

California Arbovirus Surveillance Bulletin #16

Week 29 Friday, July 22, 2022



Weekly Update

Humans

West Nile virus

A total of 3 human cases of West Nile virus (WNV) illness were reported this week from 2 counties: Kern (2), and Yolo (1). **These are the first human WNV cases reported from Kern and Yolo counties this year.** In 2022, a total of 5 WNV human cases have been reported from 4 counties. Of the 5 cases, 4 (80%) had neuroinvasive illness. The median age of case patients was 52 years and 3 (60%) of the case patients were male. The dates of symptom onset ranged from May 24 to June 29. In addition to the 5 WNV cases, an additional single (1) asymptomatic WNV-positive blood donor has been reported from 1 county: Kern (1). At this time last year, 3 WNV cases had been reported from 3 counties.

St. Louis encephalitis virus

No new cases were reported this week. In 2022, 1 SLEV human case has been reported from 1 county: Stanislaus County. At this time last year, 0 SLEV cases had been reported.

Dead Birds

A total of 12 WNV positive dead birds were reported this week from 4 counties: Los Angeles (3), Sacramento (6), Santa Clara (2), and Solano (1). **These are the first positive dead birds from Santa Clara County this year.** In 2022, 36 WNV positive dead birds have been reported from 10 counties. At this time last year, 84 WNV positive dead birds had been reported from 9 counties.

Mosquito Pools

West Nile virus

A total of 124 WNV positive mosquito pools were reported this week from 16 counties: Fresno (22), Kings (11), Los Angeles (19), Madera (1), Orange (3), Placer (3), Riverside (4), San Bernardino (7), San Joaquin (16), Santa Clara (1), Solano (2), Stanislaus (1), Sutter (5), Tulare (27), Yolo (1), and Yuba (1) counties. **These are the first detections of WNV activity in Stanislaus and Yolo counties this year.** In 2022, 480 WNV positive mosquito pools have been reported from 21 counties. At this time last year, 414 WNV positive mosquito pools had been reported from 19 counties.

St. Louis encephalitis virus

A total of 3 St. Louis encephalitis virus (SLEV) positive mosquito pools were reported this week from 2 counties: Kings (1) and Riverside (2). **This is the first detection of SLEV activity in Riverside County this year.** In 2022, 7 positive mosquito pools from Imperial (2), Kings (2), Riverside (2), and Tulare (1) counties have been reported. At this time last year, 2 SLEV positive mosquito pools had been reported from 1 county.

Sentinel Chickens

A single (1) WNV positive chicken was reported this week from Yuba County. **This is the first WNV positive chicken reported from Yuba County this year.** In 2022, 2 WNV positive chickens have been reported from 2 counties. At this time last year, 0 WNV positive chickens had been reported.

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2021 & 2022 YTD West Nile Virus Comparisons		
	2021	2022
Total No. Dead Bird Reports	3,241	2,774
No. Positive Counties	21	23
No. Human Cases	3	5
No. Positive Dead Birds / No. Tested	84 / 978	36 / 717
No. Positive Mosquito Pools / No. Tested	414 / 16,528	480 / 15,615
No. Seroconversions / No. Tested	0 / 2,850	2 / 2,349

YTD WNV Activity by Element and County, 2022					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Butte				2	
Contra Costa			1		
Fresno			2	112	
Kern	2	2		34	
Kings	1			30	
Los Angeles			9	43	
Madera				3	
Merced			1	1	1
Nevada			1		
Orange				11	
Placer				15	
Riverside				37	
Sacramento			15	6	
San Bernardino				13	
San Joaquin				45	
Santa Clara			2	8	
Shasta				6	
Solano			2	6	
Stanislaus	1			1	
Sutter			1	11	
Tulare				91	
Yolo	1		2	4	
Yuba				1	1
Totals	5	2	36	480	2

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TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	3	0	0
	YTD	5	1	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	58	12
	YTD	717	36

Sentinel Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	271	1	0	0
	YTD	2,349	2	0	0

