

California Arbovirus Surveillance Bulletin #37

Week 46 Friday, November 18, 2016



Weekly Update

Humans

West Nile virus

A total of 8 new human cases of West Nile virus (WNV) illness were reported this week from the following 3 counties: Kern (1), Los Angeles (2), and San Joaquin (5). To date this year, 396 cases of WNV illness have been reported from 29 counties. Of the 396 case-patients, 294 (74%) had neuroinvasive illness and 18 fatalities have been reported from 11 counties. The median age of the individuals is 60 years (range: 8-94 years) and 243 (61%) are male. Dates of symptom onset range from June 17 to October 21. In addition, 39 asymptomatic WNV-positive blood donors have been reported this year from Fresno (2), Los Angeles (11), Madera (1), Orange (4), Riverside (1), Sacramento (4), San Diego (2), San Francisco (1), San Joaquin (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 Kern County. To date this year, three cases of SLEV disease have been reported from Fresno (1), Kern (1), and Sacramento (1) counties.

Dead Birds

A total of 4 WNV positive birds were reported this week from two counties: Los Angeles (3), and Orange (1). In 2016, 1,345 dead birds have tested positive for WNV from 33 counties, whereas at this time last year, 1,316 WNV positive birds had been reported from 37 counties.

Mosquito Pools

West Nile virus

A total of 2 WNV positive mosquito pools were reported this week from Orange (1) and San Bernardino (1) counties. To date this year, 3,496 WNV positive mosquito pools have been reported from 31 counties, whereas at this time last year, 3,280 WNV positive mosquito pools had been reported from 29 counties.

St. Louis encephalitis virus

One SLEV positive mosquito pool was reported this week from Riverside County. To date this year, 180 SLEV positive mosquito pools have been reported from 8 counties: Fresno (1), Kern (75), Kings (4), Los Angeles (2), Madera (3), Orange (2), Riverside (92), and Tulare (1). At this time last year, 38 SLEV positive mosquito pools had been reported from Riverside County.

Sentinel Chickens

West Nile virus

One new WNV seroconversion was reported this week from Los Angeles County. To date this year, 342 WNV seroconversions have been detected in 81 flocks located in 19 counties, whereas at this time last year, 442 WNV seroconversions had been detected in 96 flocks from 22 counties.

St. Louis encephalitis virus

No new seroconversions were reported this week. To date this year, 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, 9 SLEV seroconversions had been detected in 2 flocks from Riverside County.

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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	17		80	
Kings	7	4	118	
Lake	1	5	39	5
Los Angeles	137	124	434	125
Madera	6	5	101	
Marin		5		
Merced		5	12	35
Monterey	1			
Napa		1	4	
Nevada		2		1
Orange	33	87	424	
Placer	7	30	103	7
Riverside	6	16	32	
Sacramento	23	411	455	3
San Bernardino	8	5	82	23
San Diego	17	262	89	9
San Joaquin	12	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	24	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	396	1,345	3,496	342

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2015 & 2016 YTD West Nile Virus Comparisons		
	2015	2016
Total # Dead Bird Reports	10,475	8,953
# Positive Counties	40	38
# Human Cases	594	396
# Positive Dead Birds / # Tested	1,316 / 3,128	1,345 / 2,805
# Positive Mosquito Pools / # Tested	3,280 / 36,305	3,496 / 43,406
# Seroconversions / # Tested	442 / 12,328	342 / 10,813

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Number of Cases Reported	Week	8	1	0
	YTD	396	3	0

Dead Birds

		Total Tested	WNV Positive
Dead Birds	Week	7	4
	YTD	2,805	1,345

Sentinel Chickens

		Total Tested	WNV +	SLEV +	WEEV +
Chicken Sera	Week	182	1	0	0
	YTD	10,813	342	4	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	2 / 359	1 / 359	0 / 359	0 / 74	0 / 74	0 / 74
		YTD	3,496 / 43,406	180 / 28,605	0 / 28,605	0 / 1,076	0 / 1,076	0 / 1,076

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NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	Los Angeles Co Veterinarian	Beverly Hills	90210	American Crow	11/3/2016	WNV
Los Angeles	Los Angeles Co Veterinarian	Inglewood	90301	American Crow	11/14/2016	WNV
Los Angeles	Los Angeles Co Veterinarian	West Hollywood	90069	American Crow	11/14/2016	WNV
Orange	Orange Co VCD	Mission Viejo	92692	White-crowned Sparrow	11/4/2016	WNV

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Orange	ORCO1031	9011	Ae. albopictus	Los Alamitos	1	GRVD	8/30/2016	WNV
Riverside	COAV419	4369	Cx. quinquefasciatus	La Quinta	50	GRVD	11/10/2016	SLEV
San Bernardino	WVAL2011	2819	Cx. quinquefasciatus	Chino	50	CO2	11/10/6016	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Los Angeles	LACW1012	Venice	11/9/2016	WNV	2360

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.

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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
