

California Arbovirus Surveillance Bulletin #31

Week 44 Friday, November 3, 2017



Weekly Update

Humans

A total of 24 new human cases of West Nile virus (WNV) illness were reported this week from the following 9 counties: Alameda (1), Contra Costa (1), Fresno (2), Los Angeles (15), Madera (1), Orange (1), Riverside (1), Sacramento (1), and Solano (1). These are the first human cases reported from Alameda and Solano counties in 2017. To date this year, 427 human cases of WNV illness have been reported from 25 counties. Of the 427 case-patients, 320 (75%) had neuroinvasive disease and 25 fatalities have been reported from Kern (1), Los Angeles (17), Orange (2), San Bernardino (2), Stanislaus (1), and Yolo (2) counties. The median age of the individuals is 62 years (range: 4–96 years) and 279 (65%) are male. Dates of symptom onset ranged from March 16 to October 16. In addition to the 427 symptomatic cases, 31 asymptomatic WNV-positive blood donors have been reported from Fresno (1), Humboldt (1), Los Angeles (12), Orange (5), Placer (1), San Bernardino (8), and Stanislaus (3) counties. As of this date in 2016, 380 human WNV cases had been reported from 29 counties.

Dead Birds

A total of three WNV positive dead birds were reported this week from Placer (1) and San Diego (2) counties. To date this year, 484 birds from 39 counties have tested positive for WNV. As of this date in 2016, 1,340 WNV positive birds had been reported from 33 counties.

Mosquito Pools

West Nile Virus

A total of 25 WNV positive mosquito pools were reported this week from the following 4 counties: Los Angeles (9), Orange (14), Riverside (1), and San Bernardino (1). To date this year, 3,350 WNV positive mosquito pools have been reported from 26 counties. As of this date in 2016, 3,491 WNV positive mosquito pools had been reported from 31 counties.

St. Louis Encephalitis Virus

No new positives were reported this week. To date this year, 179 SLEV positive mosquito pools have been reported from 14 counties: Butte (1), Fresno (63), Imperial (3), Kern (18), Kings (21), Los Angeles (1), Madera (10), Merced (2), Placer (1), Riverside (23), San Bernardino (2), Stanislaus (27), Tulare (6), and Yuba (1). As of this date in 2016, 179 SLEV positive mosquito pools had been reported from 8 counties.

Sentinel Chickens

West Nile Virus

A total of 7 WNV seroconversions were reported this week from Los Angeles (6) and San Bernardino (1) counties. To date this year, 304 WNV seroconversions have been reported from 18 counties. As of this date in 2016, 335 WNV seroconversions had been detected from 19 counties.

St. Louis Encephalitis Virus

No SLEV seroconversions were reported this week. To date this year, 9 SLEV positive chickens have been reported from Los Angeles (2), Merced (1), and San Bernardino (6) counties. As of this date in 2016, 4 SLEV seroconversions had been detected in 2 counties.

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YTD WNV Activity by Element and County, 2017					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda	1		2		
Butte	2		5	47	31
Calaveras					1
Colusa			1		
Contra Costa	3	1	19	9	7
El Dorado			2		
Fresno	5	1	5	167	
Glenn		1	2	12	1
Humboldt			1		
Imperial	3				
Inyo	4			9	
Kern	25	2	3	152	
Kings	1		1	79	
Lake			4	17	2
Lassen		3			
Los Angeles	231	1	93	568	144
Madera	2		1	62	
Marin			1		
Merced			1	40	19
Monterey			1		
Nevada			1		
Orange	34		52	276	
Placer			4	59	5
Plumas		1			
Riverside	24	4	40	196	
Sacramento	2	1	86	153	2
San Benito					1
San Bernardino	39		45	293	36
San Diego	2	1	38	9	
San Francisco	1		1		
San Joaquin	14	2	7	242	
San Luis Obispo			3		
San Mateo			1		
Santa Barbara			1		4
Santa Clara			12		
Santa Cruz			1		
Shasta	1		2		4
Solano	1		4	9	11
Sonoma			5	1	
Stanislaus	21		6	196	
Sutter	1		3	16	22
Tehama	1	1			4
Tuolumne		1			
Tulare	4		8	630	
Ventura	1		2	3	
Yolo	4		14	87	2
Yuba			6	18	8
Totals	427	20	484	3,350	304

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

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2016 & 2017 YTD West Nile Virus Comparisons		
	2016	2017
Total # Dead Bird Reports	8,855	7,285
# Positive Counties	38	47
# Human Cases	380	427
# Positive Dead Birds / # Tested	1,340 / 2,770	484 / 1,891
# Positive Mosquito Pools / # Tested	3,491 / 42,931	3,350 / 43,232
# Seroconversions / # Tested	335 / 10,456	304 / 10,757

TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	24	0	0
	YTD	427	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	7	3
	YTD	1,891	484

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	220	7	0	0
	YTD	10,757	304	9	0

Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		25 / 595	0 / 567	0 / 567	0 / 47	0 / 47	0 / 47
		3,350 / 43,232	179 / 35,293	0 / 33,500	0 / 1,757	0 / 1,757	0 / 1,757

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New Positives

Dead Birds

County	Submitting Agency	City	Zip Code	Species	Date Reported	Virus
Placer	Placer MVCD	Lincoln	95648	Western Scrub-Jay	10/29/2017	WNV
San Diego	San Diego Co VCP	Escondido	92027	American Crow	11/1/2017	WNV
San Diego	San Diego Co VCP	San Diego	92122	Merlin	10/30/2017	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2492	5897	Cx. quinquefasciatus	La Canada Flintridge	50	GRVD	10/27/17	WNV
Los Angeles	GRLA2593	5899	Cx. quinquefasciatus	San Marino	19	GRVD	10/27/17	WNV
Los Angeles	GRLA3086	5898	Cx. quinquefasciatus	Highland Park	50	GRVD	10/27/17	WNV
Los Angeles	LACW1047	352	Cx. quinquefasciatus	Inglewood	50	CO2	10/26/17	WNV
Los Angeles	LACW1047	353	Cx. quinquefasciatus	Inglewood	50	CO2	10/26/17	WNV
Los Angeles	SGVA122	2436	Cx. quinquefasciatus	Temple City	11	BGSENT	10/13/17	WNV
Los Angeles	SGVA16	2438	Cx. quinquefasciatus	Monterey Park	12	BGSENT	10/16/17	WNV
Los Angeles	SGVA21	2448	Cx. quinquefasciatus	Azusa	3	GRVD	10/18/17	WNV
Los Angeles	SGVA761	2433	Cx. quinquefasciatus	El Monte	25	BGSENT	10/16/17	WNV
Orange	ORCO1011	5135	Cx. quinquefasciatus	La Habra	24	GRVD	10/25/17	WNV
Orange	ORCO1039	5097	Cx. quinquefasciatus	Orange	6	GRVD	10/25/17	WNV
Orange	ORCO1042	4942	Cx. quinquefasciatus	Yorba Linda	37	GRVD	10/18/17	WNV
Orange	ORCO17	4963	Cx. quinquefasciatus	Orange	37	GRVD	10/18/17	WNV
Orange	ORCO17	5116	Cx. quinquefasciatus	Orange	40	GRVD	10/25/17	WNV
Orange	ORCO170	5172	Cx. quinquefasciatus	Anaheim	50	GRVD	10/26/17	WNV
Orange	ORCO198	5152	Cx. quinquefasciatus	La Habra	13	GRVD	10/26/17	WNV
Orange	ORCO2	5015	Cx. quinquefasciatus	Fullerton	50	GRVD	10/19/17	WNV
Orange	ORCO217	4909	Cx. quinquefasciatus	Santa Ana	13	BGSENT	10/18/17	WNV
Orange	ORCO217	5071	Cx. quinquefasciatus	Santa Ana	26	GRVD	10/24/17	WNV
Orange	ORCO217	5075	Cx. quinquefasciatus	Santa Ana	11	BGSENT	10/24/17	WNV
Orange	ORCO236	4793	Cx. quinquefasciatus	Garden Grove	50	GRVD	10/13/17	WNV
Orange	ORCO238	4918	Cx. quinquefasciatus	Anaheim	50	GRVD	10/18/17	WNV
Orange	ORCO84	4737	Cx. quinquefasciatus	Orange	28	GRVD	10/12/17	WNV
Riverside	NWST86	470	Cx. quinquefasciatus	Corona	31	CO2	10/19/17	WNV
San Bernardino	WVAL9006	2632	Cx. quinquefasciatus	Upland	38	GRVD	11/1/17	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Los Angeles	ANTV7242	Palmdale	10/25/2017	WNV	1056			
Los Angeles	LACW1004	Lawndale	10/12/2017	WNV	2519			
Los Angeles	LACW1012	Venice	10/17/2017	WNV	2555	2556	2557	2560
San Bernardino	SANB0006	Yucaipa	10/24/2017	WNV	2749			

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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 or confirmation.

Dead Birds

Oral swab samples from corvids are collected onto RNA preservation cards and tested by the UC Davis Arbovirus Research and Training laboratory (DART) for West Nile virus by the singleplex qRT-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 submitted to the California Department of Public Health Vector-Borne Disease Laboratory and tested for antibodies to West Nile, western equine encephalomyelitis, and St. Louis encephalitis viruses by EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

Mosquito Pools:

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

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