

California Arbovirus Surveillance Bulletin #28

Week 44 Friday, November 5, 2021



Weekly Update

Humans

West Nile virus

A total of 6 human cases of West Nile virus (WNV) illness were reported this week from 3 counties: Placer (1), Sacramento (4), and Santa Cruz (1). **These are the first WNV cases reported from Sacramento and Santa Cruz counties this year.** In 2021, a total of 98 WNV human cases have been reported from 25 counties. Of the 98 cases, 74 (76%) had neuroinvasive illness and 11 (11.2%) were fatal. The median age of the cases was 60 years, and 62 (63%) were male. Dates of symptom onset ranged from March 31 to October 8. In addition to the 98 cases, 17 asymptomatic WNV infections have been reported from Butte (1), Fresno (3), Kern (2), Kings (2), Los Angeles (3), Madera (1), Merced (1), San Bernardino (1), San Joaquin (1), Stanislaus (1), and Yolo (1) counties. At this time last year, 155 WNV cases had been reported from 21 counties.

St. Louis encephalitis virus

No new cases were reported this week. In 2021, one human case of St. Louis encephalitis virus (SLEV) disease has been reported from Fresno County. At this time last year, three SLEV cases had been reported from three counties.

Dead Birds

No new WNV positive dead birds were reported this week. In 2021, 209 WNV positive dead birds have been reported from 19 counties. At this time last year, 336 WNV positive dead birds had been reported from 20 counties.

Mosquito Pools

West Nile virus

Two WNV positive mosquito pools were reported this week from Riverside County. In 2021, 2,258 WNV positive mosquito pools have been reported from 25 counties. At this time last year, 2,617 WNV positive mosquito pools had been reported from 28 counties.

St. Louis encephalitis virus

No new positives were reported this week. In 2021, 44 SLEV positive mosquito pools have been reported from 8 counties: Fresno (7), Imperial (3), Kings (1), Madera (3), Merced (2), Riverside (22), Stanislaus (2), and Tulare (4). At this time last year, 509 SLEV positive mosquito pools had been reported from 9 counties.

Sentinel Chickens

West Nile virus

No new positives were reported this week. In 2021, 88 WNV positive chickens have been reported from 12 counties. At this time last year, 138 WNV positive chickens had been reported from 16 counties.

St. Louis encephalitis virus

No new positives were reported this week. In 2021, 2 SLEV positive chickens have been reported from Merced County. At this time last year, no SLEV positive chickens had been reported.

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YTD WNV Activity by Element and County, 2021					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			2		
Amador		1			
Butte	13		2	80	27
Colusa					1
Contra Costa	2		4	8	
El Dorado	1				
Fresno	8	2		219	
Glenn	2				
Kern	3			103	
Kings	5	1		34	
Lake				4	4
Los Angeles	13		43	259	3
Madera	3			131	
Merced	5	1	1	10	19
Napa				1	
Nevada			2		
Orange	2		7	49	
Placer	3		5	63	
Riverside	1			110	
Sacramento	4	2	100	120	1
San Bernardino	1		1	9	
San Diego	2				
San Francisco	1				
San Joaquin	5	3	17	389	
San Luis Obispo	2				
Santa Clara			1	4	
Santa Cruz	1				
Shasta	3			28	3
Solano	2		2	22	
Sonoma			1	2	
Stanislaus	7	1	2	152	
Sutter			1	18	11
Tehama					5
Tulare	8		7	375	8
Ventura			1		
Yolo	1		10	56	4
Yuba		2		12	2
Totals	98	13	209	2,258	88

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2020 & 2021 YTD West Nile Virus Comparisons		
	2020	2021
Total # Dead Bird Reports	5,343	4,917
# Positive Counties	39	37
# Human Cases	155	98
# Positive Dead Birds / # Tested	336 / 1,499	209 / 1,660
# Positive Mosquito Pools / # Tested	2,617 / 39,287	2,258 / 37,432
# Seroconversions / # Tested	138 / 6,101	88 / 5,558

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	6	0	0
	YTD	98	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	50	0
	YTD	1,660	209

Sentinel Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	76	0	0	0
	YTD	5,558	88	2	0

Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		2 / 319	0 / 319	0 / 319	0 / 2	0 / 2	0 / 2
		YTD	2,258 / 37,432	44 / 34,543	0 / 31,862	0 / 732	0 / 732

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NEW POSITIVES

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Riverside	COAV121	5435	Cx. tarsalis	Mecca	50	CO2	11/2/2021	WNV
Riverside	COAV123	5559	Cx. tarsalis	Mecca	50	CO2	11/2/2021	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 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

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch), California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli: Tina.Feiszli@cdph.ca.gov.