

California Arbovirus Surveillance Bulletin #33

Week 49 Friday, December 4, 2020



Weekly Update

Humans

West Nile virus

Twelve new human cases of West Nile virus (WNV) illness have been reported from Fresno (4), Kern (1), Los Angeles (6), and Shasta (1) counties. **This is the first WNV case reported from Shasta County this year.** In 2020, a total of 183 human WNV cases have been reported from 23 counties. Of the 183 cases, 141 (77%) had neuroinvasive illness and 8 (4.4%) were fatal. The median age of the individuals was 61 years, and 116 (63%) were male. Dates of symptom onset ranged from June 2 to November 5. In addition to the 183 cases, 21 asymptomatic WNV infections have been reported from Fresno (2), Kern (2), Los Angeles (5), Merced (2), Orange (2), Riverside (1), Sacramento (2), San Joaquin (1), Stanislaus (3), and Yolo (1) counties. At this time last year, 205 WNV cases had been reported from 23 counties.

St. Louis encephalitis virus

One human case of St. Louis encephalitis virus (SLEV) disease was reported this week from Stanislaus County. **This is the first SLEV case reported from Stanislaus County this year.** In 2020, four cases of SLEV disease have been reported from Fresno (1), Madera (1), San Joaquin (1), and Stanislaus (1) counties. Of the four cases, three (75%) had neuroinvasive illness and one (25%) was fatal. At this time last year, six 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 339 WNV positive dead birds have been reported from 20 counties. At this time last year, 225 WNV positive dead birds had been reported from 21 counties.

Mosquito Pools

West Nile virus

No new positives were reported this week. In 2020, a total of 2,628 WNV positive mosquito pools have been reported from 28 counties. At this time last year, 3,288 WNV positive mosquito pools had been reported from 25 counties.

St. Louis encephalitis virus

No new positives 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

One new WNV positive chicken has been reported from Ventura County; **this is the first detection of WNV activity in Ventura County this year.** In 2020, a total of 143 chickens have tested positive for WNV from 17 counties. At this time last year, 139 WNV positive chickens had been reported from 17 counties.

2019 & 2020 YTD West Nile Virus Comparisons		
	2019	2020
Total # Dead Bird Reports	5,564	5,644
# Positive Counties	33	40
# Human Cases	205	183
# Positive Dead Birds / # Tested	225 / 1,799	339 / 1,537
# Positive Mosquito Pools / # Tested	3,288 / 42,610	2,628 / 40,083
# Seroconversions / # Tested	139 / 9,135	143 / 6,333

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YTD WNV Activity by Element and County, 2020					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			7		
Alpine			1		
Amador		2			
Butte	4	1	4	28	23
Calaveras					2
Contra Costa	3		22	13	7
El Dorado	1				
Fresno	10		5	322	
Glenn	1	1		3	2
Imperial				3	
Kern	5			83	
Kings	1	1		87	
Lake				12	2
Los Angeles	66		102	437	38
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	1			25	3
Solano	1	1	3	8	4
Stanislaus	36	3	4	351	
Sutter	1			20	26
Tehama	2				5
Tulare	5		5	189	9
Ventura					1
Yolo	3		29	77	1
Yuba				2	1
Totals	183	20	339	2,628	143

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TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	12	1	0
	YTD	183	4	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	2	0
	YTD	1,537	339

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	8	1	0	0
	YTD	6,333	143	0	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	0 / 46	0 / 46	0 / 46	0 / 0	0 / 0	0 / 0
		YTD	2,628 / 40,083	510 / 39,793	0 / 35,054	0 / 678	0 / 678	0 / 678

NEW POSITIVES

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01
Ventura	MOOR0029	Moorpark	11/12/2020	WNV	1386

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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/arbovet/maps/ADB_Diseases_Map/index.html

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