



Florida Arbovirus Surveillance
Week 24: June 8-14, 2014

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 June 8-14, 2014 the following arboviral activity was recorded in Florida.

WNV activity: No human cases of WNV illness were reported this week. No horses with WNV infection were reported this week. No sentinel chickens tested positive for antibodies to WNV this week. In 2014, a positive sample from five sentinel chickens has been received from four counties.

EEEV activity: No human cases of EEE were reported this week. One horse horse with EEEV infection was reported this week in Marion County. Eleven sentinel chickens tested positive for antibodies to EEEV this week in Bay, Citrus, Flagler, Nassau, Orange, Putnam, and Volusia Counties. In 2014, positive samples from 40 sentinel chickens and nine horses have been received from 16 counties.

SLEV activity: No sentinel chickens tested positive for antibodies to SLEV this week. In 2014, positive samples from nine chickens have been received from three counties.

HJV activity: No sentinel chickens tested positive for antibodies to HJV this week. In 2014, positive samples from ten sentinel chickens have been received from four counties.

Advisories/Alerts: No counties are currently under mosquito-borne illness advisory or alert. A CDC Health Alert Network (HAN) health advisory was issued in December for the Caribbean region announcing the first locally acquired cases of chikungunya fever in the Americas. There is a Level 1 (Watch) Travel Health Notice from the CDC for seven countries in the Caribbean related to the continued transmission of chikungunya. <http://wwwnc.cdc.gov/travel/notices/watch/chikungunya-saint-martin>

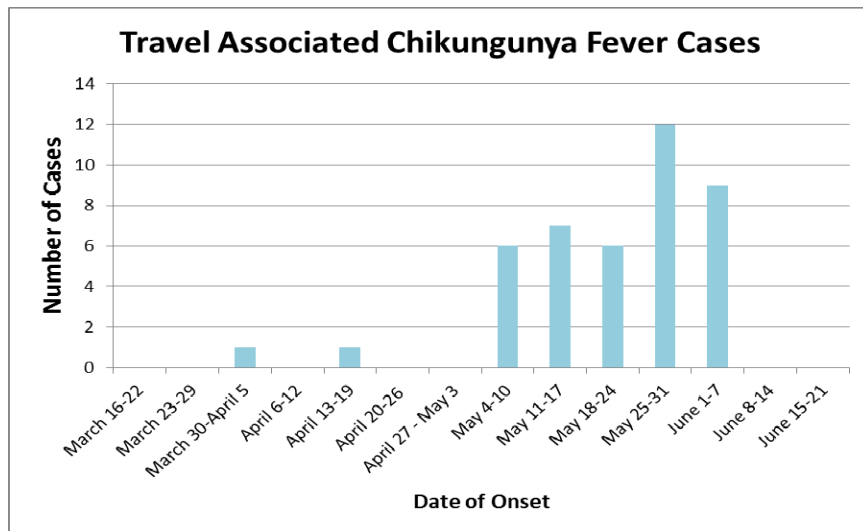
2014 Human Case Summary*

International Travel-Associated Dengue Fever Cases: Twenty-four cases of dengue with onset in 2014 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were: Bolivia, Brazil (2), Caribbean, Cuba (8), Dominican Republic (4), Guadeloupe, Honduras, Puerto Rico (3), Trinidad, and Venezuela (2). Counties reporting cases were: Alachua, Broward (2), Clay, Hillsborough (3), Marion, Miami-Dade (10), Orange, Osceola (3), Pinellas, and Seminole. Four of the cases were reported in non-Florida residents.

In 2014, 16 of the 24 cases of dengue reported in Florida have been serotyped by PCR. Additional serotyping and strain typing are being conducted.

	# of cases per serotype – 2014
DENV-1	5
DENV-2	6
DENV-3	1
DENV-4	3
DEN-1&2	1
	16

International Travel-Associated Chikungunya Fever Cases: Forty-two cases of chikungunya with onset in 2014 have been reported in individuals with travel history to a chikungunya endemic country or area experiencing an outbreak in the two weeks prior to onset. Countries of origin were: Dominica, Dominican Republic (8), Haiti (31), and Martinique (2). Counties reporting cases were: Brevard, Broward (7), Charlotte, Clay, Duval (2), Flagler, Hillsborough (3), Lake, Lee, Leon, Miami-Dade (7), Orange (3), Osceola, Palm Beach (7), Pasco, Santa Rosa, Seminole, St. Lucie, and Volusia. Eight of the cases were reported in non-Florida residents.



