

Florida Arbovirus Surveillance
Week 52: December 25 – December 31, 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 December 25 - December 31, 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 three locally acquired cases in Miami-Dade County, two cases in Palm Beach County, and one case each in Martin and Hillsborough counties.

EEEV activity: Six sentinel chickens in Citrus, Orange and Pasco counties tested positive for antibodies to EEEV. In 2011, positive samples from six equines, 45 sentinel chickens and 19 live wild birds have been received from 18 counties.

WNV activity: Three sentinel chickens in Hillsborough County tested positive for antibodies to WNV. In 2011, positive samples from 27 humans, 219 sentinel chickens, three equines and one live wild bird (flavivirus positive) have been received from 24 counties.

SLEV activity: One sentinel chicken in Hillsborough County tested positive for antibodies to SLEV. In 2011, positive samples from 64 sentinel chickens have been received from five counties.

HJV activity: No HJV activity was reported this week. In 2011, positive samples from 13 sentinel chickens have been received from four counties.

Advisories/Alerts: Hillsborough County is 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-four human cases of WNV infection have been acquired in Florida in 2011 with onset in June (1), July (8), Aug (8), Sep (5) and Oct (2). Twenty cases were exposed in Duval; 18 of these cases were Duval County residents, one was a Leon County resident, and one case was a New Jersey resident. Four additional cases were acquired in Clay (1), Leon (1), Miami-Dade (1) and Palm Beach (1) counties. Three positive asymptomatic blood donors were reported in Duval County.

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

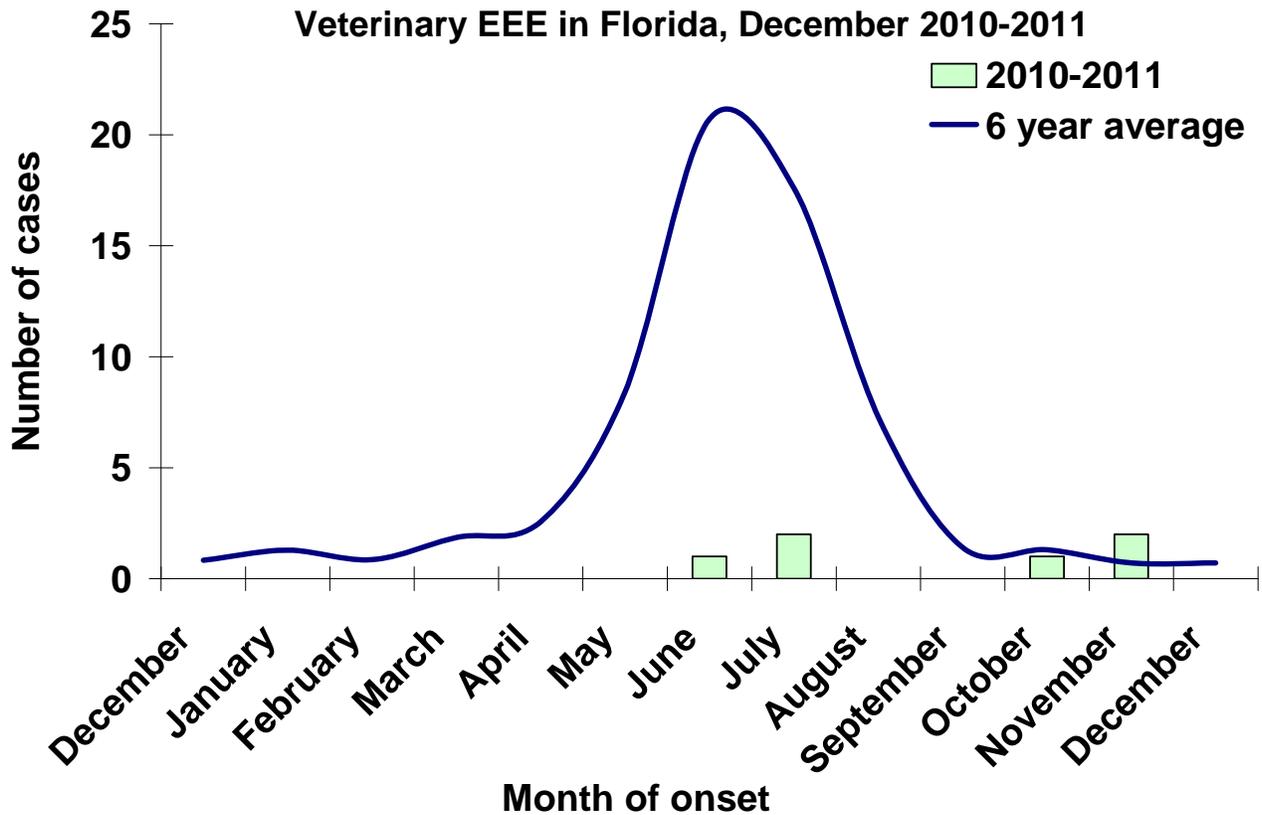
Imported Dengue: Sixty-one cases of dengue with onset in 2011 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Aruba, Bahamas (14), Bangladesh (3), Brazil (3), Colombia, Costa Rica, Cuba (5), Dominican Republic, Grenada, Guyana, Haiti (2), India, Jamaica (2), Nicaragua (2),

