



## Florida Arbovirus Surveillance Week 28: July 12-18, 2015

Arbovirus surveillance in Florida includes endemic mosquito-borne viruses such as West Nile virus (WNV), Eastern equine encephalitis virus (EEEV), and St. Louis encephalitis virus (SLEV), as well as exotic viruses such as dengue virus (DENV), chikungunya virus (CHIKV) and California encephalitis group viruses (CEV). Malaria, a non-viral mosquito-borne disease is also included. During the period of July 12-18, 2015 the following arboviral activity was recorded in Florida.

**WNV activity:** No human cases of WNV infection were reported this week. No horses with WNV infection were reported this week. Six sentinel chickens tested positive for antibodies to WNV this week in Hillsborough, Pinellas, and Walton Counties. In 2015, positive samples from 19 sentinel chickens have been received from seven counties.

**SLEV activity:** No human cases of SLEV infection were reported this week. No sentinel chickens tested positive for antibodies to SLEV this week. In 2015, a positive sample from one sentinel chicken has been received from one county.

**EEEV activity:** No human cases of EEEV infection were reported this week. No horses with EEEV infection were reported this week. Six sentinel chickens tested positive for antibodies to EEEV this week in Nassau, Orange, Polk, St. Johns and Seminole Counties. In 2015, positive samples from 44 sentinel chickens, 14 horses, and one goat have been received from 19 counties.

**International Travel-Associated Dengue Fever Cases:** Three cases of dengue fever were reported this week in persons that had international travel. In 2015, 24 travel-associated cases have been reported.

**Dengue Fever Cases Acquired in Florida:** No cases of locally acquired dengue fever were reported this week. In 2015, no cases of locally acquired dengue fever have been reported.

**International Travel-Associated Chikungunya Fever Cases:** Four cases of chikungunya fever were reported this week in persons that had international travel. In 2015, 32 travel-associated cases have been reported.

**Chikungunya Fever Cases Acquired in Florida:** No cases of locally acquired chikungunya fever were reported this week. In 2015, no cases of locally acquired chikungunya fever have been reported.

**Advisories/Alerts:** Gadsden and Polk Counties are currently under mosquito-borne illness advisory. No other counties are currently under mosquito-borne illness advisory or alert. A CDC Health Alert Network (HAN) health advisory was issued in December 2013 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 multiple countries in the Caribbean, Mexico, Central and South America, as well as the Pacific Islands, related to the transmission of chikungunya. There are also similar CDC Travel Health Notices for dengue transmission in Brazil and Malaysia. Additional information on travel health notices can be found at the following link: <http://wwwnc.cdc.gov/travel/notices>.

## 2015 Human Case Summary\*

**International Travel-Associated Chikungunya Fever Cases:** Thirty-two cases of chikungunya with onset in 2015 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: Bolivia, Colombia (9), Ecuador, Guatemala, Haiti (2), Honduras, India, Jamaica (2), Mexico (2), Nicaragua (6), Puerto Rico (3), Trinidad and Tobago, Venezuela, and Virgin Islands. Counties reporting cases were: Brevard, Broward (7), Collier, Hillsborough, Miami-Dade (11), Monroe, Orange (3), Palm Beach (2), Pinellas, Sarasota, Seminole (2), and Volusia.

**International Travel-Associated Dengue Fever Cases:** Twenty-four cases of dengue with onset in 2015 have been reported in individuals with travel history to a dengue endemic country in the two weeks prior to onset. Countries of origin were: Brazil (5), Colombia, Cuba (5), Dominican Republic (2), Haiti (2), Honduras, India, Jamaica, Philippines (2), Puerto Rico, Thailand, and Venezuela (2). Counties reporting cases were: Hillsborough (3), Broward (5), Lee, Miami-Dade (8), Monroe, Orange, Palm Beach, St. Johns, St. Lucie (2), and Seminole. Four cases were reported in non-Florida residents. In 2015, 11 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 – 2015
DENV-1	4
DENV-2	2
DENV-3	2
DENV-4	2
DENV-1 and 3	1
	11

**International Travel-Associated Malaria Cases:** Twenty-four cases of malaria with onset in 2015 have been reported. Countries of origin were: Angola, Cameroon (3), Dominican Republic (2), Egypt, Eritrea, Gabon, Ghana (3), Guatemala, Haiti (4), India (2), Malawi, Nigeria (2), South Sudan, and Sudan. Counties reporting cases were: Broward (5), Charlotte, Collier, Duval, Hillsborough, Lee, Monroe, Miami-Dade (7), Orange (2), Pinellas, Palm Beach (2), and Sarasota. Six of the cases were reported in non-Florida residents.

