

## California Arbovirus Surveillance Bulletin #28

Week 41 Friday, October 12, 2018



### Weekly Update

#### **Humans**

##### West Nile virus

A total of 14 human cases of West Nile virus (WNV) illness were reported this week from 5 counties: Fresno (2), Los Angeles (9), Nevada (1), Orange (1), and Yuba (1). **This is the first human WNV case reported from Nevada County this year.** In 2018, a total of 132 human WNV cases have been reported from 27 counties. Of the 132 case patients, 90 (68%) had neuroinvasive illness and 5 (3.8%) fatalities have been reported. The median age of the individuals is 59 years (range: 1–90 years) and 85 (64%) are male. Dates of symptom onset ranged from May 6 – September 22. In addition to the 132 cases, 20 asymptomatic infections have been reported from Butte (5), Contra Costa (2), Fresno (1), Los Angeles (3), Orange (2), Riverside (1), Sacramento (1), San Joaquin (1), Stanislaus (3), and Yolo (1) counties. At this time last year, 315 human WNV cases had been reported from 21 counties.

##### St. Louis encephalitis virus

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

#### **Dead Birds**

A total of 5 WNV positive dead birds were reported this week from 4 counties: Alameda (2), Los Angeles (1), Sacramento (1), and San Joaquin (1). In 2018, a total of 483 WNV positive dead birds have been reported from 20 counties. At this time last year, 463 WNV positive dead birds had been reported from 38 counties.

#### **Mosquito Pools**

##### West Nile virus

A total of 8 WNV positive mosquito pools were reported this week from 4 counties: Fresno (1), Los Angeles (4), Sacramento (1), and San Joaquin (2). In 2018, 1,947 mosquito pools have tested positive for WNV from 29 counties. At this time last year, 3,291 WNV positive mosquito pools had been reported from 26 counties.

##### St. Louis encephalitis virus

A total of 8 SLEV positive mosquito pools were reported this week from 2 counties: Fresno (6) and Riverside (2). In 2018, 383 SLEV positive mosquito pools have been reported from 8 counties: Fresno (55), Imperial (3), Kern (65), Kings (27), Los Angeles (1), Madera (14), Riverside (56), and Tulare (162). At this time last year, 178 SLEV positive mosquito pools had been reported from 14 counties.

#### **Sentinel Chickens**

##### West Nile virus

A total of 9 WNV seroconversions were reported this week from 6 flocks located in 3 counties: Los Angeles (7), Santa Clara (1), and Solano (1). In 2018, 150 WNV positive chickens have been reported from 16 counties. At this time last year, 287 WNV positive chickens had been reported from 17 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	6,961	7,237
# Positive Counties	45	39
# Human Cases	315	132
# Positive Dead Birds / # Tested	463 / 1,825	483 / 1,923
# Positive Mosquito Pools / # Tested	3,291 / 41,525	1,947 / 39,616
# Seroconversions / # Tested	287 / 10,035	150 / 8,856

<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			19	15	
Amador	1	1			
Butte	10		4	48	33
Colusa					5
Contra Costa	3		13	17	16
El Dorado			2		
Fresno	5			118	
Glenn	2			4	
Humboldt	1		1		
Imperial				1	
Kern	5	1	1	48	
Kings				22	
Lake	1			4	1
Los Angeles	35		18	65	24
Madera	2			55	
Merced	2	2		12	16
Nevada	1				
Orange	6		11	96	
Placer	8	1	43	230	4
Riverside	11		5	35	
Sacramento	2	2	241	300	4
San Benito					1
San Bernardino	3			12	
San Diego				3	
San Joaquin	9	1	15	529	
San Mateo			5	2	
Santa Clara	1		51	5	8
Santa Cruz			2		
Shasta	1	1	5	8	4
Solano				3	6
Sonoma				1	
Stanislaus	8	1	1	111	
Sutter			4	28	20
Tehama	1				1
Tulare	3			77	
Tuolumne	1		1		
Ventura	1				
Yolo	7		41	90	5
Yuba	2			8	2
<b>Totals</b>	<b>132</b>	<b>10</b>	<b>483</b>	<b>1,947</b>	<b>150</b>

