

California Arbovirus Surveillance Bulletin #30

Week 43 Friday, October 26, 2018



Weekly Update

Humans

West Nile virus

A total of 13 human cases of West Nile virus (WNV) illness were reported this week from 7 counties: Los Angeles (2), Monterey (1), Orange (2), Placer (1), Riverside (1), Sacramento (5), and Yolo (1). **This is the first human WNV case reported from Monterey County this year.** In 2018, a total of 156 human WNV cases have been reported from 29 counties. Of the 156 case patients, 109 (70%) had neuroinvasive illness and 8 (5.1%) fatalities have been reported. The median age of the individuals is 60 years (range: 1–90 years) and 99 (63%) are male. Dates of symptom onset ranged from May 6 – October 8. In addition to the 156 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, 403 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 2 WNV positive dead birds were reported this week from 2 counties: Orange (1) and Santa Clara (1). In 2018, a total of 492 WNV positive dead birds have been reported from 20 counties. At this time last year, 481 WNV positive dead birds had been reported from 39 counties.

Mosquito Pools

West Nile virus

A total of 2 WNV positive mosquito pools were reported this week from 2 counties: Fresno (1) and Los Angeles (1). In 2018, 1,954 mosquito pools have tested positive for WNV from 29 counties. At this time last year, 3,325 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 4 WNV seroconversions were reported this week from 3 flocks located in 3 counties: Los Angeles (2), Sacramento (1), and Solano (1). In 2018, 156 WNV positive chickens have been reported from 16 counties. At this time last year, 297 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	7,195	7,519
# Positive Counties	47	40
# Human Cases	403	156
# Positive Dead Birds / # Tested	481 / 1,876	492 / 2,038
# Positive Mosquito Pools / # Tested	3,325 / 42,637	1,954 / 40,885
# Seroconversions / # Tested	297 / 10,537	156 / 9,400

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			119	
Glenn	2			4	
Humboldt	1		1		
Imperial				1	
Kern	5	1	1	48	
Kings				22	
Lake	1			4	1
Los Angeles	40		19	67	26
Madera	2			55	
Merced	2	2		12	16
Monterey	1				
Nevada	1				
Orange	8		13	96	
Placer	9	1	44	230	4
Riverside	13		6	35	
Sacramento	7	2	241	300	5
San Benito					1
San Bernardino	4			12	
San Diego				3	
San Joaquin	9	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	11	1	1	111	
Sutter	1		4	28	20
Tehama	1				1
Tulare	3			77	
Tuolumne	1		1		
Ventura	1				
Yolo	10		41	90	5
Yuba	2			8	2
Totals	156	10	492	1,954	156

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	13	0	0
	YTD	156	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	39	2
	YTD	2,038	492

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	243	4	0	0
	YTD	9,400	156	1	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	2 / 432	0 / 432	0 / 399	0 / 0	0 / 0	0 / 0
		YTD	1,954 / 40,885	387 / 33,039	0 / 28,175	0 / 1,739	0 / 1,739	0 / 1,739

New Positives

Dead Birds

County	Submitting Agency	City	Zip Code	Species	Reported	Virus
Orange	Orange Co VCD	Orange	92687	American Crow	10/15/2018	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95117	American Crow	10/19/2018	WNV

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Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL4013	1291	Cx. quinquefasciatus	Fowler	15	GRVD	10/18/18	WNV
Los Angeles	LACW1012	329	Cx. quinquefasciatus	Venice	50	GRVD	10/16/18	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02
Los Angeles	LACW1012	Venice	10/16/2018	WNV	1657	1659
Sacramento	SAYO261013	Isleton	10/15/2018	WNV	1902	
Solano	SOLA0050	Fairfield	10/11/2018	WNV	1465	

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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