

California Arbovirus Surveillance Bulletin #34

Week 48 Friday, November 30, 2018



Weekly Update

Humans

West Nile virus

A total of 7 human cases of West Nile virus (WNV) illness were reported this week from 3 counties: Fresno (5), Kern (1), and Tulare (1). In 2018, a total of 189 human WNV cases have been reported from 31 counties. Of the 189 case patients, 133 (70%) had neuroinvasive illness and 8 (4.4%) fatalities have been reported. The median age of the individuals is 60 years (range: 1–91 years) and 121 (64%) are male. Dates of symptom onset ranged from May 6 – October 28. In addition to the 182 cases, 21 asymptomatic infections have been reported from Butte (5), Contra Costa (2), Fresno (1), Los Angeles (4), Orange (2), Riverside (1), Sacramento (1), San Joaquin (1), Stanislaus (3), and Yolo (1) counties. At this time last year, 489 human WNV cases had been reported from 26 counties.

St. Louis encephalitis virus

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

Dead Birds

One WNV positive dead bird was reported from Santa Clara County this week. In 2018, a total of 498 WNV positive dead birds have been reported from 21 counties. At this time last year, 505 WNV positive dead birds had been reported from 39 counties.

Mosquito Pools

West Nile virus

A total of 3 WNV positive mosquito pools were reported this week from Los Angeles County. In 2018, 1,963 mosquito pools have tested positive for WNV from 29 counties. At this time last year, 3,370 WNV positive mosquito pools had been reported from 26 counties.

St. Louis encephalitis virus

No SLEV positive mosquito pools were reported this week. In 2018, 387 SLEV positive mosquito pools have been reported from 8 counties: Fresno (56), Imperial (3), Kern (65), Kings (30), Los Angeles (1), Madera (14), Riverside (56), and Tulare (162). At this time last year, 179 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 Los Angeles County. In 2018, 163 WNV positive chickens have been reported from 16 counties. At this time last year, 305 WNV positive chickens had been reported from 18 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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2017 & 2018 YTD West Nile Virus Comparisons		
	2017	2018
Total # Dead Bird Reports	7,545	7,980
# Positive Counties	47	41
# Human Cases	489	189
# Positive Dead Birds / # Tested	505 / 2,000	498 / 2,139
# Positive Mosquito Pools / # Tested	3,370 / 44,316	1,963 / 42,021
# Seroconversions / # Tested	305 / 11,029	163 / 10,162

YTD WNV Activity by Element and County, 2018					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			20	15	
Amador	1	1			
Butte	10		4	48	37
Colusa					6
Contra Costa	3		13	17	16
El Dorado			2		
Fresno	10			119	
Glenn	2			4	
Humboldt	1		1		
Imperial				1	
Kern	9	1	1	48	
Kings				22	
Lake	1			4	1
Los Angeles	42		19	75	30
Madera	3			55	
Merced	2	2		12	16
Monterey	1				
Napa	1				
Nevada	1				
Orange	9		15	96	
Placer	9	1	44	230	4
Riverside	14		6	36	
Sacramento	8	3	241	300	5
San Benito					1
San Bernardino	6			12	
San Diego	1		1	3	
San Joaquin	13	1	16	533	
San Mateo			5	2	
Santa Clara	1		56	5	8
Santa Cruz			2		
Shasta	1	1	5	8	4
Solano				3	7
Sonoma				1	
Stanislaus	15	1	1	111	
Sutter	1		4	28	20
Tehama	1				1
Tulare	8			77	
Tuolumne	1		1		
Ventura	2				
Yolo	10		41	90	5
Yuba	2			8	2
Totals	189	11	498	1,963	163

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	7	0	0
	YTD	189	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	38	1
	YTD	2,139	498

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	212	2	0	0
	YTD	10,162	163	1	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	3 / 254	0 / 254	0 / 254	0 / 80	0 / 80	0 / 80
		YTD	1,963 / 42,021	387 / 34,171	0 / 29,282	0 / 2,124	0 / 2,124	0 / 2,124

New Positives

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Santa Clara	Santa Clara Co VCD	Campbell	95008	American Crow	11/13/2018	WNV

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA3076	6094	Cx. quinquefasciatus	Valley Glen	50	GRVD	11/20/18	WNV
Los Angeles	LACW1006	394	Cx. quinquefasciatus	Playa Del Rey	50	GRVD	11/13/18	WNV
Los Angeles	LACW1012	399	Cx. quinquefasciatus	Venice	23	GRVD	11/14/18	WNV

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Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02
Los Angeles	LACW1049	Inglewood	11/13/18	WNV	1679	1680

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, 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

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