

## California Arbovirus Surveillance Bulletin #33

Week 42 Friday, October 21, 2016



### Weekly Update

#### **Humans**

##### West Nile virus

A total of 20 new cases of West Nile virus (WNV) illness were reported this week from the following 8 counties: Los Angeles (8), Orange (5), Placer (1), Sacramento (1), San Diego (1), Stanislaus (1), Tulare (2), and Yolo (1). To date this year, 347 cases of WNV illness have been reported from 29 counties. Of the 347 case-patients, 257 (74%) had neuroinvasive illness and 15 fatalities have been reported from 10 counties. The median age of the individuals is 60 years (range: 8-94 years) and 214 (62%) are male. Dates of symptom onset range from June 17 to October 6. In addition, 37 asymptomatic WNV-positive blood donors have been reported from Fresno (2), Los Angeles (10), Madera (1), Orange (4), Riverside (1), Sacramento (4), San Diego (2), San Francisco (1), San Luis Obispo (1), Stanislaus (4), Sutter (2), Tehama (1), Tulare (1), and Yolo (3) counties.

##### St. Louis encephalitis virus

No new cases were reported this week. In 2016, one case of St. Louis encephalitis virus (SLEV) disease has been reported from Sacramento County.

#### **Dead Birds**

This week, a total of 7 dead birds tested positive for WNV from the following 5 counties: Lake (1), Orange (2), San Diego (2), Santa Clara (1), and Ventura (1). In 2016, 1,329 dead birds have tested positive for WNV from 33 counties, whereas at this time last year, 1,192 WNV positive birds had been reported from 37 counties.

#### **Mosquito Pools**

##### West Nile virus

A total of 8 WNV positive mosquito pools were reported this week from Los Angeles County. In 2016, 3,446 WNV positive mosquito pools have been reported from 31 counties, whereas at this time last year, 2,972 WNV positive mosquito pools had been reported from 29 counties.

##### St. Louis encephalitis virus

A total of 3 SLEV positive mosquito pools were reported this week from Madera (1) and Riverside (2) counties. To date this year, 179 SLEV positive mosquito pools have been reported from 8 counties: Fresno (1), Kern (75), Kings (4), Los Angeles (2), Madera (3), Orange (2), Riverside (91), and Tulare (1). At this time last year, 38 SLEV positive mosquito pools had been reported from Riverside County.

#### **Sentinel Chickens**

##### West Nile virus

A total of 5 WNV positive chickens were reported this week from 3 counties: Los Angeles (3), Sacramento (1), and Santa Clara (1). **This is the first WNV positive chicken detected in Santa Clara County in 2016.** To date this year, 328 WNV seroconversions have been detected in 80 flocks located in 19 counties, whereas at this time last year, 379 WNV seroconversions had been detected in 89 flocks from 22 counties.

##### St. Louis encephalitis virus

No SLEV positive chickens were reported this week. In 2016, 4 SLEV seroconversions have been detected in 3 flocks located in 2 counties: Los Angeles (2) and San Bernardino (2). At this time last year, 8 SLEV seroconversions had been detected in 2 flocks from Riverside County.

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<b>YTD WNV Activity by Element and County, 2016</b>				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		11	2	
Butte	21	22	48	38
Colusa	2			9
Contra Costa	1	33	10	5
El Dorado	1	4		
Fresno	9	6	184	
Glenn	5	4	11	10
Imperial			1	
Kern	12		80	
Kings	3	4	118	
Lake	1	5	39	5
Los Angeles	122	117	422	116
Madera	5	5	100	
Marin		5		
Merced		5	12	33
Monterey	1			
Napa		1	4	
Nevada		2		1
Orange	29	84	416	
Placer	6	30	103	7
Riverside	4	16	32	
Sacramento	22	411	455	3
San Bernardino	7	5	79	20
San Diego	14	259	65	9
San Joaquin	7	36	350	
San Mateo		13	5	
Santa Clara	1	88	13	1
Santa Cruz		2	3	
Shasta	1	3	12	3
Solano	3	13	16	10
Sonoma		8	2	
Stanislaus	22	14	259	
Sutter	10	10	68	33
Tehama	5			8
Tulare	9	3	260	
Ventura	2	34		
Yolo	13	72	259	4
Yuba	9	4	18	13
<b>Totals</b>	<b>347</b>	<b>1,329</b>	<b>3,446</b>	<b>328</b>

