

California Arbovirus Surveillance Bulletin #15

Week 28 Friday, July 13, 2018



Weekly Update

Humans

One new human case of West Nile virus (WNV) illness was reported this week from Fresno County. To date this year, a total of 10 human WNV cases have been reported from 6 counties. Of the 10 case patients, 5 (50%) had neuroinvasive illness; no fatalities have been reported. The median age of the individuals is 58 years (range: 14–90 years) and 6 (60%) are male. Dates of symptom onset ranged from May 6 – May 28. At this time last year, 4 human WNV cases had been reported from 4 counties.

Dead Birds

A total of 17 WNV positive dead birds were reported this week from 4 counties: Alameda (3), Placer (1), Sacramento (10), and Yolo (3). **This is the first positive bird from Placer County this year.** In 2018, a total of 67 WNV positive dead birds have been reported from 13 counties. At this time last year, 71 WNV positive dead birds had been reported from 14 counties.

Mosquito Pools

West Nile virus

A total of 65 WNV positive mosquito pools were reported this week from 9 counties: Butte (4), Los Angeles (1), Placer (3), Riverside (3), Sacramento (33), San Joaquin (14), Stanislaus (4), Tulare (2), and Yolo (1). **This is the first detection of WNV activity in Butte County in 2018, and the first WNV positive mosquito pools detected in Los Angeles and Stanislaus counties this year.** In 2018, 171 mosquito pools have tested positive for WNV from 15 counties. At this time last year, 681 WNV positive mosquito pools had been reported from 19 counties.

St. Louis encephalitis virus

A total of 26 mosquito pools were reported positive for St. Louis encephalitis virus (SLEV) this week from 4 counties: Fresno (3), Kern (7), Riverside (2), and Tulare (14). In 2018, 70 SLEV positive mosquito pools have been reported from 4 counties: Fresno (5), Kern (22), Riverside (5), and Tulare (38). At this time last year, 7 SLEV positive mosquito pools had been reported from 2 counties.

Sentinel Chickens

A total of 7 WNV seroconversions were reported this week from 1 flock located in Contra Costa County. **This is the first detection of WNV activity in Contra Costa County this year.** In 2018, 7 WNV positive chickens have been reported from 1 county. At this time last year, 17 WNV positive chickens had been reported from 2 counties.

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2017 & 2018 YTD West Nile Virus Comparisons		
	2017	2018
Total # Dead Bird Reports	3,885	3,626
# Positive Counties	22	21
# Human Cases	4	10
# Positive Dead Birds / # Tested	71 / 966	67 / 809
# Positive Mosquito Pools / # Tested	681 / 20,041	171 / 17,239
# Seroconversions / # Tested	17 / 5,043	7 / 4,453

YTD WNV Activity by Element and County, 2018				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		7	7	
Butte			4	
Contra Costa				7
El Dorado		2		
Fresno	2			
Humboldt		1		
Kern	2		1	
Los Angeles	2	2	1	
Merced			1	
Orange			1	
Placer		1	4	
Riverside	2	2	9	
Sacramento	1	36	76	
San Bernardino	1		2	
San Joaquin		1	55	
San Mateo		2		
Santa Clara		6	1	
Santa Cruz		1		
Stanislaus		1	4	
Tulare			3	
Yolo		5	2	
Totals	10	67	171	7

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	1	0	0
	YTD	10	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	66	17
	YTD	809	67

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	478	7	0	0
	YTD	4,453	7	0	0

Mosquitoes

		Positive / Total Tested						
Mosquito Pools		WNV	SLEV	WEEV	CHIK	DENV	ZIKA	
		Week	65 / 1,773	26 / 1,623	0 / 1,438	0 / 145	0 / 145	0 / 145
		YTD	171 / 17,239	70 / 13,358	0 / 12,165	0 / 440	0 / 440	0 / 440

