

## California Arbovirus Surveillance Bulletin #33

Week 41 Friday, October 16, 2015



### Weekly Update

#### **Humans**

A total of 55 new human cases of West Nile virus (WNV) illness were reported this week from the following 12 counties: Butte (2), Contra Costa (1), Fresno (1), Kern (2), Los Angeles (20), Orange (4), Riverside (12), Sacramento (1), San Bernardino (3), San Diego (5), Stanislaus (3), and Ventura (1). This is the first WNV case reported from Contra Costa County this year. As of October 14, a total of 366 human cases of WNV illness have been reported to the California Department of Public Health from 30 counties; 18 were fatal. At this time last year, 488 cases had been reported from 29 counties. Of the 366 case-patients, 265 (72%) had neuroinvasive illness. The median age of the individuals is 57 years (range: 5-98 years); 244 (60%) are male. Dates of symptom onset ranged from May 15 to October 6. In addition, 43 asymptomatic WNV-positive blood donors have been reported this year from 16 counties: Butte (5), Fresno (5), Glenn (2), Kern (1), Los Angeles (10), Merced (1), Napa (1), Orange (3), Placer (1), Riverside (2), Sacramento (2), San Bernardino (5), San Diego (1), Tehama (2) and Tulare (1), and Yolo (1).

#### **Dead Birds**

A total of 78 WNV positive dead birds were reported this week from the following 14 counties: Alameda (1), Contra Costa (1), El Dorado (1), Los Angeles (10), Merced (1), Orange (6), Riverside (4), Sacramento (2), San Bernardino (2), San Diego (29), San Joaquin (1), Santa Clara (16), Sonoma (2), and Ventura (2). In 2015, 1,170 birds have tested positive for WNV from 37 counties. At this time last year, 2,312 WNV positive birds had been detected in 35 counties.

#### **Mosquito Pools**

A total of 31 WNV positive mosquito pools were reported this week from the following 10 counties: Alameda (4), Contra Costa (2), Los Angeles (8), Madera (1), Placer (1), Riverside (2), Sacramento (6), San Bernardino (5), Solano (1), and Sonoma (1). In 2015, 2,938 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, 3,210 WNV mosquito pools had been reported from 29 counties.

#### **Sentinel Chickens**

A total of 18 WNV seroconversions were reported this week from 9 flocks located in the following 4 counties: Contra Costa (1), Glenn (1), Los Angeles (14), and Shasta (2). In 2015, 362 WNV seroconversions have been detected among 87 flocks located in 22 counties and 6 SLEV seroconversions have been detected from 2 flocks in Riverside County. At this time last year, 394 WNV positive chickens had been reported from 91 flocks in 22 counties.

## California Arbovirus Surveillance Bulletin #33

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<b>YTD WNV Activity by Element and County, 2015</b>				
County	Humans	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda		16	14	
Butte	50	38	94	37
Colusa	1	3		10
Contra Costa	1	11	8	17
El Dorado		4		
Fresno	7	3	108	
Glenn	19	4	21	10
Humboldt		2		
Kern	10	1	135	
Kings		3	144	
Lake	2	5	31	4
Los Angeles	69	51	206	85
Madera	3	1	21	
Marin	1	3		
Mendocino	1			
Merced	1	3	8	20
Napa		7		
Nevada	2	10		4
Orange	35	63	360	
Placer		21	50	8
Riverside	66	74	148	14
Sacramento	2	103	159	2
San Bernardino	25	25	248	26
San Diego	16	271	26	6
San Joaquin	2	18	206	
San Mateo		16	5	
Santa Barbara		2	1	
Santa Clara	5	228	19	5
Shasta	3	16	48	22
Siskiyou	1			
Solano	1	10	6	7
Sonoma		11	12	
Stanislaus	12	14	83	9
Sutter	2	16	54	36
Tehama	5			18
Trinity		2		
Tulare	7	22	528	
Ventura	3	26		5
Yolo	7	61	172	6
Yuba	7	6	23	11
<b>Totals</b>	<b>366</b>	<b>1,170</b>	<b>2,938</b>	<b>362</b>

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Week 41 Friday, October 16, 2015

2014 & 2015 YTD West Nile Virus Comparisons		
	2014	2015
Total # Dead Bird Reports	13,349	9,769
# Positive Counties	38	40
# Human Cases	488	366
# Positive Dead Birds / # Tested	2,312 / 3,736	1,170 / 2,860
# Positive Mosquito Pools / # Tested	3,210 / 28,353	2,938 / 34,210
# Seroconversions / # Tested	394 / 13,210	362 / 11,013

