

California Arbovirus Surveillance Bulletin #14

Week 27 Friday, July 7, 2017



Weekly Update

Humans

No new cases were reported this week. To date this year, three cases of West Nile virus (WNV) illness have been reported from three counties: Kern (1), Kings (1) and Los Angeles (1). Of the three case-patients, all had non-neuroinvasive illness (West Nile fever) and dates of symptom onset ranged from March 16 to June 4. No WNV-related fatalities or asymptomatic WNV-positive blood donors have been reported this year. As of this date in 2016, no human WNV cases had been reported.

Dead Birds

A total of 12 WNV positive dead birds were reported this week from four counties: Los Angeles (1), Orange (4), Sacramento (6), and San Joaquin (1). To date this year, 51 birds from 12 counties have tested positive for WNV. As of this date in 2016, 435 WNV positive birds had been reported from 22 counties.

Mosquito Pools

West Nile Virus

A total of 78 WNV positive mosquito pools were reported this week from the following 12 counties: Fresno (2), Kern (13), Kings (4), Los Angeles (12), Merced (1), Orange (4), Riverside (9), Sacramento (1), San Bernardino (1), Stanislaus (5), Tulare (25), and Yuba (1). **This is the first detection of WNV activity in Yuba County in 2017.** To date this year, 490 WNV positive mosquito pools have been reported from 15 counties. As of this date in 2016, 607 WNV positive mosquito pools had been reported from 19 counties.

St. Louis Encephalitis Virus

One mosquito pool tested positive for St. Louis encephalitis virus (SLEV) this week from Kern County. To date this year, five mosquito pools from Fresno (2) and Kern (3) counties have tested positive for SLEV. As of this date in 2016, 25 SLEV positive mosquito pools had been reported from two counties.

Sentinel Chickens

One WNV seroconversion was reported this week from a flock located in Los Angeles County. To date this year, two WNV seroconversions have been reported from Los Angeles County. As of this date in 2016, 12 WNV seroconversions had been reported from three counties.

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2016 & 2017 YTD West Nile Virus Comparisons		
	2016	2017
Total # Dead Bird Reports	4,535	3,656
# Positive Counties	26	18
# Human Cases	0	3
# Positive Dead Birds / # Tested	435 / 1,232	51 / 892
# Positive Mosquito Pools / # Tested	607 / 18,332	490 / 18,245
# Seroconversions / # Tested	12 / 3,879	2 / 4,652

YTD WNV Activity by Element and County, 2017				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Fresno			4	
Kern	1	1	39	
Kings	1		5	
Lake		1		
Los Angeles	1	6	44	2
Merced			2	
Nevada		1		
Orange		6	6	
Riverside		3	72	
Sacramento		17	2	
San Bernardino		5	43	
San Diego		3	1	
San Joaquin		2	35	
San Mateo		1		
Stanislaus			11	
Tulare		5	224	
Yolo			1	
Yuba			1	
Totals	3	51	490	2

Website Information: For updated information on WNV in California, please visit the California WNV website, www.westmile.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.westmilemaps.usgs.gov

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	0	0	0
	YTD	3	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	77	12
	YTD	892	51

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	494	1	0	0
	YTD	4,652	2	0	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	78 / 1,794	1 / 1,535	0 / 1,535	0 / 47	0 / 47	0 / 47
		YTD	490 / 18,245	5 / 15,852	0 / 14,384	0 / 533	0 / 533	0 / 533

New Positives

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	San Gabriel Valley MVCD	Temple City	91780	American Crow	6/23/2017	WNV
Orange	Orange Co VCD	Anaheim	92807	American Crow	7/2/2017	WNV
Orange	Orange Co VCD	Anaheim Hills	92807	American Crow	6/29/2017	WNV
Orange	Orange Co VCD	Irvine	92604	Western Bluebird	6/29/2017	WNV
Orange	Orange Co VCD	Riverside	92503	American Kestrel	6/14/2017	WNV
Sacramento	Sacramento-Yolo MVCD	Rosemont	95826	American Crow	6/30/2017	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95825	Yellow-billed Magpie	6/29/2017	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95826	American Crow	6/29/2017	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95826	American Crow	7/4/2017	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95829	Red-shouldered Hawk	6/30/2017	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	Yellow-billed Magpie	7/5/2017	WNV
San Joaquin	San Joaquin Co MVCD	Ripon	95366	House Finch	7/6/2017	WNV