New Positives

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Alameda	Alameda Co MAD	Fremont	94536	American Crow	7/6/2018	WNV
Alameda	Alameda Co MAD	Union City	94587	American Crow	6/29/2018	WNV
Alameda	Alameda Co MAD	Union City	94587	American Crow	6/29/2018	WNV
Placer	Placer MVCD	Roseville	95747	Brewer's Blackbird	7/10/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	American Crow	7/10/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	American Robin	7/6/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95758	Anna's Hummingbird	7/5/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Fair Oaks	95628	California Scrub-Jay	7/8/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95814	American Crow	7/9/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	American Crow	7/6/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	Yellow-billed Magpie	7/9/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95829	California Scrub-Jay	7/8/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95831	American Crow	7/5/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95834	Lesser Goldfinch	7/9/2018	WNV
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	American Crow	7/9/2018	WNV
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	American Crow	7/9/2018	WNV
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	American Robin	7/5/2018	WNV

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Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Butte	BUCO29	111	Cx. tarsalis	Dayton	50	CO2	7/2/18	WNV
Butte	BUCO38	125	Cx. tarsalis	Oroville	50	CO2	7/9/18	WNV
Butte	BUCO38	129	Cx. tarsalis	Oroville	50	CO2	7/9/18	WNV
Butte	BUCO55	124	Cx. tarsalis	Palermo	50	CO2	7/9/18	WNV
Fresno	CNSL1062	140	Cx. quinquefasciatus	Fresno	27	GRVD	7/3/18	SLEV
Fresno	CNSL1882	142	Cx. quinquefasciatus	Fresno	50	GRVD	7/6/18	SLEV
Fresno	FRNO38	365	Cx. quinquefasciatus	Fresno	50	GRVD	7/12/18	SLEV
Kern	KERN121	251	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/5/18	SLEV
Kern	KERN2002	252	Cx. quinquefasciatus	Bakersfield	25	GRVD	7/5/18	SLEV
Kern	KERN2014	257	Cx. quinquefasciatus	Bakersfield	41	GRVD	7/6/18	SLEV
Kern	KERN2020	246	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/5/18	SLEV
Kern	KERN2028	245	Cx. quinquefasciatus	Bakersfield	50	GRVD	7/5/18	SLEV
Kern	WEST6282	41	Cx. tarsalis	Taft	50	CO2	7/11/18	SLEV
Kern	WEST6282	42	Cx. tarsalis	Taft	50	CO2	7/11/18	SLEV
Los Angeles	GRLA2416	5499	Cx. quinquefasciatus	Panorama City	50	GRVD	7/3/18	WNV
