



Florida Arbovirus Surveillance Week 23: June 4-10, 2023

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), Zika virus (ZIKV) and California encephalitis group viruses (CEV). Malaria, a parasitic mosquito-borne disease is also included. During the period of June 4-10, 2023, 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. No sentinel chickens tested positive for antibodies to WNV this week. No mosquito pools tested positive for WNV this week. In 2023, positive samples from five sentinel chickens and one horse have been reported from five 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 2023, no sentinel chickens tested positive for SLEV.

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 Bay, Orange, Polk, and Walton counties. In 2023, positive samples from 30 sentinel chickens and five horses have been reported from 12 counties.

International Travel-Associated Dengue: Four cases of dengue were reported this week in persons that had international travel. In 2023, 84 travel-associated dengue cases have been reported.

Dengue Cases Acquired in Florida: No cases of locally acquired dengue were reported this week in Miami-Dade County. In 2023, two cases of locally acquired dengue have been reported.

International Travel-Associated Chikungunya Fever Cases: No cases of chikungunya fever were reported this week. In 2023, no cases of travel-associated chikungunya fever have been reported.

Chikungunya Fever Cases Acquired in Florida: No cases of locally acquired chikungunya fever were reported this week. In 2023, no cases of locally acquired chikungunya fever have been reported.

International Travel-Associated Zika Fever Cases: No cases of Zika fever were reported this week in persons that had international travel. In 2023, no travel-associated Zika fever cases have been reported.

Zika Fever Cases Acquired in Florida: No cases of locally acquired Zika fever were reported this week. In 2023, no cases of locally acquired Zika fever have been reported.

Malaria Cases Acquired in Florida: No cases of locally acquired malaria were reported this week. In 2023, one case of locally acquired malaria has been reported.

Advisories/Alerts: Manatee, Orange, Polk, and Sarasota counties are currently under a mosquito-borne illness advisory. Miami-Dade County is currently under a mosquito-borne illness alert. No other counties are currently under a mosquito-borne illness advisory or alert.

There are currently multiple travel health notices from the Centers for Disease Control and Prevention related to mosquito-borne diseases.

Dengue			Chikungunya	Yellow Fever	Malaria
Africa and the Middle East	Americas	Asia and the Pacific Islands	Americas	Africa and the Middle East	Americas
São Tomé and Príncipe	Argentina	Bangladesh	Paraguay	Nigeria	Costa Rica
Somalia	Bolivia	Laos			
Sudan	Colombia	Malaysia			
	Cuba	Myanmar (Burma)			
	Dominican Republic	Pakistan			
	Guadeloupe	Philippines			
	Guatemala	Sri Lanka			
	Martinique	Vietnam			
	Nicaragua				
	Panama				
	Peru				

Level 1 Travel Health Notice, Level 2 Travel Health Alert: wwwnc.cdc.gov/travel/notices.

For a map of arboviral disease activity in the United States visit: www.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html.

2023 Human Case Summary

2023 International Travel-Associated Dengue Cases: Eighty-four cases with onset in 2023 have been reported in individuals with travel history to a dengue-endemic area in the two weeks prior to onset. Counties reporting cases were: Broward (6), Collier (2), Duval, Escambia, Hendry, Hillsborough (7), Lee, Miami-Dade (53), Monroe, Nassau, Orange, Osceola, Palm Beach (2), Pasco, Sarasota, St. Lucie (2), and Volusia (2). Three cases were reported in non-Florida residents. One case met the criteria for severe dengue (dengue shock syndrome [DSS] or dengue hemorrhagic fever [DHF]). Those at greater risk for DSS and DHF include persons with previous dengue infection, pregnant women, infants, the elderly, and those with co-morbidities. However, severe illness can also occur in those without any of these risk factors. In 2023, 64 cases of dengue reported in Florida have been serotyped by PCR. Please see the table below for a breakdown of cases by country of origin and serotype.

