

California Arbovirus Surveillance Bulletin #32

Week 40 Friday, October 9, 2015



Weekly Update

Humans

A total of **67** new human cases of West Nile virus (WNV) illness were reported this week from the following 13 counties: **Butte (1), Fresno (2), Kern (1), Los Angeles (15), Madera (1), Merced (1), Orange (7), Riverside (26), San Bernardino (3), San Diego (7), Shasta (1), Ventura (1), and Yolo (1).** This is the first WNV case reported from Merced County this year. As of October 7, a total of 311 human cases of WNV illness have been reported to the California Department of Public Health from 29 counties; 13 were fatal. At this time last year, 428 cases had been reported from 29 counties. Of the 311 case-patients, 219 (71%) had neuroinvasive illness. The median age of the individuals is 57 years (range: 5-98 years); 177 (59%) are male. Dates of symptom onset ranged from May 15 to September 21. In addition, 42 asymptomatic WNV-positive blood donors have been reported this year from 16 counties: Butte (5), Fresno (4), Glenn (2), Kern (1), Los Angeles (11), Merced (1), Napa (1), Orange (3), Placer (1), Riverside (2), Sacramento (1), San Bernardino (5), San Diego (1), Tehama (2), Tulare (1), and Yolo (1).

Dead Birds

A total of 78 WNV positive dead birds were reported this week from the following 13 counties: Contra Costa (1), Orange (3), Riverside (5), Sacramento (7), San Diego (25), San Joaquin (1), Santa Barbara (2), Santa Clara (27), Shasta (1), Sonoma (1), Stanislaus (1), Ventura (2), and Yolo (2). **These are the first WNV positive birds from Santa Barbara County this year.** In 2015, 1,092 birds have tested positive for WNV from 37 counties. At this time last year, 2,253 WNV positive birds had been detected in 35 counties.

Mosquito Pools

A total of 52 WNV positive mosquito pools were reported this week from the following 10 counties: Fresno (3), Kings (1), Los Angeles (23), Riverside (4), Sacramento (3), San Bernardino (6), San Joaquin (2), Stanislaus (7), Tulare (2), and Yolo (1). In addition, 3 mosquito pools from Riverside County tested positive for St. Louis encephalitis virus (SLEV). In 2015, 2,907 mosquito pools have tested positive for WNV from 29 counties, and 38 mosquito pools have tested positive for SLEV from one county (Riverside). At this time last year, 3,139 WNV mosquito pools had been reported from 29 counties.

Sentinel Chickens

A total of 14 WNV seroconversions were reported this week from 9 flocks located in the following 3 counties: Los Angeles (9), San Bernardino (1), and San Diego (4). In addition, one SLEV seroconversion was reported from Riverside County. In 2015, 344 WNV seroconversions have been detected among 85 flocks located in 22 counties and 6 SLEV seroconversions have been detected from 2 flocks in Riverside County. At this time last year, 382 WNV positive chickens had been reported from 86 flocks in 21 counties.

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YTD WNV Activity by Element and County, 2015				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		15	10	
Butte	48	38	94	37
Colusa	1	3		10
Contra Costa		10	6	16
El Dorado		3		
Fresno	6	3	108	
Glenn	19	4	21	9
Humboldt		2		
Kern	8	1	135	
Kings		3	144	
Lake	2	5	31	4
Los Angeles	49	41	198	71
Madera	3	1	20	
Marin	1	3		
Mendocino	1			
Merced	1	2	8	20
Napa		7		
Nevada	2	10		4
Orange	31	57	360	
Placer		21	49	8
Riverside	54	70	146	14
Sacramento	1	101	153	2
San Bernardino	22	23	243	26
San Diego	11	242	26	6
San Joaquin	2	17	206	
San Mateo		16	5	
Santa Barbara		2	1	
Santa Clara	5	212	19	5
Shasta	3	16	48	20
Siskiyou	1			
Solano	1	10	5	7
Sonoma		9	11	
Stanislaus	9	14	83	9
Sutter	2	16	54	36
Tehama	5			18
Trinity		2		
Tulare	7	22	528	
Ventura	2	24		5
Yolo	7	61	172	6
Yuba	7	6	23	11
Totals	311	1,092	2,907	344

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2014 & 2015 YTD West Nile Virus Comparisons		
	2014	2015
Total # Dead Bird Reports	12,987	9,538
# Positive Counties	38	40
# Human Cases	428	311
# Positive Dead Birds / # Tested	2,253 / 3,641	1,092 / 2,740
# Positive Mosquito Pools / # Tested	3,139 / 27,195	2,907 / 33,402
# Seroconversions / # Tested	382 / 12,881	344 / 10,602

TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	67	0	0
	YTD	311	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	101	78
	YTD	2,740	1,092

