

## Florida Arbovirus Surveillance Week 46: November 13 – November 19, 2011

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 November 13 – November 19, 2011, the following arboviral activity was recorded in Florida:

**DENV activity:** No new cases of locally acquired dengue were reported this week. In 2011, there have been two locally acquired cases each in Miami-Dade and Palm Beach counties, and one case each in Martin and Hillsborough counties.

**EEEV activity:** Four sentinel chickens in Citrus, Manatee and Sarasota counties tested positive for antibodies to EEEV. In 2011, positive samples from four equines, 33 sentinel chickens and 19 live wild birds have been received from 15 counties.

**WNV activity:** No new cases of locally acquired WNV infection were reported this week. Nine sentinel chickens in Hillsborough, Lee, Orange and Sarasota counties tested positive for antibodies to WNV. In 2011, positive samples from 25 humans, 182 sentinel chickens, three equines and one live wild bird (flavivirus positive) have been received from 23 counties.

**SLEV activity:** Two sentinel chickens in Pinellas County tested positive for antibodies to SLEV. In 2011, positive samples from 53 sentinel chickens have been received from five counties.

**HJV activity:** One sentinel chicken in Walton County tested positive for antibodies to HJV. In 2011, positive samples from 13 sentinel chickens have been received from four counties.

**Advisories/Alerts:** Duval and Palm Beach counties are under mosquito-borne illness alert. Clay, Hillsborough, Leon, Miami-Dade, Martin, Holmes and Pinellas counties are under mosquito-borne illness advisory. The Bahamas has also issued an alert due to high dengue activity:

<http://wwwnc.cdc.gov/travel/notices/outbreak-notice/dengue-bahamas.htm>

## Year to Date Human Case Summary

**West Nile Virus Infection Acquired in Florida:** Twenty-two human cases of WNV infection have been acquired in Florida in 2011 with onset in June (1), July (8), Aug (8), Sep (4) and Oct (1). Nineteen cases were exposed in Duval; 17 of these cases were Duval County residents, one was a Leon County resident, and one case was a New Jersey resident. Three additional cases were acquired in Clay (1) Leon (1) and Miami-Dade (1) counties. Three positive asymptomatic blood donors were reported in Duval County.

**Dengue Acquired in Florida:** In 2011, six cases of locally acquired dengue have been reported in Miami-Dade (January and August), Martin (July), Hillsborough (September) and Palm Beach (2 cases in September) counties.