Country of Exposure	DENV-1	DENV-2	DENV-3	DENV-4	DENV-3/DENV-4	Unknown	Total
Argentina						1	1
Bolivia		5					5
Brazil	5					3	8
Colombia			1				1
Cuba	1	1	43	1	1	8	55
Dominican Republic		1				1	2
Ecuador						1	1
India			1				1
Mexico			1			3	4
Peru	4	1					5
Puerto Rico	1						1
Total	11	8	46	1	1	17	84

2023 Dengue Cases Acquired in Florida: In 2023, two cases of locally acquired dengue have been reported in Miami-Dade County, with onsets in January and March. Two cases have been serotyped by PCR. Serotypes reported were DENV-3 (2).

2023 International Travel-Associated Malaria Cases: Twenty-two cases of malaria with onset in 2023 have been reported. Countries of origin were: Burundi, Côte D'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Ghana (2), Kenya, multiple countries (3), Nicaragua (2), Nigeria (2), Pakistan, Sierra Leone (2), Sudan, Uganda (3), and Venezuela. Counties reporting cases were: Broward (4), Duval, Hillsborough (3), Lee,

Leon (2), Miami-Dade (5), Orange, Osceola, Pinellas (3), and Sarasota. Six cases were reported in non-Florida residents.

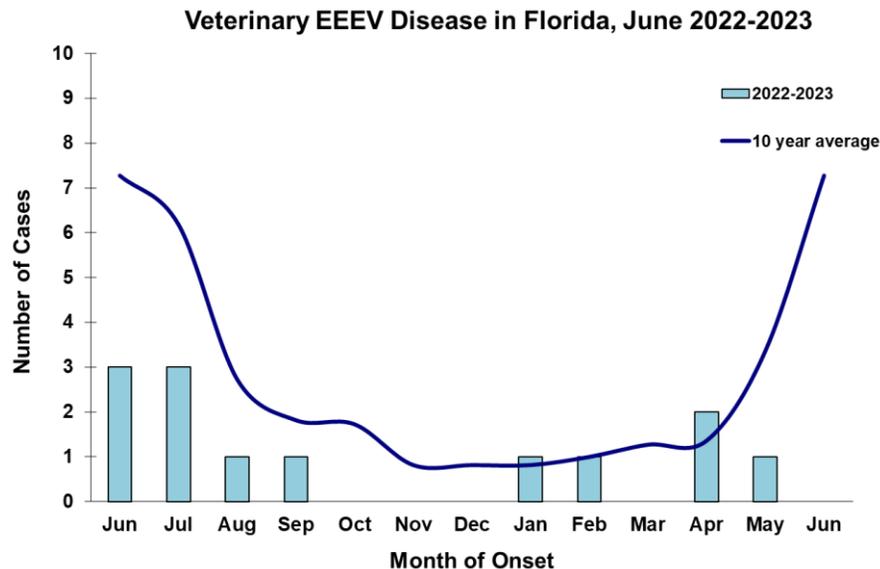
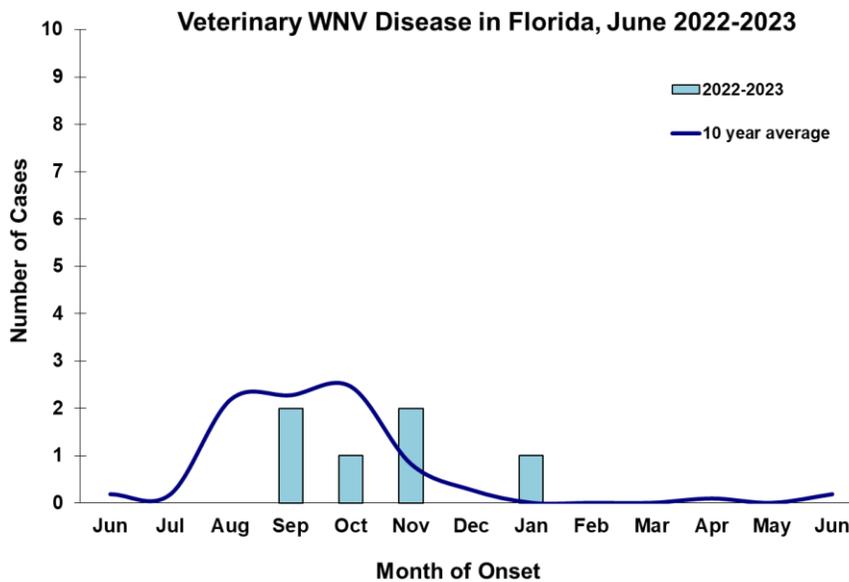
Twelve cases (55%) were diagnosed with *Plasmodium falciparum*. Eight cases (36%) were diagnosed with *Plasmodium vivax*. Two cases (9%) were diagnosed with *Plasmodium malariae*.

