

California Arbovirus Surveillance Bulletin #33

Week 46 Friday, November 15, 2019



Weekly Update

Humans

West Nile virus

A total of 10 human cases of West Nile virus (WNV) illness were reported this week from 7 counties: Fresno (1), Kern (3), Kings (1), Los Angeles (1), Merced (2), Santa Clara (1), and Ventura (1). **These are the first WNV human cases reported from Kings and Santa Clara counties this year.** In 2019, 194 WNV cases have been reported from 23 counties. Of the 194 reported cases, 129 (67%) had neuroinvasive disease and 6 (3.1%) fatalities have been reported. The median age of the individuals is 58 years (range: 10–93 years) and 117 (60%) are male. Dates of symptom onset range from May 12 to October 20. In addition to the 194 cases, 17 asymptomatic infections have also been reported from Butte (1), El Dorado (1), Kern (3), Madera (1), Merced (1), Orange (2), San Bernardino (4), San Joaquin (1), Stanislaus (1), Sutter (1), and Tulare (1) counties. At this time last year, 182 human cases had been reported from 31 counties.

St. Louis encephalitis virus

No new cases were reported this week. In 2019, 6 human cases of St. Louis encephalitis virus (SLEV) disease have been reported from 4 counties: Fresno (2), Kern (1), Imperial (2), and Stanislaus (1). Of the 6 reported cases, 6 (100%) had neuroinvasive disease. The median age of the individuals is 64 years and dates of symptom onset range from July 14 to September 13. No fatalities have been reported. At this time last year, 1 SLEV human case had been reported from 1 county.

Dead Birds

A total of 3 WNV positive dead birds were reported this week from two counties: Orange (2), and San Diego (1). In 2019, a total of 214 WNV positive dead birds have been reported from 21 counties. At this time last year, 497 WNV positive dead birds had been reported from 21 counties.

Mosquito Pools

West Nile virus

No WNV positive mosquito pools were reported this week. In 2019, a total of 3,283 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 1,960 WNV positive mosquito pools had been reported from 29 counties.

St. Louis encephalitis virus

One SLEV positive mosquito pool was reported this week from Riverside County. In 2019, a total of 356 SLEV positive mosquito pools have been reported from 12 counties: Fresno (58), Imperial (5), Kern (56), Kings (4), Los Angeles (2), Madera (5), Merced (2), Orange (3), Riverside (108), San Bernardino (4), Stanislaus (13), and Tulare (96). At this time last year, 387 SLEV positive mosquito pools had been reported from 8 counties.

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Sentinel Chickens

West Nile virus

No new WNV seroconversions were reported this week. In 2019, 136 WNV positive chickens have been reported from 17 counties. At this time last year, 161 WNV positive chickens had been reported from 16 counties.

St. Louis encephalitis virus

No new SLEV seroconversions were reported this week. In 2019, 3 SLEV positive chickens have been reported from 1 county (Merced). At this time last year, 1 SLEV positive chicken had been reported from 1 county.

2018 & 2019 YTD West Nile Virus Comparisons		
	2018	2019
Total # Dead Bird Reports	7,812	5,387
# Positive Counties	41	33
# Human Cases	182	194
# Positive Dead Birds / # Tested	497 / 2,081	214 / 1,728
# Positive Mosquito Pools / # Tested	1,960 / 41,767	3,283 / 42,316
# Seroconversions / # Tested	161 / 9,950	136 / 8,938

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YTD WNV Activity by Element and County, 2019					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Amador	1				
Butte	5		1	44	34
Colusa	1				6
Contral Costa			1	1	2
Fresno	49	2	10	495	
Glenn				1	1
Imperial	3			2	
Kern	23	2	2	128	
Kings	1			63	
Lake				6	
Los Angeles	28		45	94	25
Madera	2	2		85	
Merced	10	1	3	48	16
Orange	5		48	203	
Placer	1		3	53	8
Riverside	10	1	4	524	
Sacramento	2	1	44	74	4
San Benito					1
San Bernardino	5	1	4	52	
San Diego	2		2		
San Joaquin	7	1	5	288	
San Luis Obispo	2				
Santa Clara	1		8		
Shasta			1	3	1
Solano	1			5	4
Stanislaus	16	2	4	203	
Sutter				15	11
Tehama					4
Tulare	17		17	814	10
Tuolumne		1	1		
Ventura	2	1	1	1	3
Yolo			7	59	1
Yuba			3	22	5
Totals	194	15	214	3,283	136

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TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	10	0	0
	YTD	194	6	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	23	3
	YTD	1,728	214

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	118	0	0	0
	YTD	8,958	136	3	0

Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		0 / 103	1 / 103	0 / 103	0 / 0	0 / 0	0 / 0
		YTD	3,283 / 42,316	356 / 38,508	0 / 35,717	0 / 877	0 / 877

POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Orange	Orange Co VCD	Fullerton	92833	American Robin	11/1/2019	WNV
Orange	Orange Co VCD	Garden Grove	92841	American Crow	11/5/2019	WNV
San Diego	San Diego Co VCP	Ramona	92065	Cooper's Hawk	11/8/2019	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Riverside	COAV0057	6356	Cx. tarsalis	Mecca	28	CO2	11/13/19	SLEV

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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 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.

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Website Information: For updated information on WNV in California, please visit the California WNV website, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC websites: www.cdc.gov and https://www.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html