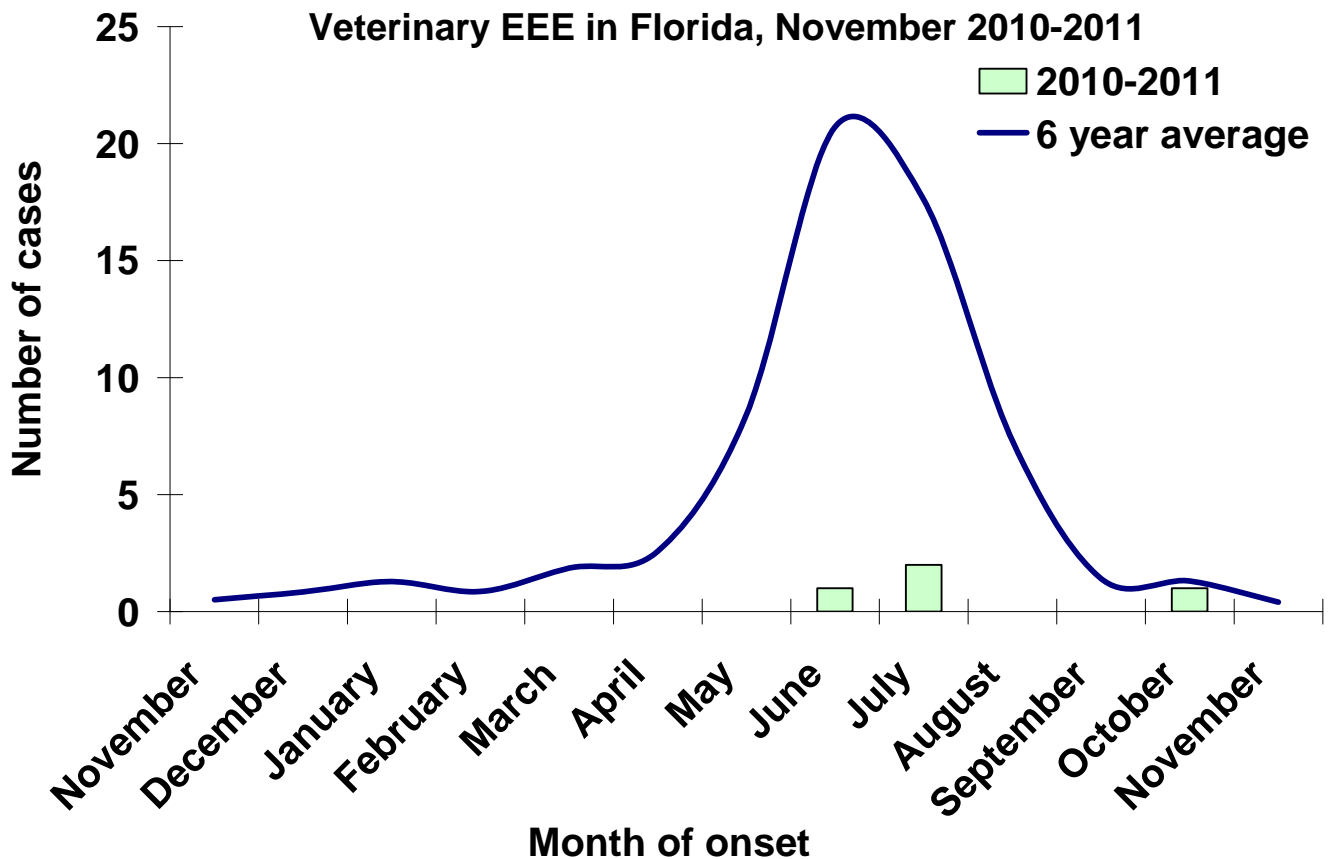
**Imported Dengue:** Fifty cases of dengue with onset in 2011 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin

