

## Florida Arbovirus Surveillance

### Week 26: June 27 – July 3, 2010

Arbovirus surveillance in Florida includes endemic 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). During the period June 27-July 3, 2010, the following arboviral activity was recorded in Florida:

**DENV activity:** Two locally-acquired cases of dengue were reported this week in Key West residents and one was reported in a resident of another state. In 2010, there have been 12 locally-acquired cases associated with Key West (Monroe County).

**EEEV activity:** Fifteen EEEV-confirmed positive horses were reported in Collier, Glades, Jackson, Madison, Miami-Dade, Palm Beach, Polk, St. Johns, Seminole, and Washington counties. Eight sentinel chickens from Citrus, Duval, Miami-Dade, Volusia, and Walton counties and two live wild birds from Walton County tested positive for antibodies to EEEV. In 2010, positive samples from 32 equines, 49 sentinel chickens, 15 live wild birds, and three mosquito pools have been received from 31 of Florida's 67 counties.

**WNV activity:** One live wild bird from Okaloosa County tested positive for antibodies to a flavivirus. In 2010, positive samples from 47 sentinel chickens and one live wild bird (flavivirus positive) have been received from six counties.

**HJV activity:** Three sentinel chickens from Orange County tested positive for antibodies to HJV. In 2010, positive samples from 17 sentinel chickens have been received from seven counties.

**Advisories/Alerts:** Monroe County is currently under a mosquito-borne disease alert. Miami-Dade, Collier, and Glades counties issued mosquito-borne illness advisories this week in response to EEEV positive horses. Walton, Volusia, Clay, Hillsborough, and Osceola counties are also currently under mosquito-borne illness advisories.

### Year to Date Human Case Summary

**Acquired in Florida:** Twelve cases of dengue have been reported as acquired in Key West in 2010. Of these, nine are Key West residents, two are residents of other Florida counties, and one resides out of state. Onset dates ranged from March 17 to June 9, 2010.

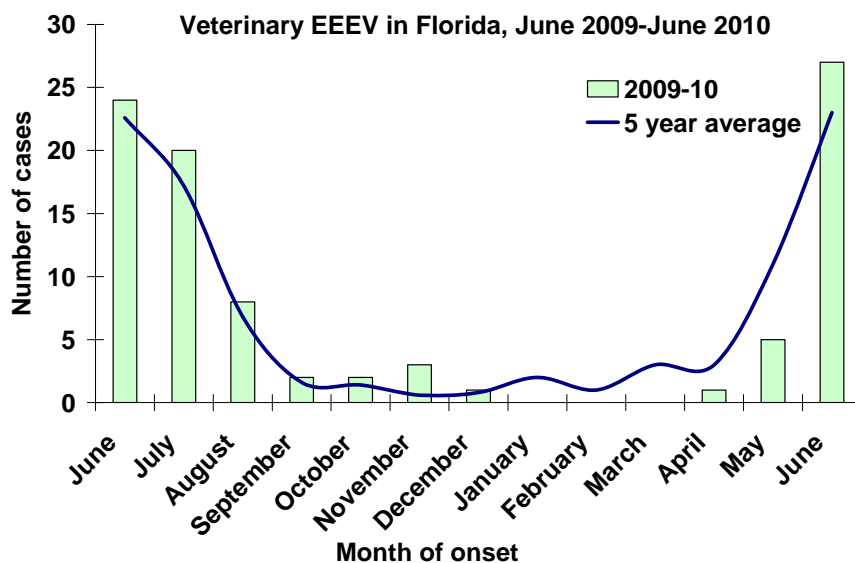
**Imported:** Twenty-four cases of dengue with onset in 2010 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin included Brazil, Colombia (3), Costa Rica (2), Dominican Republic (3), Haiti (3), Jamaica, Nicaragua, Phillipines, Puerto Rico (6), Venezuela (2), and Malaysia/Dubai/Bangladesh (slash indicates travel to more than one country).

