

## California Arbovirus Surveillance Bulletin #33

Week 46 Friday, November 16, 2018



### Weekly Update

#### **Humans**

##### West Nile virus

A total of 8 human cases of West Nile virus (WNV) illness were reported this week from 7 counties: Los Angeles (2), Orange (1), Riverside (1), Sacramento (1), San Bernardino (1), San Joaquin (1), and Stanislaus (1). In 2018, a total of 182 human WNV cases have been reported from 31 counties. Of the 182 case patients, 128 (70%) had neuroinvasive illness and 8 (4.4%) fatalities have been reported. The median age of the individuals is 60 years (range: 1–91 years) and 117 (64%) are male. Dates of symptom onset ranged from May 6 – October 28. In addition to the 182 cases, 21 asymptomatic infections have been reported from Butte (5), Contra Costa (2), Fresno (1), Los Angeles (4), Orange (2), Riverside (1), Sacramento (1), San Joaquin (1), Stanislaus (3), and Yolo (1) counties. At this time last year, 465 human WNV cases had been reported from 26 counties.

##### St. Louis encephalitis virus

No new cases were reported this week. In 2018, one human case of St. Louis encephalitis virus (SLEV) disease has been reported from Los Angeles County. At this time last year, one human SLEV case had been reported from one county.

#### **Dead Birds**

No WNV positive dead bird were reported this week. In 2018, a total of 497 WNV positive dead birds have been reported from 21 counties. At this time last year, 502 WNV positive dead birds had been reported from 39 counties.

#### **Mosquito Pools**

##### West Nile virus

No WNV positive mosquito pools were reported this week. In 2018, 1,960 mosquito pools have tested positive for WNV from 29 counties. At this time last year, 3,360 WNV positive mosquito pools had been reported from 26 counties.

##### St. Louis encephalitis virus

No SLEV positive mosquito pools were reported this week. In 2018, 387 SLEV positive mosquito pools have been reported from 8 counties: Fresno (56), Imperial (3), Kern (65), Kings (30), Los Angeles (1), Madera (14), Riverside (56), and Tulare (162). At this time last year, 179 SLEV positive mosquito pools had been reported from 14 counties.

#### **Sentinel Chickens**

##### West Nile virus

A total of 3 WNV seroconversions were reported this week from Butte County. In 2018, 161 WNV positive chickens have been reported from 16 counties. At this time last year, 304 WNV positive chickens had been reported from 18 counties.

##### St. Louis encephalitis virus

No SLEV seroconversions were reported this week. In 2018, one sentinel chicken has tested positive for SLEV from Merced County. At this time last year, 9 SLEV positive chickens had been reported from 3 counties.

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<b>2017 &amp; 2018 YTD West Nile Virus Comparisons</b>		
	<b>2017</b>	<b>2018</b>
Total # Dead Bird Reports	7,425	7,812
# Positive Counties	47	41
# Human Cases	465	182
# Positive Dead Birds / # Tested	502 / 1,946	497 / 2,081
# Positive Mosquito Pools / # Tested	3,360 / 43,640	1,960 / 41,767
# Seroconversions / # Tested	304 / 10,998	161 / 9,950

<b>YTD WNV Activity by Element and County, 2018</b>					
<b>County</b>	<b>Humans</b>	<b>Horses</b>	<b>Dead Birds</b>	<b>Mosquito Pools</b>	<b>Sentinel Chickens</b>
Alameda			20	15	
Amador	1	1			
Butte	10		4	48	37
Colusa					6
Contra Costa	3		13	17	16
El Dorado			2		
Fresno	5			119	
Glenn	2			4	
Humboldt	1		1		
Imperial				1	
Kern	8	1	1	48	
Kings				22	
Lake	1			4	1
Los Angeles	42		19	72	28
Madera	3			55	
Merced	2	2		12	16
Monterey	1				
Napa	1				
Nevada	1				
Orange	9		15	96	
Placer	9	1	44	230	4
Riverside	14		6	36	
Sacramento	8	3	241	300	5
San Benito					1
San Bernardino	6			12	
San Diego	1		1	3	
San Joaquin	13	1	16	533	
San Mateo			5	2	
Santa Clara	1		55	5	8
Santa Cruz			2		
Shasta	1	1	5	8	4
Solano				3	7
Sonoma				1	
Stanislaus	15	1	1	111	
Sutter	1		4	28	20
Tehama	1				1
Tulare	7			77	
Tuolumne	1		1		
Ventura	2				
Yolo	10		41	90	5
Yuba	2			8	2
<b>Totals</b>	<b>182</b>	<b>11</b>	<b>497</b>	<b>1,960</b>	<b>161</b>

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## TESTING SUMMARIES

### Humans

		WNV	SLE	WEE
Human Cases	Week	8	0	0
	YTD	182	1	0

### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	8	0
	YTD	2,081	497

### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	105	3	0	0
	YTD	9,950	161	1	0

### Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	0 / 106	0 / 106	0 / 106	0 / 92	0 / 92	0 / 92
		YTD	1,960 / 41,767	387 / 33,917	0 / 29,035	0 / 2,044	0 / 2,044	0 / 2,044

## New Positives

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02
Butte	BUCO0001	Chico	11/5/18	WNV	1505	
Butte	BUCO0007	Chico	11/5/18	WNV	1537	1542

## TEST PROTOCOLS

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### **Humans:**

Specimens are tested by local laboratories with an IgM or IgG immunofluorescent assay (IFA) and/or an IgM enzyme immunoassay (EIA). Specimens with inconclusive results are forwarded to the California Department of Public Health Viral and Rickettsial Disease Laboratory (VRDL) for further testing with a plaque reduction neutralization test (PRNT).

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### **Dead Birds**

Oral swab samples collected from bird carcasses are tested at the UC Davis Arbovirus Research and Training laboratory (DART) or at a local agency for West Nile virus by RT-qPCR.

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### **Sentinel Chickens:**

Dried blood spot samples from sentinel chickens are tested at the California Department of Public Health Vector-Borne Disease Laboratory for IgG antibodies to West Nile, St. Louis encephalitis, and western equine encephalomyelitis viruses by an EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

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### **Mosquito Pools:**

Mosquito pools are tested at DART or at a local agency for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex RT-qPCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested at DART for chikungunya, dengue, and Zika viral RNA by a separate RT-qPCR.

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*Website Information:* For updated information on WNV and SLEV in California, please visit the California WNV website, [www.westnile.ca.gov](http://www.westnile.ca.gov), or the California Vectorborne Disease Surveillance System website, [www.calsurv.org](http://www.calsurv.org). For national information on WNV and other arboviruses, please visit the CDC websites: [www.cdc.gov](http://www.cdc.gov) and [https://wwwn.cdc.gov/arbonet/maps/ADB\\_Diseases\\_Map/index.html](https://wwwn.cdc.gov/arbonet/maps/ADB_Diseases_Map/index.html)

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