International Travel-Associated Malaria Cases: Eighteen cases of malaria with onset in 2014 have been reported. Countries of origin were: Angola, Dominican Republic, Equatorial New Guinea (2), Ghana, Guatemala, India, Ivory Coast (2), Kenya, Sierra Leone (4), Sudan, Uganda (2), and multiple sub-Saharan African countries (1). Counties reporting cases were: Broward (4), Duval, Escambia, Hernando, Hillsborough (3), Miami-Dade (2), Okaloosa, Orange, Osceola, Palm Beach, Pasco, and Santa Rosa. Two of the cases were reported in non-Florida residents.

Thirteen cases (72%) were diagnosed with *Plasmodium falciparum*. Three cases (17%) were diagnosed with *Plasmodium vivax*. One case (5.5%) was diagnosed with *Plasmodium malariae*. One case (5.5%) was diagnosed with *Plasmodium Ovale*.

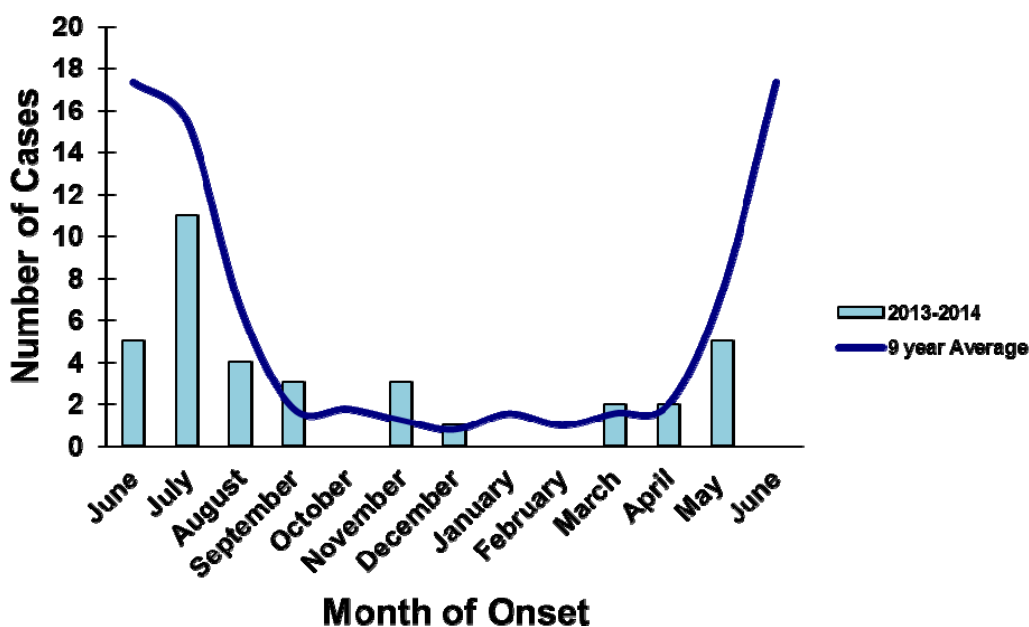
Veterinary Cases*

*Veterinary cases are reported by date of onset

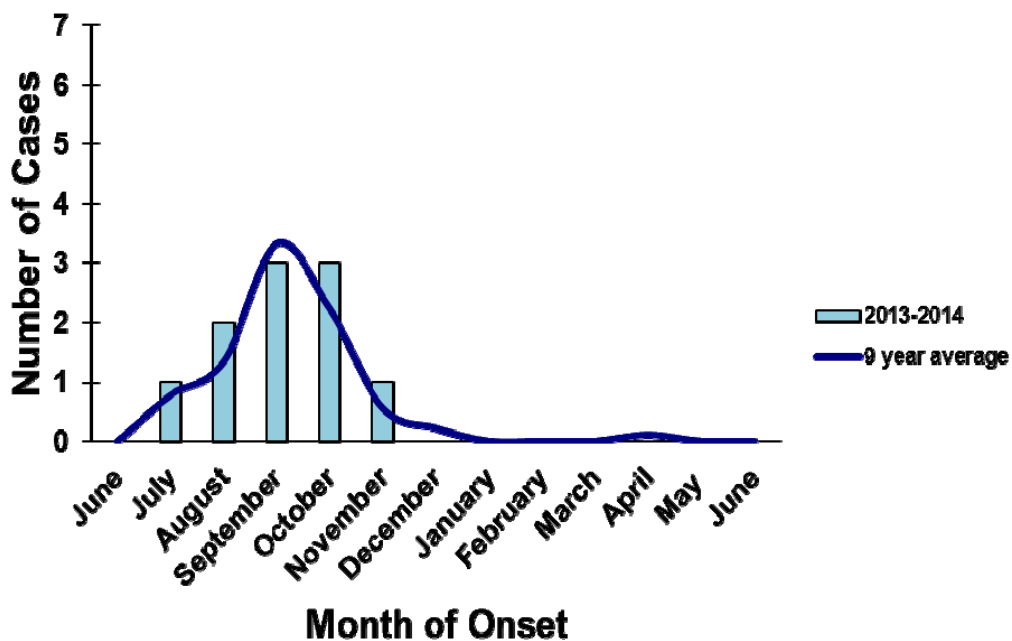
One horse with EEEV infection was reported this week in Marion County.

County	Onset Date	Species	Virus	Status	County YTD
Marion	5/31/14	Equine	EEEV	Dead	2 EEEV

Veterinary EEE in Florida, June 2013-2014



Veterinary WNV Disease in Florida, June 2013-2014



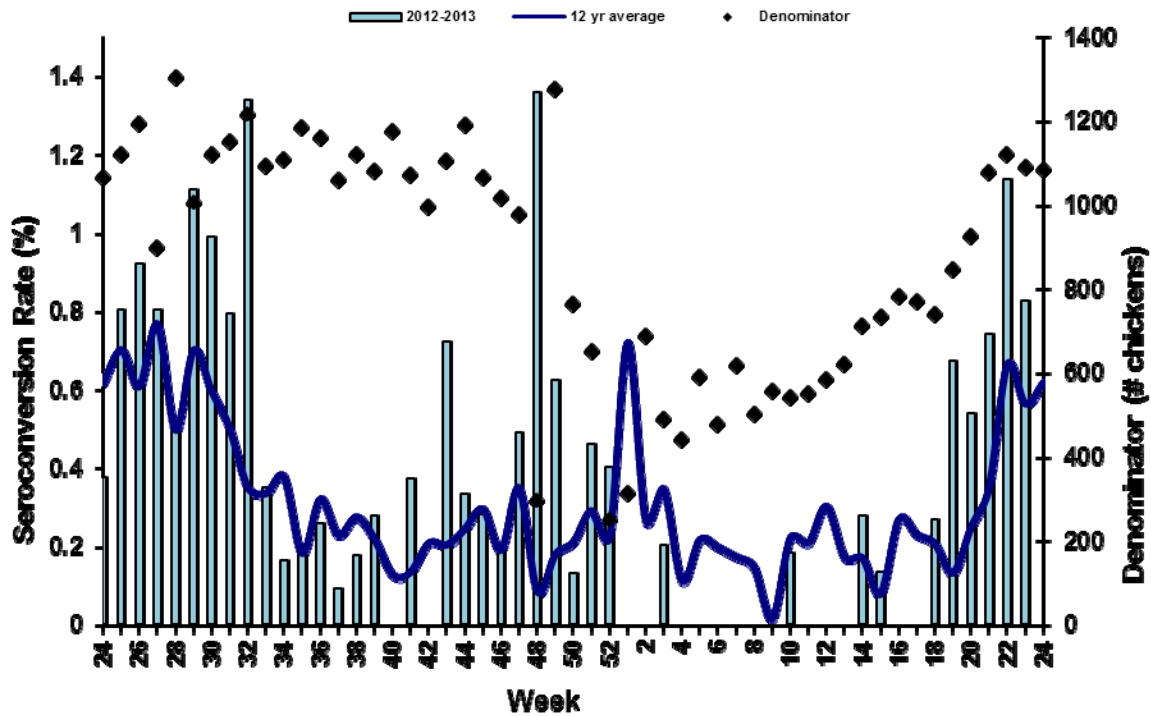
Sentinel Chickens

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.

