

California Arbovirus Surveillance Bulletin #14

Week 27 Friday, July 6, 2018



Weekly Update

Humans

No new human cases were reported this week. To date this year, a total of 9 human cases of West Nile virus (WNV) illness have been reported from 6 counties. Of the 9 case patients, 5 (56%) had neuroinvasive illness; no fatalities have been reported. The median age of the individuals is 60 years (range: 14–78 years) and 5 are male. At this time last year, 3 human WNV cases had been reported from 3 counties.

Dead Birds

A total of 15 WNV positive dead birds were reported this week from 2 counties: Sacramento (14), and Yolo (1). In 2018, a total of 50 WNV positive dead birds have been reported from 12 counties. At this time last year, 51 WNV positive dead birds had been reported from 12 counties.

Mosquito Pools

West Nile virus

A total of 59 WNV positive mosquito pools were reported this week from 7 counties: Kern (1), Orange (1), Placer (1), Riverside (1), Sacramento (21), San Joaquin (33), and Yolo (1). **This is the first detection of WNV activity in Orange and Placer counties this year.** In 2018, 106 mosquito pools have tested positive for WNV from 12 counties. At this time last year, 490 WNV positive mosquito pools had been reported from 15 counties.

St. Louis encephalitis virus

A total of 15 mosquito pools were reported positive for St. Louis encephalitis virus (SLEV) this week from 3 counties: Kern (6), Riverside (3), and Tulare (6). **This is the first detection of SLEV activity in Riverside County this year.** In 2018, 44 SLEV positive mosquito pools have been reported from 4 counties: Fresno (2), Kern (15), Riverside (3), and Tulare (24). At this time last year, 5 SLEV positive mosquito pools had been reported from 2 counties.

Sentinel Chickens

No seroconversions have been reported in 2018. At this time last year, 2 WNV positive chickens had been reported from 1 county.

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2017 & 2018 YTD West Nile Virus Comparisons		
	2017	2018
Total # Dead Bird Reports	3,656	3,648
# Positive Counties	18	19
# Human Cases	3	9
# Positive Dead Birds / # Tested	51 / 892	50 / 743
# Positive Mosquito Pools / # Tested	490 / 18,245	106 / 15,466
# Seroconversions / # Tested	2 / 4,652	0 / 3,975

YTD WNV Activity by Element and County, 2018				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		4	7	
El Dorado		2		
Fresno	1			
Humboldt		1		
Kern	2		1	
Los Angeles	2	2		
Merced			1	
Orange			1	
Placer			1	
Riverside	2	2	6	
Sacramento	1	26	43	
San Bernardino	1		2	
San Joaquin		1	41	
San Mateo		2		
Santa Clara		6	1	
Santa Cruz		1		
Stanislaus		1		
Tulare			1	
Yolo		2	1	
Totals	9	50	106	0

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TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	0	0	0
	YTD	9	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	48	15
	YTD	743	50

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	288	0	0	0
	YTD	3,975	0	0	0

Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		59 / 2,500	15 / 1,300	0 / 1,103	0 / 0	0 / 0	0 / 0
		YTD	106 / 15,466	44 / 11,735	0 / 10,727	0 / 295	0 / 295

New Positives

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Sacramento	Sacramento-Yolo MVCD	Citrus Heights	95621	California Scrub-Jay	7/2/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	American Robin	6/29/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	California Scrub-Jay	6/29/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	Lesser Goldfinch	7/3/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95814	Cooper's Hawk	6/29/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95815	American Crow	6/27/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95815	American Crow	7/1/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95816	Anna's Hummingbird	7/2/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	Northern Mockingbird	6/28/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95822	California Scrub-Jay	6/28/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95822	California Scrub-Jay	6/28/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95822	California Scrub-Jay	6/29/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95831	American Crow	6/29/2018	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95831	American Crow	7/3/2018	WNV
Yolo	Sacramento-Yolo MVCD	West Sacramento	95691	Nuttall's Woodpecker	6/29/2018	WNV