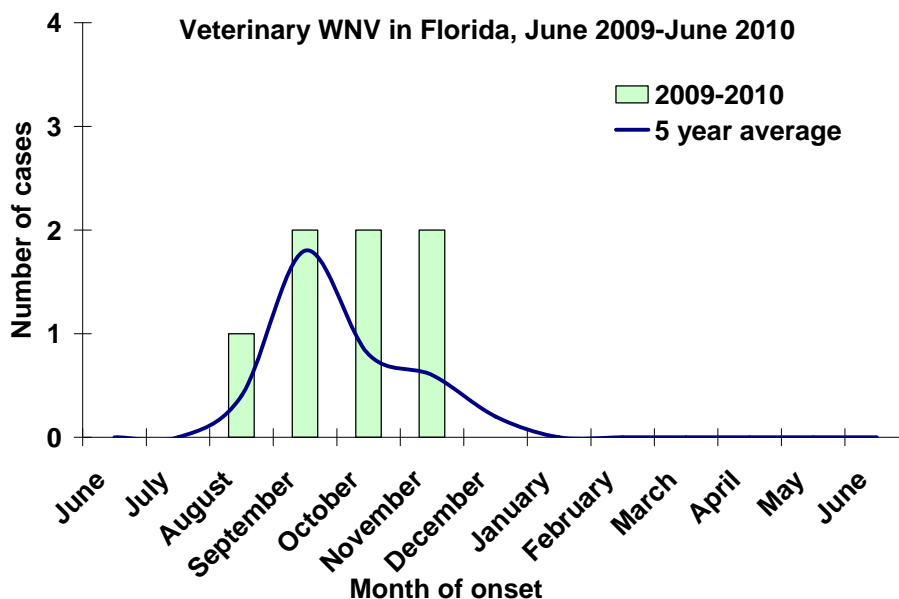
Fifty imported cases of malaria with onset in 2010 have been reported. Countries of origin included Angola, Dominican Republic, Ghana, Guyana, Haiti (34), Honduras (3), India, Nigeria (4), Phillipines, Uganda, West Africa, and Zambia/South Africa.

## Veterinary Cases

Fifteen horses in Collier, Glades, Holmes, Jackson, Madison, Miami-Dade, Palm Beach, Polk, St. Johns, Seminole, and Washington counties tested positive for EEEV this week. In 2010, 32 EEEV-positive horses have been reported from 16 counties.

County	Onset Date	Species	Virus	Status	County YTD
Polk	06/28/2010	Equine	EEEV	Dead	3
	06/25/2010	Equine	EEEV	Dead	
Jackson	06/28/2010	Equine	EEEV	Euthanized	2
Seminole	06/26/2010	Equine	EEEV	Dead	1
Washington	06/28/2010	Equine	EEEV	Deade	4
	06/26/2010	Equine	EEEV	Euthanized	
	06/22/2010	Equine	EEEV	Euthanized	
	06/17/2010	Equine	EEEV	Euthanized	
Glades	06/24/2010	Equine	EEEV	Alive	2
Collier	06/22/2010	Equine	EEEV	Euthanized	2
Palm Beach	06/22/2010	Equine	EEEV	Euthanized	1
Madison	06/21/2010	Equine	EEEV	Dead	1
Miami-Dade	06/17/2010	Equine	EEEV	Euthanized	2
	06/07/2010	Equine	EEEV	Euthanized	
St. Johns	06/18/2010	Equine	EEEV	Euthanized	1