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Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	FRWS100006	158	Cx. tarsalis	Dos Palos	50	CO2	7/6/2017	WNV
Fresno	FRWS4102	170	Cx. tarsalis	Kerman	50	CO2	7/6/2017	WNV
Kern	DLNO55	134	Cx. quinquefasciatus	McFarland	50	CO2	6/29/2017	WNV
Kern	KERN111	373	Cx. tarsalis	Arvin	50	CO2	6/27/2017	WNV
Kern	KERN1137	386	Cx. tarsalis	Bakersfield	30	CO2	6/30/2017	WNV
Kern	KERN115	372	Cx. tarsalis	Bakersfield	50	CO2	6/27/2017	WNV
Kern	KERN2021	380	Cx. quinquefasciatus	Wasco	29	GRVD	6/29/2017	WNV
Kern	KERN2022	379	Cx. quinquefasciatus	Shafter	18	GRVD	6/29/2017	WNV
Kern	KERN2030	376	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/28/2017	WNV
Kern	KERN2040	371	Cx. quinquefasciatus	Arvin	31	GRVD	6/27/2017	WNV
Kern	KERN29	382	Cx. quinquefasciatus	Lamont	50	CO2	6/29/2017	WNV
Kern	KERN30	384	Cx. quinquefasciatus	Wasco	50	CO2	6/29/2017	WNV
Kern	KERN3017	378	Cx. quinquefasciatus	Bakersfield	34	CO2	6/28/2017	WNV
Kern	KERN3029	377	Cx. tarsalis	Buttonwillow	50	CO2	6/28/2017	WNV
Kern	KERN43	383	Cx. tarsalis	Shafter	33	CO2	6/29/2017	SLEV
Kern	KERN43	383	Cx. tarsalis	Shafter	33	CO2	6/29/2017	WNV
Kings	KNGS3001	173	Cx. tarsalis	Lemoore NAS	50	CO2	6/30/2017	WNV
Kings	KNGS3005	155	Cx. tarsalis	Lemoore NAS	50	CO2	6/29/2017	WNV
Kings	KNGS3005	156	Cx. tarsalis	Lemoore NAS	50	CO2	6/29/2017	WNV
Kings	KNGS3067	176	Cx. tarsalis		50	CO2	6/30/2017	WNV
Los Angeles	GRLA2035	5423	Cx. quinquefasciatus	Tarzana	13	GRVD	6/28/2017	WNV
Los Angeles	GRLA2221	384	Cx. quinquefasciatus	Rowland Heights	50	GRVD	6/28/2017	WNV
Los Angeles	GRLA2503	5430	Cx. quinquefasciatus	Los Angeles	37	GRVD	6/29/2017	WNV
Los Angeles	GRLA3046	400	Cx. quinquefasciatus	Bellflower	50	GRVD	6/29/2017	WNV
Los Angeles	SGVA32	1633	Cx. quinquefasciatus	Arcadia	25	GRVD	6/28/2017	WNV
Los Angeles	SGVA8	1502	Cx. quinquefasciatus	Pomona	5	GRVD	6/22/2017	WNV
Los Angeles	SGVA8	1516	Cx. quinquefasciatus	Pomona	5	GRVD	6/22/2017	WNV
Los Angeles	SGVA896	1572	Cx. quinquefasciatus	La Verne	5	GRVD	6/22/2017	WNV
Los Angeles	SGVA898	1652	Cx. quinquefasciatus	San Gabriel	25	GRVD	6/28/2017	WNV
Los Angeles	SGVA952	1627	Cx. quinquefasciatus	San Dimas, CA	1	CO2	6/28/2017	WNV
Los Angeles	SGVA955	1597	Cx. quinquefasciatus	West Covina	25	GRVD	6/28/2017	WNV
Los Angeles	SGVA955	1610	Cx. quinquefasciatus	West Covina	25	GRVD	6/28/2017	WNV
Merced	MERC1222	103	Cx. tarsalis	Merced	50	CO2	7/6/2017	WNV
Orange	ORCO198	2374	Cx. quinquefasciatus	La Habra	48	GRVD	7/6/2017	WNV
Orange	ORCO198	2375	Cx. quinquefasciatus	La Habra	50	GRVD	7/6/2017	WNV
Orange	ORCO237	2253	Cx. quinquefasciatus	Yorba Linda	19	GRVD	6/28/2017	WNV
Orange	ORCO238	2358	Cx. quinquefasciatus	Anaheim	49	GRVD	7/6/2017	WNV
Riverside	COAV10	2786	Cx. tarsalis	Thermal	38	CO2	7/6/2017	WNV
Riverside	COAV121	2799	Cx. tarsalis	Mecca	43	CO2	7/6/2017	WNV
Riverside	COAV13	2785	Cx. tarsalis	Mecca	20	CO2	7/6/2017	WNV
Riverside	COAV131	2791	Cx. tarsalis	Oasis	20	CO2	7/6/2017	WNV
Riverside	COAV328	2810	Cx. quinquefasciatus		20	CO2	7/6/2017	WNV
Riverside	COAV35	2780	Cx. tarsalis	Mecca	50	CO2	7/6/2017	WNV
Riverside	COAV35	2782	Cx. quinquefasciatus	Mecca	5	CO2	7/6/2017	WNV
Riverside	COAV45	2805	Cx. tarsalis	Mecca	40	CO2	7/6/2017	WNV
Riverside	COAV8	2777	Cx. tarsalis	Mecca	40	CO2	7/6/2017	WNV
Sacramento	SAYO223040	2348	Cx. pipiens	Sacramento	10	GRVD	7/4/2017	WNV
San Bernardino	SANB0067	512	Cx. tarsalis	San Bernardino	7	CO2	6/27/17	WNV
Stanislaus	TRLK1615	401	Cx. tarsalis	Modesto	50	CO2	7/6/2017	WNV
Stanislaus	TRLK1616	399	Cx. tarsalis	Modesto	50	CO2	7/6/2017	WNV