### TESTING SUMMARIES

#### Humans

		WNV	SLE	WEE
Human Cases	Week	55	0	0
	YTD	366	0	0

#### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	120	78
	YTD	2,860	1,170

#### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	411	18	0	0
	YTD	11,013	362	6	0
Mosquito Pools	Week	808	31	0	0
	YTD	34,210	2,938	38	0

### NEW POSITIVES

#### Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Alameda	Alameda Co MAD	Hayward	94545	American Crow	10/5/2015	WNV
Contra Costa	Contra Costa MVCD	Danville	94526	American Crow	10/13/2015	WNV
El Dorado	El Dorado Co Env Management	El Dorado	95623	American Crow	10/5/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Altadena	91001	American Crow	9/29/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90016	American Crow	9/30/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90024	American Crow	10/1/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90025	American Crow	9/25/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Venice	90291	American Crow	10/3/2015	WNV
Los Angeles	Los Angeles Co West VCD	Culver City	90230	American Crow	10/7/2015	WNV
Los Angeles	Los Angeles Co West VCD	Culver City	90230	American Crow	10/11/2015	WNV
Los Angeles	Los Angeles Co West VCD	Los Angeles	90019	American Crow	10/7/2015	WNV

## California Arbovirus Surveillance Bulletin #33

Week 41 Friday, October 16, 2015

Los Angeles	Los Angeles Co West VCD	Los Angeles	90045	American Crow	10/8/2015	WNV
Los Angeles	Los Angeles Co West VCD	Venice	90291	American Crow	10/8/2015	WNV
Merced	Merced Co MAD	Gustine	95322	American Crow	10/8/2015	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/4/2015	WNV
Orange	Orange Co VCD	Buena Park	90620	American Crow	10/8/2015	WNV
Orange	Orange Co VCD	Costa Mesa	92626	American Crow	10/8/2015	WNV
Orange	Orange Co VCD	Santa Ana	92705	House Finch	10/6/2015	WNV
Orange	Orange Co VCD	Santa Ana	92706	American Crow	10/4/2015	WNV
Orange	Orange Co VCD	Stanton	90680	American Crow	10/5/2015	WNV
Riverside	Northwest Mosquito VCD	Corona	92880	American Crow	9/28/2015	WNV
Riverside	Northwest Mosquito VCD	Corona	92880	American Crow	9/29/2015	WNV
Riverside	Northwest Mosquito VCD	Corona	92880	American Crow	10/1/2015	WNV
Riverside	Northwest Mosquito VCD	Riverside	92505	Sparrow	9/30/2015	WNV
Sacramento	Sacramento-Yolo MVCD	Folsom	95630	Sharp-shinned Hawk	10/12/2015	WNV
Sacramento	Sacramento-Yolo MVCD	Rancho Cordova	95670	Western Scrub-Jay	10/6/2015	WNV
San Bernardino	San Bernardino VCP	Yucaipa	92399	American Crow	10/5/2015	WNV
San Bernardino	San Bernardino VCP	Yucaipa	92399	American Crow	10/6/2015	WNV
San Diego	San Diego Co VCP	Carlsbad	92011	American Crow	10/7/2015	WNV
San Diego	San Diego Co VCP	Coronado	92118	American Crow	10/9/2015	WNV
San Diego	San Diego Co VCP	El Cajon	92021	Common Raven	10/8/2015	WNV
San Diego	San Diego Co VCP	Escondido	92027	American Crow	10/15/2015	WNV
San Diego	San Diego Co VCP	Escondido	92027	American Crow	10/15/2015	WNV
San Diego	San Diego Co VCP	Escondido	92027	American Crow	10/15/2015	WNV
San Diego	San Diego Co VCP	La Jolla	92037	American Crow	10/16/2015	WNV
San Diego	San Diego Co VCP	Lakeside	92040	American Crow	10/12/2015	WNV
San Diego	San Diego Co VCP	Poway	92064	American Crow	10/7/2015	WNV
San Diego	San Diego Co VCP	Ramona	92035	Common Raven	10/7/2015	WNV
San Diego	San Diego Co VCP	Ramona	92065	American Crow	10/8/2015	WNV
San Diego	San Diego Co VCP	San Diego	92027	American Crow	10/8/2015	WNV
San Diego	San Diego Co VCP	San Diego	92027	American Crow	10/8/2015	WNV
San Diego	San Diego Co VCP	San Diego	92101	American Crow	10/8/2015	WNV
San Diego	San Diego Co VCP	San Diego	92104	American Crow	10/8/2015	WNV
San Diego	San Diego Co VCP	San Diego	92104	American Crow	10/13/2015	WNV
San Diego	San Diego Co VCP	San Diego	92107	Western Scrub-Jay	10/9/2015	WNV
San Diego	San Diego Co VCP	San Diego	92111	American Crow	10/13/2015	WNV
San Diego	San Diego Co VCP	San Diego	92117	American Crow	10/13/2015	WNV
San Diego	San Diego Co VCP	San Diego	92117	American Crow	10/16/2015	WNV
San Diego	San Diego Co VCP	San Diego	92120	American Crow	10/12/2015	WNV
San Diego	San Diego Co VCP	San Diego	92122	American Crow	10/8/2015	WNV
San Diego	San Diego Co VCP	San Diego	92124	American Crow	10/13/2015	WNV
San Diego	San Diego Co VCP	San Diego	92128	American Crow	10/12/2015	WNV
San Diego	San Diego Co VCP	San Diego	92139	American Crow	10/5/2015	WNV
San Diego	San Diego Co VCP	San Marcos	92069	American Crow	10/13/2015	WNV
San Diego	San Diego Co VCP	Santee	92071	American Crow	10/12/2015	WNV
San Diego	San Diego Co VCP	Spring Valley	91977	American Crow	10/7/2015	WNV
San Diego	San Diego Co VCP	Valley Center	92082	American Crow	10/9/2015	WNV
San Joaquin	San Joaquin Co MVCD	Stockton	95203	Western Scrub-Jay	10/13/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94022	Common Raven	10/13/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Altos	94024	Western Scrub-Jay	10/13/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Gatos	95032	American Crow	10/7/2015	WNV
Santa Clara	Santa Clara Co VCD	Los Gatos	95032	American Crow	10/9/2015	WNV
Santa Clara	Santa Clara Co VCD	Milpitas	95035	American Crow	10/13/2015	WNV
Santa Clara	Santa Clara Co VCD	Monte Sereno	95030	American Crow	10/16/2015	WNV