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	188	14	1	0
	YTD	10,602	344	6	0
Mosquito Pools	Week	1,357	52	3	0
	YTD	33,402	2,907	38	0

NEW POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Contra Costa	Contra Costa MVCD	Danville	94526	American Crow	10/5/2015	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/1/2015	WNV
Orange	Orange Co VCD	Fountain Valley	92708	American Crow	9/30/2015	WNV
Orange	Orange Co VCD	Yorba Linda	92886	Western Bluebird	9/28/2015	WNV
Riverside	Northwest Mosquito VCD	Corona	92879	American Crow	9/24/2015	WNV
Riverside	Northwest Mosquito VCD	Corona	92880	American Crow	9/23/2015	WNV
Riverside	Northwest Mosquito VCD	Corona	92880	American Crow	9/25/2015	WNV
Riverside	Northwest Mosquito VCD	Riverside	92507	American Crow	9/25/2015	WNV
Riverside	Northwest Mosquito VCD	Riverside	92507	Finch	9/24/2015	WNV
Sacramento	Sacramento-Yolo MVCD	Carmichael	95608	Yellow-rumped Warbler	10/2/2015	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95758	Cedar Waxwing	10/4/2015	WNV

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Sacramento	Sacramento-Yolo MVCD	Fair Oaks	95628	Western Scrub-Jay	10/5/2015	WNV
Sacramento	Sacramento-Yolo MVCD	Mather	95655	Red-tailed Hawk	10/5/2015	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95818	American Crow	10/1/2015	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95822	American Crow	10/5/2015	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95864	American Crow	10/4/2015	WNV
San Diego	San Diego Co VCP	Bonita	91902	American Crow	10/5/2015	WNV
San Diego	San Diego Co VCP	Carlsbad	92008	American Crow	10/6/2015	WNV
San Diego	San Diego Co VCP	Carlsbad	92009	American Crow	10/5/2015	WNV
San Diego	San Diego Co VCP	El Cajon	92020	American Crow	10/5/2015	WNV
San Diego	San Diego Co VCP	Escondido	92027	American Crow	10/2/2015	WNV
San Diego	San Diego Co VCP	La Mesa	91941	American Crow	10/6/2015	WNV
San Diego	San Diego Co VCP	La Mesa	91941	Cooper's Hawk	9/30/2015	WNV
San Diego	San Diego Co VCP	Ramona	92065	American Crow	9/30/2015	WNV
San Diego	San Diego Co VCP	Ramona	92065	American Crow	10/1/2015	WNV
San Diego	San Diego Co VCP	Ramona	92065	American Crow	10/1/2015	WNV
San Diego	San Diego Co VCP	San Diego	92105	American Crow	10/5/2015	WNV
San Diego	San Diego Co VCP	San Diego	92108	American Crow	10/1/2015	WNV
San Diego	San Diego Co VCP	San Diego	92110	American Crow	9/30/2015	WNV
San Diego	San Diego Co VCP	San Diego	92110	American Crow	10/6/2015	WNV
San Diego	San Diego Co VCP	San Diego	92111	American Crow	10/1/2015	WNV
San Diego	San Diego Co VCP	San Diego	92111	American Crow	10/5/2015	WNV
San Diego	San Diego Co VCP	San Diego	92111	American Crow	10/5/2015	WNV
San Diego	San Diego Co VCP	San Diego	92117	American Crow	10/5/2015	WNV
San Diego	San Diego Co VCP	San Diego	92123	American Crow	10/1/2015	WNV
San Diego	San Diego Co VCP	San Diego	92124	American Crow	10/1/2015	WNV
San Diego	San Diego Co VCP	San Diego	92126	American Crow	10/1/2015	WNV
San Diego	San Diego Co VCP	San Diego	92128	American Crow	10/1/2015	WNV
San Diego	San Diego Co VCP	San Diego	92131	American Crow	10/6/2015	WNV
San Diego	San Diego Co VCP	San Diego	92131	Common Raven	10/1/2015	WNV
San Diego	San Diego Co VCP	Vista	92081	American Crow	10/6/2015	WNV
San Joaquin	San Joaquin Co MVCD	Stockton	95210	Hawk	10/1/2015	WNV
Santa Barbara	MVMD of Santa Barbara Co	Santa Barbara	93111	American Crow	9/28/2015	WNV
Santa Barbara	MVMD of Santa Barbara Co	Santa Ynez	93460	American Crow	9/29/2015	WNV
Santa Clara	Santa Clara Co VCD	Cupertino	95014	American Crow	10/2/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94022	American Crow	10/2/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94022	American Crow	10/4/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94022	Western Scrub-Jay	9/29/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94024	American Crow	9/27/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94024	American Crow	10/2/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94024	Common Raven	9/28/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Gatos	95032	American Crow	9/30/2015	WNV
Santa Clara	Santa Clara Co VCD	Monte Sereno	95030	American Crow	10/5/2015	WNV
Santa Clara	Santa Clara Co VCD	Mountain View	94040	American Crow	10/6/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95120	American Crow	9/27/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95123	American Crow	9/29/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95124	American Crow	9/28/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95126	American Crow	10/5/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95127	Western Scrub-Jay	9/29/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95127	Western Scrub-Jay	10/6/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95132	American Crow	9/30/2015	WNV