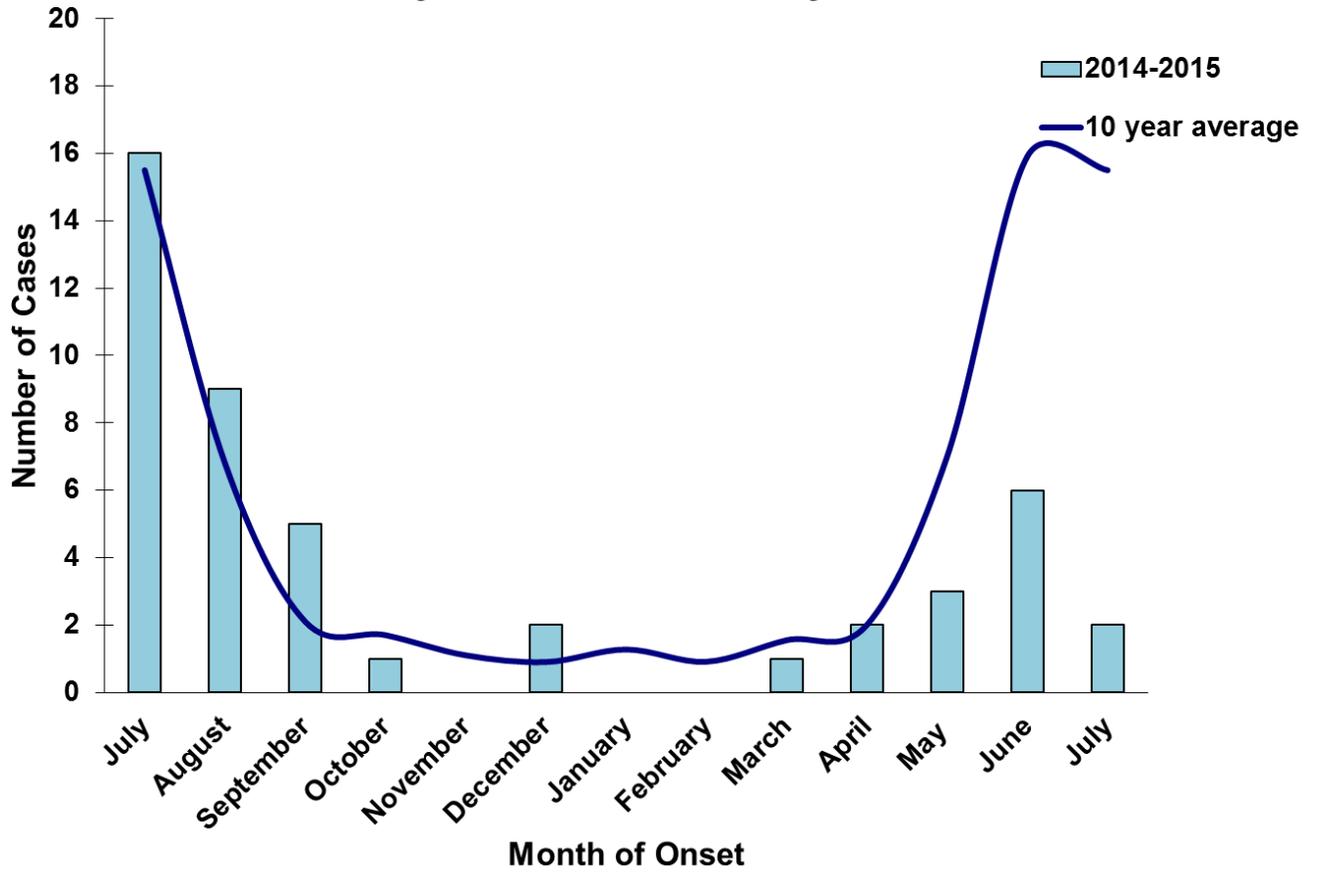
Nineteen cases (79%) were diagnosed with *Plasmodium falciparum*. Four cases were diagnosed with *Plasmodium vivax* (17%). One case (4%) was diagnosed with *Plasmodium malariae*.

