

Florida Arbovirus Surveillance
Week 42: October 16 – October 22, 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 October 16 – October 22, 2011, the following arboviral activity was recorded in Florida:

DENV activity: One new case of locally acquired dengue has been reported in Palm Beach County. 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: One equine case of EEEV was reported in Putnam County. One sentinel chicken in Walton County tested positive for antibodies to EEEV. In 2011, positive samples from four equines, 26 sentinel chickens and 19 live wild birds have been received from 12 counties.

WNV activity: One new case of locally acquired WNV infection was reported in Duval County. Ten sentinel chickens in Hillsborough, Manatee, Orange, Pinellas and Sarasota counties tested positive for antibodies to WNV. In 2011, positive samples from 25 humans, 125 sentinel chickens, three equines and one live wild bird (flavivirus positive) have been received from 20 counties.

SLEV activity: Six sentinel chickens in Hillsborough, Pasco and Pinellas counties tested positive for antibodies to SLEV. In 2011, positive samples from 36 sentinel chickens have been received from five counties.

HJV activity: No HJV activity was reported this week. In 2011, positive samples from ten 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.

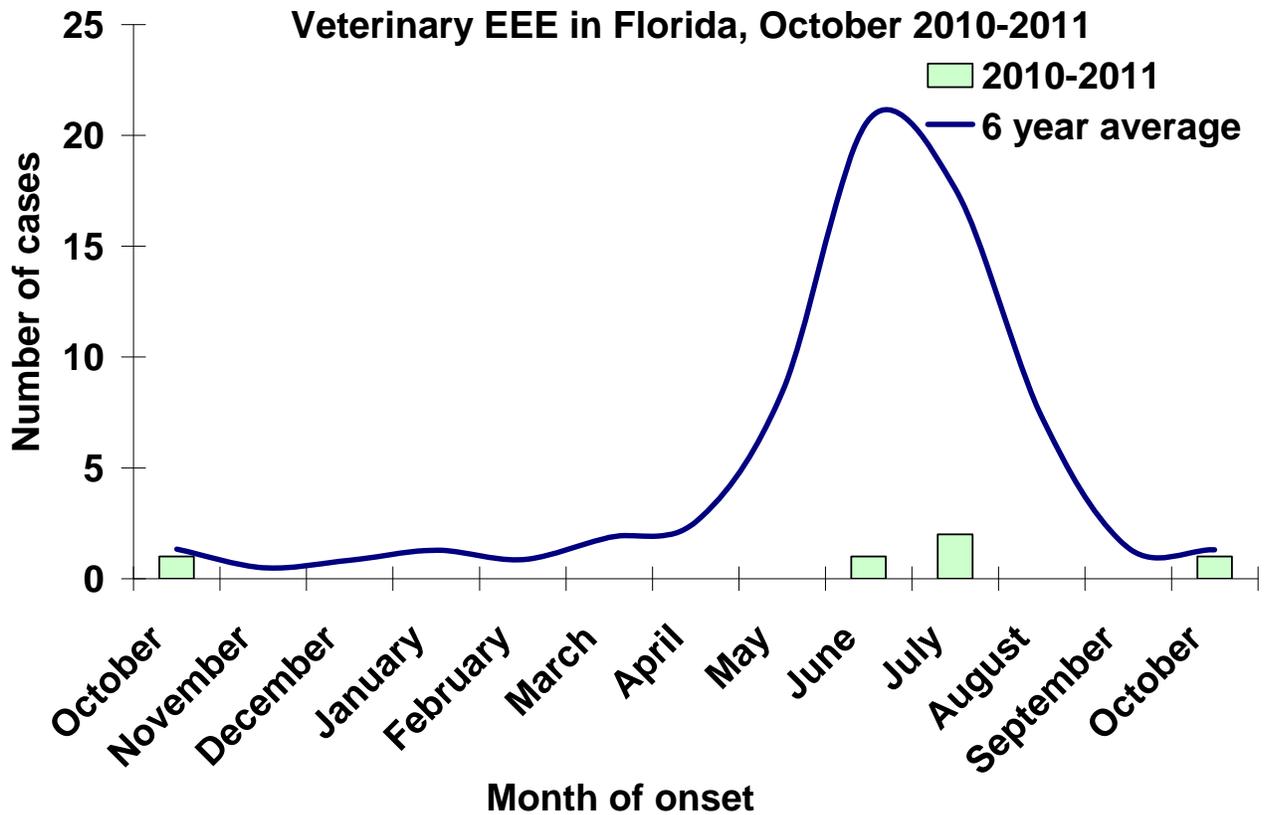
Imported Dengue: Forty-three cases of dengue with onset in 2011 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were Aruba, Bahamas (9), Bangladesh (2), Brazil (2), Colombia, Dominican Republic, Guyana, Haiti (2), India, Jamaica, Nicaragua (2), Pakistan, Panama (2), Puerto Rico (10), St. Lucia (2), Trinidad (3), Turks and Caicos Islands and Venezuela. Counties reporting cases were Broward (3), Clay, Flagler (2), Gulf, Hendry, Hillsborough (3), Lee, Marion, Martin, Miami-Dade (10), Orange (4), Palm Beach (9), Pasco, Pinellas, St. Johns (3) and Washington.

