

## California Arbovirus Surveillance Bulletin #32

Week 45 Thursday, November 9, 2017



### Weekly Update

#### **Humans**

**A human case of St. Louis encephalitis virus (SLEV) disease was reported this week from Kern County.**

This is the first human case of SLEV disease reported in California in 2017. The individual developed neurological symptoms in July and is currently recovering. At this time last year, 2 SLEV disease cases had been reported from 2 counties.

#### West Nile Virus

A total of 27 new human cases of West Nile virus (WNV) illness were reported this week from the following 8 counties: Butte (1), Contra Costa (1), Los Angeles (10), Merced (1), San Bernardino (2), Stanislaus (3), Tulare (8), and Yolo (1). This is the first human case reported from Merced County in 2017. To date this year, 454 human cases of WNV illness have been reported from 26 counties. Of the 454 case-patients, 336 (74%) had neuroinvasive disease and 25 fatalities have been reported from Kern (1), Los Angeles (17), Orange (2), San Bernardino (2), Stanislaus (1), and Yolo (2) counties. The median age of the individuals is 62 years (range: 4–96 years) and 295 (65%) are male. Dates of symptom onset ranged from March 16 to October 26. In addition to the 454 symptomatic cases, 32 asymptomatic WNV-positive blood donors have been reported from Fresno (1), Humboldt (1), Los Angeles (12), Orange (5), Placer (2), Riverside (1), San Bernardino (6), Stanislaus (3), and Tulare (1) counties. As of this date in 2016, 388 human WNV cases had been reported from 29 counties.

#### **Dead Birds**

A total of 8 WNV positive dead birds were reported this week from the following 4 counties: Los Angeles (5), Riverside (1), San Diego (1), and San Luis Obispo (1). To date this year, 492 birds from 39 counties have tested positive for WNV. As of this date in 2016, 1,341 WNV positive birds had been reported from 33 counties.

#### **Mosquito Pools**

##### West Nile Virus

A total of 4 WNV positive mosquito pools were reported this week from 2 counties: Los Angeles (3) and Santa Barbara (1). This is the first WNV positive mosquito pool reported from Santa Barbara County in 2017. To date this year, 3,354 WNV positive mosquito pools have been reported from 26 counties. As of this date in 2016, 3,494 WNV positive mosquito pools had been reported from 31 counties.

##### St. Louis Encephalitis Virus

No new positives were reported this week. To date this year, 179 SLEV positive mosquito pools have been reported from 14 counties: Butte (1), Fresno (63), Imperial (3), Kern (18), Kings (21), Los Angeles (1), Madera (10), Merced (2), Placer (1), Riverside (23), San Bernardino (2), Stanislaus (27), Tulare (6), and Yuba (1). As of this date in 2016, 179 SLEV positive mosquito pools had been reported from 8 counties.

#### **Sentinel Chickens**

##### West Nile Virus

No WNV seroconversions were reported this week. To date this year, 304 WNV seroconversions have been reported from 18 counties. As of this date in 2016, 341 WNV seroconversions had been detected from 19 counties.

##### St. Louis Encephalitis Virus

No SLEV seroconversions were reported this week. To date this year, 9 SLEV positive chickens have been reported from Los Angeles (2), Merced (1), and San Bernardino (6) counties. As of this date in 2016, 4 SLEV seroconversions had been detected in 2 counties.