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Santa Clara	Santa Clara Co VCD	San Jose	95132	Western Scrub-Jay	10/2/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95148	Western Scrub-Jay	9/30/2015	WNV
Santa Clara	Santa Clara Co VCD	Santa Clara	95051	American Crow	9/27/2015	WNV
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	9/30/2015	WNV
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	10/7/2015	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	American Crow	9/28/2015	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	American Crow	9/28/2015	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	American Crow	9/30/2015	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	American Crow	10/6/2015	WNV
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	American Crow	10/7/2015	WNV
Shasta	Shasta MVCD	Redding	96001	American Crow	10/2/2015	WNV
Sonoma	Marin-Sonoma MVCD	Petaluma	94952	American Crow	9/30/2015	WNV
Stanislaus	Turlock MAD	Hughson	95326	Yellow-billed Magpie	10/1/2015	WNV
Ventura	Ventura Co Env Health Dept	Simi Valley	93063	American Crow	9/22/2015	WNV
Ventura	Ventura Co Env Health Dept	Simi Valley	93063	American Crow	9/22/2015	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95618	Western Scrub-Jay	10/3/2015	WNV
Yolo	Sacramento-Yolo MVCD	Woodland	95776	Western Scrub-Jay	10/5/2015	WNV

Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	CNSL3217	478	Cx. tarsalis	Orange Cove	50	CO2	10/7/2015	WNV
Fresno	FRWS400017	322	Cx. quinquefasciatus	Mendota	50	CO2	10/6/2015	WNV
Fresno	FRWS500011	315	Cx. tarsalis		50	CO2	10/6/2015	WNV
Kings	KNGS5502	581	Cx. pipiens	Hanford	16	BGSENT	10/6/2015	WNV
Los Angeles	GRLA2021	5844	Cx. quinquefasciatus	Reseda	43	GRVD	9/30/2015	WNV
Los Angeles	GRLA2023	5845	Cx. quinquefasciatus	Reseda	50	GRVD	9/30/2015	WNV
Los Angeles	GRLA2032	5846	Cx. quinquefasciatus	Northridge	27	GRVD	9/30/2015	WNV
Los Angeles	GRLA2034	5842	Cx. quinquefasciatus	Tarzana	30	GRVD	9/30/2015	WNV
Los Angeles	GRLA2035	5843	Cx. quinquefasciatus	Tarzana	21	GRVD	9/30/2015	WNV
Los Angeles	GRLA2115	671	Cx. quinquefasciatus	Bell	50	GRVD	9/29/2015	WNV
Los Angeles	GRLA2414	5835	Cx. quinquefasciatus	Granada Hills	50	GRVD	9/29/2015	WNV
Los Angeles	GRLA2478	5857	Cx. quinquefasciatus	Sunland	40	GRVD	10/1/2015	WNV
Los Angeles	GRLA2540	5848	Cx. quinquefasciatus	Porter Ranch	50	CO2	9/30/2015	WNV
Los Angeles	GRLA2550	5851	Cx. quinquefasciatus	Mission Hills	50	GRVD	10/1/2015	WNV
Los Angeles	GRLA2615	5861	Cx. quinquefasciatus	Newhall	25	GRVD	10/2/2015	WNV
Los Angeles	GRLA2635	5840	Cx. quinquefasciatus	Van Nuys	49	GRVD	9/30/2015	WNV
Los Angeles	GRLA2636	5839	Cx. quinquefasciatus	Van Nuys	50	GRVD	9/30/2015	WNV
Los Angeles	GRLA2650	5832	Cx. quinquefasciatus	Encino	31	CO2	9/29/2015	WNV
Los Angeles	GRLA2651	5830	Cx. quinquefasciatus	Encino	27	GRVD	9/29/2015	WNV
Los Angeles	GRLA2655	5831	Cx. quinquefasciatus	Encino	50	GRVD	9/29/2015	WNV
Los Angeles	GRLA3035	5834	Cx. quinquefasciatus	North Hills	50	GRVD	9/29/2015	WNV
Los Angeles	GRLA3055	672	Cx. quinquefasciatus	Maywood	24	GRVD	9/29/2015	WNV
Los Angeles	GRLA3056	673	Cx. quinquefasciatus	Cudahy	50	GRVD	9/29/2015	WNV
Los Angeles	GRLA3070	680	Cx. quinquefasciatus	Commerce	50	GRVD	9/30/2015	WNV
Los Angeles	GRLA3074	685	Cx. quinquefasciatus	Lincoln Heights	39	GRVD	9/30/2015	WNV
Los Angeles	GRLA3075	686	Cx. quinquefasciatus	El Sereno	50	GRVD	9/30/2015	WNV
Los Angeles	GRLA3133	5853	Cx. quinquefasciatus	San Fernando	50	GRVD	10/1/2015	WNV
Riverside	COAV27	3127	Cx. tarsalis	North Shore	50	CO2	10/6/2015	SLEV

