

California Arbovirus Surveillance Bulletin #31

Week 44 Friday, November 2, 2018



Weekly Update

Humans

West Nile virus

A total of 14 human cases of West Nile virus (WNV) illness were reported this week from 7 counties: Kern (3), Madera (1), San Diego (1), San Joaquin (3), Stanislaus (1), Tulare (4), and Ventura (1). **This is the first human WNV case reported from San Diego County this year.** In 2018, a total of 170 human WNV cases have been reported from 30 counties. Of the 170 case patients, 120 (71%) had neuroinvasive illness and 8 (4.7%) fatalities have been reported. The median age of the individuals is 60 years (range: 1–90 years) and 109 (64%) are male. Dates of symptom onset ranged from May 6 – October 8. In addition to the 170 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, 427 human WNV cases had been reported from 25 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, no human SLEV cases had been reported.

Dead Birds

A total of 3 WNV positive dead birds were reported this week from 2 counties: Alameda (1), and Orange (2). In 2018, a total of 496 WNV positive dead birds have been reported from 20 counties. At this time last year, 484 WNV positive dead birds had been reported from 39 counties.

Mosquito Pools

West Nile virus

A total of 5 WNV positive mosquito pools were reported this week from 2 counties: Los Angeles (4), and Riverside (1). In 2018, 1,959 mosquito pools have tested positive for WNV from 29 counties. At this time last year, 3,350 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

No WNV seroconversions were reported this week. In 2018, 156 WNV positive chickens have been reported from 16 counties. At this time last year, 304 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	7,285	7,642
# Positive Counties	47	40
# Human Cases	427	170
# Positive Dead Birds / # Tested	484 / 1,891	496 / 2,065
# Positive Mosquito Pools / # Tested	3,350 / 43,232	1,959 / 41,403
# Seroconversions / # Tested	304 / 10,757	156 / 9,575

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	34
Colusa					6
Contra Costa	3		13	17	16
El Dorado			2		
Fresno	5			119	
Glenn	2			4	
Humboldt	1		1		
Imperial				1	
Kern	8	1	1	48	
Kings				22	
Lake	1			4	1
Los Angeles	40		19	71	26
Madera	3			55	
Merced	2	2		12	16
Monterey	1				
Nevada	1				
Orange	8		15	96	
Placer	9	1	44	230	4
Riverside	13		6	36	
Sacramento	7	3	241	300	5
San Benito					1
San Bernardino	4			12	
San Diego	1		1	3	
San Joaquin	12	1	16	533	
San Mateo			5	2	
Santa Clara	1		54	5	8
Santa Cruz			2		
Shasta	1	1	5	8	4
Solano				3	7
Sonoma				1	
Stanislaus	12	1	1	111	
Sutter	1		4	28	20
Tehama	1				1
Tulare	7			77	
Tuolumne	1		1		
Ventura	2				
Yolo	10		41	90	5
Yuba	2			8	2
Totals	170	11	496	1,959	156

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	14	0	0
	YTD	170	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	27	3
	YTD	2,065	496

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	175	4	0	0
	YTD	9,575	156	1	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	5 / 518	0 / 514	0 / 514	0 / 6	0 / 6	0 / 6
		YTD	1,959 / 41,403	387 / 33,553	0 / 28,689	0 / 1,745	0 / 1,745	0 / 1,745

New Positives

Dead Birds

County	Submitting Agency	City	Zip Code	Species	Date Reported	Virus
Alameda	Alameda Co MAD	Livermore	94550	American Crow	10/23/2018	WNV
Orange	Orange Co VCD	Anaheim	92805	American Crow	10/31/2018	WNV
Orange	Orange Co VCD	Santa Ana	92706	American Crow	11/2/2018	WNV

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Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2651	6006	Cx. quinquefasciatus	Encino	41	GRVD	10/23/18	WNV
Los Angeles	GRLA3097	6002	Cx. quinquefasciatus	Arleta	50	GRVD	10/17/18	WNV
Los Angeles	LACW1049	346	Cx. quinquefasciatus	Inglewood	50	GRVD	10/23/18	WNV
Los Angeles	LACW1049	347	Cx. quinquefasciatus	Inglewood	40	GRVD	10/23/18	WNV
Riverside	COAV121	4863	Cx. tarsalis	Mecca	50	OTHER	10/26/18	WNV

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/arbovet/maps/ADB_Diseases_Map/index.html

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