

California Arbovirus Surveillance Bulletin #31

Week 46 Friday, November 13, 2020



Weekly Update

Humans

West Nile virus

A total of 10 human cases of West Nile virus (WNV) illness were reported this week from 2 counties: Los Angeles (9) and Stanislaus (1). In 2020, a total of 170 human WNV cases have been reported from 22 counties. Of the 170 cases, 129 (76%) had neuroinvasive illness and 7 (4.1%) were fatal. The median age of the individuals was 61 years, and 109 (64%) were male. Dates of symptom onset ranged from June 2 to October 19. In addition to the 170 cases, 17 asymptomatic WNV infections have been reported from Fresno (2), Los Angeles (4), Merced (2), Orange (2), Sacramento (2), San Joaquin (1), Stanislaus (3), and Yolo (1) counties. At this time last year, 194 human WNV cases had been reported from 23 counties.

St. Louis encephalitis virus

No new cases were reported this week. In 2020, 3 cases of SLEV disease have been reported from 3 counties: Fresno (1), Madera (1) and San Joaquin (1). Of the three cases, two (67%) had neuroinvasive illness and one (33%) was fatal. At this time last year, six human SLEV cases had been reported from four counties.

Dead Birds

No new WNV positive dead birds were reported this week. In 2020, a total of 338 WNV positive dead birds have been reported from 20 counties. At this time last year, 214 WNV positive dead birds had been reported from 21 counties.

Mosquito Pools

West Nile virus

A total of 5 WNV positive mosquito pools were reported this week from Los Angeles County. In 2020, a total of 2,627 WNV positive mosquito pools have been reported from 28 counties. At this time last year, 3,283 WNV positive mosquito pools had been reported from 25 counties.

St. Louis encephalitis virus

No new SLEV positive mosquito pools were reported this week. In 2020, a total of 510 SLEV positive mosquito pools have been reported from 9 counties: Fresno (233), Imperial (10), Kern (31), Kings (11), Madera (17), Riverside (159), San Joaquin (2), Stanislaus (2), and Tulare (45). At this time last year, 356 SLEV positive mosquito pools had been reported from 12 counties.

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Sentinel Chickens

No new positives were reported this week. In 2020, a total of 139 chickens have tested positive for WNV from 16 counties. At this time last year, 136 WNV positive chickens had been reported from 17 counties.

2019 & 2020 YTD West Nile Virus Comparisons		
	2019	2020
Total # Dead Bird Reports	5,387	5,481
# Positive Counties	33	39
# Human Cases	194	170
# Positive Dead Birds / # Tested	214 / 1,728	338 / 1,524
# Positive Mosquito Pools / # Tested	3,283 / 42,316	2,627 / 39,845
# Seroconversions / # Tested	136 / 8,938	139 / 6,257

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YTD WNV Activity by Element and County, 2020					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			6		
Alpine			1		
Amador		2			
Butte	4	1	4	28	23
Calaveras					2
Contra Costa	3		22	13	7
El Dorado	1				
Fresno	6		5	322	
Glenn	1	1		3	2
Imperial				3	
Kern	3			83	
Kings	1	1		87	
Lake				12	2
Los Angeles	60		102	436	35
Madera	6			77	
Marin			1		
Merced	12	1	2	42	14
Modoc		1			
Napa			1	2	
Nevada		1			
Orange	14		46	326	
Placer	2		2	58	
Riverside	5	2	2	64	
Sacramento	1	1	91	115	4
San Benito					1
San Bernardino	2	1		13	
San Diego	1			2	
San Joaquin		4	4	260	
San Mateo			1		
Santa Barbara				1	
Santa Clara			7	8	
Shasta				25	3
Solano	1		3	8	4
Stanislaus	36	3	4	351	
Sutter	1			20	26
Tehama	2				5
Tulare	5		5	189	9
Yolo	3		29	77	1
Yuba				2	1
Totals	170	19	338	2,627	139

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TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	10	0	0
	YTD	170	3	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	1	0
	YTD	1,524	338

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	59	0	0	0
	YTD	6,257	139	0	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	5 / 122	0 / 122	0 / 122	0 / 11	0 / 11	0 / 11
		YTD	2,627 / 39,845	510 / 39,555	0 / 34,816	0 / 678	0 / 678	0 / 678

NEW POSITIVES

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2145	827	Cx. quinquefasciatus	Long Beach	31	GRVD	11/4/20	WNV
Los Angeles	GRLA2889	828	Cx. quinquefasciatus	Lakewood	17	GRVD	11/4/20	WNV
Los Angeles	GRLA2957	826	Cx. quinquefasciatus	Hawaiian Gardens	17	GRVD	11/4/20	WNV
Los Angeles	GRLA3042	821	Cx. quinquefasciatus	Hacienda Heights	12	GRVD	11/3/20	WNV
Los Angeles	GRLA3088	6110	Cx. quinquefasciatus	Pacoima	26	GRVD	11/6/20	WNV

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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 in California, please visit the California WNV website, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.maps.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC websites: www.cdc.gov and www.cdc.gov/arbonet/maps/ADB_Diseases_Map/index.html

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