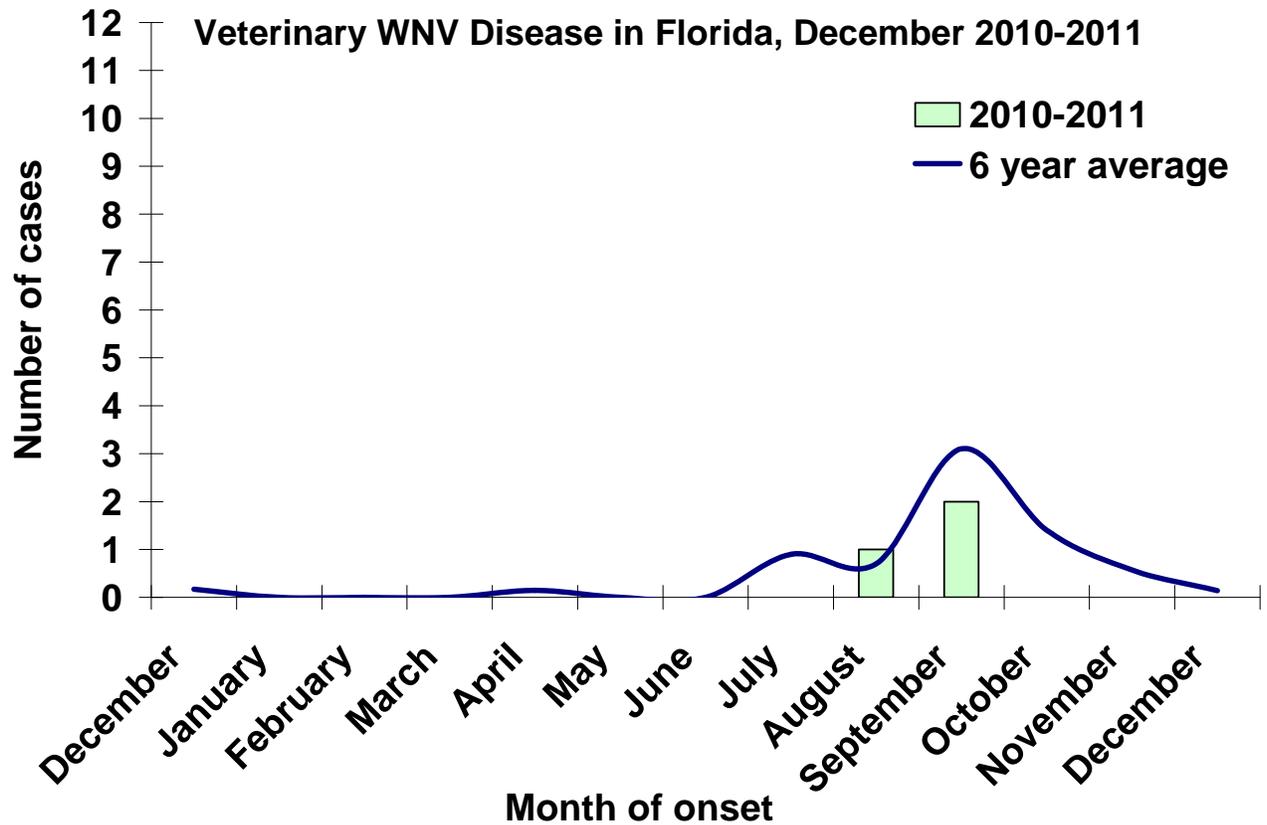
Pakistan, Panama (2), Puerto Rico (11), St. Lucia (2), Trinidad (4), Turks and Caicos Islands, Venezuela and Vietnam. Counties reporting cases were Brevard (2), Broward (4), Clay (2), Columbia, Flagler (2), Gulf, Hendry, Hillsborough (3), Lee, Marion, Martin, Miami-Dade (19), Orange (4), Osceola, Palm Beach (9), Pasco, Pinellas, St. Johns (3), St. Lucie (3) and Washington.