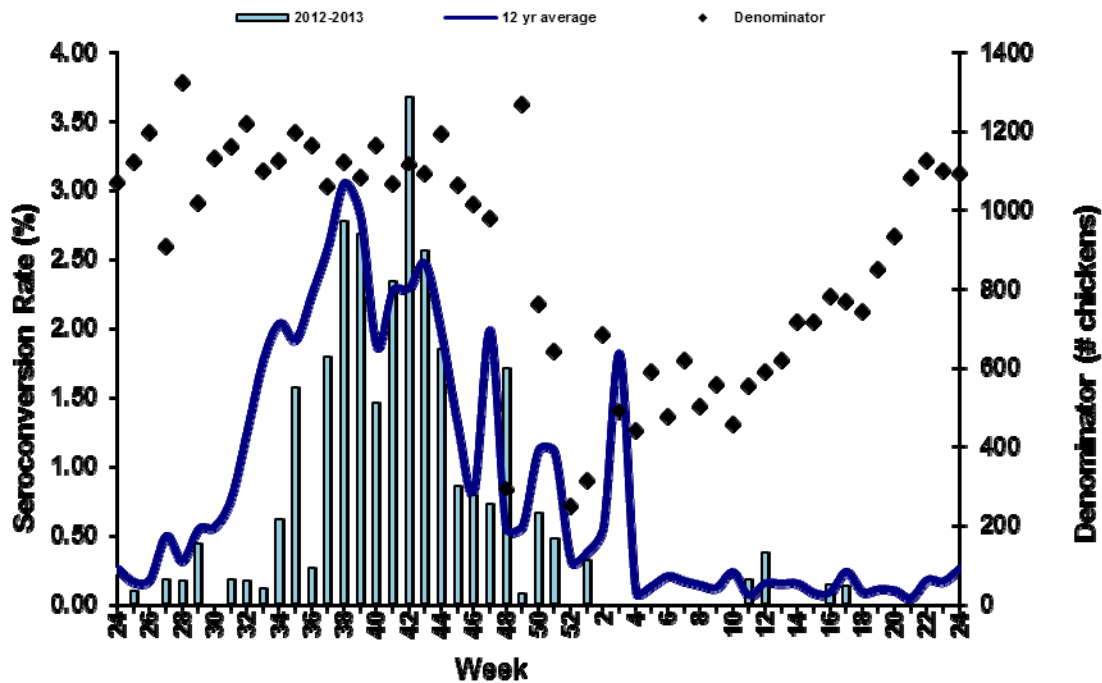
Eleven sentinel chickens tested positive for antibodies to EEEV this week in Bay, Citrus, Flagler, Nassau, Orange, Putnam, and Volusia Counties.

County	Collection Date	Seroconversion Rates (%)						County Totals	
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Bay	05/30/14				5.88	5.88		1 EEEV	6 EEEV, 1 HJV
Citrus	05/26/14				1.43	1.43		1 EEEV	
	06/02/14				1.39	1.39		1 EEEV	7 EEEV, 2 HJV, 1 WNV
Flagler	05/27/14				9.09	9.09		1 EEEV	
	06/02/14				16.67	16.67		2 EEEV	6 EEEV
Nassau	05/31/14				5.56	5.56		2 EEEV	2 EEEV
Orange	05/29/14				0.84	0.84		1 EEEV	1 EEEV, 3HJV
Putnam	05/27/14				33.33	33.33		1 EEEV	1 EEEV
Volusia	05/27/14				4.44	4.44		2 EEEV	2 EEEV