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Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Kern	KERN121	233	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/29/18	SLEV
Kern	KERN2010	211	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/27/18	SLEV
Kern	KERN2020	212	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/27/18	SLEV
Kern	KERN2021	221	Cx. quinquefasciatus	Wasco	50	GRVD	6/28/18	WNV
Kern	KERN2024	222	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/28/18	SLEV
Kern	KERN2027	213	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/27/18	SLEV
Kern	KERN2028	214	Cx. quinquefasciatus	Bakersfield	50	GRVD	6/27/18	SLEV
Orange	ORCO236	1764	Cx. quinquefasciatus	Garden Grove	50	GRVD	7/3/18	WNV
Placer	PLCR1113	613	Cx. tarsalis	Pleasant Grove	50	CO2	7/3/18	WNV
Riverside	COAV122	2717	Cx. tarsalis	Mecca	41	CO2	7/3/18	SLEV
Riverside	COAV48	2718	Cx. tarsalis	Mecca	29	CO2	7/3/18	SLEV
Riverside	COAV611	2687	Cx. tarsalis	Mecca	40	CO2	7/3/18	SLEV
Riverside	NWST115	35	Cx. quinquefasciatus	Riverside	24	CO2	6/27/18	WNV
Sacramento	SAYO204051	2291	Cx. pipiens	Citrus Heights	9	GRVD	6/29/18	WNV
Sacramento	SAYO212033	2415	Cx. tarsalis	Sacramento	50	CO2	7/3/18	WNV
Sacramento	SAYO212033	2416	Cx. tarsalis	Sacramento	50	CO2	7/3/18	WNV
Sacramento	SAYO212033	2417	Cx. tarsalis	Sacramento	50	CO2	7/3/18	WNV
Sacramento	SAYO212033	2422	Cx. pipiens	Sacramento	50	GRVD	7/3/18	WNV
Sacramento	SAYO213048	2400	Cx. pipiens	Sacramento	26	GRVD	7/3/18	WNV
Sacramento	SAYO215005	2293	Cx. tarsalis	Folsom	5	CO2	6/29/18	WNV
Sacramento	SAYO222011	2122	Cx. pipiens	Sacramento	50	GRVD	6/28/18	WNV
Sacramento	SAYO222011	2501	Cx. pipiens	Sacramento	50	GRVD	7/3/18	WNV
Sacramento	SAYO222059	2129	Cx. pipiens	Sacramento	50	GRVD	6/28/18	WNV
Sacramento	SAYO222059	2506	Cx. pipiens	Sacramento	50	GRVD	7/3/18	WNV
Sacramento	SAYO222059	2507	Cx. pipiens	Sacramento	50	GRVD	7/3/18	WNV
Sacramento	SAYO233023	2139	Cx. tarsalis	Elk Grove	19	CO2	6/29/18	WNV
Sacramento	SAYO233023	2142	Cx. pipiens	Elk Grove	50	GRVD	6/29/18	WNV
Sacramento	SAYO233089	2517	Cx. pipiens	Elk Grove	50	GRVD	7/3/18	WNV
Sacramento	SAYO235001	2304	Cx. tarsalis	Wilton	1	CO2	6/29/18	WNV
Sacramento	SAYO243009	2350	Cx. pipiens	Elk Grove	50	GRVD	7/3/18	WNV
Sacramento	SAYO243013	2345	Cx. pipiens	Elk Grove	2	GRVD	7/3/18	WNV
Sacramento	SAYO243026	2157	Cx. pipiens	Elk Grove	37	CO2	6/29/18	WNV
Sacramento	SAYO245002	2314	Cx. tarsalis	Wilton	30	CO2	6/29/18	WNV
Sacramento	SAYO254011	2297	Cx. tarsalis	Galt	1	GRVD	6/29/18	WNV
San Joaquin	SJCM8018	844	Cx. tarsalis	Stockton	50	CO2	7/3/18	WNV
San Joaquin	SJCM8018	846	Cx. tarsalis	Stockton	50	CO2	7/3/18	WNV
San Joaquin	SJCM8018	847	Cx. tarsalis	Stockton	50	CO2	7/3/18	WNV
San Joaquin	SJCM8018	864	Cx. tarsalis	Stockton	100	CO2	7/3/18	WNV
San Joaquin	SJCM8018	865	Cx. tarsalis	Stockton	100	CO2	7/3/18	WNV
San Joaquin	SJCM8078	832	Cx. tarsalis	Stockton	13	CO2	7/3/18	WNV
San Joaquin	SJCM8079	993	Cx. pipiens	Manteca	14	CO2	7/3/18	WNV
San Joaquin	SJCM8125	975	Cx. pipiens	Stockton	40	CO2	7/3/18	WNV
San Joaquin	SJCM8161	948	Cx. tarsalis	Ripon	50	CO2	7/3/18	WNV
San Joaquin	SJCM8161	949	Cx. tarsalis	Ripon	46	CO2	7/3/18	WNV
San Joaquin	SJCM8161	950	Cx. pipiens	Ripon	50	CO2	7/3/18	WNV
San Joaquin	SJCM8161	951	Cx. pipiens	Ripon	11	CO2	7/3/18	WNV
San Joaquin	SJCM8206	889	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	890	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	891	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	892	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	893	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV

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San Joaquin	SJCM8206	895	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
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San Joaquin	SJCM8206	899	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	900	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	901	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	902	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	903	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	904	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	905	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	907	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	908	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	910	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	911	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8206	914	Cx. tarsalis	Lodi	50	CO2	7/3/18	WNV
San Joaquin	SJCM8211	836	Cx. pipiens	Stockton	19	CO2	7/3/18	WNV
San Joaquin	SJCM8215	1008	Cx. pipiens	Stockton	17	CO2	7/5/18	WNV
Tulare	DLTA8427	1757	Cx. quinquefasciatus	Visalia	20	GRVD	6/29/18	SLEV
Tulare	DLTA8531	1719	Cx. quinquefasciatus	Visalia	36	GRVD	6/29/18	SLEV
Tulare	DLTA8531	1793	Cx. quinquefasciatus	Visalia	20	GRVD	7/3/18	SLEV
Tulare	DLTA9401	1823	Cx. quinquefasciatus	Visalia	17	GRVD	7/3/18	SLEV
Tulare	DLTA9505	1827	Cx. quinquefasciatus	Visalia	13	GRVD	7/3/18	SLEV
Tulare	DLTA9506	1730	Cx. quinquefasciatus	Visalia	12	GRVD	6/29/18	SLEV
Yolo	SAYO146006	2439	Cx. pipiens	Davis	26	GRVD	7/3/18	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 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/arbonet/maps/ADB_Diseases_Map/index.html

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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.