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Riverside	COAV331	3271	Cx. quinquefasciatus	Palm Desert	29	GRVD	10/8/2015	WNV
Riverside	COAV540	3178	Cx. tarsalis	Mecca	50	CO2	10/6/2015	SLEV
Riverside	COAV6	3156	Cx. tarsalis	Mecca	38	CO2	10/6/2015	SLEV
Riverside	NWST133	250	Cx. quinquefasciatus	Riverside	28	CO2	9/29/2015	WNV
Riverside	NWST153	251	Cx. quinquefasciatus	Corona	9	CO2	9/29/2015	WNV
Riverside	NWST156	269	Cx. tarsalis	Corona	44	CO2	10/1/2015	WNV
Sacramento	SAYO233001	6309	Cx. pipiens	Elk Grove	1	CO2	10/6/2015	WNV
Sacramento	SAYO233075	6304	Cx. pipiens	Elk Grove	13	GRVD	10/6/2015	WNV
Sacramento	SAYO235001	6145	Cx. pipiens	Wilton	3	GRVD	10/2/2015	WNV
San Bernardino	SANB46	466	Cx. stigmatosoma	Colton	17	CO2	9/30/2015	WNV
San Bernardino	WVAL2020	1644	Cx. quinquefasciatus	Fwy CA 71	18	GRVD	10/7/2015	WNV
San Bernardino	WVAL6004	1687	Cx. quinquefasciatus	Ontario	28	GRVD	10/7/2015	WNV
San Bernardino	WVAL6012	1616	Cx. quinquefasciatus	Ontario	22	GRVD	10/7/2015	WNV
San Bernardino	WVAL7002	1623	Cx. quinquefasciatus	Montclair	25	GRVD	10/7/2015	WNV
San Bernardino	WVAL7002	1697	Cx. quinquefasciatus	Montclair	9	CO2	10/7/2015	WNV
San Joaquin	SJCM8020	2737	Cx. pipiens	Acampo	50	CO2	10/6/2015	WNV
San Joaquin	SJCM8079	2712	Cx. tarsalis	Manteca	14	CO2	10/6/2015	WNV
Stanislaus	TRLK1203	1883	Cx. pipiens	Hughson	28	CO2	10/6/2015	WNV
Stanislaus	TRLK1214	1800	Cx. pipiens	Turlock	50	CO2	10/6/2015	WNV
Stanislaus	TRLK1301	1785	Cx. pipiens	Denair	50	CO2	10/1/2015	WNV
Stanislaus	TRLK1308	1836	Cx. pipiens	Denair	50	CO2	10/6/2015	WNV
Stanislaus	TRLK1308	1837	Cx. pipiens	Denair	50	CO2	10/6/2015	WNV
Stanislaus	TRLK406	1808	Cx. pipiens	Turlock	50	CO2	10/6/2015	WNV
Stanislaus	TRLK516	1872	Cx. pipiens	Denair	50	CO2	10/6/2015	WNV
Tulare	DLTA9505	1721	Cx. quinquefasciatus	Visalia	27	GRVD	10/6/2015	WNV
Tulare	DLTA9603	1726	Cx. quinquefasciatus	Exeter	22	GRVD	10/6/2015	WNV
Yolo	SAYO136010	6175	Cx. tarsalis	Woodland	50	CO2	10/2/2015	WNV

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03
Los Angeles	LACW1007	Baldwin Hills	9/24/2015	WNV	1438		
Los Angeles	LACW1009	Los Angeles	9/17/2015	WNV	1445	1446	
Los Angeles	LACW1010	Los Angeles(Miracle Mile)	9/16/2015	WNV	1450		
Los Angeles	LACW1012	Venice	9/22/2015	WNV	1458		
Los Angeles	LONG0003	Long Beach	9/28/2015	WNV	1370		
Los Angeles	LONG0004	Long Beach	9/28/2015	WNV	1371	1379	1380
Riverside	COAV0035	Mecca	9/28/2015	SLEV	2546		
San Bernardino	SANB0002	Redlands	9/29/2015	WNV	2003		
San Diego	SAND0450	El Cajon	9/29/2015	WNV	1992	1993	1994
San Diego	SAND0057	Sorrento Valley	9/29/2015	WNV	1984		

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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 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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