Sentinel Seroconversions to EEEV In Florida, 2013-2014



Sentinel Seroconversions to WNV In Florida, 2013-2014



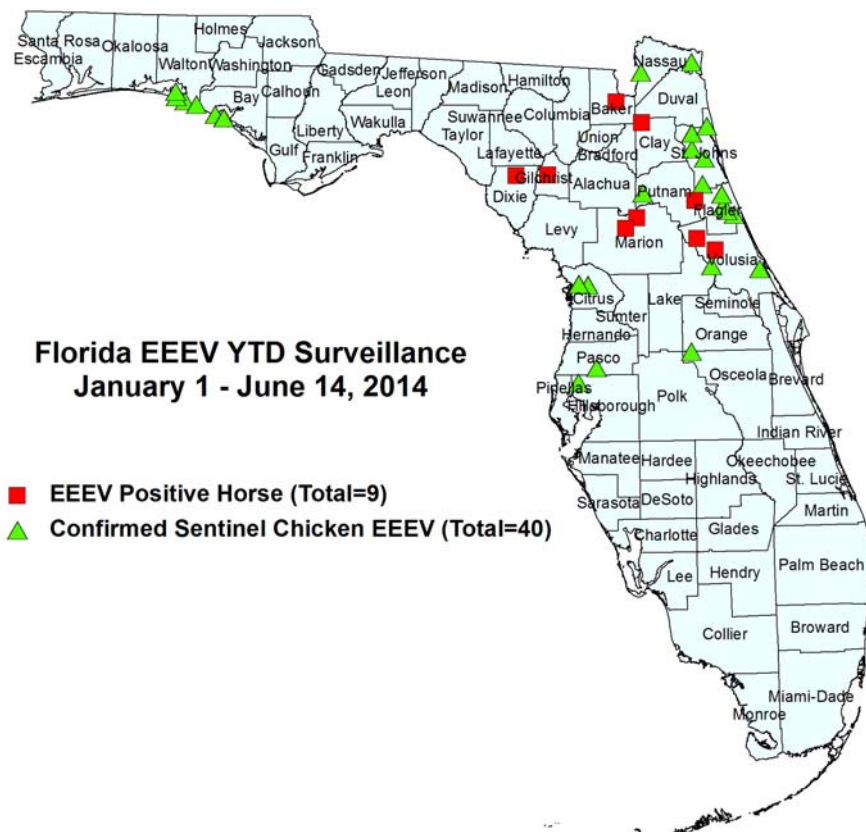
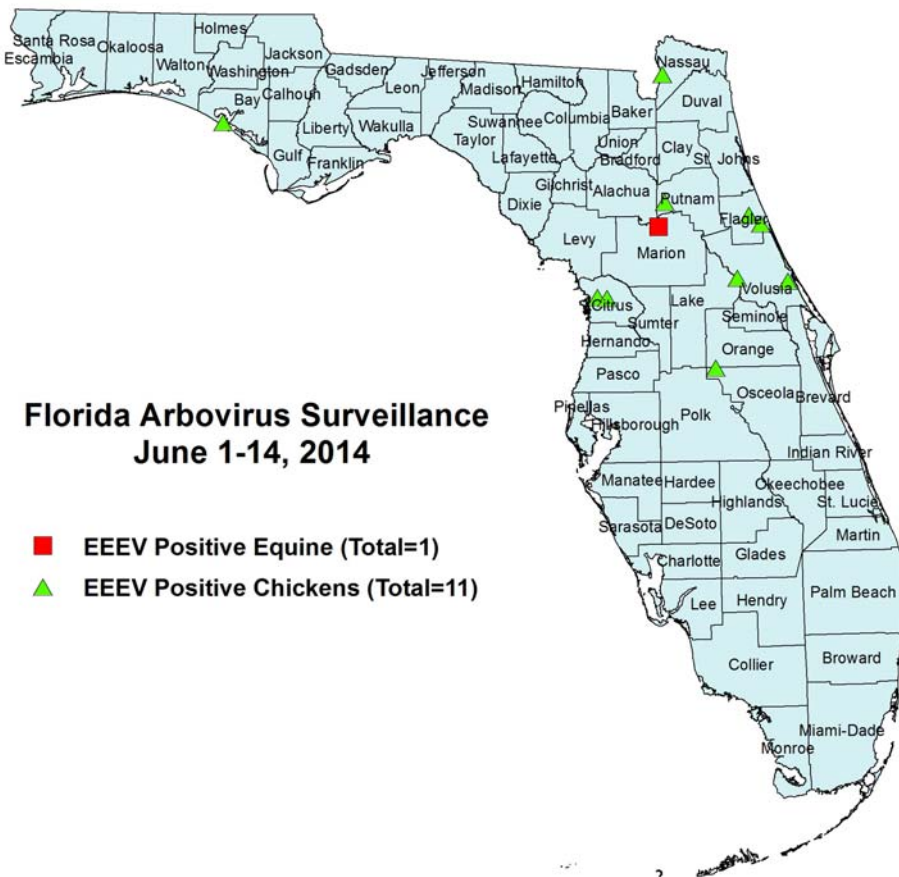
Dead Birds