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## TESTING SUMMARIES

### Humans

		WNV	SLE	WEE
Human Cases	Week	14	0	0
	YTD	132	1	0

### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	48	5
	YTD	1,923	483

### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	336	9	0	0
	YTD	8,856	150	1	0

### Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	8 / 830	8 / 830	0 / 687	0 / 122	0 / 122	0 / 122
		YTD	1,947 / 39,616	383 / 31,781	0 / 27,036	0 / 1,665	0 / 1,665	0 / 1,665

## New Positives

### Dead Birds

County	Submitting Agency	City	Zip Code	Species	Reported	Virus
Alameda	Alameda Co MAD	Hayward	94544	House Sparrow	10/3/2018	WNV
Alameda	Alameda Co MAD	Oakland	94618	American Crow	10/3/2018	WNV
Los Angeles	Los Angeles Co West VCD	Venice	90291	American Crow	10/5/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Citrus Heights	95610	American Crow	10/9/2018	WNV
San Joaquin	San Joaquin Co MVCD	Stockton	95219	American Crow	10/7/2018	WNV

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### Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL0	391	Cx. stigmatosoma		3	BGSENT	9/24/18	SLEV
Fresno	CNSL0	420	Cx. tarsalis		10	BGSENT	9/24/18	SLEV
Fresno	CNSL0	427	Cx. tarsalis		7	BGSENT	9/24/18	SLEV
Fresno	CNSL0	540	Cx. tarsalis		7	BGSENT	9/24/18	SLEV
Fresno	CNSL0	546	Cx. tarsalis		6	BGSENT	9/24/18	SLEV
Fresno	CNSL3076	1200	Cx. quinquefasciatus	Orange Cove	50	GRVD	10/4/18	WNV
Fresno	FRWS220001	447	Cx. tarsalis	Firebaugh	50	CO2	10/9/18	SLEV
Los Angeles	GRLA2228	980	Cx. quinquefasciatus	Diamond Bar	50	GRVD	10/5/18	WNV
Los Angeles	GRLA3028	5958	Cx. quinquefasciatus	West Hills	24	GRVD	10/3/18	WNV
Los Angeles	LACW1006	283	Cx. quinquefasciatus	Playa Del Rey	25	GRVD	10/2/18	WNV
Los Angeles	LACW1049	286	Cx. quinquefasciatus	Inglewood	50	GRVD	10/2/18	WNV
Riverside	COAV46	4421	Cx. tarsalis	Mecca	48	CO2	10/10/18	SLEV
Riverside	COAV611	4455	Cx. tarsalis	Mecca	50	CO2	10/10/18	SLEV
Sacramento	SAYO252014	6735	Cx. tarsalis	Walnut Grove	50	CO2	10/5/18	WNV
San Joaquin	SJCM8049	3218	Cx. tarsalis	Stockton	27	CO2	10/9/18	WNV
San Joaquin	SJCM8212	3313	Cx. tarsalis	Ripon	7	CO2	10/11/18	WNV

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03
Los Angeles	GRLA2651	Encino	10/3/2018	WNV	2853		
Los Angeles	LACW1007	Baldwin Hills	10/4/2018	WNV	1639		
Los Angeles	LACW1012	Venice	10/3/2018	WNV	1655	1656	
Los Angeles	LACW1026	Los Angeles	10/4/2018	WNV	1674	1676	1677
Santa Clara	STCL3965	Sunnyvale	10/9/2018	WNV	2016		
Solano	SOLA0125	Cordelia	9/27/2018	WNV	1492		

## 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 with a plaque reduction neutralization test (PRNT).

#### 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.

#### 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/arbovet/maps/ADB\\_Diseases\\_Map/index.html](https://wwwn.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html)*

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