

California Arbovirus Surveillance Bulletin #11

Week 24 Friday, June 16, 2017



Weekly Update

Humans

One human case of West Nile virus (WNV) illness was reported this week from Los Angeles County. To date this year, two cases of WNV illness have been reported from two counties: Kings (1) and Los Angeles (1). Of the two case-patients, both had non-neuroinvasive illness (West Nile fever). As of this date in 2016, no human WNV cases had been reported.

Dead Birds

A total of two WNV positive dead birds were reported this week from two counties: San Bernardino (1), and San Diego (1). **This is the first positive dead bird reported from San Bernardino County this year.** To date this year, 25 birds from 10 counties have tested positive for WNV. As of this date in 2016, 191 WNV positive birds had been reported from 14 counties.

Mosquito Pools

West Nile Virus

A total of 72 WNV positive mosquito pools were reported this week from the following six counties: Kern (8), Los Angeles (5), Riverside (4), Sacramento (1), Tulare (53), and Yolo (1). **This is the first detection of WNV activity in Yolo County in 2017 and the first positive mosquito pool reported from Sacramento County.** To date this year, 157 WNV positive mosquito pools have been reported from 10 counties. As of this date in 2016, 185 WNV positive mosquito pools had been reported from 15 counties.

St. Louis Encephalitis Virus

One mosquito pool from Fresno County tested positive for St. Louis encephalitis virus (SLEV). This is the first detection of SLEV in California in 2017.

As of this date in 2016, 17 SLEV positive mosquito pools had been reported from one county.

Sentinel Chickens

No seroconversions have been reported in 2017.

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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2016 & 2017 YTD West Nile Virus Comparisons		
	2016	2017
Total # Dead Bird Reports	3,166	2,787
# Positive Counties	19	14
# Human Cases	0	2
# Positive Dead Birds / # Tested	191 / 809	25 / 640
# Positive Mosquito Pools / # Tested	185 / 12,633	157 / 12,882
# Seroconversions / # Tested	2 / 2,617	0 / 3,244

YTD WNV Activity by Element and County, 2017				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Kern		1	14	
Kings	1			
Los Angeles	1	3	8	
Merced			1	
Nevada		1		
Orange		2		
Riverside		1	15	
Sacramento		10	1	
San Bernardino		1	6	
San Diego		2	1	
San Joaquin			6	
San Mateo		1		
Tulare		3	104	
Yolo			1	
Totals	2	25	157	0

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	1	0	0
	YTD	2	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	84	2
	YTD	640	25

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	374	0	0	0
	YTD	3,244	0	0	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	72 / 1,471	1 / 1,088	0 / 921	0 / 19	0 / 19	0 / 19
		YTD	157 / 12,882	1 / 11,424	0 / 10,208	0 / 345	0 / 345	0 / 345

New Positives

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
San Diego	San Diego Co VCP	Vista	92084	American Crow	6/12/2017	WNV
San Bernardino	West Valley MVCD	Ontario	91764	American Crow	6/12/2017	WNV