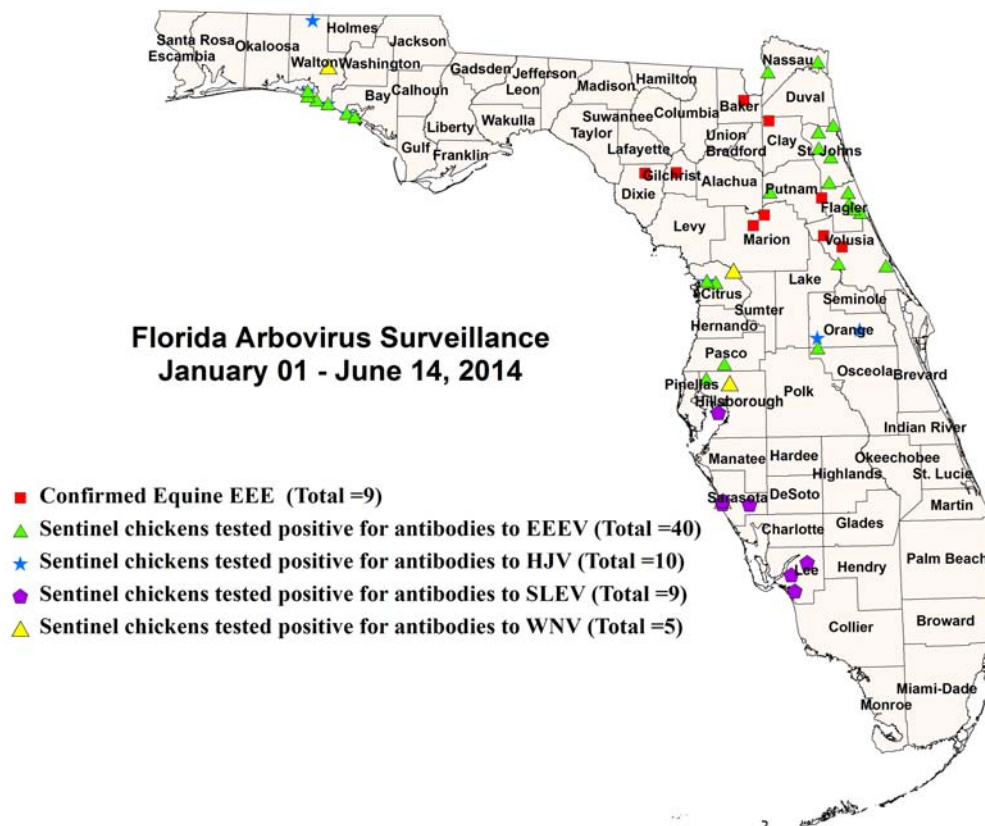
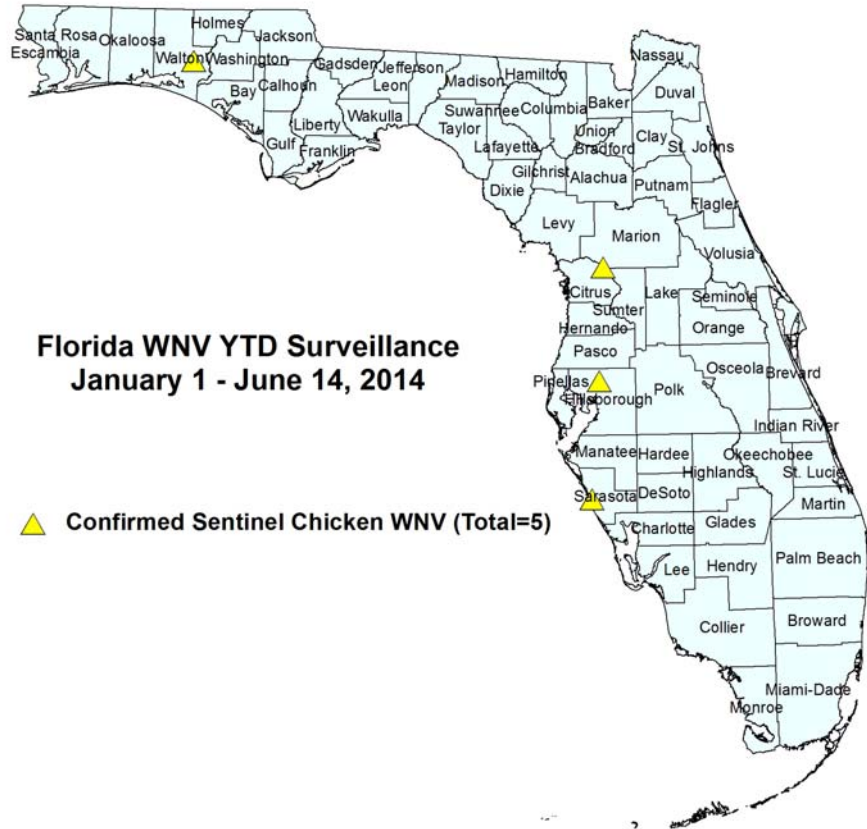
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 10 reports representing 12 dead birds, including 1 crow and 3 raptors were received from 7 counties.