2023 Malaria Cases Acquired in Florida: In 2023, one case of locally acquired malaria has been reported in Sarasota County, with onset in May. The *Plasmodium* species was *Plasmodium vivax*.

Veterinary Cases**

**Veterinary cases are reported by date of onset. Only mammalian veterinary cases are included in the graphs.

No veterinary cases were reported this week.



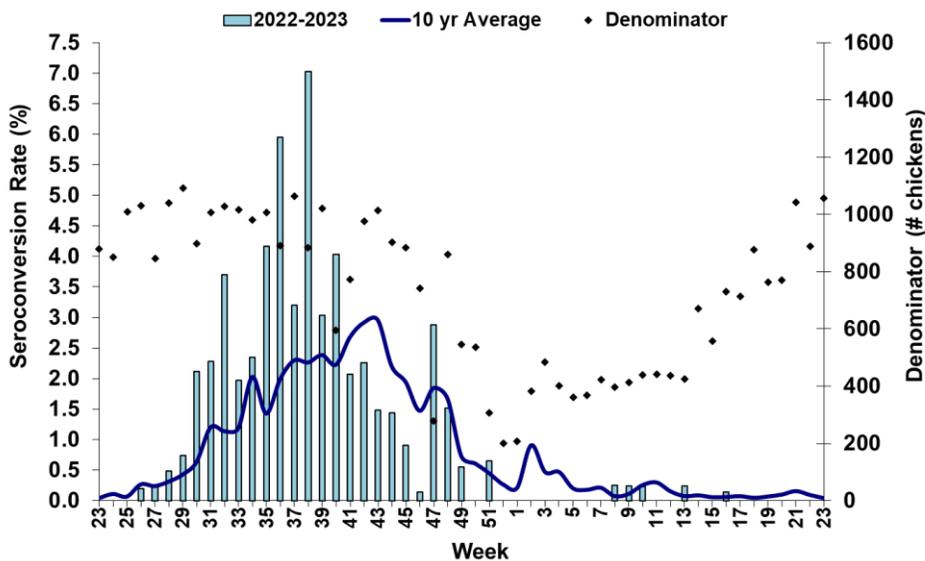
Sentinel Chickens

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.

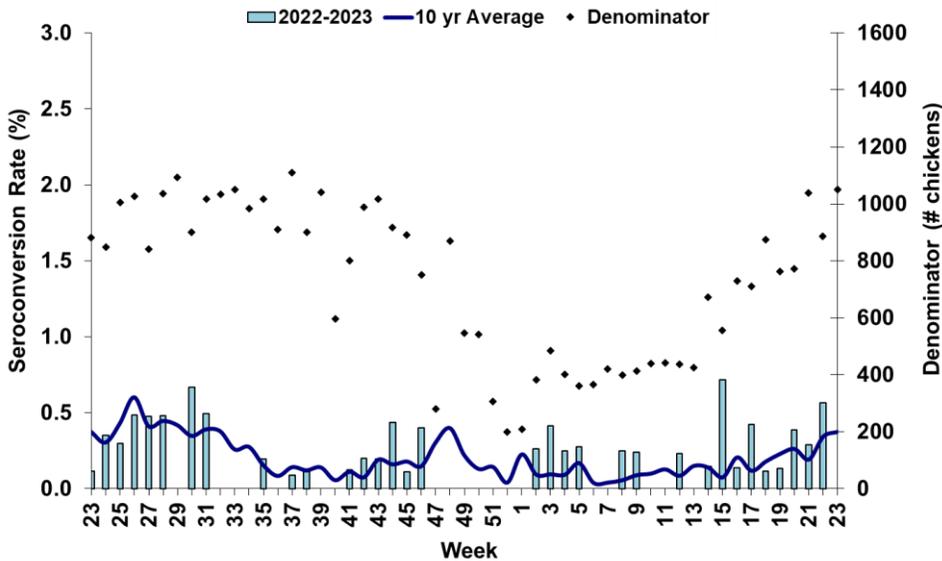
Six sentinel chickens tested positive for antibodies to EEEV this week in Bay, Orange, Polk, and Walton counties.