Mosquito Pools

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	124 / 1,482	3 / 1,380	0 / 1,378	0 / 69	0 / 69	0 / 69
	YTD	480 / 15,615	7 / 15,125	0 / 15,088	0 / 280	0 / 280	0 / 280

POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	Antelope Valley MVCD	Lancaster	93535	Great Horned Owl	6/23/2022	WNV
Los Angeles	Greater Los Angeles Co VCD - SFS	Norwalk	90650	American Crow	7/11/2022	WNV
Los Angeles	Greater Los Angeles Co VCD - Sylmar	Panorama City	91402	Red-tailed Hawk	7/14/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	California Scrub-Jay	7/14/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Elverta	95626	American Crow	7/14/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Rancho Cordova	95670	Cooper's Hawk	7/14/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95827	American Crow	7/19/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95827	California Scrub-Jay	7/18/2022	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	White-breasted Nuthatch	7/15/2022	WNV
Santa Clara	Santa Clara Co VCD	Los Gatos	95032	American Crow	7/14/2022	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	Crow or Raven	7/19/2022	WNV
Solano	Solano Co MAD	Vacaville	95688	California Scrub-Jay	7/21/2022	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL 1695	69	Culex quinquefasciatus	Fresno	50	GRVD	7/13/2022	WNV
Fresno	CNSL 1767	68	Culex quinquefasciatus	Fresno	50	GRVD	7/13/2022	WNV
Fresno	CNSL 3136	74	Culex quinquefasciatus	Reedley	44	GRVD	7/15/2022	WNV

