: 1 sentinel (4/15) WNV: 3 sentinels (1/21, 1/28) SLEV: 1 sentinel (1/21) HJV: 2 sentinels (3/25, 4/2)
Clay	EEEV: 1 horse (7/17)
Columbia	EEEV: 1 horse (5/4)
Duval	WNV: 1 sentinel (7/15) HJV: 2 sentinels (6/17, 7/8)
Flagler	EEEV: 4 sentinels (4/22, 6/24, 7/22) HJV: 2 sentinels (6/17)
Gilchrist	EEEV: 4 horses (2/6, 6/28, 6/29)
Hamilton	EEEV: 1 horse (5/30)
Hernando	EEEV: 1 horse (6/27) ; 1 sentinel (6/10)
Hillsborough	EEEV: 1 human (March), 1 horse (7/20)
Indian River	EEEV: 1 sentinel (5/9)
Lake	EEEV: 1 horse (1/30)
Leon	EEEV: 1 sentinel (6/3)
Levy	EEEV : 1 human (January) ; 2 horses (1/7, 7/21)
Madison	EEEV : 1 horse (2/16)
Marion	EEEV : 3 horses (7/11, 7/12, 7/18)
Nassau	EEEV : 1 horse (7/8) ; 7 sentinels (6/8, 6/15, 6/28, 7/1, 7/5, 7/19) WNV : 3 sentinels (7/19) HJV : 2 sentinels (6/28)
Orange	EEEV : 15 sentinels (5/2, 5/30, 6/6, 6/13, 6/20, 6/24, 6/27, 7/1, 7/3, 7/11, 7/15) ; 1 bird (1/1)
Pasco	EEEV : 1 horse (7/16)
Putnam	EEEV : 1 horse (6/26) ; 2 sentinels (7/16, 7/23)
Sarasota	WNV : 1 sentinel (5/3) SLEV : 1 sentinel (4/5)
Seminole	HJV: 1 sentinel (5/7)
St. Johns	EEEV : 1 horse (3/1) ; 14 sentinels (4/8, 5/6, 5/28, 6/3, 6/10, 6/17, 6/24, 7/22) HJV : 3 sentinels (6/3, 6/17, 7/1)
Volusia	EEEV : 1 sentinel (7/15)
Wakulla	EEEV : 2 birds (4/8)
Walton	EEEV : 35 sentinels (1/7, 2/26, 3/25, 4/15, 4/29, 4/30, 5/6, 5/13, 5/28, 6/17, 6/24, 7/1, 7/8, 7/23) WNV : 46 sentinels (1/7, 1/14, 1/15, 1/23, 1/28, 2/4, 2/20, 3/11, 4/8, 4/9, 4/15, 4/29, 4/30, 5/7, 5/13, 5/14, 6/17, 7/8) HJV : 8 sentinels (5/13, 6/17, 7/1, 7/8)

The equine listed as Gilchrist/Columbia for 5/29/13 had exposure in both counties during the 2 weeks prior to onset. Is not listed in the table above.

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.

****The weekly and WNV YTD maps were updated on August 15, 2013**