In 2014, 222 reports representing a total of 670 dead birds (21 crows, 1 jay, 41 raptors, and 22 doves) were received from 43 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
Charlotte	2	0	0	0	0
Duval	1	0	0	1	0
Lee	2	0	0	0	0
Marion	1	0	0	1	0
Okaloosa	1	1	0	0	0
St. Lucie	1	0	0	0	0
Volusia	4	0	0	1	0

Maps





2014 Arbovirus Activity by County

County	Arbovirus Activity
Bay	EEE: 6 sentinels (4/28, 5/6, 5/13, 5/22, 5/30) HJV: 1 sentinel (2/18)
Baker	EEEV: 1 horse (3/13)
Citrus	EEEV: 7 sentinels (3/24, 3/31, 5/12, 5/26, 6/2) HJV: 2 sentinels (2/17, 2/24) WNV: 1 sentinel (1/2)
Clay	EEEV: 1 horse (5/2)
Dixie	EEEV: 1 horse (5/22)
Flagler	EEEV: 1 horse (4/21); 6 sentinels (4/14, 4/28, 5/5, 5/27, 6/2)
Gilchrist	EEEV: 1 horse (5/18)
Hillsborough	EEEV: 1 sentinel (5/13) SLEV: 2 sentinels (1/7, 2/18) WNV: 1 sentinel (3/18)
Lee	SLEV: 4 sentinels (1/13, 1/14, 2/11, 3/25)
Marion	EEEV: 2 horse (4/12, 5/31)
Nassau	EEEV: 2 sentinel (5/27, 5/31)
Orange	EEEV: 1 sentinel (5/29) HJV: 3 sentinels (1/2, 2/17)
Pasco	EEEV: 1 sentinel (5/27)
Putnam	EEEV: 1 sentinel (5/27)
Sarasota	SLEV: 3 sentinels (2/6, 2/14, 2/28) WNV: 1 sentinel (4/25)
St. Johns	EEEV: 8 sentinels (5/5, 5/12, 5/27)
Volusia	EEEV: 2 horses (3/19, 5/19); 2 sentinels (5/27) EEEV: 5 sentinels (2/24, 5/12, 5/19, 5/27)
Walton	HJV: 4 sentinels (3/10, 3/24, 5/12, 5/19) WNV: 2 sentinels (3/10, 3/17)

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; Lea Heberlein-Larson and Valerie Mock, DOH Bureau of Public Health Laboratories.

For more surveillance information, please see the DOH website at:

<http://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/surveillance.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 by date of onset. Suspect cases are not included. Activity is mapped by county of exposure rather than county of residence. 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.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/index.html>

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 Bureau of Public 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.