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Fresno	CNSL 3428	563	Culex quinquefasciatus	Reedley	33	GRVD	7/13/2022	WNV
Fresno	CNSL 3500	564	Culex quinquefasciatus	Reedley	50	GRVD	7/13/2022	WNV
Fresno	CNSL 8150	66	Culex quinquefasciatus	Fresno	50	GRVD	7/13/2022	WNV
Fresno	CNSL 9070	67	Culex quinquefasciatus	Clovis	41	GRVD	7/13/2022	WNV
Fresno	CNSL 9128	557	Culex quinquefasciatus	Clovis	50	GRVD	7/12/2022	WNV
Fresno	CNSL 9161	72	Culex quinquefasciatus	Clovis	50	GRVD	7/14/2022	WNV
Fresno	CNSL 9186	562	Culex quinquefasciatus	Clovis	50	GRVD	7/13/2022	WNV
Fresno	CNSL 9222	70	Culex quinquefasciatus	Clovis	50	GRVD	7/13/2022	WNV
Fresno	FRNO 112	524	Culex quinquefasciatus	Fresno	50	GRVD	7/19/2022	WNV
Fresno	FRNO 112	533	Culex quinquefasciatus	Fresno	9	BGSENT	7/19/2022	WNV
Fresno	FRNO 116	549	Culex quinquefasciatus	Fresno	50	GRVD	7/20/2022	WNV
Fresno	FRNO 174	547	Culex quinquefasciatus	Fresno	17	GRVD	7/20/2022	WNV
Fresno	FRNO 182	542	Culex quinquefasciatus	Fresno	50	GRVD	7/20/2022	WNV
Fresno	FRNO 216	528	Culex quinquefasciatus	Fresno	34	GRVD	7/19/2022	WNV
Fresno	FRNO 270	539	Culex quinquefasciatus	Fresno	14	GRVD	7/20/2022	WNV
Fresno	FRNO 279	540	Culex quinquefasciatus	Fresno	50	GRVD	7/20/2022	WNV
Fresno	FRNO 8	520	Culex quinquefasciatus	Fresno	49	GRVD	7/19/2022	WNV
Fresno	FRNO 82	548	Culex quinquefasciatus	Fresno	10	GRVD	7/20/2022	WNV
Fresno	FRNO 88	546	Culex quinquefasciatus	Fresno	16	GRVD	7/20/2022	WNV
Kings	KNGS 3057	105	Culex tarsalis	Hanford	30	CO2	7/14/2022	WNV
Kings	KNGS 3062	106	Culex tarsalis	Lemoore	50	CO2	7/14/2022	WNV
Kings	KNGS 3062	107	Culex tarsalis	Lemoore	50	CO2	7/14/2022	WNV
Kings	KNGS 3062	108	Culex tarsalis	Lemoore	50	CO2	7/14/2022	WNV
Kings	KNGS 3062	109	Culex tarsalis	Lemoore	50	CO2	7/14/2022	WNV
Kings	KNGS 3062	110	Culex pipiens	Lemoore	21	CO2	7/14/2022	WNV
Kings	KNGS 3098	83	Culex tarsalis	Hardwick	15	CO2	7/12/2022	WNV
Kings	KNGS 3108	96	Culex tarsalis	Lemoore Island	50	CO2	7/12/2022	WNV
Kings	KNGS 3122	92	Culex tarsalis	Hanford	50	CO2	7/13/2022	WNV
Kings	KNGS 3122	94	Culex tarsalis	Hanford	50	CO2	7/13/2022	SLEV
Kings	KNGS 3128	103	Culex tarsalis	Lemoore Island	37	CO2	7/12/2022	WNV
Kings	KNGS 3131	90	Culex tarsalis	Stratford	50	CO2	7/13/2022	WNV
Los Angeles	GRLA 2021	5567	Culex quinquefasciatus	Reseda	50	GRVD	7/14/2022	WNV
Los Angeles	GRLA 2023	5568	Culex quinquefasciatus	Reseda	28	GRVD	7/14/2022	WNV
Los Angeles	GRLA 2032	5569	Culex quinquefasciatus	Northridge	50	GRVD	7/14/2022	WNV
Los Angeles	GRLA 2194	506	Culex quinquefasciatus	South El Monte	50	GRVD	7/13/2022	WNV
Los Angeles	GRLA 2383	516	Culex quinquefasciatus	Whittier	50	GRVD	7/13/2022	WNV