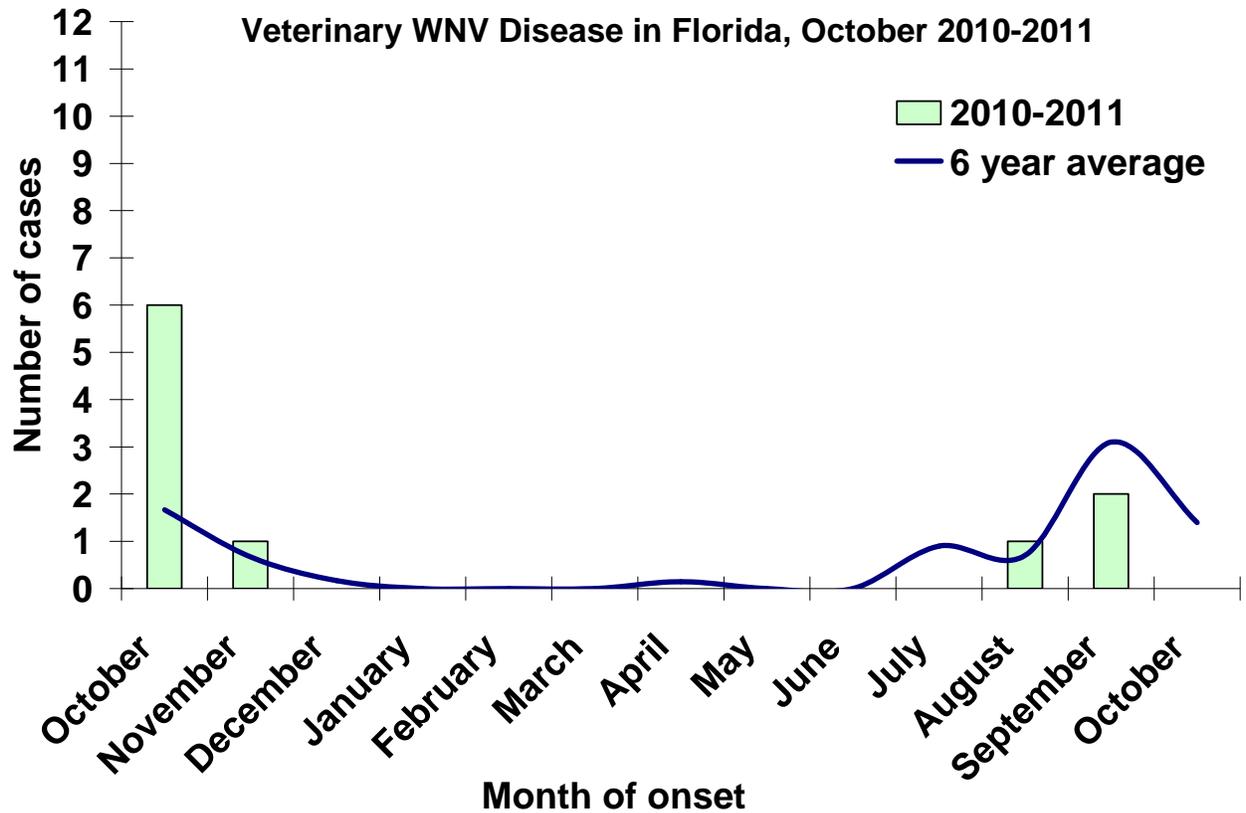
Imported Malaria: Eighty-one imported cases of malaria with onset in 2011 have been reported. Countries of origin were: Afghanistan (4), Brazil, Cameroon, East Timor, Ethiopia (2), Eritrea (2), French Guiana, Gabon, Ghana (5), Guinea Conakry, Guyana, Haiti (21), Honduras (4), India (13), Kenya, Liberia (2), Libya, Mali (2), Nigeria (7), New Guinea, Pakistan, Peru, Rwanda, Senegal, Uganda (4) and Venezuela. Counties reporting cases were: Alachua (2), Brevard (4), Broward (10), Citrus, Collier (2), Duval (7), Escambia, Hillsborough (7), Indian River, Lee (4), Leon (2), Miami-Dade (17), Manatee (3), Okaloosa, Orange (4), Palm Beach (6), Pasco, Pinellas, Santa Rosa, Seminole, St. Johns and St. Lucie (4).