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Stanislaus	TRLK9732	387	Cx. tarsalis	Newman	50	CO2	7/6/2017	WNV
Stanislaus	TRLK9732	390	Cx. tarsalis	Newman	50	CO2	7/6/2017	WNV
Stanislaus	TRLK9742	380	Cx. tarsalis	Crows Landing	33	CO2	7/6/2017	WNV
Tulare	DLN084	137	Cx. quinquefasciatus	Terra Bella	50	CO2	6/29/2017	WNV
Tulare	DLTA7529	1336	Cx. quinquefasciatus	Visalia	50	CO2	6/29/2017	WNV
Tulare	DLTA8422	1398	Cx. quinquefasciatus	Goshen	50	GRVD	6/30/2017	WNV
Tulare	DLTA8423	1400	Cx. quinquefasciatus	Visalia	40	GRVD	6/30/2017	WNV
Tulare	DLTA8424	1403	Cx. quinquefasciatus	Visalia	22	GRVD	6/30/2017	WNV
Tulare	DLTA8426	1401	Cx. quinquefasciatus	Visalia	19	GRVD	6/30/2017	WNV
Tulare	DLTA8434	1340	Cx. quinquefasciatus	Visalia	18	GRVD	6/29/2017	WNV
Tulare	DLTA8435	1379	Cx. quinquefasciatus	Visalia	29	GRVD	6/30/2017	WNV
Tulare	DLTA8436	1381	Cx. quinquefasciatus	Visalia	13	GRVD	6/30/2017	WNV
Tulare	DLTA8519	1357	Cx. quinquefasciatus	Visalia	50	GRVD	6/29/2017	WNV
Tulare	DLTA8519	1404	Cx. quinquefasciatus	Visalia	13	GRVD	6/30/2017	WNV
Tulare	DLTA8521	1359	Cx. quinquefasciatus	Visalia	37	GRVD	6/29/2017	WNV
Tulare	DLTA8527	1393	Cx. quinquefasciatus	Visalia	17	GRVD	6/30/2017	WNV
Tulare	DLTA8528	1367	Cx. quinquefasciatus	Visalia	37	GRVD	6/29/2017	WNV
Tulare	DLTA8529	1353	Cx. quinquefasciatus	Visalia	28	GRVD	6/29/2017	WNV
Tulare	DLTA8531	1371	Cx. quinquefasciatus	Visalia	43	GRVD	6/30/2017	WNV
Tulare	DLTA8532	1370	Cx. quinquefasciatus	Visalia	25	GRVD	6/30/2017	WNV
Tulare	DLTA8533	1376	Cx. quinquefasciatus	Visalia	34	GRVD	6/30/2017	WNV
Tulare	DLTA9403	1380	Cx. quinquefasciatus	Visalia	43	GRVD	6/30/2017	WNV
Tulare	DLTA9505	1374	Cx. quinquefasciatus	Visalia	50	GRVD	6/30/2017	WNV
Tulare	DLTA9506	1373	Cx. quinquefasciatus	Visalia	22	GRVD	6/30/2017	WNV
Tulare	TLRE192435	126	Cx. quinquefasciatus	Tulare	50	GRVD	7/6/2017	WNV
Tulare	TLRE192530	123	Cx. quinquefasciatus	Tulare	50	GRVD	7/5/2017	WNV
Tulare	TLRE202402	125	Cx. quinquefasciatus	Tulare	27	GRVD	7/6/2017	WNV
Tulare	TLRE222532	120	Cx. quinquefasciatus	Pixley	50	GRVD	7/4/2017	WNV
Yuba	SUYA40	110	Cx. tarsalis	Marysville	50	CO2	7/5/2017	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Los Angeles	LACW1007	Baldwin Hills	6/29/2017	WNV	2540

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.

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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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