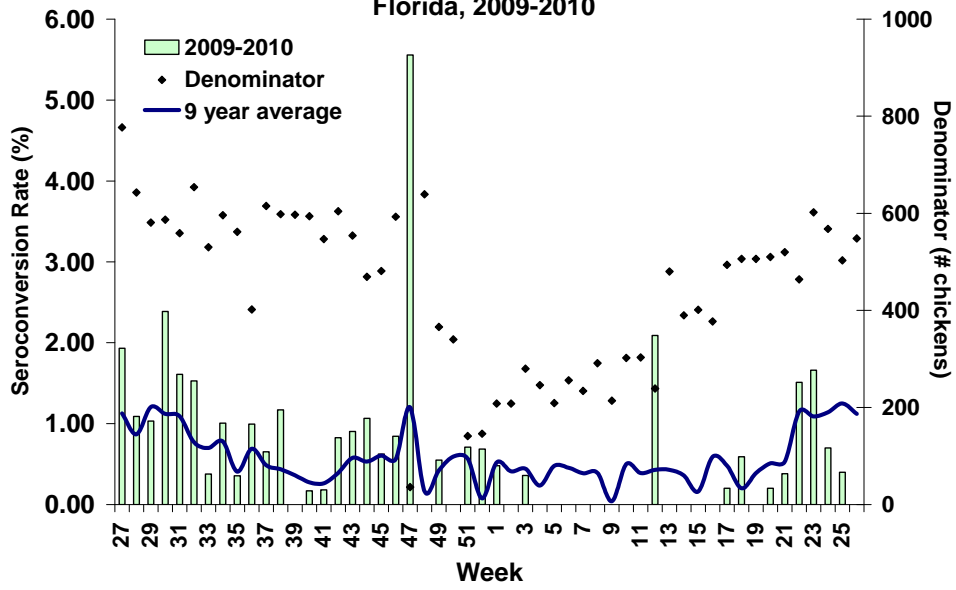


### Sentinel Chickens

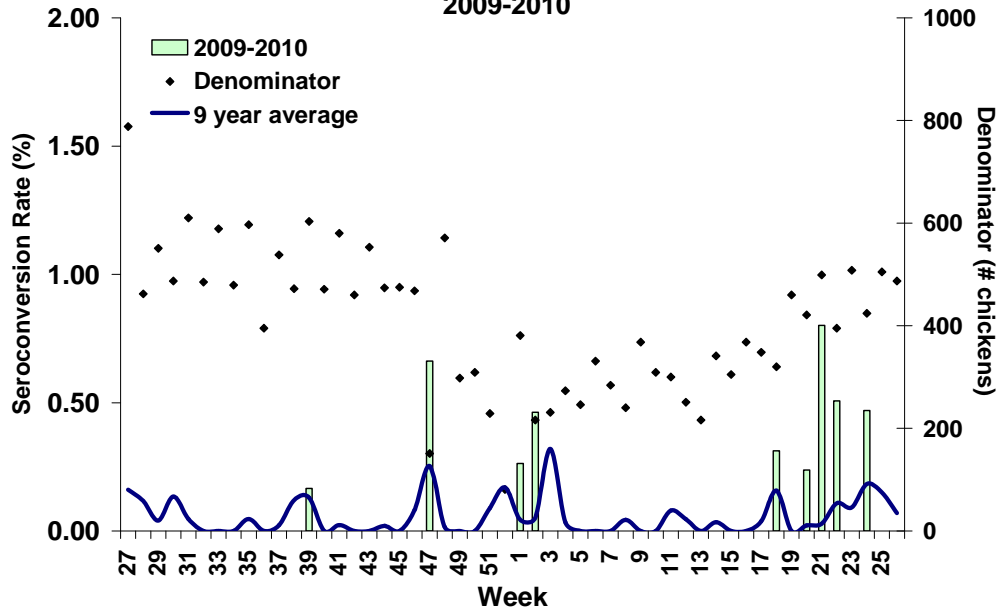
There were eight seroconversions to EEEV in sentinel chickens from Citrus, Duval, Miami-Dade, Volusia, and Walton counties, and three to HJV in sentinels from Orange County this week. Seroconversion rates are calculated by week and include previously reported results.

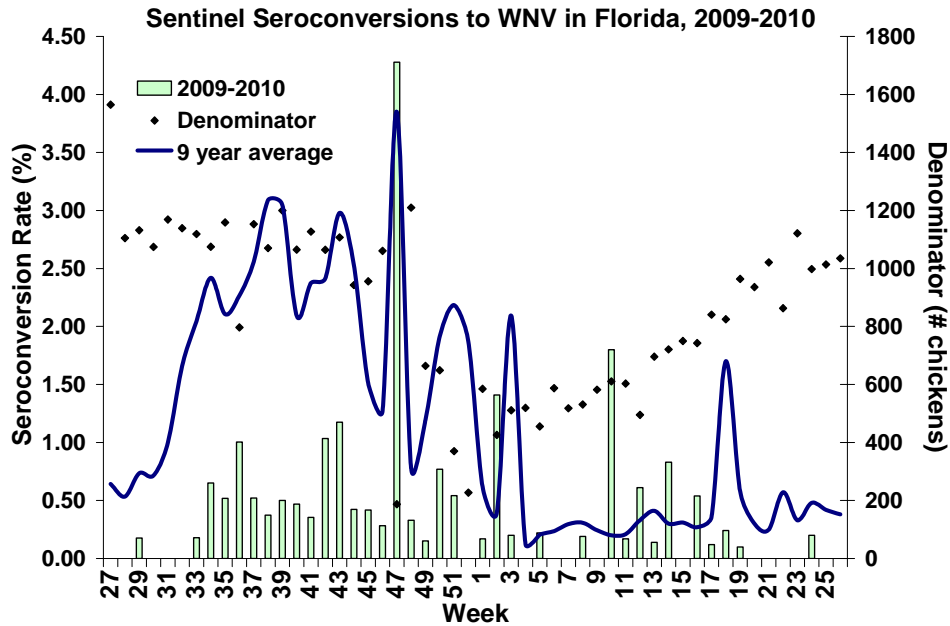
County	Collection Date	Seroconversion Rates (%)				County Totals	
		SLEV	WNV	EEEV	HJV	Week	YTD
Duval	06/21/2010			3.3		1 EEE	1 EEE
Walton (South)	06/21/2010			2.1		1 EEE	3 WNV, 3 EEE, 1 HJV
Orange	06/14/2010		1.8		0.9	2 WNV, 1 HJV	2 WNV, 7 EEE, 8 HJV
	06/10/2010			2.8	5.5	3 EEE, 6 HJV	
Volusia	06/14/2010			11.1		2 EEE	9 EEE, 1 HJV
Miami-Dade	06/14/2010			8.0		2 EEE	2 EEE
Walton (North)	06/08/2010			2.6		1 EEE	25 WNV, 5 EEE, 2 HJV
Citrus	05/24/2010			1.5		1 EEE	2 EEE, 1 HJV