Los Angeles	GRLA 2414	5551	Culex quinquefasciatus	Granada Hills	50	GRVD	7/13/2022	WNV
Los Angeles	GRLA 2419	5549	Culex quinquefasciatus	Panorama City	50	GRVD	7/13/2022	WNV
Los Angeles	GRLA 2550	5582	Culex quinquefasciatus	Mission Hills	45	GRVD	7/15/2022	WNV
Los Angeles	GRLA 2555	5565	Culex quinquefasciatus	Encino	50	GRVD	7/14/2022	WNV
Los Angeles	GRLA 2650	5547	Culex quinquefasciatus	Sepulveda Basin	50	GRVD	7/13/2022	WNV
Los Angeles	GRLA 3034	5550	Culex quinquefasciatus	North Hills	34	GRVD	7/13/2022	WNV
Los Angeles	GRLA 3045	515	Culex quinquefasciatus	Whittier	32	GRVD	7/13/2022	WNV
Los Angeles	GRLA 3051	519	Culex quinquefasciatus	Signal Hill	50	GRVD	7/14/2022	WNV
Los Angeles	GRLA 3060	497	Culex quinquefasciatus	Norwalk	35	GRVD	7/12/2022	WNV
Los Angeles	GRLA 3097	5581	Culex quinquefasciatus	Arleta	50	GRVD	7/15/2022	WNV
Los Angeles	SGVA 385	670	Culex quinquefasciatus	Arcadia	29	GRVD	7/19/2022	WNV
Los Angeles	SGVA 450	664	Culex quinquefasciatus	La Puente	50	GRVD	7/19/2022	WNV
Los Angeles	SGVA 898	669	Culex quinquefasciatus	San Gabriel	19	GRVD	7/19/2022	WNV
Los Angeles	SGVA 996	660	Culex quinquefasciatus	South Pasadena	50	GRVD	7/19/2022	WNV
Madera	MADR 298	263	Culex tarsalis	Chowchilla	50	CO2	7/12/2022	WNV
Orange	ORCO 1011	2138	Culex thriambus	La Habra	1	GRVD	7/19/2022	WNV
Orange	ORCO 215	2080	Culex quinquefasciatus	La Habra	27	CO2	7/14/2022	WNV
Orange	ORCO 325	2181	Culex quinquefasciatus	La Habra	14	BGSENT	7/19/2022	WNV
Placer	PLCR 139	934	Culex tarsalis	Roseville	50	CO2	7/19/2022	WNV
Placer	PLCR 191373	910	Culex tarsalis	Roseville	50	CO2	7/19/2022	WNV
Placer	PLCR 198707	883	Culex tarsalis	Lincoln	28	CO2	7/19/2022	WNV
Riverside	COAV 10	3902	Culex tarsalis	Oasis	31	CO2	7/19/2022	WNV
Riverside	COAV 130	3896	Culex quinquefasciatus	Oasis	50	CO2	7/19/2022	SLEV
Riverside	COAV 27	3891	Culex tarsalis	Thermal	42	CO2	7/19/2022	WNV
Riverside	COAV 5	3915	Culex tarsalis	Oasis	50	CO2	7/19/2022	SLEV
Riverside	COAV 55	3912	Culex tarsalis	Mecca	33	CO2	7/19/2022	WNV
Riverside	COAV 56	3914	Culex tarsalis	North Shore	12	CO2	7/19/2022	WNV
San Bernardino	WVAL 3970	976	Culex quinquefasciatus	Chino	14	BGSENT	7/19/2022	WNV
San Bernardino	WVAL 4613	950	Culex quinquefasciatus	Upland	21	GRVD	7/19/2022	WNV
San Bernardino	WVAL 5007	959	Culex quinquefasciatus	Rancho Cucamonga	9	GRVD	7/19/2022	WNV
San Bernardino	WVAL 5393	979	Culex quinquefasciatus	Chino	9	BGSENT	7/19/2022	WNV
San Bernardino	WVAL 5406	1002	Culex quinquefasciatus	Rancho Cucamonga	11	BGSENT	7/21/2022	WNV
San Bernardino	WVAL 5409	1008	Culex quinquefasciatus	Rancho Cucamonga	26	BGSENT	7/21/2022	WNV