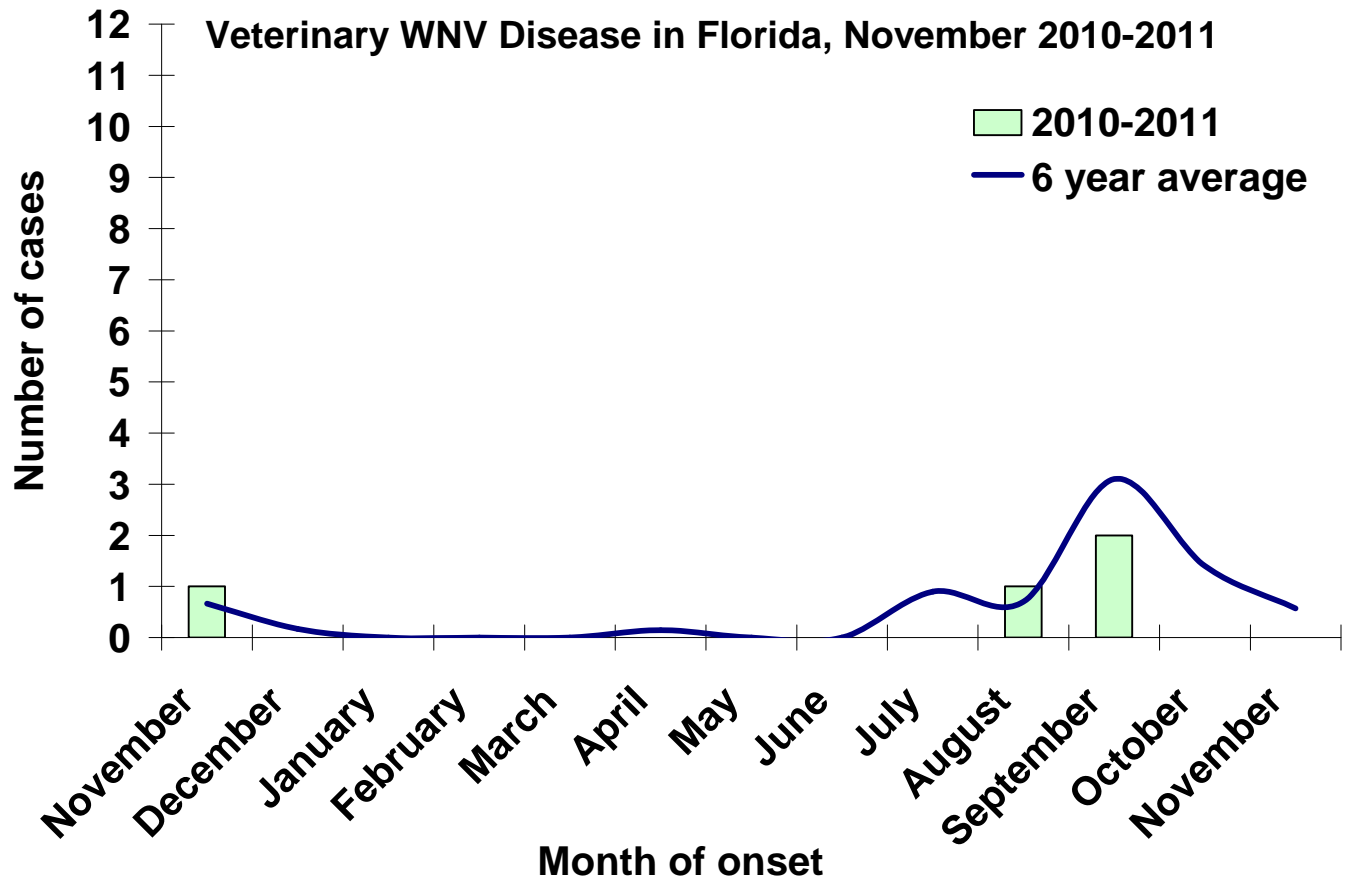
were Aruba, Bahamas (14), Bangladesh (2), Brazil (2), Colombia, Cuba, Dominican Republic, Guyana, Haiti (2), India, Jamaica (2), Nicaragua (2), Pakistan, Panama (2), Puerto Rico (10), St. Lucia (2), Trinidad (3), Turks and Caicos Islands and Venezuela. Counties reporting cases were Brevard, Broward (3), Clay (2), Flagler (2), Gulf, Hendry, Hillsborough (3), Lee, Marion, Martin, Miami-Dade (12), Orange (4), Palm Beach (9), Pasco, Pinellas, St. Johns (3), St. Lucie (3) and Washington.

**Imported Malaria:** Eighty-six imported cases of malaria with onset in 2011 have been reported. Countries of origin were: Afghanistan (5), Brazil, Cameroon, East Timor, Ethiopia (2), Eritrea (2), French Guiana, Gabon, Ghana (6), Guinea Conakry, Guyana, Haiti (23), Honduras (4), India (13), Kenya, Liberia (2), Libya, Mali (2), Nigeria (7), New Guinea, Pakistan, Peru, Rwanda, Senegal, Uganda (4), Venezuela and West Africa. Counties reporting cases were: Alachua (2), Brevard (4), Broward (10), Citrus, Collier (2), Duval (8), Escambia, Gulf, Hillsborough (7), Indian River, Lee (5), Leon (2), Miami-Dade (18), Manatee (3), Okaloosa, Orange (4), Palm Beach (6), Pasco (2), Pinellas, Santa Rosa, Seminole, St. Johns and St. Lucie (4).

**Veterinary Cases**

No positive horses were reported this week.



