

## California Arbovirus Surveillance Bulletin #27

Week 40 Friday, October 5, 2018



### Weekly Update

#### **Humans**

**A human case of St. Louis encephalitis virus (SLEV) disease was reported this week from Los Angeles County.** This is the first human case of SLEV disease reported in California in 2018. At this time last year, no SLEV disease cases had been reported.

#### West Nile Virus

A total of 4 human cases of West Nile virus (WNV) illness were reported this week from 3 counties: Contra Costa (1), Riverside (2), and Santa Clara (1). **This is the first human WNV case reported from Santa Clara County this year.** In 2018, a total of 118 human WNV cases have been reported from 26 counties. Of the 118 case patients, 79 (67%) had neuroinvasive illness and 5 (4.2%) fatalities have been reported. The median age of the individuals is 59 years (range: 1–90 years) and 76 (64%) are male. Dates of symptom onset ranged from May 6 – September 15. In addition to the 118 cases, 19 asymptomatic infections have been reported from Butte (5), Contra Costa (2), Fresno (1), Los Angeles (3), Orange (2), Sacramento (1), San Joaquin (1), Stanislaus (3), and Yolo (1) counties. At this time last year, 258 human WNV cases had been reported from 20 counties.

#### **Dead Birds**

A total of 9 WNV positive dead birds were reported this week from 5 counties: Los Angeles (2), Placer (1), Sacramento (2), Santa Clara (3), and Yolo (1). In 2018, a total of 478 WNV positive dead birds have been reported from 20 counties. At this time last year, 449 WNV positive dead birds had been reported from 38 counties.

#### **Mosquito Pools**

##### West Nile virus

A total of 50 WNV positive mosquito pools were reported this week from 8 counties: Fresno (1), Los Angeles (4), Madera (3), Orange (16), Sacramento (3), San Joaquin (18), Sonoma (1), and Stanislaus (4). **This is the first detection of WNV activity in Sonoma County this year.** In 2018, 1,939 mosquito pools have tested positive for WNV from 29 counties. At this time last year, 3,234 WNV positive mosquito pools had been reported from 26 counties.

##### St. Louis encephalitis virus

A total of 5 SLEV positive mosquito pools were reported this week from 2 counties: Madera (2) and Tulare (3). In 2018, 375 SLEV positive mosquito pools have been reported from 8 counties: Fresno (49), Imperial (3), Kern (65), Kings (27), Los Angeles (1), Madera (14), Riverside (54), and Tulare (162). At this time last year, 175 SLEV positive mosquito pools had been reported from 14 counties.

#### **Sentinel Chickens**

##### West Nile virus

A total of 2 WNV seroconversions were reported this week from 2 flocks located in 2 counties: Contra Costa (1) and Tehama (1). **This is the first WNV positive chicken reported from Tehama County this year.** In 2018, 141 WNV positive chickens have been reported from 16 counties. At this time last year, 282 WNV positive chickens had been reported from 17 counties.

##### St. Louis encephalitis virus

No new seroconversions were reported this week. In 2018, 1 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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2017 & 2018 YTD West Nile Virus Comparisons		
	2017	2018
Total # Dead Bird Reports	6,778	7,020
# Positive Counties	45	38
# Human Cases	258	118
# Positive Dead Birds / # Tested	449 / 1,766	478 / 1,875
# Positive Mosquito Pools / # Tested	3,234 / 40,050	1,939 / 38,786
# Seroconversions / # Tested	282 / 9,707	141 / 8,520

YTD WNV Activity by Element and County, 2018					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			17	15	
Amador	1	1			
Butte	10		4	48	33
Colusa					5
Contra Costa	3		13	17	16
El Dorado			2		
Fresno	3			117	
Glenn	2			4	
Humboldt	1		1		
Imperial				1	
Kern	5	1	1	48	
Kings				22	
Lake	1			4	1
Los Angeles	26		17	61	17
Madera	2			55	
Merced	2	2		12	16
Orange	5		11	96	
Placer	8	1	43	230	4
Riverside	11		5	35	
Sacramento	2	2	240	299	4
San Benito					1
San Bernardino	3			12	
San Diego				3	
San Joaquin	9	1	14	527	
San Mateo			5	2	
Santa Clara	1		51	5	7
Santa Cruz			2		
Shasta	1	1	5	8	4
Solano				3	5
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	1			8	2
<b>Totals</b>	<b>118</b>	<b>10</b>	<b>478</b>	<b>1,939</b>	<b>141</b>

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## TESTING SUMMARIES

### Humans

		WNV	SLE	WEE
Human Cases	Week	4	1	0
	YTD	118	1	0

### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	26	9
	YTD	1,875	478

### Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	344	2	0	0
	YTD	8,520	141	1	0

### Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	50 / 1,727	5 / 1,222	0 / 1,013	0 / 0	0 / 0	0 / 0
		YTD	1,939 / 38,786	375 / 30,951	0 / 26,349	0 / 1,543	0 / 1,543	0 / 1,543

## New Positives

### Dead Birds

County	Submitting Agency	City	Zip Code	Species	Reported	Virus
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90036	Common Raven	9/19/2018	WNV
Los Angeles	Los Angeles Co Veterinarian	Tarzana	91356	American Crow	10/2/2018	WNV
Placer	Placer MVCD	Granite Bay	95746	House Finch	9/25/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95811	American Crow	9/27/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95823	House Sparrow	10/1/2018	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94086	American Crow	9/30/2018	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	American Crow	9/28/2018	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95126	American Crow	9/28/2018	WNV
Yolo	Sacramento-Yolo MVCD	Woodland	95776	American Crow	10/1/2018	WNV