Veterinary Cases

One horse in Putnam County tested positive for EEEV.

County	Onset Date	Species	Virus	Status	County YTD
Putnam	10/14/11	Equine	EEEV	Alive	1 EEEV



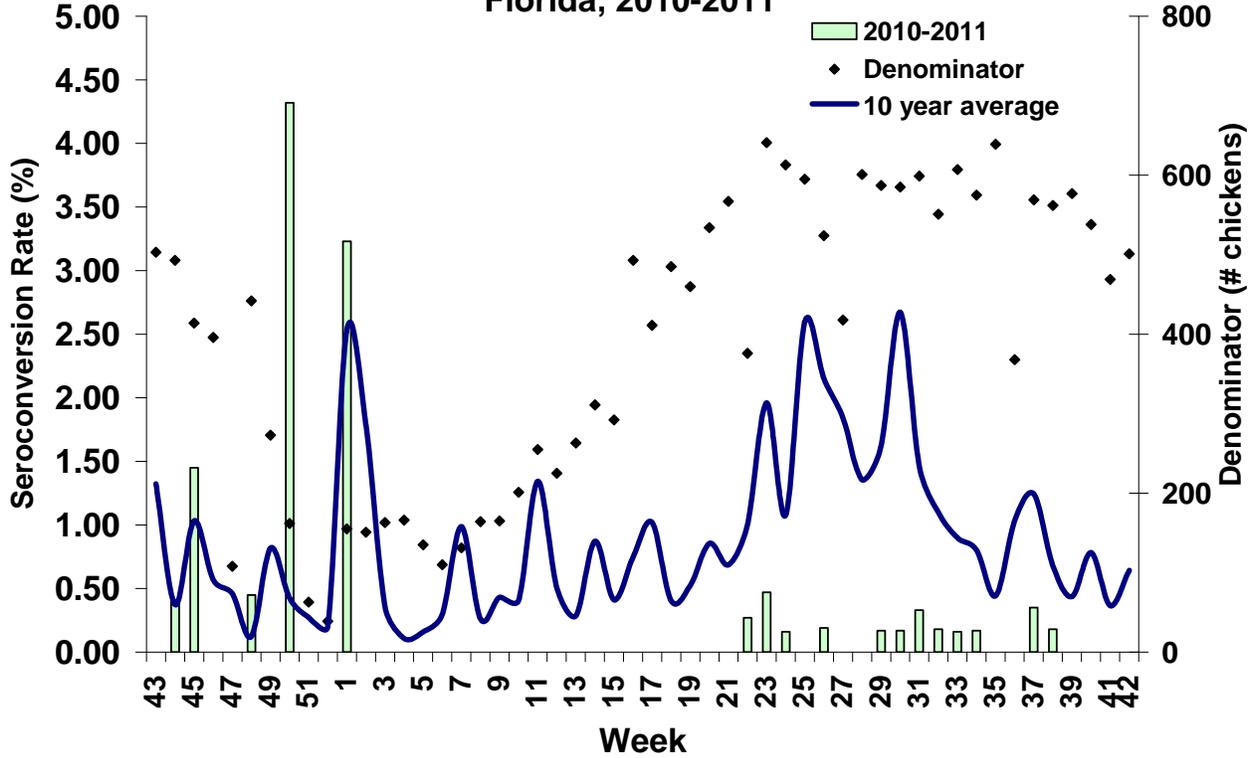


Sentinel Chickens

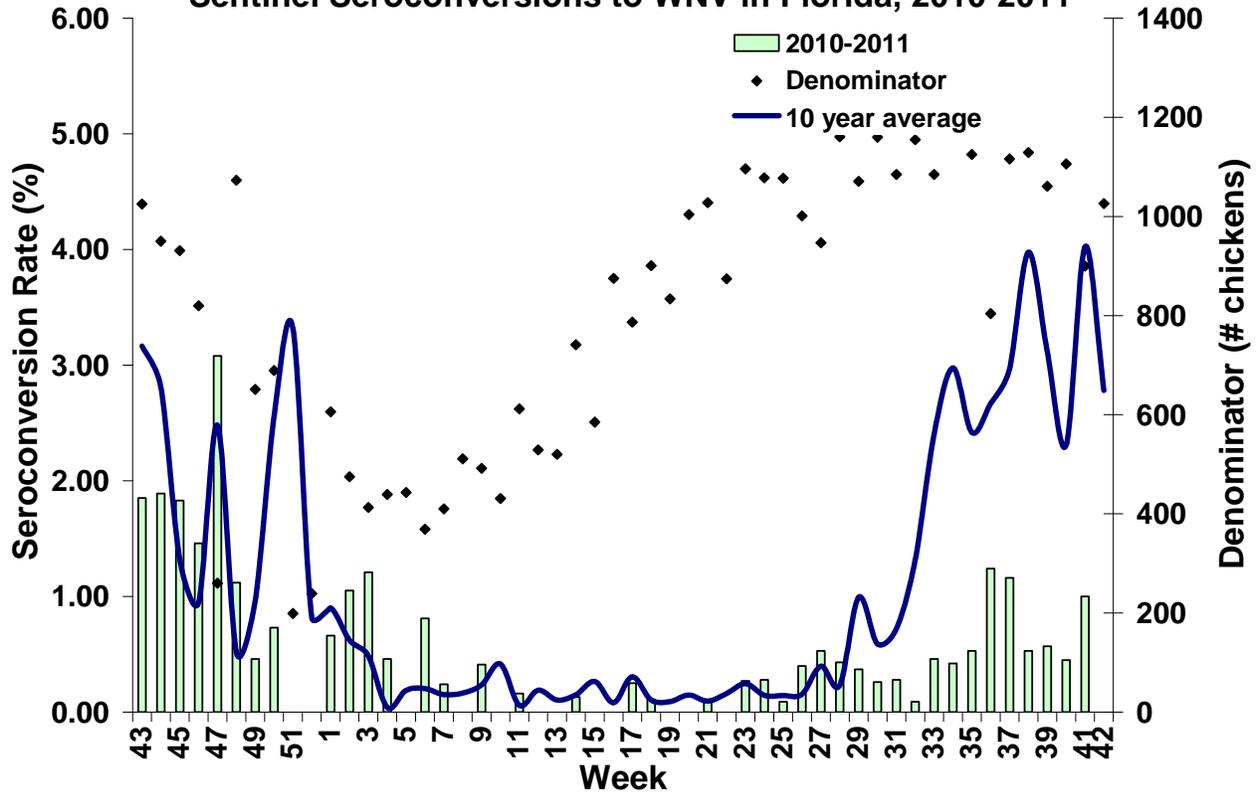
Ten sentinel chickens in Hillsborough, Manatee, Orange, Pinellas and Sarasota counties tested positive for antibodies to WNV. Six sentinel chickens in Hillsborough, Pasco and Pinellas counties tested positive for antibodies to SLEV. One sentinel chicken in Walton County tested positive for antibodies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