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<b>YTD WNV Activity by Element and County, 2017</b>					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda	1		2		
Butte	3		5	47	31
Calaveras					1
Colusa			1		
Contra Costa	4	1	19	9	7
El Dorado			2		
Fresno	5	1	5	167	
Glenn		1	2	12	1
Humboldt			1		
Imperial	3				
Inyo	4			9	
Kern	25	2	3	152	
Kings	1		1	79	
Lake			4	17	2
Lassen		3			
Los Angeles	241	1	98	571	144
Madera	2		1	62	
Marin			1		
Merced	1		1	40	19
Monterey			1		
Nevada			1		
Orange	34		52	276	
Placer			4	59	5
Plumas		1			
Riverside	24	4	41	196	
Sacramento	2	1	86	153	2
San Benito					1
San Bernardino	41		45	293	36
San Diego	2	1	39	9	
San Francisco	1		1		
San Joaquin	14	2	7	242	
San Luis Obispo			4		
San Mateo			1		
Santa Barbara			1	1	4
Santa Clara			12		
Santa Cruz			1		
Shasta	1		2		4
Solano	1		4	9	11
Sonoma			5	1	
Stanislaus	24		6	196	
Sutter	1		3	16	22
Tehama	1	1			4
Tuolumne		1			
Tulare	12		8	630	
Ventura	1		2	3	
Yolo	5		14	87	2
Yuba			6	18	8
<b>Totals</b>	<b>454</b>	<b>20</b>	<b>492</b>	<b>3,354</b>	<b>304</b>

*Website Information: For updated information on WNV in California, please visit the California WNV website, [www.westmile.ca.gov](http://www.westmile.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 website, [www.cdc.gov](http://www.cdc.gov), and the USGS website, [www.westmilemaps.usgs.gov](http://www.westmilemaps.usgs.gov)*

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2016 & 2017 YTD West Nile Virus Comparisons		
	2016	2017
Total # Dead Bird Reports	8,907	7,361
# Positive Counties	38	47
# Human Cases	388	454
# Positive Dead Birds / # Tested	1,341 / 2,798	492 / 1,921
# Positive Mosquito Pools / # Tested	3,494 / 43,047	3,354 / 3,354
# Seroconversions / # Tested	341 / 10,631	304 / 10,861

### TESTING SUMMARIES

#### Humans

		WNV	SLEV	WEEV
Human Cases	Week	27	1	0
	YTD	454	1	0

#### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	30	8
	YTD	1,921	492

#### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	104	0	0	0
	YTD	10,861	304	9	0

#### Mosquitoes

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	4 / 101	0 / 101	0 / 101	0 / 21	0 / 21	0 / 21
	YTD	3,354 / 43,333	179 / 35,394	0 / 33,601	0 / 1,835	0 / 1,835	0 / 1,835

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### New Positives

#### Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90066	American Crow	10/23/2017	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90066	American Crow	10/23/2017	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90066	American Crow	10/26/2017	WNV
Los Angeles	Los Angeles Co Veterinarian	Playa Del Rey	90293	American Crow	11/1/2017	WNV
Los Angeles	Los Angeles Co Veterinarian	San Marino	91108	American Crow	10/23/2017	WNV
Riverside	Northwest Mosquito VCD	Norco	92860	American Crow	10/24/2017	WNV
San Diego	San Diego Co VCP	Santee	92071	American Crow	11/3/2017	WNV
San Luis Obispo	San Luis Obispo Public Health Lab	Templeton	93465	Yellow-billed Magpie	10/19/2017	WNV

#### Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA3048	988	Cx. quinquefasciatus	Pico Rivera	50	GRVD	11/2/17	WNV
Los Angeles	LACW1049	355	Cx. quinquefasciatus	Inglewood	49	GRVD	10/31/17	WNV
Los Angeles	LACW1054	361	Cx. quinquefasciatus	Inglewood	49	CO2	11/2/17	WNV
Santa Barbara	SBCO55	219	Cx. quinquefasciatus	Santa Barbara	17	CO2	10/26/17	WNV

### Test Protocols

#### 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 or confirmation.

#### Dead Birds

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the UC Davis Arbovirus Research and Training laboratory (DART) for West Nile virus by the singleplex qRT-PCR Taqman assay and confirmed with a second primer set. Some local agencies test birds using the RAMP© test or conduct RT-PCR on tissue samples.

#### Sentinel Chickens:

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

#### Mosquito Pools:

Mosquito pools submitted to DART are tested for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex qRT-PCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested for chikungunya, dengue, and Zika viral RNA by a separate qRT-PCR.