County	Collection Date	Seroconversion Rates (%)					County Totals		
		Flavi	SLEV	WNV	Alpha	EEEV	HJV	Collection Week	YTD
Bay	5/30/2023				6.67	6.67		1 EEEV	4 EEEV
Orange	5/30/2023				2.80	2.80		3 EEEV	1 WNV, 10 EEEV
Polk	5/26/2023				2.38	2.38		1 EEEV	2 EEEV
Walton	5/30/2023				1.05	1.05		1 EEEV	1 WNV, 4 EEEV

Sentinel Seroconversions to WNV in Florida, 2022–2023



Sentinel Seroconversions to EEEV in Florida, 2022–2023



Mosquito Pools

Two mosquitoes tested positive for malaria this week in Sarasota County.

County	Collection Date	Result	Species	County YTD
Sarasota	6/1/2023	1 <i>Plasmodium vivax</i>	<i>Anopheles crucians</i>	2 <i>Plasmodium vivax</i>
	6/2/2023	1 <i>Plasmodium vivax</i>	<i>Anopheles crucians</i>	

Dead Birds

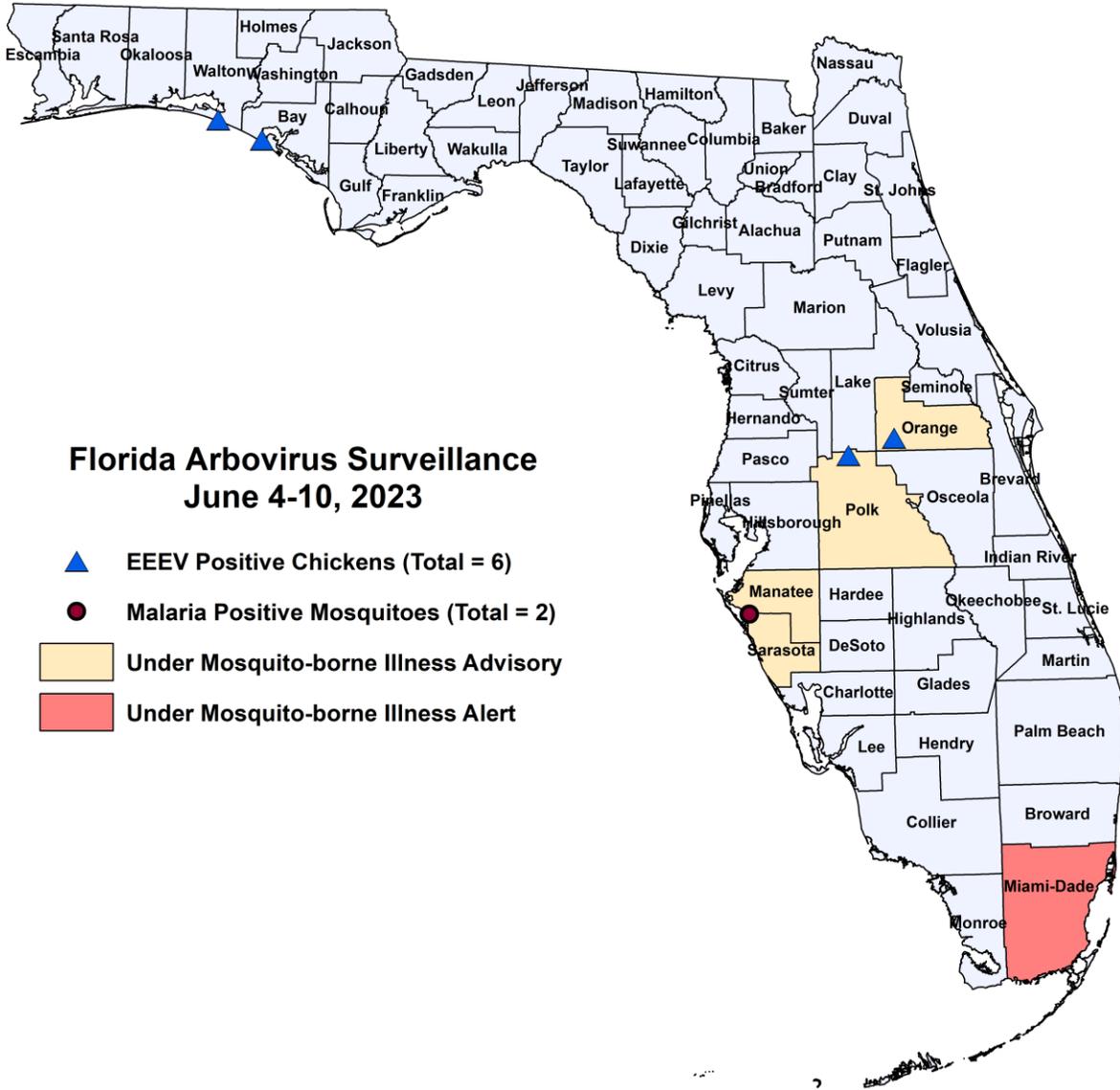
The Fish and Wildlife Conservation Commission (FWC) collects reports of dead birds, which can be an indication of arbovirus circulation in an area. This week, 15 reports representing a total of 38 dead birds, including three jays, two raptors, and 17 doves, were received from 11 counties.