**Sentinel Seroconversions to EEEV in North and Panhandle Florida, 2009-2010**



**Sentinel Seroconversions to EEEV in South Florida, 2009-2010**





### Live Wild Birds

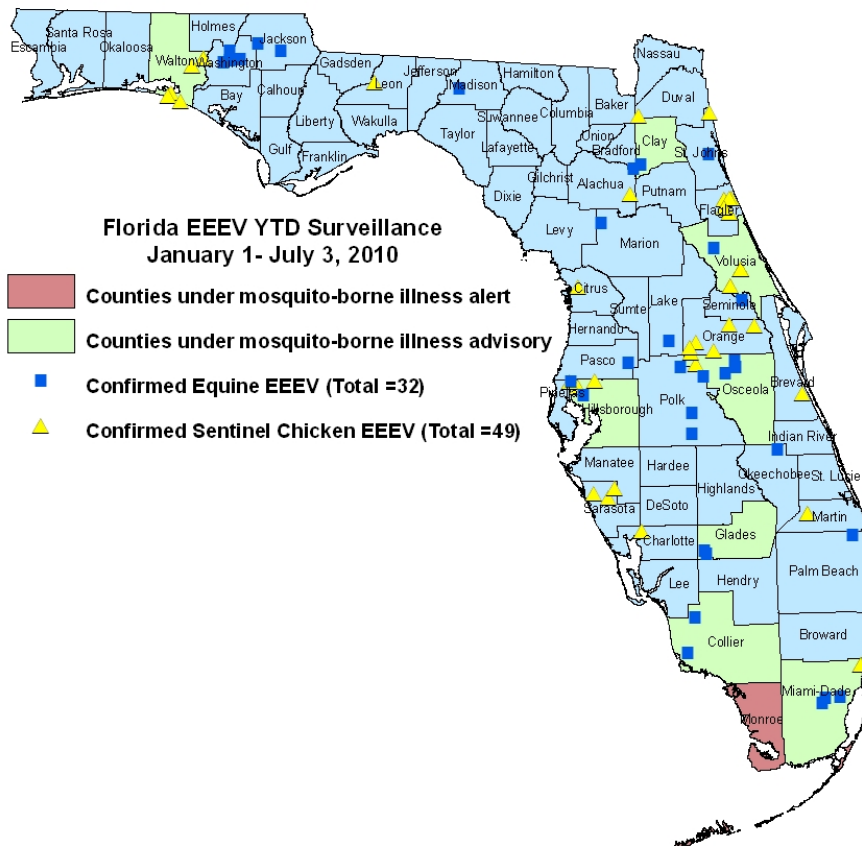
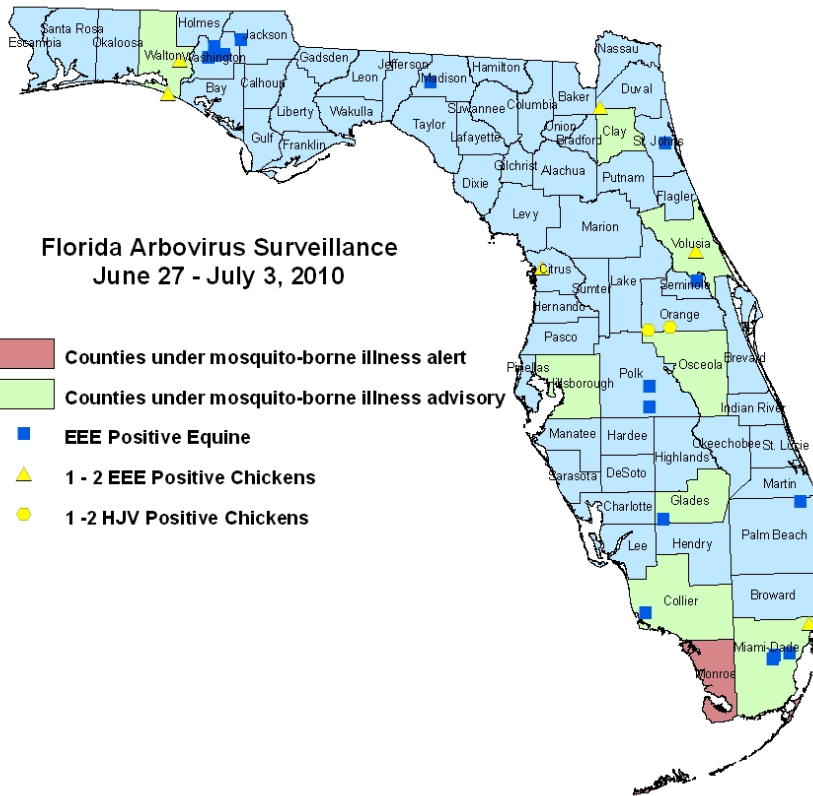
Out of 35 live wild birds collected from three counties on June 8-15, 2010 and seven collected from one county on June 24, 2010, two from Walton County tested positive for antibodies to EEEV and one from Okaloosa County tested positive for antibodies to a flavivirus.

