

California Arbovirus Surveillance Bulletin #32

Week 45 Friday, November 8, 2019



Weekly Update

Humans

West Nile virus

A total of 7 human cases of West Nile virus (WNV) illness were reported this week from 4 counties: Fresno (2), Kern (1), Los Angeles (3), and Placer (1). **This is the first WNV human case reported from Placer County this year.** In 2019, 184 WNV cases have been reported from 21 counties. Of the 184 reported cases, 120 (65%) had neuroinvasive disease and 5 (2.7%) fatalities have been reported. The median age of the individuals is 59 years (range: 10–93 years) and 110 (60%) are male. Dates of symptom onset range from May 12 to October 20. In addition to the 184 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, 174 human cases had been reported from 31 counties.

St. Louis encephalitis virus

One human case of St. Louis encephalitis virus (SLEV) disease was reported this week from Stanislaus County. **This is the first SLEV human case reported from Stanislaus County this year.** In 2019, 6 SLEV cases 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

One WNV positive dead bird was reported this week from Santa Clara County. In 2019, a total of 211 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

A total of 14 WNV positive mosquito pools were reported this week from 3 counties: Los Angeles (4), Orange (9), and Riverside (1). 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

No new positives were reported this week. In 2019, a total of 355 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 (107), 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

One WNV seroconversion was reported this week from Los Angeles County. In 2019, 136 WNV positive chickens have been reported from 17 counties. At this time last year, 158 WNV positive chickens had been reported from 16 counties.

St. Louis encephalitis virus

No new 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	7,730	5,304
# Positive Counties	41	33
# Human Cases	174	184
# Positive Dead Birds / # Tested	497 / 2,073	211 / 1,705
# Positive Mosquito Pools / # Tested	1,960 / 41,661	3,283 / 42,223
# Seroconversions / # Tested	158 / 9,845	136 / 8,840

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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	48	2	10	495	
Glenn				1	1
Imperial	3			2	
Kern	20	2	2	128	
Kings				63	
Lake				6	
Los Angeles	27		45	94	25
Madera	2	2		85	
Merced	8	1	3	48	16
Orange	5		46	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		1		
San Joaquin	7	1	5	288	
San Luis Obispo	2				
Santa Clara			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	1	1	1	1	3
Yolo			7	59	1
Yuba			3	22	5
Totals	184	15	211	3,283	136

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TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	7	1	0
	YTD	184	6	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	12	1
	YTD	1,705	211

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	198	1	0	0
	YTD	8,840	136	3	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	14 / 232	0 / 232	0 / 232	0 / 19	0 / 19	0 / 19
		YTD	3,283 / 42,223	355 / 38,415	0 / 35,624	0 / 877	0 / 877	0 / 877

POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Santa Clara	Santa Clara Co VCD	San Jose	951423	House Sparrow	11/5/2019	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2007	6066	Cx. quinquefasciatus	Los Angeles	23	GRVD	10/30/19	WNV
Los Angeles	GRLA2268	1174	Cx. quinquefasciatus	Cerritos	25	GRVD	10/30/19	WNV
Los Angeles	GRLA3084	1191	Cx. quinquefasciatus	Commerce	42	GRVD	10/31/19	WNV

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Los Angeles	LACW1047	732	Cx. quinquefasciatus	Inglewood	32	CO2	10/31/19	WNV
Orange	ORCO1009	5012	Cx. quinquefasciatus	Garden Grove	33	GRVD	10/22/19	WNV
Orange	ORCO231	4850	Cx. quinquefasciatus	Rossmoor	24	GRVD	10/15/19	WNV
Orange	ORCO235	5137	Cx. quinquefasciatus	Stanton	24	GRVD	10/29/19	WNV
Orange	ORCO235	5139	Cx. quinquefasciatus	Stanton	16	GRVD	10/29/19	WNV
Orange	ORCO29	4933	Cx. quinquefasciatus	Santa Ana	42	CO2	10/17/19	WNV
Orange	ORCO29	5093	Cx. quinquefasciatus	Santa Ana	27	CO2	10/24/19	WNV
Orange	ORCO303	5185	Cx. quinquefasciatus	Garden Grove	17	GRVD	10/29/19	WNV
Orange	ORCO52	4905	Cx. quinquefasciatus	Anaheim	52	GRVD	10/15/19	WNV
Orange	ORCO52	4992	Cx. quinquefasciatus	Anaheim	30	GRVD	10/22/19	WNV
Riverside	RIVR39	658	Cx. tarsalis	Moreno Valley	31	CO2	10/29/19	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Los Angeles	GRLA2465	Los Feliz	10/29/19	WNV	3448

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://wwwn.cdc.gov/arbonet/maps/ADB_Diseases_Map/index.html