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2015 & 2016 YTD West Nile Virus Comparisons		
	2015	2016
Total # Dead Bird Reports	9,961	8,728
# Positive Counties	40	38
# Human Cases	421	347
# Positive Dead Birds / # Tested	1,192 / 2,922	1,329 / 2,745
# Positive Mosquito Pools / # Tested	2,972 / 35,280	3,446 / 41,669
# Seroconversions / # Tested	379 / 11,311	328 / 9,950

### TESTING SUMMARIES

#### Humans

		WNV	SLE	WEE
Number of Cases Reported	Week	20	0	0
	YTD	347	1	0

#### Dead Birds

		Total Tested	WNV Positive
Dead Birds	Week	27	7
	YTD	2,745	1,329

#### Sentinel Chickens

		Total Tested	WNV +	SLEV +	WEEV +
Chicken Sera	Week	300	5	0	0
	YTD	9,950	328	4	0

#### Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	8 / 668	3 / 585	0 / 585	0 / 71	0 / 71	0 / 71
		YTD	3,446 / 41,669	179 / 27,087	0 / 27,087	0 / 714	0 / 714	0 / 714

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### NEW POSITIVES

#### Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Lake	Lake Co VCD	Lakeport	95453	American Crow	10/7/2016	WNV
Orange	Orange Co VCD	La Palma	90623	American Crow	10/3/2016	WNV
Orange	Orange Co VCD	Lake Forest	92630	Mourning Dove	10/11/2016	WNV
San Diego	San Diego Co VCP	Santee	92071	American Crow	10/17/2016	WNV
San Diego	San Diego Co VCP	Valley Center	92082	American Crow	10/18/2016	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95124	American Crow	10/13/2016	WNV
Ventura	Ventura Co Env Health Dept	Simi Valley	93065	American Crow	10/12/2016	WNV

#### Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2416	5869	Cx. quinquefasciatus	Panorama City	50	GRVD	10/14/2016	WNV
Los Angeles	GRLA2512	5855	Cx. quinquefasciatus	Los Angeles	38	GRVD	10/13/2016	WNV
Los Angeles	GRLA2574	5864	Cx. quinquefasciatus	Sherman Oaks	49	GRVD	10/14/2016	WNV
Los Angeles	GRLA2937	5858	Cx. quinquefasciatus	Burbank	48	GRVD	10/13/2016	WNV
Los Angeles	GRLA3051	896	Cx. quinquefasciatus	Signal Hill	23	GRVD	10/13/2016	WNV
Los Angeles	GRLA3070	900	Cx. quinquefasciatus	Commerce	50	GRVD	10/14/2016	WNV
Los Angeles	LACW1049	488	Cx. quinquefasciatus	Inglewood	50	GRVD	10/11/2016	WNV
Los Angeles	LACW1054	497	Cx. quinquefasciatus	Inglewood	50	CO2	10/13/2016	WNV
Madera	MADR259	450	Cx. quinquefasciatus	Madera	50	CO2	10/12/2016	SLEV
Riverside	COAV33	3917	Cx. tarsalis	Mecca	50	CO2	10/18/2016	SLEV
Riverside	COAV420	3994	Cx. quinquefasciatus	La Quinta	50	GRVD	10/20/2016	SLEV

#### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Los Angeles	LACW1003	Redondo Beach	10/4/2016	WNV	2314
Los Angeles	LACW1012	Venice	10/11/2016	WNV	2356
Los Angeles	LACW1049	Inglewood	10/12/2016	WNV	2379
Sacramento	SAYO261013	Isleton	10/19/2016	WNV	1333
Santa Clara	STCL3965	Sunnyvale	10/11/2016	WNV	2223

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### 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.

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**Dead Birds**

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the University of California, Davis Arbovirus Research and Training laboratory (DART) for West Nile virus by the singleplex RT-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.

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**Sentinel Chickens:**

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

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**Mosquito Pools:**

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

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*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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