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San Bernardino	WVAL 6015	952	Culex quinquefasciatus	Ontario	22	GRVD	7/19/2022	WNV
San Joaquin	SJCM 8018	1101	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1102	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1103	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1104	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1105	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1106	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1107	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1108	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1109	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8018	1110	Culex tarsalis	Stockton	100	CO2	7/19/2022	WNV
San Joaquin	SJCM 8049	1010	Culex tarsalis	Stockton	25	CO2	7/19/2022	WNV
San Joaquin	SJCM 8076	1009	Culex tarsalis	Stockton	10	CO2	7/19/2022	WNV
San Joaquin	SJCM 8077	1011	Culex tarsalis	Stockton	5	CO2	7/19/2022	WNV
San Joaquin	SJCM 8204	1096	Culex tarsalis	Stockton	50	CO2	7/19/2022	WNV
San Joaquin	SJCM 8206	1029	Culex tarsalis	Lodi	50	CO2	7/19/2022	WNV
San Joaquin	SJCM 8206	1030	Culex tarsalis	Lodi	50	CO2	7/19/2022	WNV
Santa Clara	STCL 32295	2095	Culex tarsalis	San Jose	11	CO2-EVS	7/19/2022	WNV
Solano	SOLA 165	160	Culex tarsalis	Vacaville	8	CO2	7/19/2022	WNV
Solano	SOLA 170	153	Culex pipiens	Vacaville	5	CO2	7/19/2022	WNV
Stanislaus	TRLK 307	308	Culex tarsalis	Grayson	50	CO2	7/19/2022	WNV
Sutter	SUYA 14	274	Culex tarsalis	Sutter	50	REST	7/18/2022	WNV
Sutter	SUYA 31	265	Culex tarsalis	Rio Oso	50	REST	7/19/2022	WNV
Sutter	SUYA 31	266	Culex tarsalis	Rio Oso	50	REST	7/19/2022	WNV
Sutter	SUYA 31	267	Culex tarsalis	Rio Oso	50	REST	7/19/2022	WNV
Sutter	SUYA 31	268	Culex tarsalis	Rio Oso	50	REST	7/19/2022	WNV
Tulare	DLTA 5	1469	Culex quinquefasciatus	Dinuba	16	CO2	7/12/2022	WNV
Tulare	DLTA 6	1472	Culex quinquefasciatus	Dinuba	20	CO2	7/12/2022	WNV
Tulare	DLTA 640412	1462	Culex quinquefasciatus	Dinuba	30	CO2	7/12/2022	WNV
Tulare	DLTA 640412	1463	Culex stigmatosoma	Dinuba	16	CO2	7/12/2022	WNV
Tulare	DLTA 640413	1439	Culex stigmatosoma	Dinuba	33	CO2	7/12/2022	WNV
Tulare	DLTA 640413	1440	Culex quinquefasciatus	Dinuba	24	CO2	7/12/2022	WNV
Tulare	DLTA 640422	1453	Culex quinquefasciatus	Dinuba	42	CO2	7/12/2022	WNV
Tulare	DLTA 64071	1482	Culex quinquefasciatus	Dinuba	15	BGSENT	7/12/2022	WNV
Tulare	DLTA 64071	1484	Culex quinquefasciatus	Dinuba	11	GRVD	7/12/2022	WNV
Tulare	DLTA 6408	1473	Culex quinquefasciatus	Dinuba	19	BGSENT	7/12/2022	WNV
Tulare	DLTA 64161	1488	Culex quinquefasciatus	Dinuba	18	GRVD	7/12/2022	WNV
Tulare	DLTA 6417	1486	Culex quinquefasciatus	Dinuba	40	BGSENT	7/12/2022	WNV
Tulare	DLTA 7	1466	Culex quinquefasciatus	Dinuba	14	CO2	7/12/2022	WNV
Tulare	DLTA 7	1467	Culex stigmatosoma	Dinuba	23	CO2	7/12/2022	WNV
Tulare	DLTA 751941	1557	Culex quinquefasciatus	Patterson Tract	50	CO2	7/13/2022	WNV
Tulare	DLTA 751941	1562	Culex quinquefasciatus	Patterson Tract	50	CO2	7/13/2022	WNV
Tulare	DLTA 752032	1519	Culex quinquefasciatus	Patterson Tract	50	CO2	7/13/2022	WNV
Tulare	DLTA 752032	1523	Culex quinquefasciatus	Patterson Tract	50	CO2	7/13/2022	WNV
Tulare	DLTA 752032	1527	Culex quinquefasciatus	Patterson Tract	50	CO2	7/13/2022	WNV
Tulare	DLTA 84221	1429	Culex quinquefasciatus	Visalia	50	BGSENT	7/12/2022	WNV
Tulare	DLTA 84221	1431	Culex quinquefasciatus	Visalia	50	BGSENT	7/12/2022	WNV
Tulare	DLTA 84231	1435	Culex quinquefasciatus	Visalia	50	BGSENT	7/12/2022	WNV
Tulare	DLTA 8426	1448	Culex tarsalis	Visalia	16	BGSENT	7/12/2022	WNV
Tulare	DLTA 8426	1449	Culex quinquefasciatus	Visalia	50	BGSENT	7/12/2022	WNV
Tulare	DLTA 8426	1450	Culex quinquefasciatus	Visalia	44	BGSENT	7/12/2022	WNV
Tulare	DLTA 8520	1313	Culex quinquefasciatus	Visalia	20	GRVD	7/6/2022	WNV
Tulare	DLTA 9505	1422	Culex quinquefasciatus	Visalia	20	BGSENT	7/12/2022	WNV
Yolo	SAYO 125030	2380	Culex pipiens	Woodland	3	GRVD	7/15/2022	WNV
Yuba	SUYA 55	272	Culex tarsalis	Linda	26	CO2	7/20/2022	WNV

Sentinel Chickens

County	Site Code	Nearest City	Date Bled	Virus	Band 01
Yuba	SUYA 000007	Marysville	07/14/2022	WNV	1417

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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 in California, please visit the California WNV website, <https://westnile.ca.gov>, or the California Vector-Borne Disease Surveillance System website, <https://maps.vectorsurv.org>.

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