County	Collection Date	Seroconversion Rates (%)				Week	County Totals YTD
		SLEV	WNV	EEEV	HJV		
Hillsborough	09/13/11	1.32	2.63			1 SLEV, 2WNV	
Hillsborough	09/20/11	1.43				1 SLEV	
Hillsborough	10/11/11	1.49	2.99			2 WNV, 1 SLEV	24 WNV, 8 SLEV
Manatee	10/11/11		4.23			3 WNV	7 WNV, 1 SLEV
Orange/Reedy	10/06/11		2.56			1 WNV	3 EEE, 2HJV, 13 WNV
Pasco	09/26/11	5.56				1 SLEV	1 SLEV
Pinellas	10/10/11	4.00	4.00			2 WNV, 2 SLEV	25 SLEV, 6 WNV
Sarasota	10/11/11		2.70			2 WNV	15 WNV
Walton (South)	10/10/11			1.72		1 EEEV	2 HJV, 3 EEEV

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



Sentinel Seroconversions to WNV in Florida, 2010-2011



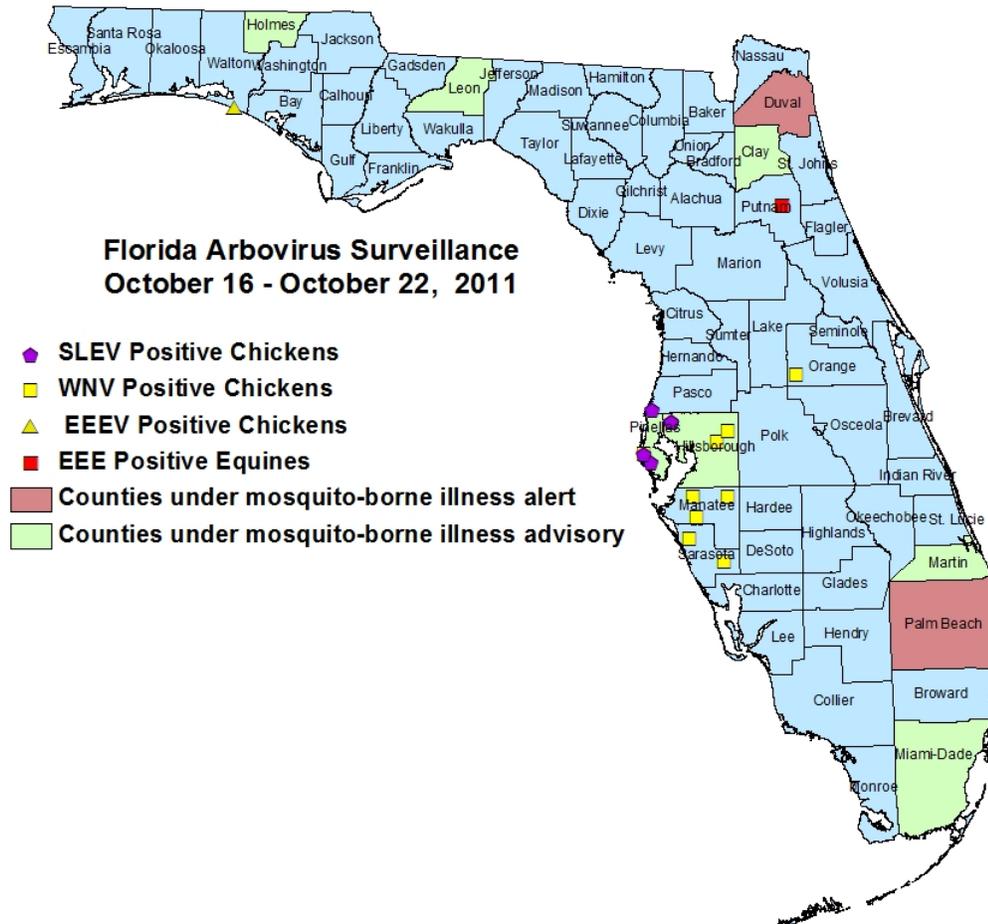
Live Wild Birds

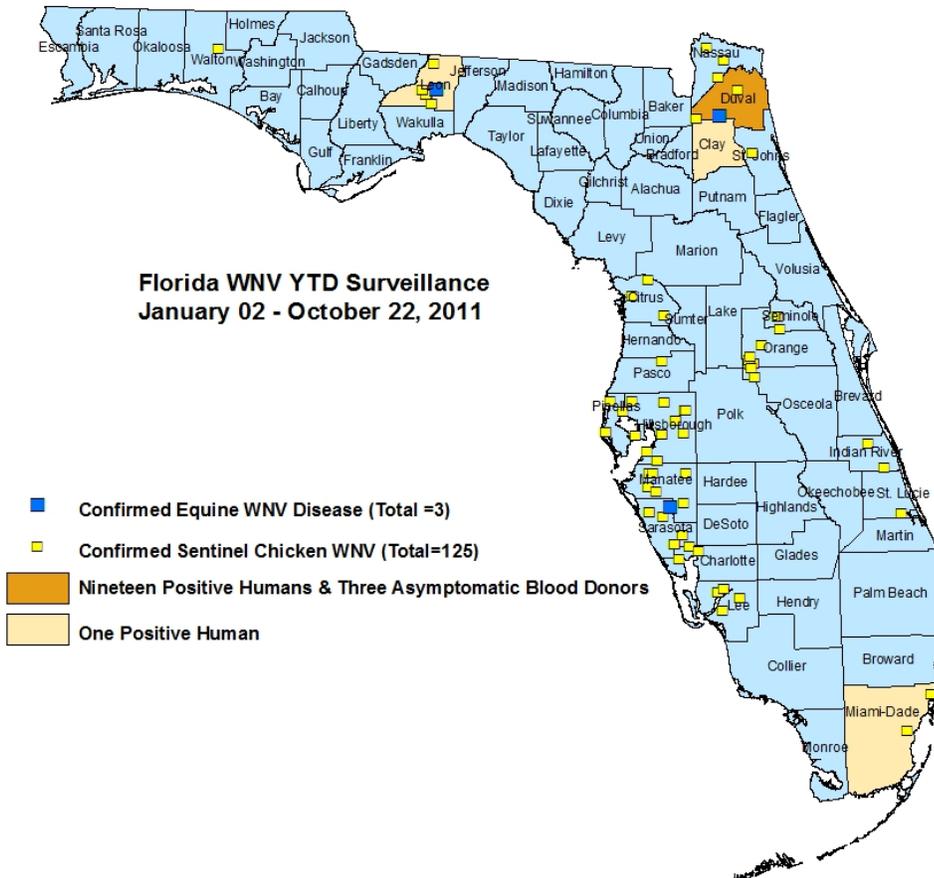
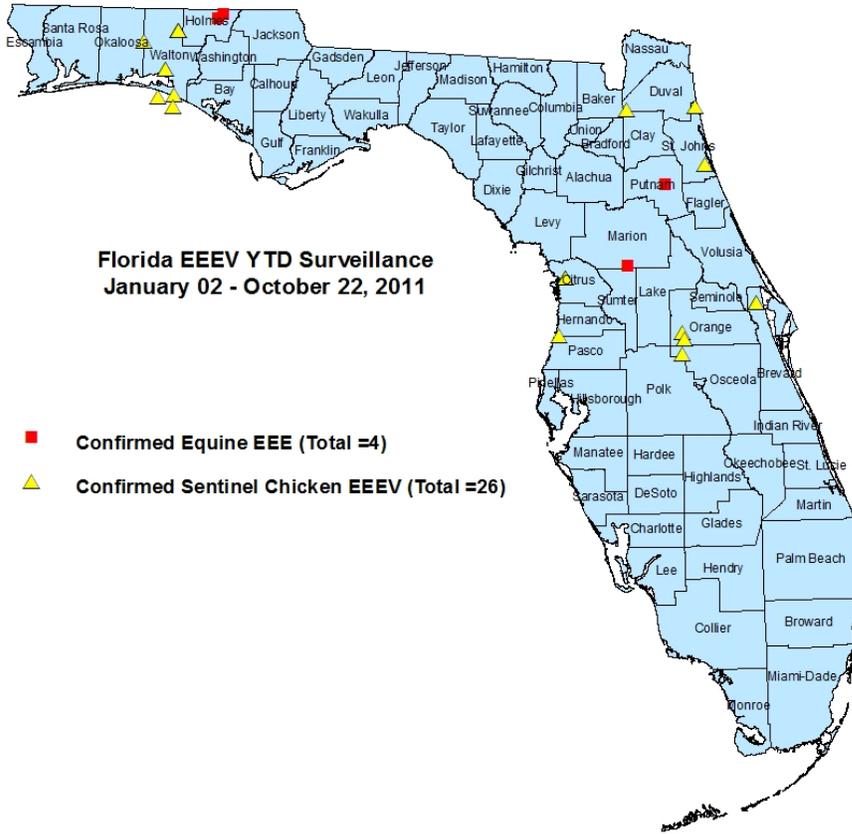
No positive live wild birds were reported this week.