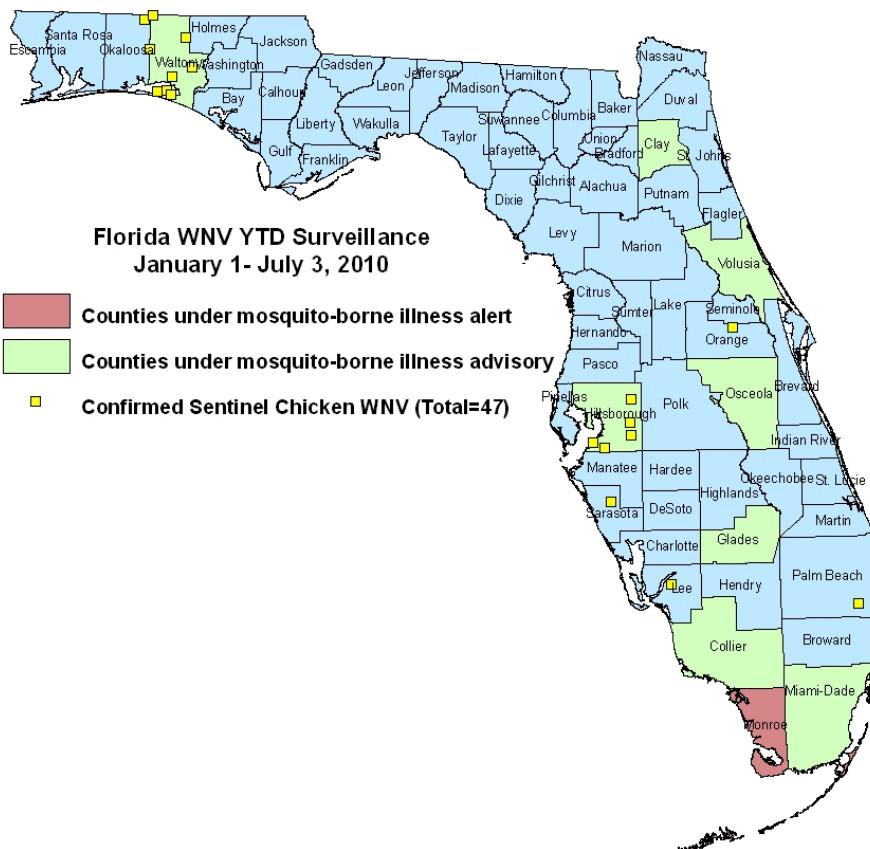
County	Collection Date	EEEV	Flavi	Species	EEEV Rate	Flavi Rate	County YTD
Walton	06/24/2010	2		1 Cardinal, 1 Blue jay	2 out of 7	N/A	2 EEE
Okaloosa	06/14/20		1	1 Blue jay	N/A	1 out of 6	6 EEE, 1 flavi