Imported Malaria: Ninety-three 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 (2), Haiti (26), Honduras (4), India (14), Kenya, Liberia (2), Libya, Mali (2), Nigeria (9), New Guinea, Pakistan, Peru, Rwanda, Senegal, Uganda (4), Venezuela and West Africa. Counties reporting cases were: Alachua (2), Brevard (5), Broward (13), Citrus, Collier (2), Duval (9), Escambia, Gulf, Hillsborough (7), Indian River, Lee (5), Leon (2), Miami-Dade (19), Manatee (3), Okaloosa, Orange (5), Palm Beach (6), Pasco (2), Pinellas, Santa Rosa, Seminole, St. Johns and St. Lucie (4).

Veterinary Cases

No positive horses were reported this week.



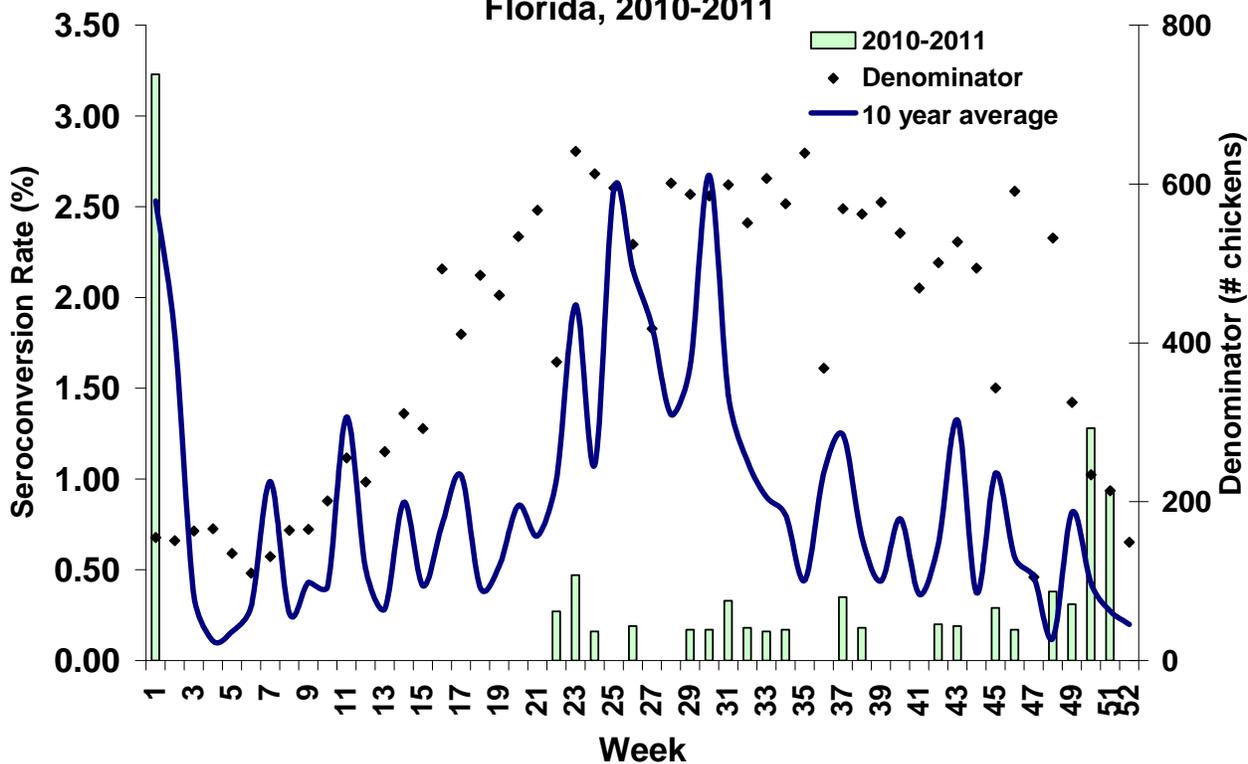


Sentinel Chickens

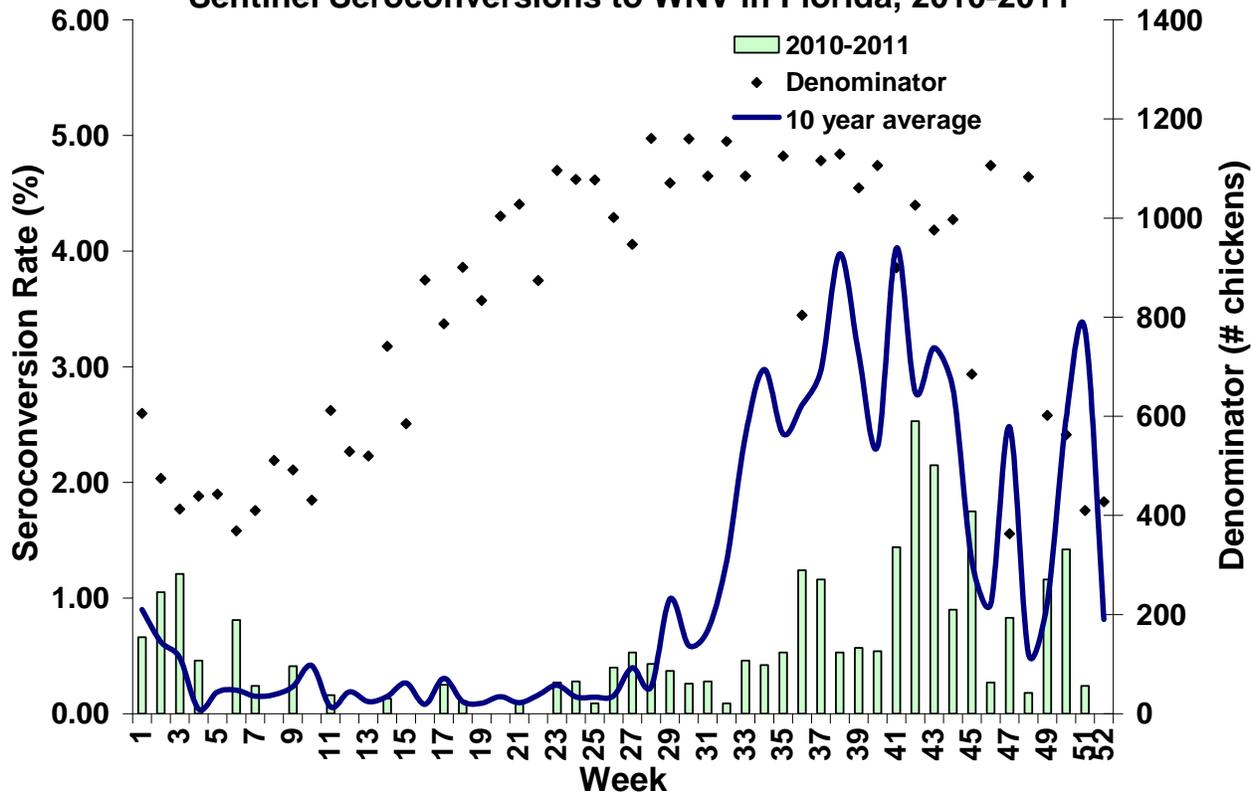
Three sentinel chickens in Hillsborough County tested positive for antibodies to WNV. One sentinel chicken in Hillsborough County tested positive for antibodies to SLEV. Six sentinel chickens in Citrus, Orange and Pasco counties tested positive for antibodies to EEEV. Seroconversion rates are calculated by week and include previously reported results.