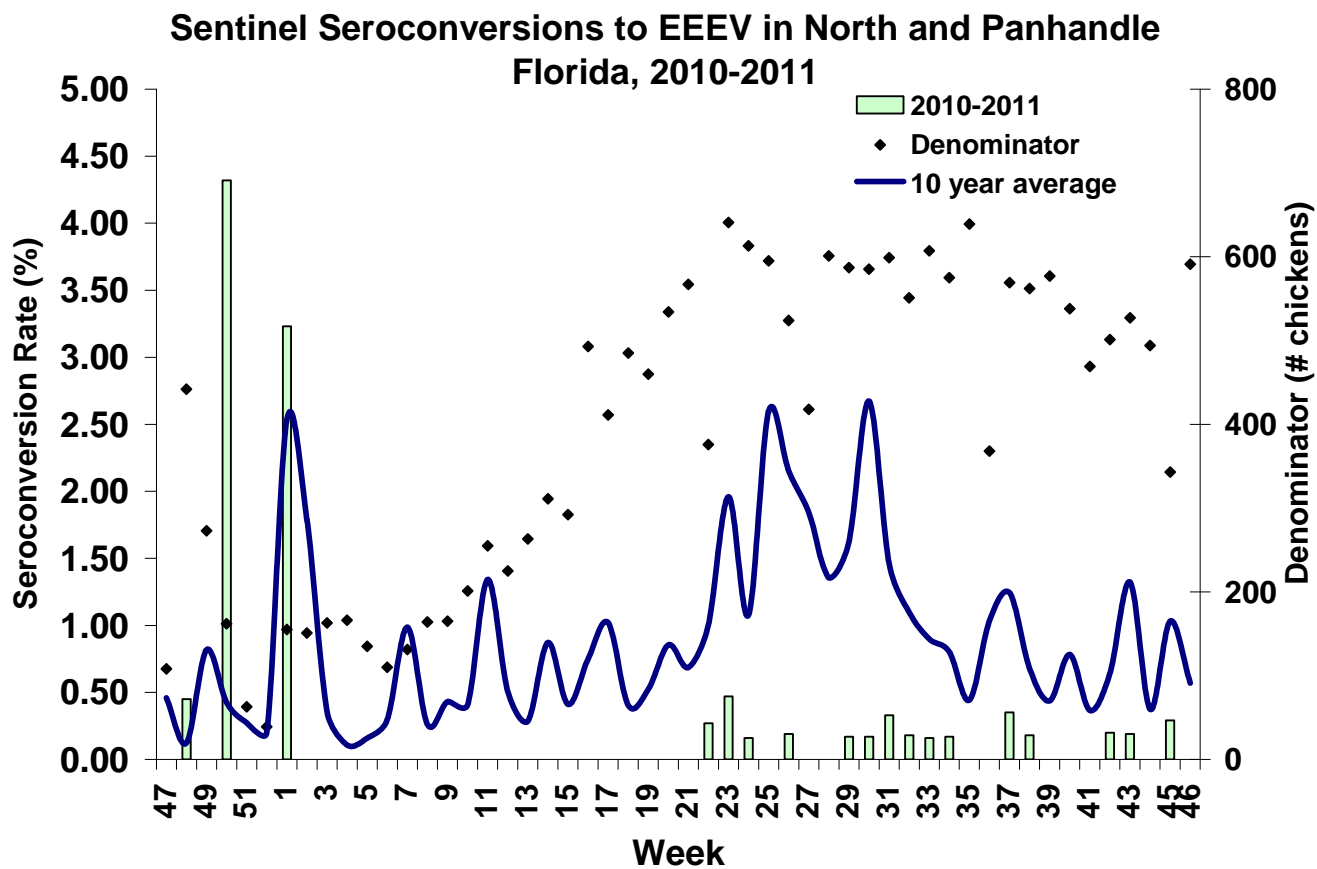


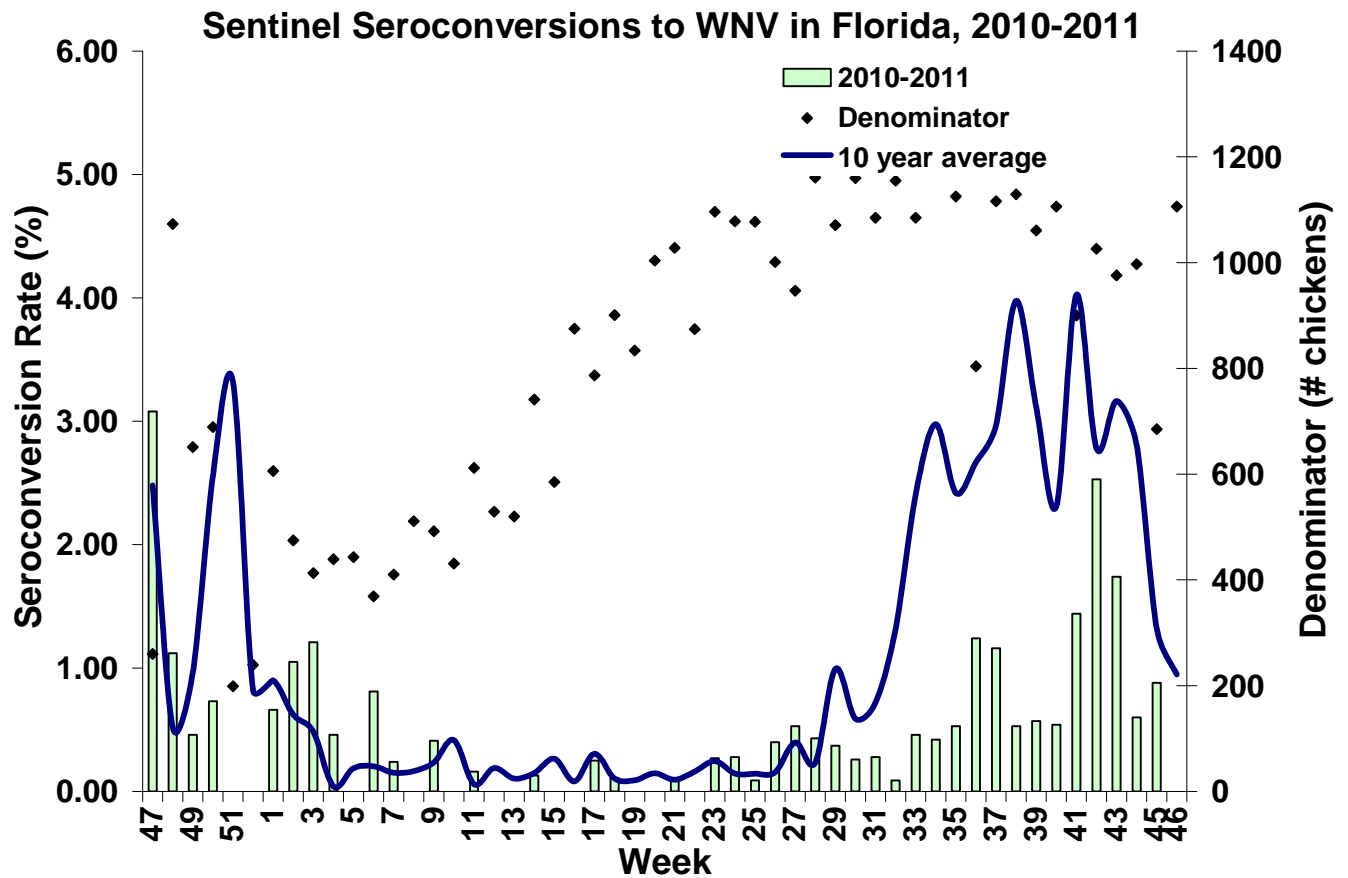
### Sentinel Chickens

Nine sentinel chickens in Hillsborough, Lee, Orange and Sarasota counties tested positive for antibodies to WNV. Two sentinel chickens in Pinellas County tested positive for antibodies to SLEV. Four sentinel chickens in Citrus, Manatee and Sarasota counties tested positive for antibodies to EEEV. One sentinel chicken in Walton County tested positive for antibodies to HJV. Seroconversion rates are calculated by week and include previously reported results.

County	Collection Date	Seroconversion Rates (%)				Week	County Totals	
		SLEV	WNV	EEEV	HJV		YTD	
Citrus	11/07/11			1.45		1 EEEV	5HJV, 5 EEEV, 4WNV	
Hillsborough	11/08/11		11.76			6 WNV	43 WNV, 8 SLEV, 1EEEV	
Lee	10/24/11		2.86			1WNV	20 WNV	
Manatee	10/26/11		4.11	1.37		3 WNV, 1EEEV		
Manatee	11/08/11			1.49		1 EEEV	13 WNV, 5 SLEV, 2 EEEV	

County	Collection Date	Seroconversion Rates (%)				Week	County Totals YTD
		SLEV	WNV	EEEV	HJV		
Orange/Reedy	11/03/11		2.50			1WNV	3 EEE, 3 HJV, 14 WNV
Pinellas	10/17/11	6.25				3 SLEV	
Pinellas	11/07/11	1.79				1 SLEV	38 SLEV, 6 WNV
Sarasota	10/17/11		2.78			2 WNV	
Sarasota	10/28/11		1.43	1.41		1 WNV, 1 EEEV	21 WNV, 1 EEEV
Walton (South)	10/24/11				1.39	1 HJV	3 HJV, 3 EEEV