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, 6 reports representing 15 dead birds were received from six counties. Six birds were identified as raptors; none were identified as crows or jays. In 2011, two hundred and seventy-nine reports representing a total of 807 dead birds (37 crows, 50 jays, 58 raptors, 662 others) were received from 44 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	EEEV: 2 sentinels (5/20, 5/27)
Citrus	WNV: 3 sentinels (1/3, 1/11) EEEV: 3 sentinels (8/15, 9/12, 9/19) HJV: 4 sentinels (9/12, 9/19, 9/27)
Charlotte	WNV: 3 sentinels (7/1, 9/9)
Clay	WNV: 1 human (September),
Dade	DENV: 2 humans (acquired in Miami; January and August) WNV: 1 human (acquired in Miami; August), 2 sentinels (1/18, 6/22)
Duval	EEEV: 1 sentinel (6/11) WNV: 22 humans including 3 asymptomatic blood donors [June (1), July (8), Aug (6), Sept (3), Oct (1)]; 4 sentinels (7/15, 9/16); 1 horse (9/21)
Hernando	WNV : 1 sentinel (8/1) EEEV: 1 sentinel (6/6)
Hillsborough	DENV : 1 human (acquired in Hillsborough County, September) WNV: 24 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) SLEV: 8 sentinels (8/23, 9/13, 9/20, 10/5, 10/11)
Holmes	EEEV: 2 horses (7/3, 7/6)
Indian River	WNV: 2 sentinels (4/28, 8/18), SLEV: 1 sentinel (6/23)
Lee	WNV: 12 sentinels (6/13, 6/27, 7/11, 7/25, 8/20)
Leon	WNV: 1 human (August), 17 sentinels (8/23, 8/30, 9/6, 9/12, 9/19, 9/26, 10/4); 1 horse (9/11)
Manatee	WNV: 7 sentinels (4/4, 7/20, 8/31, 10/11) SLEV: 1 sentinel (9/14)
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: 17 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) EEEV: 4 sentinels (6/2, 6/9, 6/27, 7/28) HJV: 2 sentinels (2/24, 7/7)
Palm Beach	DENV : 2 humans (acquired in Palm Beach County, September)
Pasco	SLEV: 1 sentinel (9/26)
Pinellas	WNV: 6 sentinels (8/29, 9/12, 9/6, 10/10) SLEV: 25 sentinels (7/18, 8/8, 8/22, 8/29, 9/6, 9/12, 9/26, 10/3, 10/10)
Putnam	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: 15 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); 1 horse (8/12)
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)

Walton	EEEV:13 sentinels (1/6, 7/18, 8/1, 8/8, 8/22, 9/19, 9/26, 10/10) ; 2 live wild birds (2 cardinals 1/14, 1/21) WNV: 1 sentinel (5/24) HJV: 3 sentinels (1/14, 4/18,5/2)
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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.