## Veterinary Cases\*

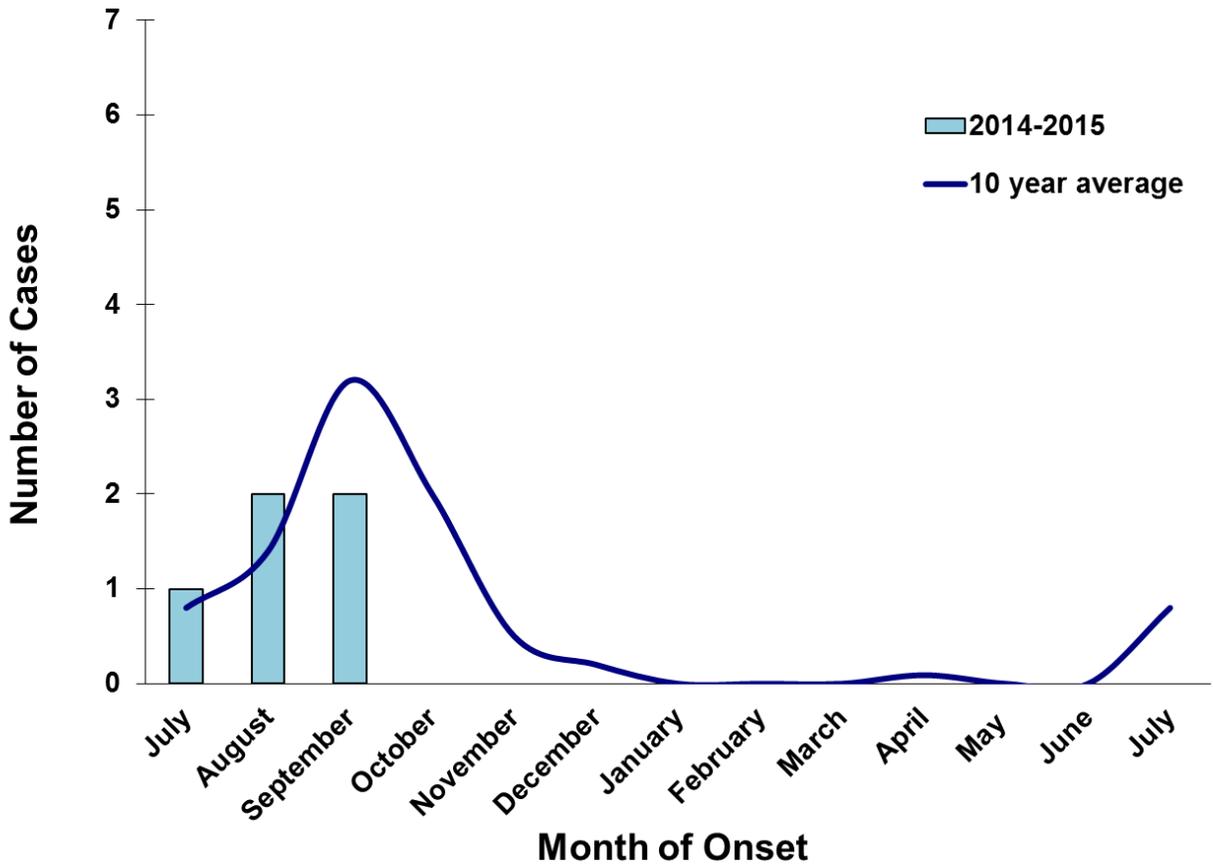
\*Veterinary cases are reported by date of onset

No horses with EEEV or WNV infection were reported this week.