County	Collection Date	Seroconversion Rates (%)				Week	County Totals
		SLEV	WNV	EEEV	HJV		YTD
Citrus	12/19/11			1.39		2 EEEV	5 HJV, 8 EEEV, 4 WNV
Hillsborough	12/07/11	1.72	3.45	1.72		1 EEEV, 1 SLEV, 2 WNV	
Hillsborough	12/19/11		1.96			1 WNV	63 WNV, 16 SLEV, 4 EEEV
Orange/Reedy	12/15/11			5.00		2 EEEV	5 EEEV, 3 HJV, 15 WNV
Pasco	12/05/11			4.17		1 EEEV	
Pasco	12/12/11			3.70		1 EEEV	1 WNV, 1 SLEV, 2 EEEV

Sentinel Seroconversions to EEEV in North and Panhandle Florida, 2010-2011



Sentinel Seroconversions to WNV in Florida, 2010-2011



Live Wild Birds

No positive live wild birds were reported this week.

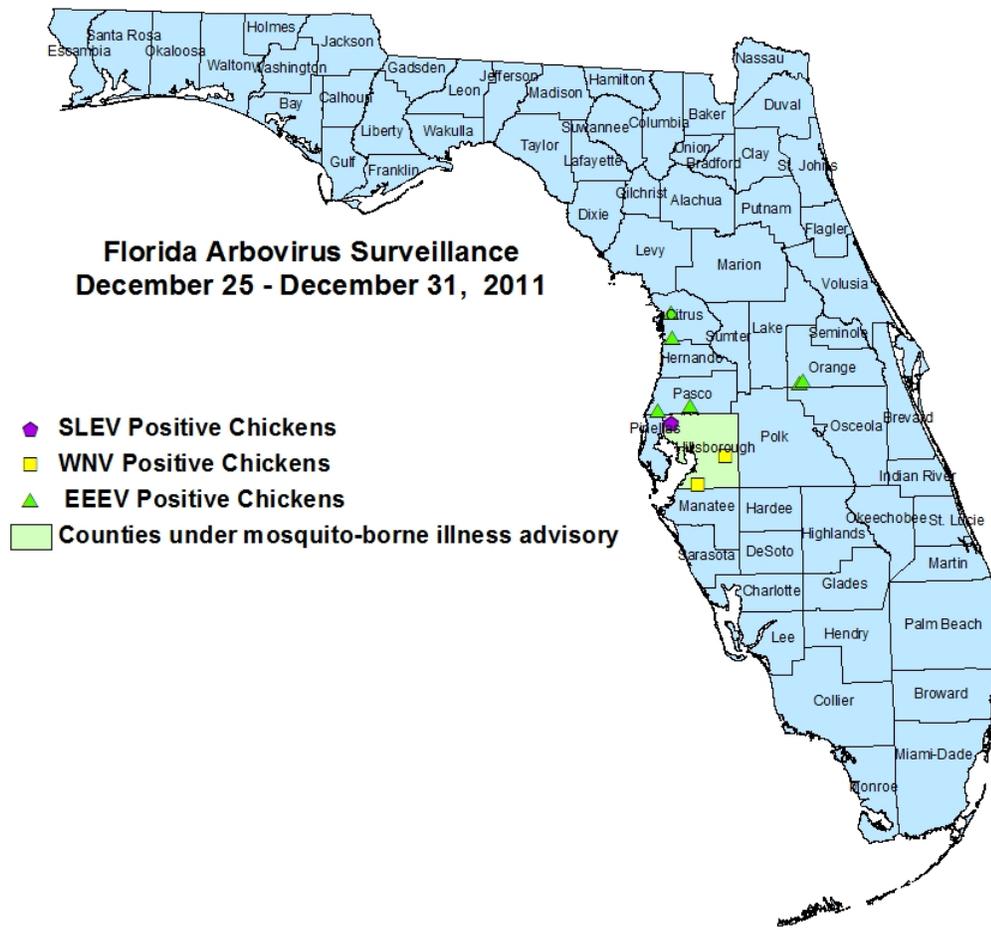
Mosquito Pools

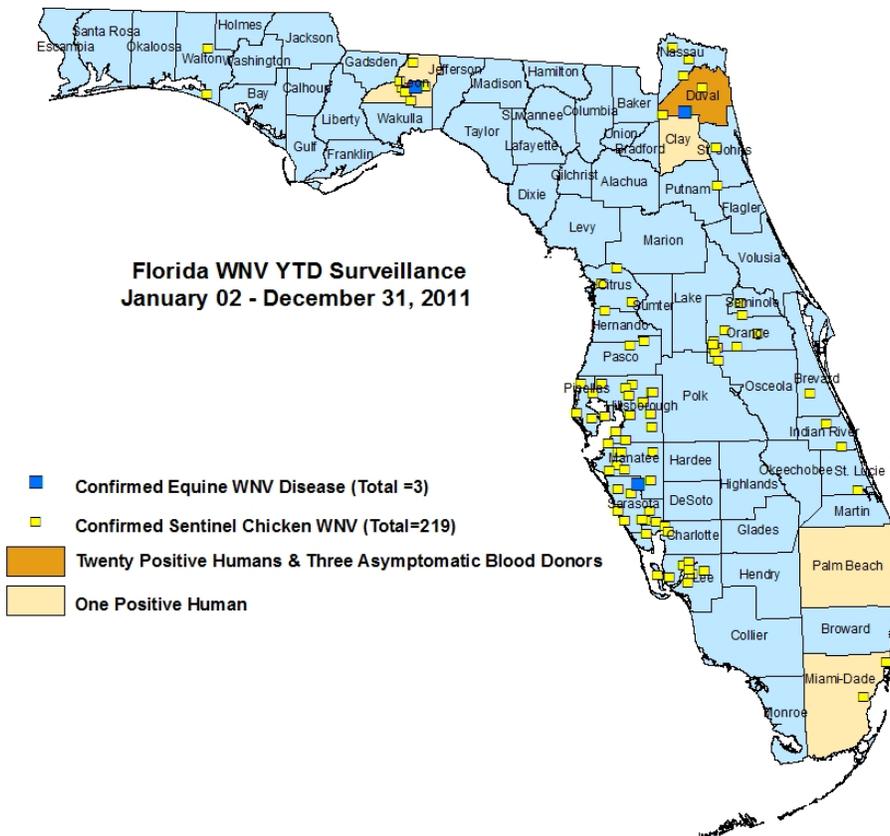
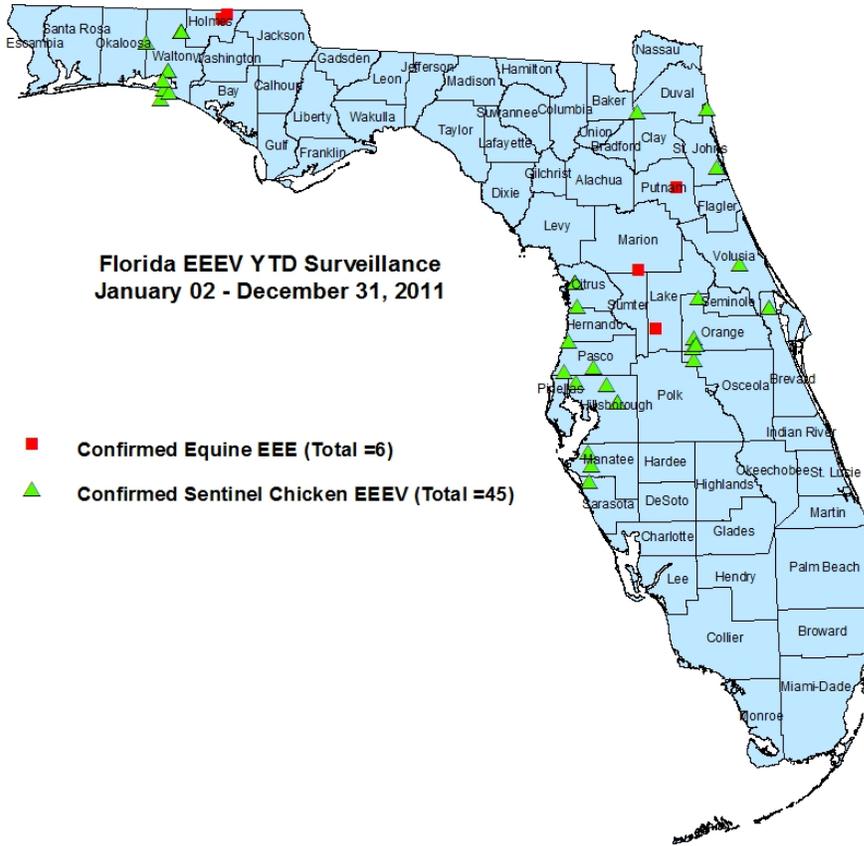
No positive mosquito pools were reported this week.