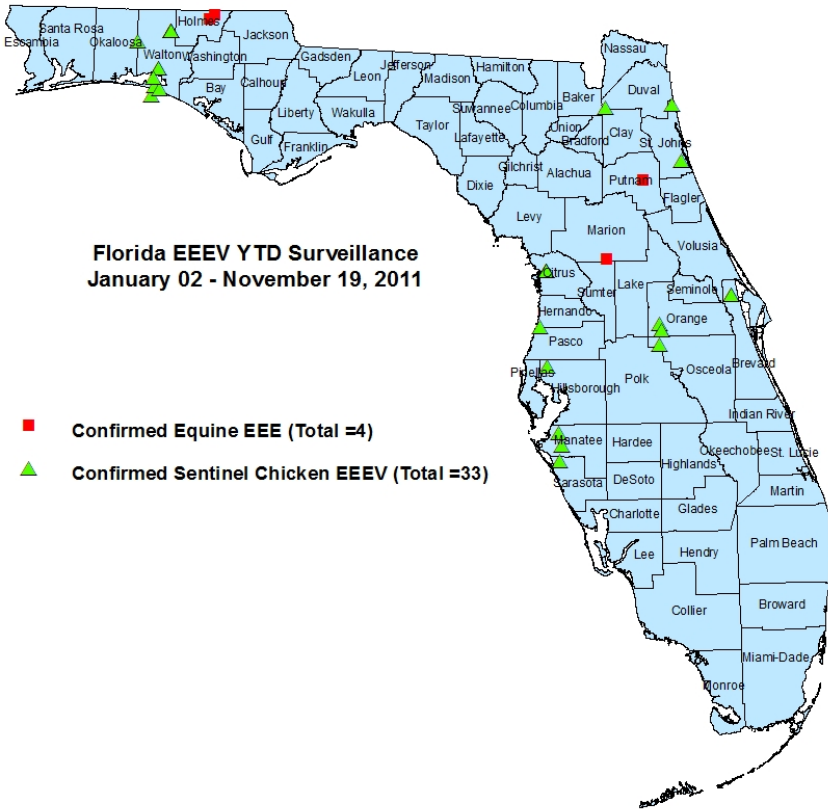
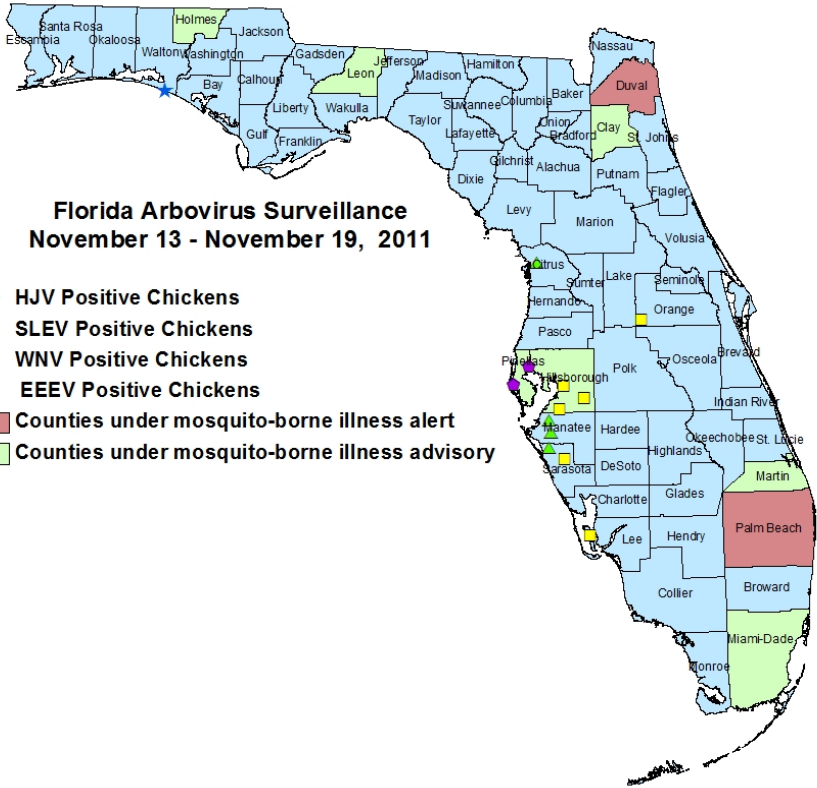
#### Live Wild Birds