### Veterinary EEE in Florida, July 2014-2015



### Veterinary WNV Disease in Florida, July 2014-2015



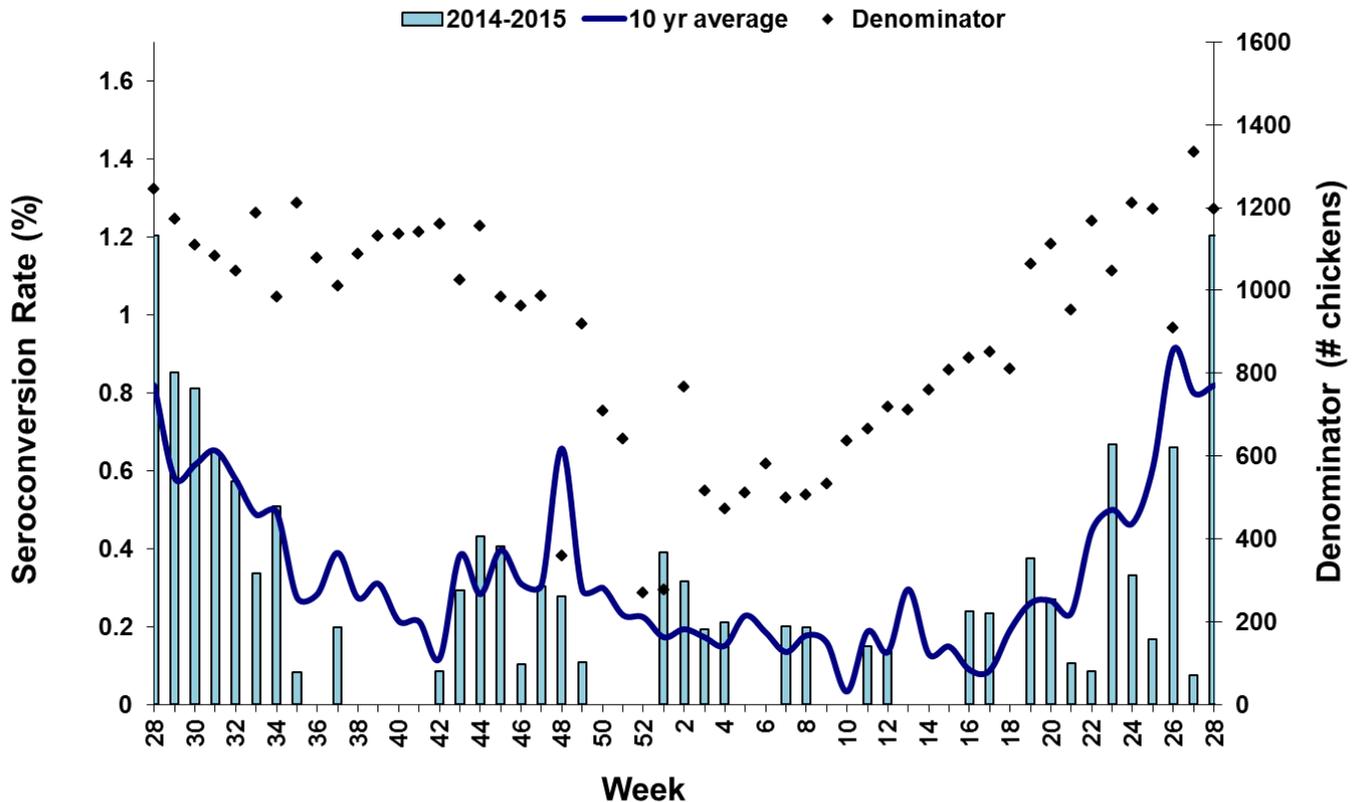
## Sentinel Chickens

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.