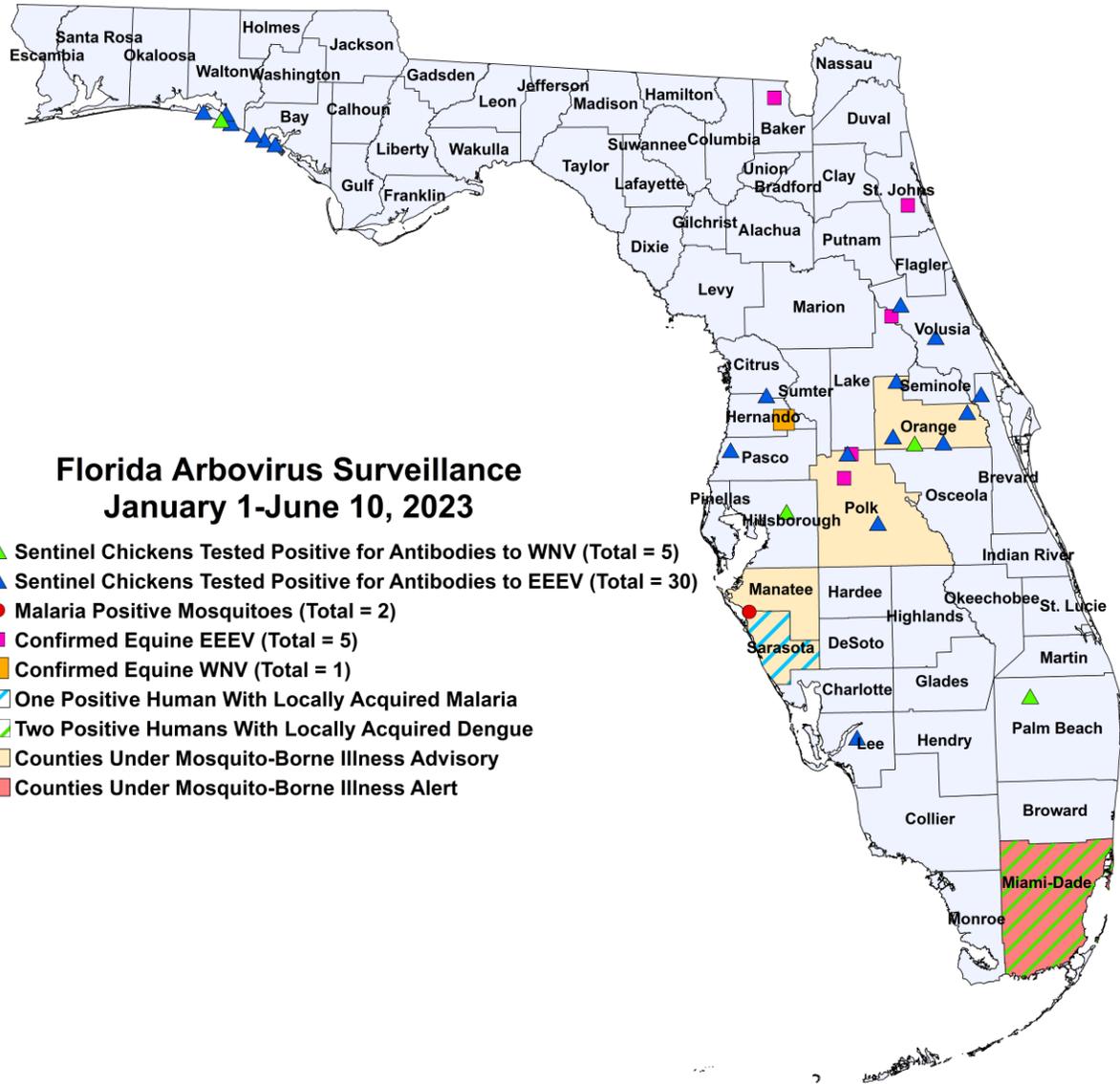
In 2023, 512 reports representing a total of 1126 dead birds (33 crows, 23 jays, 95 raptors, 66 doves) were received from 47 of Florida's 67 counties.