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Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	FRNO103	109	Cx. quinquefasciatus	Herndon	62	BGSENT	6/9/2017	SLEV
Kern	KERN0	283	Cx. quinquefasciatus		50	GRVD	6/7/2017	WNV
Kern	KERN15	294	Cx. tarsalis	Bakersfield	50	CO2	6/8/2017	WNV
Kern	KERN2010	284	Cx. quinquefasciatus	Bakersfield	46	GRVD	6/7/2017	WNV
Kern	KERN2020	285	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/7/2017	WNV
Kern	KERN2028	286	Cx. quinquefasciatus	Bakersfield	37	GRVD	6/7/2017	WNV
Kern	KERN32	308	Cx. tarsalis	Arvin	30	CO2	6/9/2017	WNV
Kern	KERN39	291	Cx. tarsalis	Wasco	50	CO2	6/7/2017	WNV
Kern	KERN42	311	Cx. tarsalis	Bakersfield	50	CO2	6/9/2017	WNV
Los Angeles	GRLA2278	295	Cx. quinquefasciatus	Long Beach	50	GRVD	6/9/2017	WNV
Los Angeles	SGVA27	1036	Cx. quinquefasciatus	San Dimas	2	GRVD	5/31/2017	WNV
Los Angeles	SGVA955	1104	Cx. quinquefasciatus	West Covina	5	GRVD	6/6/2017	WNV
Los Angeles	SGVA955	1115	Cx. quinquefasciatus	West Covina	5	GRVD	6/6/2017	WNV
Los Angeles	SGVA955	1121	Cx. quinquefasciatus	West Covina	5	GRVD	6/6/2017	WNV
Riverside	COAV48	2510	Cx. tarsalis	Mecca	46	CO2	6/15/2017	WNV
Riverside	COAV58	2439	Cx. tarsalis	Mecca	50	CO2	6/13/2017	WNV
Riverside	COAV58	2442	Cx. tarsalis	Mecca	19	CO2	6/13/2017	WNV
Riverside	COAV611	2457	Cx. tarsalis	Mecca	40	CO2	6/13/2017	WNV
Sacramento	SAYO261003	1369	Cx. pipiens	Isleton	1	GRVD	6/8/2017	WNV
Tulare	DLTA8435	952	Cx. quinquefasciatus	Visalia	14	GRVD	6/14/2017	WNV
Tulare	DLTA8436	919	Cx. quinquefasciatus	Visalia	49	GRVD	6/13/2017	WNV
Tulare	DLTA8436	948	Cx. quinquefasciatus	Visalia	35	GRVD	6/14/2017	WNV
Tulare	DLTA8520	850	Cx. quinquefasciatus	Visalia	50	GRVD	6/8/2017	WNV
Tulare	DLTA8521	866	Cx. quinquefasciatus	Visalia	25	GRVD	6/8/2017	WNV
Tulare	DLTA8521	924	Cx. quinquefasciatus	Visalia	50	GRVD	6/13/2017	WNV
Tulare	DLTA8521	964	Cx. quinquefasciatus	Visalia	42	GRVD	6/14/2017	WNV
Tulare	DLTA8522	1040	Cx. quinquefasciatus	Visalia	27	GRVD	6/15/2017	WNV
Tulare	DLTA8527	860	Cx. quinquefasciatus	Visalia	50	GRVD	6/8/2017	WNV
Tulare	DLTA8529	891	Cx. quinquefasciatus	Visalia	13	GRVD	6/9/2017	WNV
Tulare	DLTA8529	932	Cx. quinquefasciatus	Visalia	27	GRVD	6/13/2017	WNV
Tulare	DLTA8530	950	Cx. quinquefasciatus	Visalia	19	GRVD	6/14/2017	WNV
Tulare	DLTA8530	972	Cx. quinquefasciatus	Visalia	50	GRVD	6/14/2017	WNV
Tulare	DLTA8531	879	Cx. quinquefasciatus	Visalia	35	GRVD	6/9/2017	WNV
Tulare	DLTA8531	944	Cx. quinquefasciatus	Visalia	14	GRVD	6/14/2017	WNV
Tulare	DLTA8532	806	Cx. quinquefasciatus	Visalia	40	GRVD	6/8/2017	WNV
Tulare	DLTA8532	809	Cx. quinquefasciatus	Visalia	47	GRVD	6/8/2017	WNV
Tulare	DLTA8532	914	Cx. quinquefasciatus	Visalia	31	GRVD	6/13/2017	WNV
Tulare	DLTA8532	983	Cx. quinquefasciatus	Visalia	13	GRVD	6/15/2017	WNV
Tulare	DLTA8533	807	Cx. quinquefasciatus	Visalia	50	GRVD	6/8/2017	WNV
Tulare	DLTA8533	808	Cx. quinquefasciatus	Visalia	49	GRVD	6/8/2017	WNV
Tulare	DLTA8533	810	Cx. quinquefasciatus	Visalia	11	GRVD	6/8/2017	WNV
Tulare	DLTA8533	880	Cx. quinquefasciatus	Visalia	39	GRVD	6/9/2017	WNV
Tulare	DLTA8533	913	Cx. quinquefasciatus	Visalia	15	GRVD	6/13/2017	WNV
Tulare	DLTA8533	977	Cx. quinquefasciatus	Visalia	28	GRVD	6/15/2017	WNV
Tulare	DLTA8534	942	Cx. quinquefasciatus	Visalia	50	GRVD	6/14/2017	WNV
Tulare	DLTA8534	943	Cx. quinquefasciatus	Visalia	12	GRVD	6/14/2017	WNV
Tulare	DLTA8534	984	Cx. quinquefasciatus	Visalia	14	GRVD	6/15/2017	WNV
Tulare	DLTA9401	916	Cx. quinquefasciatus	Visalia	28	GRVD	6/13/2017	WNV