Placer	PLCR139	691	Cx. tarsalis	Roseville	50	CO2	7/10/18	WNV
Placer	PLCR668	747	Cx. tarsalis	Elverta	50	CO2	7/10/18	WNV
Placer	PLCR668	748	Cx. tarsalis	Elverta	50	CO2	7/10/18	WNV
Riverside	COAV320	2706	Cx. quinquefasciatus	Palm Desert	50	GRVD	7/6/18	WNV
Riverside	COAV320	2707	Cx. quinquefasciatus	Palm Desert	29	GRVD	7/6/18	WNV
Riverside	COAV35	2782	Cx. tarsalis	Mecca	12	CO2	7/10/18	SLEV
Riverside	COAV35	2816	Cx. tarsalis	Mecca	50	CO2	7/13/18	SLEV
Riverside	COAV415	2801	Cx. quinquefasciatus	Indian Wells	50	GRVD	7/12/18	WNV
Sacramento	SAYO204020	2878	Cx. tarsalis	Sacramento	1	GRVD	7/10/18	WNV
Sacramento	SAYO204020	2880	Cx. pipiens	Sacramento	50	GRVD	7/10/18	WNV
Sacramento	SAYO204020	2881	Cx. pipiens	Sacramento	50	GRVD	7/10/18	WNV
Sacramento	SAYO204051	2637	Cx. pipiens	Citrus Heights	50	GRVD	7/6/18	WNV
Sacramento	SAYO204051	2638	Cx. pipiens	Citrus Heights	50	GRVD	7/6/18	WNV
Sacramento	SAYO212021	2898	Cx. pipiens	Sacramento	52	GRVD	7/10/18	WNV
Sacramento	SAYO212027	2885	Cx. pipiens	Sacramento	25	GRVD	7/10/18	WNV
Sacramento	SAYO214011	2623	Cx. pipiens	Fair Oaks	8	GRVD	7/6/18	WNV
Sacramento	SAYO222011	2743	Cx. pipiens	Sacramento	49	CO2	7/10/18	WNV
Sacramento	SAYO222059	2726	Cx. pipiens	Sacramento	50	GRVD	7/10/18	WNV
Sacramento	SAYO222059	2727	Cx. pipiens	Sacramento	32	GRVD	7/10/18	WNV
Sacramento	SAYO222065	2852	Cx. pipiens	Sacramento	50	CO2	7/10/18	WNV
Sacramento	SAYO223048	2838	Cx. pipiens	Sacramento	23	GRVD	7/10/18	WNV
Sacramento	SAYO232020	2824	Cx. pipiens	Sacramento	43	GRVD	7/10/18	WNV
Sacramento	SAYO232038	2846	Cx. pipiens	Sacramento	50	GRVD	7/10/18	WNV
Sacramento	SAYO233001	2767	Cx. pipiens	Elk Grove	50	GRVD	7/10/18	WNV
Sacramento	SAYO233009	2761	Cx. tarsalis	Elk Grove	50	CO2	7/10/18	WNV
Sacramento	SAYO233023	2748	Cx. pipiens	Elk Grove	18	GRVD	7/10/18	WNV
Sacramento	SAYO233027	2749	Cx. tarsalis	Elk Grove	11	CO2	7/10/18	WNV
Sacramento	SAYO233027	2750	Cx. pipiens	Elk Grove	50	CO2	7/10/18	WNV
Sacramento	SAYO233027	2751	Cx. pipiens	Elk Grove	20	CO2	7/10/18	WNV
Sacramento	SAYO233027	2752	Cx. pipiens	Elk Grove	27	GRVD	7/10/18	WNV
Sacramento	SAYO233032	2932	Cx. tarsalis	Sacramento	29	CO2	7/10/18	WNV
Sacramento	SAYO233032	2935	Cx. pipiens	Sacramento	50	GRVD	7/10/18	WNV
Sacramento	SAYO233032	2936	Cx. pipiens	Sacramento	31	GRVD	7/10/18	WNV
Sacramento	SAYO233041	2919	Cx. pipiens	Elk Grove	50	GRVD	7/10/18	WNV
Sacramento	SAYO233041	2920	Cx. pipiens	Elk Grove	50	GRVD	7/10/18	WNV