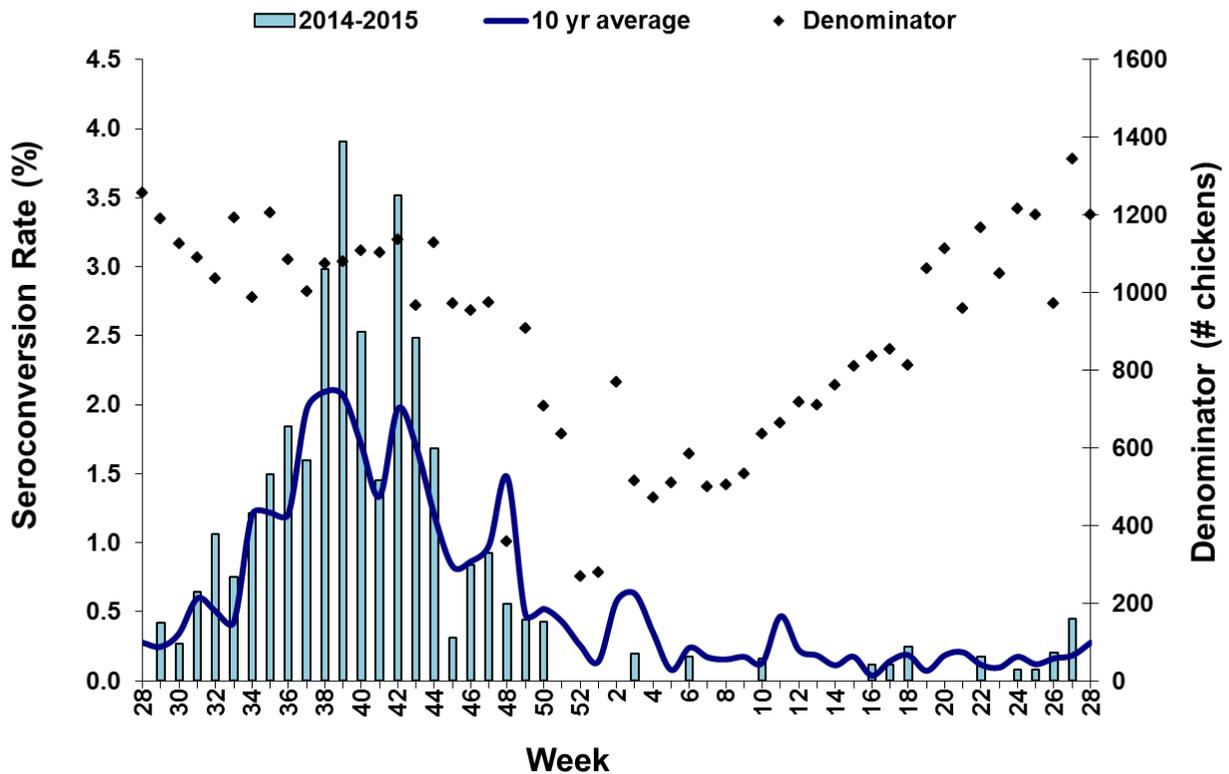
Six sentinel chickens tested positive for antibodies to WNV this week in Hillsborough, Pinellas, and Walton Counties. Six sentinel chickens tested positive for antibodies to EEEV this week in Nassau, Orange, Polk, St. Johns and Seminole Counties.

County	Collection Date	Seroconversion Rates (%)					County Totals		
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Hillsborough	07/17/15	2.33		2.33				2 WNV	7 WNV
Nassau	07/03/15				2.78	2.78		1 EEEV	2 EEEV
Orange	06/29/15				0.85	0.85		1 EEEV	11 EEEV, 1 HJV
Pinellas	07/06/15	1.82		1.82				1 WNV	2 WNV
Polk	06/22/15				18.18	18.18		2 EEEV	2 EEEV
Seminole	06/29/15				1.52	1.52		1 EEEV	2 EEEV
St. Johns	07/06/15				1.69	1.69		1 EEEV	3 EEEV
Walton	07/06/15	2.68		2.68				3 WNV	16 EEEV, 3 HJV, 6 WNV