### 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 91 dead birds were received from nine counties. Two were identified as crows, one as a jay, and one as a raptor. In 2010, 173 reports representing a total of 540 dead birds (15 crows, 10 jays, 31 raptors, 484 others) have been received from 41 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





### YTD Arbovirus Activity by County

County	Arbovirus Activity
Brevard	EEE: 1 sentinel (6/2)
Citrus	EEE: 2 sentinels (5/24, 6/7) HJV: 1 sentinel (5/17)
Clay	EEE: 2 horses (6/5, 6/16)
Collier	EEE: 2 horses (6/9, 6/22)
Duval	EEE: 1 sentinel (6/21)
Flagler	EEE : 7 sentinels (3/22, 4/26, 5/3, 6/7, 6/7) ; 3 mosquito pool ( <i>Culiseta melanura</i> 4/27, 5/11, 6/15)
Glades	EEE : 2 horses (6/20, 6/24)
Hillsborough	WNV : 13 sentinels (1/12, 1/19, 2/22, 3/9, 3/22, 4/20, 5/11) EEE: 2 horses (5/29, 6/11); 2 sentinels (5/4, 5/18)
Jackson	EEE: 2 horses (6/14, 6/28)
Lake	EEE: 1 horse (5/20)
Lee	WNV: 2 sentinels (3/30, 4/20)
Leon	DENV: 2 humans (acquired in Key West, May) EEE: 1 sentinel (6/1)
Madison	EEE: 1 horse (6/21)
Marion	EEE: 1 horse (5/7)
Martin	EEE: 1 sentinel (5/28)
Miami-Dade	EEE: 2 horses (6/7, 6/17); 2 sentinels (6/14)
Monroe	DENV: 7 humans (1 April, 3 May, 3 June)
Okaloosa	WNV: 1 live wild bird (flavivirus positive, blue jay 6/14) EEE : 6 live wild birds (1 house sparrow 1/4, 5 blue jay 1/27, 4/19, 4/21, 4/26)
Okeechobee	EEE : 1 horse (6/14)
Orange	EEE : 7 sentinels (1/7, 5/3, 5/17, 6/7, 6/10, 6/14) HJV : 8 sentinels (5/17, 6/7, 6/10, 6/14)
Osceola	EEE: 3 horses (6/8, 6/10, 6/13), 1 donkey (5/15)
Palm Beach	WNV: 1 sentinel (3/15)

	EEE: 1 horse (6/22)
<b>Pasco</b>	EEE: 1 horse (6/11)
<b>Pinellas</b>	EEE: 2 sentinels (5/24) HJV: 1 sentinel (4/26)
<b>Polk</b>	EEE: 3 horses (4/28, 6/25, 6/28)
<b>Putnam</b>	EEE: 1 sentinel (6/4) HJV: 1 sentinel (5/14)
<b>St. Johns</b>	EEE: 1 horse (6/18); 1 sentinel (6/1) HJV: 2 sentinels (4/26, 5/3)
<b>Santa Rosa</b>	EEE: 8 live wild birds (8 blue jays 2/2, 3/22, 4/13, 4/19, 5/11, 5/18)
<b>Sarasota</b>	EEE: 3 sentinels (1/5, 1/11, 6/1) WNV : 1 sentinel (1/8)
<b>Seminole</b>	EEE : 1 horse (6/26)
<b>Volusia</b>	EEE : 1 horse (5/7) ; 9 sentinels (5/24, 6/1, 6/7, 6/14) HJV : 1 sentinel (5/17)
<b>Walton</b>	EEE : 8 sentinels (1/19, 3/22, 5/3, 6/8, 6/21) ; 2 live wild birds (1 cardinal 6/24, 1 blue jay 6/24) WNV : 28 sentinels (1/14, 2/4, 3/8, 3/12, 3/22, 4/7, 4/8, 4/23, 4/30, 5/5, 5/20) HJV : 3 sentinels (3/22, 5/17)
<b>Washington</b>	EEE : 4 horses (6/17, 6/22, 6/25, 6/28)

### Acknowledgements and Data Sources

Contributors: Elizabeth Radke, MPH, Danielle Stanek, DVM, and Carina Blackmore, DVM, PhD.

For more surveillance information, please see the DOH website at:  
<http://www.doh.state.fl.us/Environment/medicine/arboviral/index.html>

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 determined by the Department of Agriculture and Consumer Services. Wild captured bird information is provided by the John A. Mulrennan Public Health Entomology Research and Education Center.