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**Mosquito Pools**

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	FRWS400017	438	Cx. quinquefasciatus	Mendota	50	CO2	10/2/18	WNV
Los Angeles	GRLA2724	5913	Cx. quinquefasciatus	Winnetka	26	GRVD	9/26/18	WNV
Los Angeles	GRLA2962	5919	Cx. quinquefasciatus	Chatsworth	15	GRVD	9/26/18	WNV
Los Angeles	GRLA3035	5907	Cx. quinquefasciatus	North Hills	33	GRVD	9/25/18	WNV
Los Angeles	LACW1054	276	Cx. quinquefasciatus	Inglewood	50	CO2	9/27/18	WNV
Madera	MADR192	370	Cx. tarsalis	Madera	10	CO2	9/28/18	SLEV
Madera	MADR192	370	Cx. tarsalis	Madera	10	CO2	9/28/18	WNV
Madera	MADR3334	355	Cx. quinquefasciatus	Madera	50	CO2	9/25/18	SLEV
Madera	MADR896	353	Cx. tarsalis	Mendota	50	CO2	9/25/18	WNV
Madera	MADR904	378	Cx. quinquefasciatus	Madera	50	CO2	9/25/18	WNV
Orange	ORCO1008	4399	Cx. quinquefasciatus	Fullerton	23	GRVD	9/26/18	WNV
Orange	ORCO1008	4400	Cx. quinquefasciatus	Fullerton	25	GRVD	9/26/18	WNV
Orange	ORCO1008	4403	Cx. quinquefasciatus	Fullerton	27	GRVD	9/26/18	WNV
Orange	ORCO1008	4404	Cx. quinquefasciatus	Fullerton	42	GRVD	9/26/18	WNV
Orange	ORCO1008	4407	Cx. quinquefasciatus	Fullerton	39	GRVD	9/26/18	WNV
Orange	ORCO1008	4545	Cx. quinquefasciatus	Fullerton	26	GRVD	10/2/18	WNV
Orange	ORCO1008	4549	Cx. quinquefasciatus	Fullerton	43	GRVD	10/2/18	WNV
Orange	ORCO1008	4550	Cx. quinquefasciatus	Fullerton	23	GRVD	10/2/18	WNV
Orange	ORCO1040	4311	Cx. quinquefasciatus	Orange	50	GRVD	9/25/18	WNV
Orange	ORCO202	4390	Cx. quinquefasciatus	Fullerton	44	GRVD	9/26/18	WNV
Orange	ORCO202	4557	Cx. quinquefasciatus	Fullerton	50	GRVD	10/2/18	WNV
Orange	ORCO202	4560	Cx. quinquefasciatus	Fullerton	44	GRVD	10/2/18	WNV
Orange	ORCO297	4494	Cx. quinquefasciatus	Anaheim	10	GRVD	10/2/18	WNV
Orange	ORCO3	4363	Cx. quinquefasciatus	Garden Grove	28	GRVD	9/26/18	WNV
Orange	ORCO302	4346	Cx. quinquefasciatus	Anaheim	16	GRVD	9/25/18	WNV
Orange	ORCO84	4302	Cx. quinquefasciatus	Orange	27	GRVD	9/25/18	WNV
Sacramento	SAYO205033	6414	Cx. pipiens	Orangevale	21	GRVD	9/27/18	WNV
Sacramento	SAYO233099	6456	Cx. pipiens	Elk Grove	23	GRVD	9/27/18	WNV
Sacramento	SAYO233101	6444	Cx. pipiens	Elk Grove	50	CO2	9/27/18	WNV
San Joaquin	SJCM8003	3065	Cx. pipiens	Tracy	28	CO2	10/2/18	WNV
San Joaquin	SJCM8022	3078	Cx. tarsalis	Holt	50	CO2	10/2/18	WNV
San Joaquin	SJCM8029	3178	Cx. pipiens	Farmington	34	CO2	10/4/18	WNV
San Joaquin	SJCM8191	3137	Cx. tarsalis	Lodi	50	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3045	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3046	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3047	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3048	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3049	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3050	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3051	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3052	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3054	Cx. tarsalis	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3057	Cx. pipiens	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3058	Cx. pipiens	Lodi	100	CO2	10/2/18	WNV
San Joaquin	SJCM8206	3059	Cx. pipiens	Lodi	56	CO2	10/2/18	WNV

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San Joaquin	SJCM8210	3169	Cx. pipiens	Escalon	50	CO2	10/4/18	WNV
San Joaquin	SJCM8218	3159	Cx. pipiens	Escalon	50	CO2	10/4/18	WNV
Sonoma	MARN560	594	Cx. stigmatosoma	Petaluma	11	GRVD	10/2/18	WNV
Stanislaus	TRLK305	1829	Cx. tarsalis	Grayson	50	CO2	10/2/18	WNV
Stanislaus	TRLK312	1783	Cx. tarsalis	Newman	50	CO2	9/27/18	WNV
Stanislaus	TRLK424	1826	Cx. pipiens	Patterson	48	CO2	9/27/18	WNV
Stanislaus	TRLK806	1720	Cx. pipiens	Grayson	42	CO2	9/27/18	WNV
Tulare	DLTA6408	3669	Cx. quinquefasciatus	Dinuba	20	GRVD	9/27/18	SLEV
Tulare	DLTA8519	3441	Cx. quinquefasciatus	Visalia	21	BGSENT	9/20/18	SLEV
Tulare	DLTA9412	3647	Cx. quinquefasciatus	Visalia	26	BGSENT	9/27/18	SLEV

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Contra Costa	CNTR7402	Oakley	9/24/2018	WNV	1413
Tehama	TEHA0001	Red Bluff	9/25/2018	WNV	2088

## 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.

### 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.

*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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