**Sentinel Seroconversions to EEEV in Florida, 2014-2015**



## Sentinel Seroconversions to WNV in Florida, 2014-2015



### Dead Birds

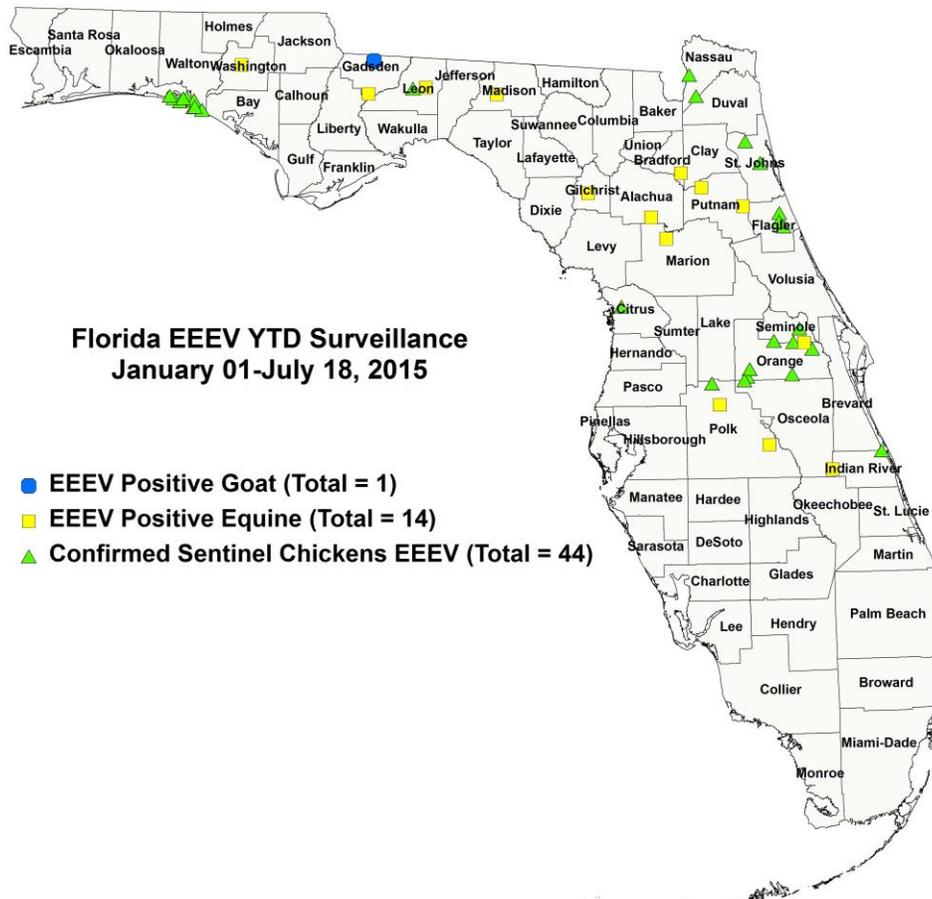
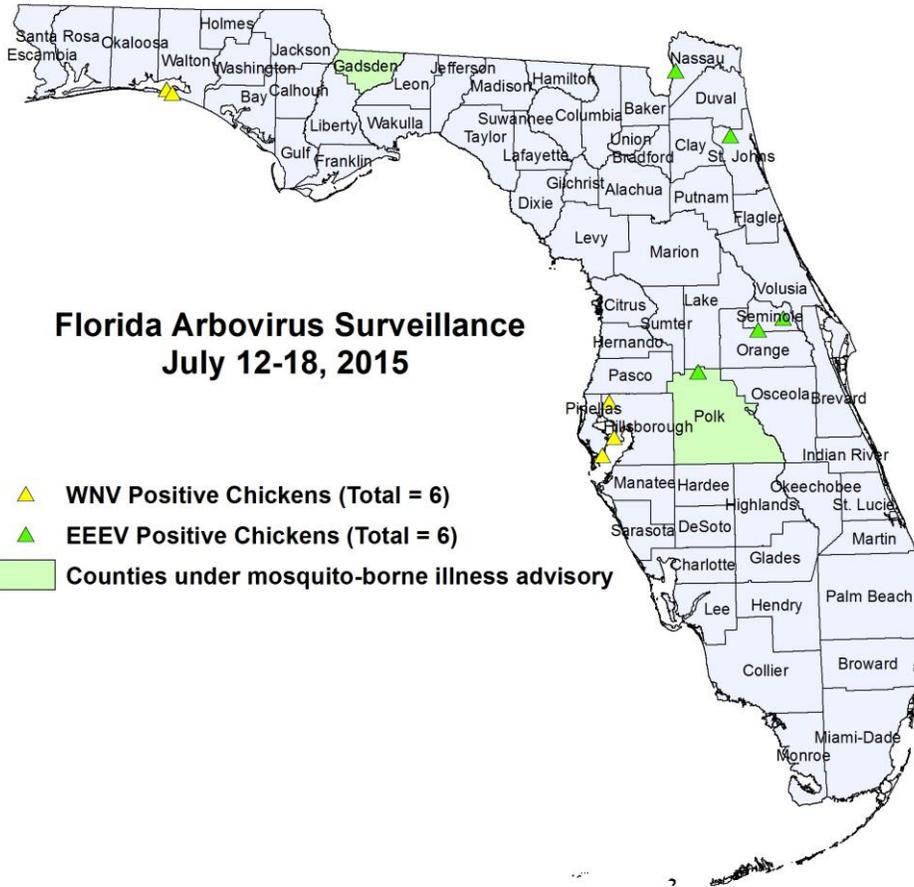
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 5 reports representing 7 dead birds were received from 5 counties.