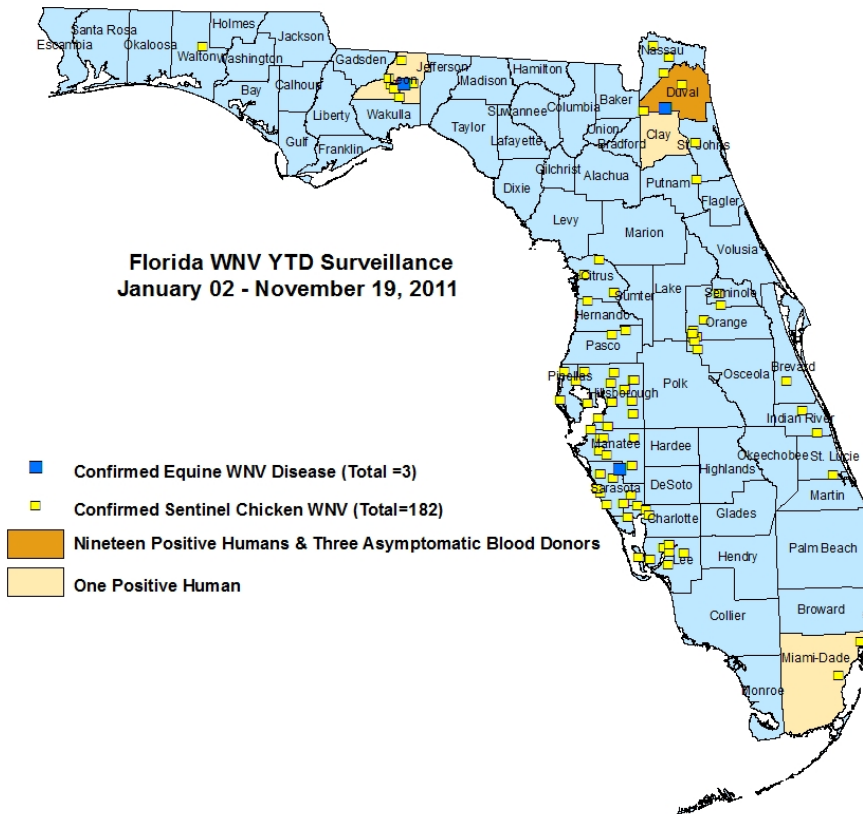
No positive live wild birds were reported this week.

#### 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, seven reports representing 10 dead birds were received from seven counties. One was identified as jay and one as raptor. None were identified as crows. In 2011, three-hundred reports representing a total of 882 dead birds (39 crows, 53 jays, 64 raptors, 726 others) were received from 45 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
<b>Brevard</b>	WNV: 1 sentinel (10/12) EEEV: 2 sentinels (5/20, 5/27)
<b>Citrus</b>	WNV: 4 sentinels (1/3, 1/11, 10/24) EEEV: 5 sentinels (8/15, 9/12, 9/19, 10/24, 11/7) HJV: 5 sentinels (9/12, 9/19, 9/27, 10/17)
<b>Charlotte</b>	WNV: 7 sentinels (7/1, 9/9, 10/14, 10/28)
<b>Clay</b>	WNV: 1 human (September),
<b>Dade</b>	DENV: 2 humans (acquired in Miami; January and August) WNV: 1 human (acquired in Miami; August), 2 sentinels (1/18, 6/22)
<b>Duval</b>	WNV: 22 humans including 3 asymptomatic blood donors [June (1), July (8), Aug (6), Sept (3), Oct (1)]; 5 sentinels (7/15, 9/16, 10/20); 1 horse (9/21) EEEV: 1 sentinel (6/11)
<b>Hernando</b>	WNV : 2 sentinels (8/1, 10/17) EEEV: 1 sentinel (6/6)
<b>Hillsborough</b>	DENV : 1 human (acquired in Hillsborough County, September) WNV: 43 sentinels (1/4, 1/11, 1/18, 1/25, 2/9, 3/1, 7/19, 8/30, 9/13, 9/27, 10/5, 10/11, 10/18, 10/25, 10/18, 11/01, 11/8) EEEV: 1 sentinel (11/01) SLEV: 8 sentinels (8/23, 9/13, 9/20, 10/5, 10/11)
<b>Holmes</b>	EEEV: 2 horses (7/3, 7/6)
<b>Indian River</b>	WNV: 3 sentinels (4/28, 8/18, 10/20) SLEV: 1 sentinel (6/23)
<b>Lee</b>	WNV: 20 sentinels (6/13, 6/27, 7/11, 7/25, 8/20, 10/17, 10/24 )
<b>Leon</b>	WNV: 1 human (August), 23 sentinels (8/23, 8/30, 9/6, 9/12, 9/19, 9/26, 10/4, 10/17,