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Sacramento	SAYO233073	2722	Cx. pipiens	Elk Grove	29	GRVD	7/10/18	WNV
Sacramento	SAYO233093	2927	Cx. pipiens	Elk Grove	50	CO2	7/10/18	WNV
Sacramento	SAYO233093	2929	Cx. pipiens	Elk Grove	50	GRVD	7/10/18	WNV
Sacramento	SAYO233093	2930	Cx. pipiens	Elk Grove	50	GRVD	7/10/18	WNV
Sacramento	SAYO243009	2729	Cx. pipiens	Elk Grove	50	CO2	7/10/18	WNV
Sacramento	SAYO243013	2734	Cx. pipiens	Elk Grove	9	GRVD	7/10/18	WNV
San Joaquin	SJCM7011	1026	Cx. pipiens	Stockton	21	GRVD	7/10/18	WNV
San Joaquin	SJCM8005	1054	Cx. tarsalis	Stockton	50	CO2	7/10/18	WNV
San Joaquin	SJCM8018	1093	Cx. tarsalis	Stockton	100	CO2	7/10/18	WNV
San Joaquin	SJCM8018	1094	Cx. tarsalis	Stockton	100	CO2	7/10/18	WNV
San Joaquin	SJCM8018	1095	Cx. tarsalis	Stockton	100	CO2	7/10/18	WNV
San Joaquin	SJCM8018	1154	Cx. tarsalis	Stockton	100	CO2	7/10/18	WNV
San Joaquin	SJCM8018	1160	Cx. tarsalis	Stockton	100	CO2	7/10/18	WNV
San Joaquin	SJCM8018	1161	Cx. tarsalis	Stockton	100	CO2	7/10/18	WNV
San Joaquin	SJCM8076	1027	Cx. tarsalis	Stockton	42	CO2	7/10/18	WNV
San Joaquin	SJCM8076	1028	Cx. pipiens	Stockton	7	CO2	7/10/18	WNV
San Joaquin	SJCM8198	1034	Cx. tarsalis	Stockton	38	CO2	7/10/18	WNV
San Joaquin	SJCM8199	1147	Cx. tarsalis	Manteca	27	CO2	7/10/18	WNV
San Joaquin	SJCM8199	1149	Cx. pipiens	Manteca	50	CO2	7/10/18	WNV
San Joaquin	SJCM8206	1073	Cx. tarsalis	Lodi	50	CO2	7/10/18	WNV
Stanislaus	TRLK1615	538	Cx. tarsalis	Modesto	50	CO2	7/10/18	WNV
Stanislaus	TRLK1615	540	Cx. tarsalis	Modesto	48	CO2	7/10/18	WNV
Stanislaus	TRLK305	574	Cx. tarsalis	Grayson	50	CO2	7/10/18	WNV
Stanislaus	TRLK9768	562	Cx. tarsalis	Modesto	9	CO2	7/10/18	WNV
Tulare	DLTA8424	1881	Cx. quinquefasciatus	Visalia	24	GRVD	7/6/18	SLEV
Tulare	DLTA8435	1834	Cx. quinquefasciatus	Visalia	34	GRVD	7/6/18	SLEV
Tulare	DLTA8520	1989	Cx. quinquefasciatus	Visalia	50	GRVD	7/12/18	SLEV
Tulare	DLTA8528	1935	Cx. quinquefasciatus	Visalia	50	GRVD	7/11/18	SLEV
Tulare	DLTA8531	1926	Cx. quinquefasciatus	Visalia	19	GRVD	7/11/18	SLEV
Tulare	DLTA8532	1882	Cx. quinquefasciatus	Visalia	26	GRVD	7/10/18	SLEV
Tulare	DLTA9401	1831	Cx. quinquefasciatus	Visalia	40	GRVD	7/6/18	SLEV
Tulare	DLTA9401	1920	Cx. quinquefasciatus	Visalia	33	GRVD	7/11/18	SLEV
Tulare	DLTA9401	1932	Cx. quinquefasciatus	Visalia	13	GRVD	7/11/18	SLEV
Tulare	DLTA9411	1924	Cx. quinquefasciatus	Visalia	26	GRVD	7/11/18	SLEV
Tulare	DLTA9412	1884	Cx. quinquefasciatus	Visalia	21	GRVD	7/10/18	SLEV
Tulare	DLTA9505	1835	Cx. quinquefasciatus	Visalia	47	GRVD	7/6/18	SLEV
Tulare	DLTA9506	1836	Cx. quinquefasciatus	Visalia	31	GRVD	7/6/18	SLEV
Tulare	TLRE202412	76	Cx. quinquefasciatus	Tulare	50	GRVD	7/5/18	SLEV
Tulare	TLRE202634	52	Cx. quinquefasciatus	Plainview	50	GRVD	6/29/18	WNV
Tulare	TLRE202635	55	Cx. quinquefasciatus	Plainview	50	GRVD	6/29/18	WNV
Yolo	SAYO146002	2817	Cx. pipiens	Davis	3	GRVD	7/10/18	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04	Band 05	Band 06	Band 07
Contra Costa	CNTR8152	Knightsen	7/2/2018	WNV	1401	1402	1403	1404	1405	1406	1410

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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 with a plaque reduction neutralization test (PRNT).

Dead Birds

Oral swab samples collected from bird carcasses are tested at the UC Davis Arbovirus Research and Training laboratory (DART) or at a local agency for West Nile virus by RT-qPCR.

Sentinel Chickens:

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

Mosquito Pools:

Mosquito pools are tested at DART or at a local agency for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex RT-qPCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested at DART for chikungunya, dengue, and Zika viral RNA by a separate RT-qPCR.

Website Information: For updated information on WNV and SLEV 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 websites: www.cdc.gov and https://wwwn.cdc.gov/arbovet/maps/ADB_Diseases_Map/index.html

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