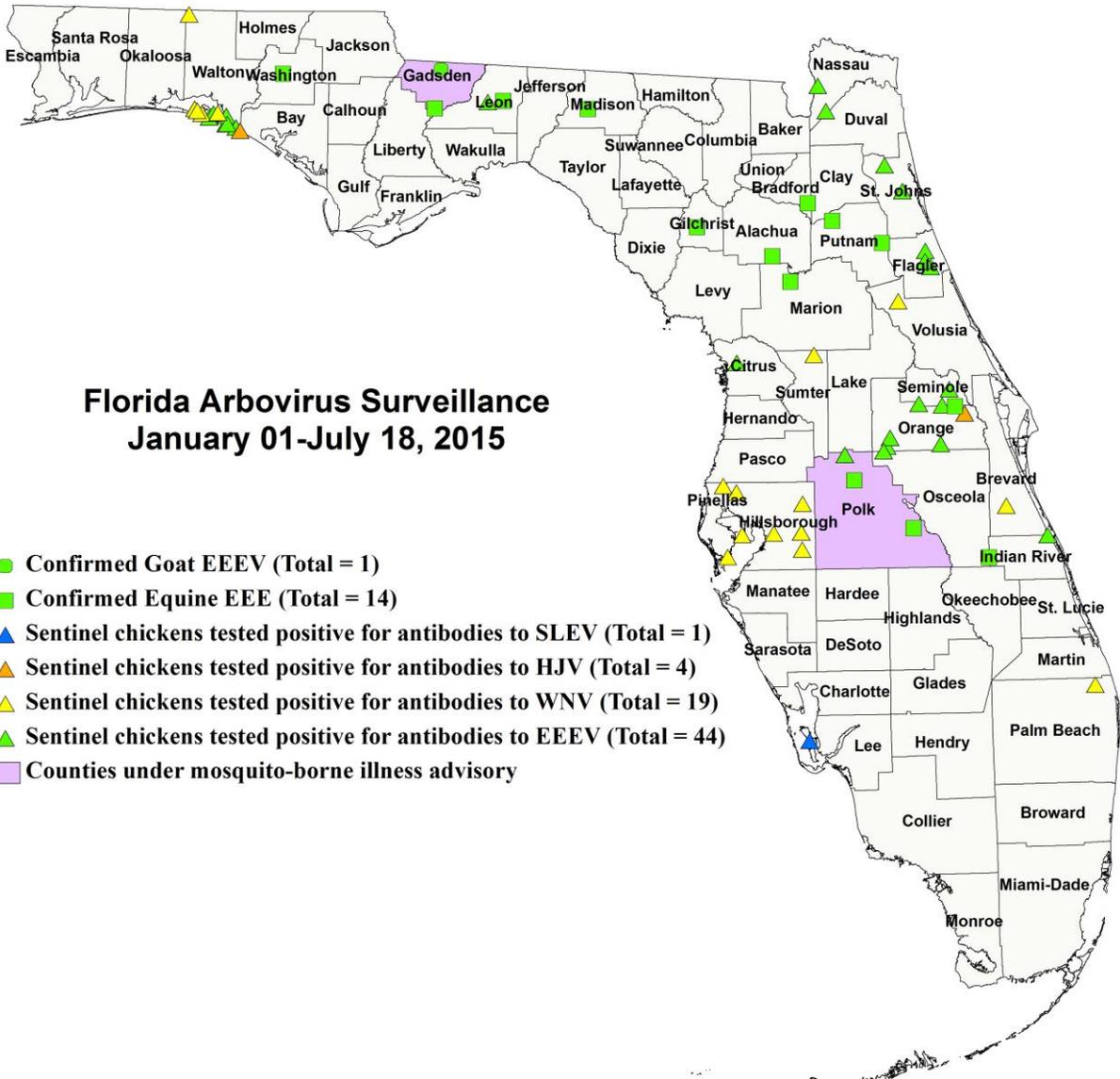
In 2015, 218 reports representing a total of 528 dead birds (26 crows, 17 jays, 44 raptors, and 19 doves) were received from 45 of Florida's 67 counties. Please note that FWC collects reports of birds that have died from a variety of causes, not only arboviruses. Dead birds should be reported to [www.myfwc.com/bird/](http://www.myfwc.com/bird/).

