

# California Arbovirus Surveillance Bulletin #1

Week 14 Friday, April 7, 2017



## Weekly Update

### **Humans**

No human infections have been reported in 2017.

### 2016 Final Summary

**West Nile virus:** In 2016, a total of 442 symptomatic and 41 asymptomatic infections with West Nile virus (WNV) were identified, a 44% decrease in infections compared to 2015. Of the 442 clinical cases, 113 (26%) were classified as West Nile fever and 329 (74%) were classified as West Nile neuroinvasive disease (i.e., encephalitis, meningitis, or acute flaccid paralysis). Case-patients were residents of 30 counties and 271 (61%) were male. The median age for West Nile fever cases was 57 years (range, 14 to 91 years), and neuroinvasive cases was 60 years (range, 2 to 94 years). The median age of the 19 WNV-associated fatalities was 76 years (range, 32 to 94 years). Dates of symptom onset ranged from June 12–December 9, 2016.

**St. Louis encephalitis virus:** Three clinical cases of St. Louis encephalitis virus (SLEV) disease were identified in 2016. These were the first human cases of SLEV disease reported in California since 1997. Case-patients were residents of three counties and two were male. The median age was 68 years (range, 59 to 77 years) and one fatality was reported. Dates of symptom onset ranged from July 1–September 2, 2016.

### **Dead Birds**

A total of three WNV positive dead birds have been detected thus far in 2017 from three counties: Orange (1), San Diego (1), and San Mateo (1). At this time last year, 12 WNV positive birds had been reported from four counties.

The WNV and Dead Bird Hotline will begin taking live calls starting April 17<sup>th</sup>. The public can report dead birds via the hotline (877-WNV-BIRD) or website ([www.westnile.ca.gov](http://www.westnile.ca.gov).)

### **Mosquito Pools**

No positive mosquito pools have been reported in 2017.

### **Sentinel Chickens**

No seroconversions have been reported in 2017.

*Website Information:* For updated information on WNV 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 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	967	721
# Positive Counties	4	3
# Human Cases	0	0
# Positive Dead Birds / # Tested	12 / 127	3 / 78
# Positive Mosquito Pools / # Tested	0 / 1,324	0 / 2,198
# Seroconversions / # Tested	0 / 133	0 / 64

YTD WNV Activity by Element and County, 2017				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Orange		1		
San Diego		1		
San Mateo		1		
<b>Totals</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>

## TESTING SUMMARIES

### Humans

		WNV	SLE	WEE
Human Cases	Week	0	0	0
	YTD	0	0	0

### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	14	0
	YTD	78	3

### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	0	0	0	0
	YTD	64	0	0	0

### Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	0 / 709	0 / 695	0 / 666	0 / 36	0 / 36	0 / 36
		YTD	0 / 2,198	0 / 2,160	0 / 2,131	0 / 285	0 / 285	0 / 285

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## POSITIVES

### Dead Birds

County	Agency	City	Zip Code	Species	Collected	Virus
Orange	Orange VCD	Irvine	92618	American Crow	1/5/2017	WNV
San Diego	San Diego Co. VCP	Valley Center	92082	Red-tailed Hawk	2/2/2017	WNV
San Mateo	San Mateo MVCD	Redwood City	94061	American Crow	1/30/2017	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.

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### Dead Birds

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the UC Davis Center for Vectorborne Diseases (CVEC) 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 submitted to the California Department of Public Health Vector-Borne Disease Laboratory and tested for the presence of antibodies to West Nile, western equine encephalomyelitis, and St. Louis encephalitis viruses by EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

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### Mosquito Pools:

Mosquito pools are submitted to CVEC and screened for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a Taqman multiplex RT-PCR. CVEC no longer performs confirmatory testing on PCR-positive pools of *Cx. tarsalis* and *Cx. quinquefasciatus* but will continue to confirm multiplex PCR-positive results for other mosquito species using singleplex RT-PCR.

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