

California Arbovirus Surveillance Bulletin #35

Week 44 Friday, November 4, 2016



Weekly Update

Humans

West Nile virus

A total of 10 new human cases of West Nile virus (WNV) illness were reported this week from the following 7 counties: Fresno (1), Kern (1), Los Angeles (4), Sacramento (1), Stanislaus (1), Sutter (1), and Tulare (1). To date this year, 380 cases of WNV illness have been reported from 29 counties. Of the 380 case-patients, 281 (74%) had neuroinvasive illness and 16 fatalities have been reported from 10 counties. The median age of the individuals is 60 years (range: 8-94 years) and 234 (62%) are male. Dates of symptom onset range from June 17 to October 21. In addition, 37 asymptomatic WNV-positive blood donors have been reported from Fresno (2), Los Angeles (10), Madera (1), Orange (4), Riverside (1), Sacramento (4), San Diego (2), San Francisco (1), San Luis Obispo (1), Stanislaus (4), Sutter (2), Tehama (1), Tulare (1), and Yolo (3) counties.

St. Louis encephalitis virus

One new human case of St. Louis encephalitis virus (SLEV) disease was reported this week from Fresno County. To date this year, two human cases of SLEV disease have been reported from Fresno (1) and Sacramento (1) counties.

Dead Birds

No new dead birds tested positive for WNV this week. In 2016, 1,340 dead birds have tested positive for WNV from 33 counties, whereas at this time last year, 1,254 WNV positive birds had been reported from 37 counties.

Mosquito Pools

West Nile virus

A total of 10 WNV positive mosquito pools were reported this week from 2 counties: Los Angeles (8) and San Bernardino (2). In 2016, 3,491 WNV positive mosquito pools have been reported from 31 counties, whereas at this time last year, 3,261 WNV positive mosquito pools had been reported from 29 counties.

St. Louis encephalitis virus

No SLEV positive mosquito pools were reported this week. To date this year, 179 SLEV positive mosquito pools have been reported from 8 counties: Fresno (1), Kern (75), Kings (4), Los Angeles (2), Madera (3), Orange (2), Riverside (91), and Tulare (1). At this time last year, 38 SLEV positive mosquito pools had been reported from Riverside County.

Sentinel Chickens

West Nile virus

No new seroconversions were reported this week. In 2016, 335 WNV seroconversions have been detected in 81 flocks located in 19 counties, whereas at this time last year, 423 WNV seroconversions had been detected in 89 flocks from 22 counties.

St. Louis encephalitis virus

No new seroconversions were reported this week. In 2016, 4 SLEV seroconversions have been detected in 3 flocks located in 2 counties: Los Angeles (2) and San Bernardino (2). At this time last year, 8 SLEV seroconversions had been detected in 2 flocks from Riverside County.

California Arbovirus Surveillance Bulletin #35

Week 44 Friday, November 4, 2016

YTD WNV Activity by Element and County, 2016				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		11	2	
Butte	21	22	48	38
Colusa	2			9
Contra Costa	3	33	11	5
El Dorado	1	4		
Fresno	10	6	185	
Glenn	5	4	11	10
Imperial			1	
Kern	15		80	
Kings	6	4	118	
Lake	1	5	39	5
Los Angeles	132	121	431	120
Madera	5	5	101	
Marin		5		
Merced		5	12	33
Monterey	1			
Napa		1	4	
Nevada		2		1
Orange	33	85	423	
Placer	7	30	103	7
Riverside	5	16	32	
Sacramento	23	411	455	3
San Bernardino	8	5	81	23
San Diego	17	262	89	9
San Joaquin	7	37	350	
San Mateo		14	5	
Santa Clara	1	89	13	1
Santa Cruz		2	3	
Shasta	1	3	12	3
Solano	3	13	16	10
Sonoma		8	2	
Stanislaus	23	14	259	
Sutter	11	10	68	33
Tehama	5			8
Tulare	10	3	260	
Ventura	2	34		
Yolo	13	72	259	4
Yuba	9	4	18	13
Totals	380	1,340	3,491	335

California Arbovirus Surveillance Bulletin #35

Week 44 Friday, November 4, 2016

2015 & 2016 YTD West Nile Virus Comparisons		
	2015	2016
Total # Dead Bird Reports	10,271	8,855
# Positive Counties	40	38
# Human Cases	512	380
# Positive Dead Birds / # Tested	1,254 / 3,029	1,340 / 2,770
# Positive Mosquito Pools / # Tested	3,261 / 36,006	3,491 / 42,931
# Seroconversions / # Tested	423 / 11,942	335 / 10,456

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Number of Cases Reported	Week	10	1	0
	YTD	380	2	0

Dead Birds

		Total Tested	WNV Positive
Dead Birds	Week	11	0
	YTD	2,770	1,340

Sentinel Chickens

		Total Tested	WNV +	SLEV +	WEEV +
Chicken Sera	Week	286	0	0	0
	YTD	10,456	335	4	0

Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		10 / 766	0 / 729	0 / 729	0 / 59	0 / 59	0 / 59
		YTD	3,491 / 42,931	179 / 28,131	0 / 28,131	0 / 862	0 / 862

California Arbovirus Surveillance Bulletin #35

Week 44 Friday, November 4, 2016

NEW POSITIVES

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2033	5901	Cx. quinquefasciatus	Tujunga	40	GRVD	10/21/2016	WNV
Los Angeles	GRLA2592	5895	Cx. quinquefasciatus	San Marino	47	GRVD	10/21/2016	WNV
Los Angeles	GRLA3027	5882	Cx. quinquefasciatus	Studio City	50	GRVD	10/20/2016	WNV
Los Angeles	GRLA3045	918	Cx. quinquefasciatus	Whittier	52	GRVD	10/25/2016	WNV
Los Angeles	GRLA3057	939	Cx. quinquefasciatus	Huntington Park	28	GRVD	10/27/2016	WNV
Los Angeles	GRLA3064	924	Cx. quinquefasciatus	West Athens Village	15	GRVD	10/26/2016	WNV
Los Angeles	GRLA3102	5886	Cx. quinquefasciatus	Studio City	50	GRVD	10/20/2016	WNV
Los Angeles	LACW1005	506	Cx. quinquefasciatus	El Segundo	26	GRVD	10/25/2016	WNV
San Bernardino	WVAL6004	2722	Cx. quinquefasciatus	Ontario	18	GRVD	11/2/2016	WNV
San Bernardino	WVAL6012	2718	Cx. quinquefasciatus	Ontario	18	GRVD	11/2/2016	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 or confirmation.

Dead Birds

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the University of California, Davis Arbovirus Research and Training laboratory (DART) for West Nile virus by the singleplex RT-PCR Taqman assay and confirmed with a second primer set. Some local agencies test birds using the RAMP© test or conduct RT-PCR on tissue samples.

Sentinel Chickens:

Dried blood spot specimens from sentinel chickens are tested by the California Department of Public Health Vector-Borne Disease Laboratory for the presence of antibodies to West Nile, western equine encephalomyelitis, and St. Louis encephalitis viruses by an EIA. Positive samples are confirmed by an IFA, western-blot, or plaque reduction neutralization test.

Mosquito Pools:

Mosquito pools submitted to DART are tested for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a Taqman multiplex RT-PCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested for chikungunya, dengue, and Zika viral RNA.

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 by phone (510) 412-6253 or email: tina.feiszli@cdph.ca.gov.

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.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC website, www.cdc.gov, and the USGS website, www.westnilemaps.usgs.gov