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, eight reports representing 26 dead birds were received from eight counties. One bird was identified as raptor; none were identified as crows or jays. In 2011, three hundred and thirty-four reports representing a total of 993 dead birds (46 crows, 57 jays, 73 raptors, 817 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/

Maps





YTD Arbovirus Activity by County

County	Arbovirus Activity
Brevard	WNV: 1 sentinel (10/12) EEEV: 2 sentinels (5/20, 5/27)
Citrus	WNV: 4 sentinels (1/3, 1/11, 10/24) EEEV: 8 sentinels (8/15, 9/12, 9/19, 10/24, 11/7, 11/28,12/19) HJV: 5 sentinels (9/12, 9/19, 9/27, 10/17)
Charlotte	WNV: 7 sentinels (7/1, 9/9, 10/14, 10/28)
Clay	WNV: 1 human (September),
Dade	DENV: 3 humans (acquired in Miami; January, August and September) WNV: 1 human (acquired in Miami; August), 2 sentinels (1/18, 6/22)
Duval	WNV: 23 humans including 3 asymptomatic blood donors [June (1), July (8), Aug (6), Sept (4), Oct (1)]; 5 sentinels (7/15, 9/16, 10/20); 1 horse (9/21) EEEV: 1 sentinel (6/11)
Flagler	CEV : 1 mosquito pool (<i>Ochlerotatus infirmatus</i> , 11/16)
Hernando	WNV : 2 sentinels (8/1, 10/17) EEEV: 1 sentinel (6/6)
Hillsborough	DENV : 1 human (acquired in Hillsborough County, September) WNV: 63 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, 11/8,11/9, 11/15 11/21, 12/7,12/13, 12/19) EEEV: 4 sentinel (11/01, 11/22, 12/7) SLEV: 16 sentinels (8/23, 9/13, 9/20,10/5, 10/11, 10/25, 11/8, 11/15, 11/21, 11/29, 12/7)
Holmes	EEEV: 2 horses (7/3, 7/6)
Indian River	WNV: 3 sentinels (4/28, 8/18, 10/20) SLEV: 1 sentinel (6/23)
Lake	EEEV: 2 horses (11/27)
Lee	WNV: 23 sentinels (6/13, 6/27, 7/11, 7/25, 8/20, 10/17, 10/24, 10/31)
Leon	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)
Manatee	WNV: 14 sentinels (4/4, 7/20, 8/31, 10/11, 10/19, 10/26, 11/02, 12/7) SLEV: 7 sentinels (9/14,9/28 10/19, 10/26, 11/02) EEEV: 2 sentinels (10/26, 11/8)
Marion	EEEV: 1 horse (6/21)
Martin	DENV: 1 human (acquired in Martin County; July)
Nassau	WNV: 4 sentinels (8/1,8/29, 9/19) HJV: 1 sentinel (5/23)
Okaloosa	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)
Orange	WNV: 21 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, 11/10, 12/5) EEEV: 7 sentinels (6/2, 6/9, 6/27, 7/28, 11/28, 12/15) HJV: 3 sentinels (2/24, 7/7, 10/6)
Palm Beach	DENV : 2 humans (acquired in Palm Beach County, September) WNV: 1 human (acquired in Palm Beach; October),
Pasco	WNV: 1 sentinel (10/24) SLEV: 1 sentinel (9/26)

	EEEV: 2 sentinels (12/5, 12/12)
Pinellas	WNV: 7 sentinels (8/29, 9/12, 9/6, 10/10, 11/28) SLEV: 39 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)
Putnam	WNV : 1 sentinel (10/14) EEEV: 1 horse (10/14)
Santa Rosa	EEEV: 7 live wild birds (1 house sparrow 1/05 and 6 blue jays 3/1, 2/1, 4/12, 5/10, 5/18)
Sarasota	WNV: 29 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, 11/4, 11/10, 11/18, 11/28, 12/06); 1 horse (8/12) EEEV: 1 sentinel (10/28)
Seminole	WNV: 4 sentinels (6/7, 9/19)
St. Johns	WNV: 2 sentinels (9/12, 10/3) EEEV: 2 sentinels (6/13, 9/12)
St. Lucie	WNV: 1 sentinel (9/9)
Volusia	EEEV: 1 sentinel (11/14)
Walton	WNV: 2 sentinels (5/24, 12/05) 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

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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.