2023

County	Total Dead Birds	Crows	Jays	Raptors	Doves
Alachua	1	0	0	0	0
Baker	2	0	0	0	0
Collier	1	0	0	0	1
Duval	6	0	0	0	0
Escambia	5	0	3	0	0
Flagler	1	0	0	1	0
Lee	16	0	0	0	16
Okaloosa	1	0	0	0	0
Palm Beach	1	0	0	0	0
Pinellas	3	0	0	1	0
Sarasota	1	0	0	0	0

Maps





Florida Arbovirus Surveillance January 1-June 10, 2023

- ▲ Sentinel Chickens Tested Positive for Antibodies to WNV (Total = 5)
- ▲ Sentinel Chickens Tested Positive for Antibodies to EEEV (Total = 30)
- Malaria Positive Mosquitoes (Total = 2)
- Confirmed Equine EEEV (Total = 5)
- Confirmed Equine WNV (Total = 1)
- ▨ One Positive Human With Locally Acquired Malaria
- ▨ Two Positive Humans With Locally Acquired Dengue
- Counties Under Mosquito-Borne Illness Advisory
- Counties Under Mosquito-Borne Illness Alert

2023 Arbovirus Activity by County

County	Humans	Equines	Sentinel Chickens	Other
Baker		1 EEEV (5/5)		
Bay			4 EEEV (5/15, 5/22, 5/30)	
Brevard			1 EEEV (3/24)	
Citrus			1 EEEV (4/24)	
Hernando		1 WNV (1/6)		
Hillsborough			2 WNV (2/28, 3/7)	
Lake		1 EEEV (1/29)		
Lee			1 EEEV (1/9)	
Miami-Dade	2 dengue (January, March)			
Orange			1 WNV (2/20) 10 EEEV (1/17, 2/20, 2/27, 4/10, 4/24, 5/1, 5/15, 5/30)	
Palm Beach			1 WNV (4/18)	
Pasco			1 EEEV (4/24)	
Polk		2 EEEV (4/7, 4/10)	2 EEEV (5/22, 5/26)	

County	Humans	Equines	Sentinel Chickens	Other
Sarasota	1 malaria (May)			2 <i>Plasmodium vivax</i> mosquitoes (<i>Anopheles crucians</i> [6/1, 6/2])
St. Johns		1 EEEV (2/2)		
Volusia			6 EEEV (1/17, 1/23, 1/30, 4/10, 4/17)	
Walton			1 WNV (3/27) 4 EEEV (4/3, 4/10, 5/8, 5/30)	

Acknowledgements and Data Sources

Contributors: Andrea Morrison, PhD, MSPH, Rebecca Zimler, PhD, MPH, and Danielle Stanek, DVM, DOH Bureau of Epidemiology; Lea Heberlein-Larson, DrPH; Alexis LaCrue, PhD, MS; Maribel Castaneda, and Amanda Davis, BS; DOH Bureau of Public Health Laboratories; Carina Blackmore, DVM, PhD, DOH Division of Disease Control and Health Protection.

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