

California Arbovirus Surveillance Bulletin #29

Week 42 Friday, October 19, 2018



Weekly Update

Humans

West Nile virus

A total of 11 human cases of West Nile virus (WNV) illness were reported this week from 6 counties: Los Angeles (3), Riverside (1), San Bernardino (1), Stanislaus (3), Sutter (1), and Yolo (2). **This is the first human WNV case reported from Sutter County this year.** In 2018, a total of 143 human WNV cases have been reported from 28 counties. Of the 143 case patients, 99 (69%) had neuroinvasive illness and 6 (4.2%) fatalities have been reported. The median age of the individuals is 59 years (range: 1–90 years) and 92 (64%) are male. Dates of symptom onset ranged from May 6 – September 22. In addition to the 143 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, 361 human WNV cases had been reported from 23 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 7 WNV positive dead birds were reported this week from 6 counties: Los Angeles (1), Orange (1), Placer (1), Riverside (1), San Joaquin (1), and Santa Clara (2). In 2018, a total of 490 WNV positive dead birds have been reported from 20 counties. At this time last year, 473 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 (1) and San Joaquin (4). In 2018, 1,952 mosquito pools have tested positive for WNV from 29 counties. At this time last year, 3,304 WNV positive mosquito pools had been reported from 26 counties.

St. Louis encephalitis virus

A total of 4 SLEV positive mosquito pools were reported this week from 2 counties: Fresno (1) and Kings (3). 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 2 flocks located in 2 counties: Butte (1) and Colusa (1). In 2018, 152 WNV positive chickens have been reported from 16 counties. At this time last year, 295 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	7,088	7,386
# Positive Counties	47	39
# Human Cases	361	143
# Positive Dead Birds / # Tested	473 / 1,855	490 / 1,999
# Positive Mosquito Pools / # Tested	3,304 / 42,000	1,952 / 40,453
# Seroconversions / # Tested	295 / 10,281	152 / 9,157

YTD WNV Activity by Element and County, 2018					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			19	15	
Amador	1	1			
Butte	10		4	48	34
Colusa					6
Contra Costa	3		13	17	16
El Dorado			2		
Fresno	5			118	
Glenn	2			4	
Humboldt	1		1		
Imperial				1	
Kern	5	1	1	48	
Kings				22	
Lake	1			4	1
Los Angeles	38		19	66	24
Madera	2			55	
Merced	2	2		12	16
Nevada	1				
Orange	6		12	96	
Placer	8	1	44	230	4
Riverside	12		6	35	
Sacramento	2	2	241	300	4
San Benito					1
San Bernardino	4			12	
San Diego				3	
San Joaquin	9	1	16	533	
San Mateo			5	2	
Santa Clara	1		53	5	8
Santa Cruz			2		
Shasta	1	1	5	8	4
Solano				3	6
Sonoma				1	
Stanislaus	11	1	1	111	
Sutter	1		4	28	20
Tehama	1				1
Tulare	3			77	
Tuolumne	1		1		
Ventura	1				
Yolo	9		41	90	5
Yuba	2			8	2
Totals	143	10	490	1,952	152

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	11	0	0
	YTD	143	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	76	7
	YTD	1,999	490

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	301	2	0	0
	YTD	9,157	152	1	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	5 / 837	4 / 826	0 / 740	0 / 74	0 / 74	0 / 74
		YTD	1,952 / 40,453	387 / 32,607	0 / 27,776	0 / 1,739	0 / 1,739	0 / 1,739

New Positives

Dead Birds

County	Submitting Agency	City	Zip Code	Species	Reported	Virus
Los Angeles	Los Angeles Co Veterinarian	Venice	90291	American Crow	10/15/2018	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/2/2018	WNV
Placer	Placer MVCD	Rocklin	95765	Purple Finch	10/5/2018	WNV
Riverside	Northwest Mosquito VCD	Riverside	92509	American Crow	10/3/2018	WNV
San Joaquin	San Joaquin Co MVCD	Tracy	95376	American Crow	10/11/2018	WNV
Santa Clara	Santa Clara Co VCD	Santa Clara	95051	American Crow	10/17/2018	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95112	American Crow	10/11/2018	WNV

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Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL0000	1178	Cx. tarsalis		3	BGSENT	9/28/18	SLEV
Kings	KNGS3018	289	Cx. tarsalis	Lemoore	50	CO2	10/1/18	SLEV
Kings	KNGS5506	286	Cx. pipiens	Hanford	50	BGSENT	10/1/18	SLEV
Kings	KNGS8033	304	Cx. pipiens	Hanford	50	CO2	10/8/18	SLEV
Los Angeles	GRLA2580	5972	Cx. quinquefasciatus	Sherman Oaks	50	GRVD	10/10/18	WNV
San Joaquin	SJCM8018	3334	Cx. pipiens	Stockton	25	CO2	10/16/18	WNV
San Joaquin	SJCM8160	3398	Cx. tarsalis	Lodi	50	CO2	10/17/18	WNV
San Joaquin	SJCM8160	3399	Cx. tarsalis	Lodi	51	CO2	10/17/18	WNV
San Joaquin	SJCM8160	3400	Cx. pipiens	Lodi	22	CO2	10/17/18	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Butte	BUCO004	Gridley	10/9/2018	WNV	1544
Colusa	CLSA0001	Colusa	10/8/2018	WNV	1572

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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