	10/24); 1 horse (9/11)
<b>Manatee</b>	WNV: 13 sentinels (4/4, 7/20, 8/31, 10/11, 10/19, 10/26, 11/02) SLEV: 5 sentinels (9/14,9/28 10/19, 11/02) EEEV: 2 sentinels (10/26, 11/8)
<b>Marion</b>	EEEV: 1 horse (6/21)
<b>Martin</b>	DENV: 1 human (acquired in Martin County; July)
<b>Nassau</b>	WNV: 4 sentinels (8/1,8/29, 9/19) HJV: 1 sentinel (5/23)
<b>Okaloosa</b>	WNV: 1 live wild bird (flavivirus positive, 1 blue jay 5/31) EEEV: 10 live wild birds (7 blue jays 1/10, 4/11, 4/25, 5/16, 5/19, 6/6, 6/8; 1 cardinal 1/ 11 and 2 brown thrashers 2/21, 4/20)
<b>Orange</b>	WNV: 18 sentinels (1/3, 1/18, 1/24, 7/7, 7/14, 7/ 28, 8/1, 8/11, 8/18,9/8,9/15, 10/6, 11/3) EEEV: 4 sentinels (6/2, 6/9, 6/27, 7/28) HJV: 3 sentinels (2/24, 7/7, 10/6)
<b>Palm Beach</b>	DENV : 2 humans (acquired in Palm Beach County, September)
<b>Pasco</b>	WNV: 1 sentinel (10/24) SLEV: 1 sentinel (9/26)
<b>Pinellas</b>	WNV: 6 sentinels (8/29, 9/12, 9/6, 10/10) SLEV: 38 sentinels (7/18, 8/8, 8/22, 8/29, 9/6,9/12, 9/26, 10/3, 10/10, 10/17, 10/24, 11/7)
<b>Putnam</b>	WNV : 1 sentinel (10/14) EEEV: 1 horse (10/14)
<b>Santa Rosa</b>	EEEV: 7 live wild birds (1 house sparrow 1/05 and 6 blue jays 3/1, 2/1, 4/12, 5/10, 5/18)
<b>Sarasota</b>	WNV: 21 sentinels (1/4, 2/14, 3/14, 4/25, 5/2, 6/27, 7/5, 7/18, 8/22, 9/12,9/19, 9/30, 10/11, 10/17, 10/21, 10/28); 1 horse (8/12) EEEV: 1 sentinel (10/28)
<b>Seminole</b>	WNV: 4 sentinels (6/7, 9/19)
<b>St. Johns</b>	WNV: 2 sentinels (9/12, 10/3) EEEV: 2 sentinels (6/13, 9/12)
<b>St. Lucie</b>	WNV: 1 sentinel (9/9)
<b>Walton</b>	WNV: 1 sentinel (5/24) EEEV:14 sentinels (1/6, 7/18, 8/1, 8/8, 8/22, 9/19, 9/26, 10/10, 10/17) ; 2 live wild birds (2 cardinals 1/14, 1/21) HJV: 4 sentinels (1/14, 4/18,5/2, 10/24)

### Acknowledgements and Data Sources

Contributors: Leena Anil, Ph.D., Danielle Stanek, DVM, and Carina Blackmore, DVM, Ph.D., DOH Bureau of Environmental Public Health Medicine; Lillian Stark, 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/arthoviral/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.