#### 2015

County	Total Dead Birds	Crows	Jays	Raptors	Dove
Charlotte	1	0	0	0	0
DeSoto	1	0	0	0	0
Duval	1	0	0	0	0
Escambia	3	0	0	0	0
Lee	1	1	0	0	0

## Maps





## Florida Arbovirus Surveillance January 01-July 18, 2015

- Confirmed Goat EEEV (Total = 1)
- Confirmed Equine EEE (Total = 14)
- ▲ Sentinel chickens tested positive for antibodies to SLEV (Total = 1)
- ▲ Sentinel chickens tested positive for antibodies to HJV (Total = 4)
- ▲ Sentinel chickens tested positive for antibodies to WNV (Total = 19)
- ▲ Sentinel chickens tested positive for antibodies to EEEV (Total = 44)
- Counties under mosquito-borne illness advisory

2015 Arbovirus Activity by County	
County	Arbovirus Activity
<b>Alachua</b>	EEEV: 1 horse (6/16)
<b>Brevard</b>	WNV: 1 sentinel (6/24)
<b>Bradford</b>	EEEV: 1 horse (4/23)
<b>Citrus</b>	EEEV: 2 sentinels (5/12)
<b>Flagler</b>	EEEV: 4 sentinels (4/27, 6/1, 6/29)
<b>Gadsden</b>	EEEV: 1 goat (6/16); 1 horse (6/21)
<b>Gilchrist</b>	EEEV: 1 horse (4/18)
<b>Hillsborough</b>	WNV: 7 sentinels (3/10, 4/22, 5/5, 6/2, 7/7)
<b>Indian River</b>	EEEV: 1 sentinel (4/30)
<b>Lee</b>	SLEV: 1 sentinel (1/12)
<b>Leon</b>	EEEV: 1 horse (5/20); 1 sentinel (6/8)
<b>Madison</b>	EEEV: 1 horse (6/24)
<b>Marion</b>	EEEV: 1 horse (6/14)
<b>Nassau</b>	EEEV: 2 sentinels (5/29, 7/3)
<b>Orange</b>	EEEV: 1 horse (5/30); 11 sentinels (1/20, 1/29, 2/16, 2/23, 3/16, 4/20, 4/23, 5/18, 6/11, 6/29) HJV: 1 sentinel (5/15)
<b>Osceola</b>	EEEV: 1 horse (5/3)

<b>Palm Beach</b>	WNV: 1 sentinel (4/27)
<b>Pinellas</b>	WNV: 2 sentinels (6/29, 7/6)
<b>Polk</b>	EEEV: 2 horses (6/30, 7/6); 2 sentinels (6/22)
<b>Putnam</b>	EEEV: 2 horses (3/16, 6/30)
<b>St. Johns</b>	EEEV: 3 sentinels (6/8, 6/15, 7/6)
<b>Seminole</b>	EEEV: 2 sentinels (6/8, 6/29)
<b>Sumter</b>	WNV: 1 sentinel (1/20)
<b>Volusia</b>	WNV: 1 sentinel (6/15)
<b>Walton</b>	EEEV: 16 sentinels (1/5, 1/13, 3/23, 5/11, 5/18, 6/8, 6/15, 6/29) HJV: 3 sentinels (1/13, 5/18, 6/8) WNV: 6 sentinels (2/9, 6/1, 6/29, 7/6)
<b>Washington</b>	EEEV: 1 horse (7/3)

### Acknowledgements and Data Sources

Contributors: Andrea Bingham, PhD, MSPH, Shaiasia Itwaru-Womack, Katherine Kendrick, MPH, Danielle Stanek, DVM, and Carina Blackmore, DVM, Ph.D., DOH Bureau of Epidemiology; Lea Heberlein-Larson, Lylah Seaton, 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.