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Tulare	DLTA9402	883	Cx. quinquefasciatus	Visalia	43	GRVD	6/9/2017	WNV
Tulare	DLTA9403	920	Cx. quinquefasciatus	Visalia	50	GRVD	6/13/2017	WNV
Tulare	DLTA9411	819	Cx. quinquefasciatus	Visalia	50	GRVD	6/8/2017	WNV
Tulare	DLTA9411	992	Cx. quinquefasciatus	Visalia	50	GRVD	6/15/2017	WNV
Tulare	DLTA9412	994	Cx. quinquefasciatus	Visalia	50	GRVD	6/15/2017	WNV
Tulare	DLTA9412	995	Cx. quinquefasciatus	Visalia	41	GRVD	6/15/2017	WNV
Tulare	DLTA9412	996	Cx. quinquefasciatus	Visalia	10	GRVD	6/15/2017	WNV
Tulare	DLTA9501	892	Cx. quinquefasciatus	Farmersville	50	GRVD	6/9/2017	WNV
Tulare	DLTA9504	812	Cx. quinquefasciatus	Visalia	34	GRVD	6/8/2017	WNV
Tulare	DLTA9504	881	Cx. quinquefasciatus	Visalia	27	GRVD	6/9/2017	WNV
Tulare	DLTA9504	953	Cx. quinquefasciatus	Visalia	10	GRVD	6/14/2017	WNV
Tulare	DLTA9505	915	Cx. quinquefasciatus	Visalia	34	GRVD	6/13/2017	WNV
Tulare	DLTA9505	947	Cx. quinquefasciatus	Visalia	16	GRVD	6/14/2017	WNV
Tulare	DLTA9505	980	Cx. quinquefasciatus	Visalia	12	GRVD	6/15/2017	WNV
Tulare	DLTA9505	981	Cx. quinquefasciatus	Visalia	50	GRVD	6/15/2017	WNV
Tulare	DLTA9506	945	Cx. quinquefasciatus	Visalia	40	GRVD	6/14/2017	WNV
Tulare	DLTA9606	926	Cx. quinquefasciatus	Farmersville	35	GRVD	6/13/2017	WNV
Tulare	TLRE192507	75	Cx. quinquefasciatus	Visalia	31	GRVD	6/13/2017	WNV
Tulare	TLRE192507	81	Cx. quinquefasciatus	Visalia	37	GRVD	6/14/2017	WNV
Tulare	TLRE192507	83	Cx. quinquefasciatus	Visalia	12	GRVD	6/14/2017	WNV
Tulare	TLRE192507	85	Cx. quinquefasciatus	Visalia	50	GRVD	6/14/2017	WNV
Tulare	TLRE192508	76	Cx. quinquefasciatus	Visalia	24	GRVD	6/13/2017	WNV
Tulare	TLRE192508	79	Cx. quinquefasciatus	Visalia	18	GRVD	6/13/2017	WNV
Tulare	TLRE192508	84	Cx. quinquefasciatus	Visalia	32	GRVD	6/14/2017	WNV
Yolo	SAYO115008	1393	Cx. tarsalis	Woodland	23	CO2	6/8/2017	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 UC Davis Center for Vectorborne Diseases (CVEC) 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 submitted to the California Department of Public Health Vector-Borne Disease Laboratory and tested for the presence of 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 are submitted to CVEC and screened for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a Taqman multiplex RT-PCR. CVEC no longer performs confirmatory testing on PCR-positive pools of *Cx. tarsalis* and *Cx. quinquefasciatus* but will continue to confirm multiplex PCR-positive results for other mosquito species using singleplex RT-PCR.

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