## California Arbovirus Surveillance Bulletin #33

Week 41 Friday, October 16, 2015

Santa Clara	Santa Clara Co VCD	Morgan Hill	95037	American Crow	10/13/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95117	American Crow	10/9/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95124	American Crow	10/13/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95126	American Crow	10/14/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95127	Western Scrub-Jay	10/13/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95127	Western Scrub-Jay	10/15/2015	WNV
Santa Clara	Santa Clara Co VCD	San Jose	95129	American Crow	10/8/2015	WNV
Santa Clara	Santa Clara Co VCD	Santa Clara	95053	American Crow	10/8/2015	WNV
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	10/8/2015	WNV
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	10/14/2015	WNV
Sonoma	Marin-Sonoma MVCD	Petaluma	94952	American Crow	10/7/2015	WNV
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95404	American Crow	10/14/2015	WNV
Ventura	Ventura Co Env Health Dept	Oak Park	91377	American Crow	9/29/2015	WNV
Ventura	Ventura Co Env Health Dept	Ventura	93004	American Crow	10/6/2015	WNV

### Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Alameda	ALCO1101	243	Cx. tarsalis	Oakland	27	CO2	9/14/2015	WNV
Alameda	ALCO2155	242	Cx. pipiens	Oakland	30	CO2	9/14/2015	WNV
Alameda	ALCO7071	244	Cx. tarsalis	Union City	7	CO2	10/8/2015	WNV
Alameda	ALCO8097	245	Cx. pipiens	Fremont	5	CO2	9/15/2015	WNV
Contra Costa	CNTR2302	424	Cx. tarsalis	Martinez	50	CO2	10/12/2015	WNV
Contra Costa	CNTR3046	443	Cx. tarsalis	Pittsburg	14	CO2	10/12/2015	WNV
Los Angeles	GRLA2033	5872	Cx. quinquefasciatus	Tujunga	50	GRVD	10/9/2015	WNV
Los Angeles	GRLA2450	5869	Cx. quinquefasciatus	Glendale	50	GRVD	10/9/2015	WNV
Los Angeles	GRLA2604	5867	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/9/2015	WNV
Los Angeles	GRLA3037	5871	Cx. quinquefasciatus	La Crescenta	50	GRVD	10/9/2015	WNV
Los Angeles	GRLA3132	5868	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/9/2015	WNV
Los Angeles	LACW1012	201	Cx. quinquefasciatus	Venice	41	GRVD	10/6/2015	WNV
Los Angeles	LACW1049	203	Cx. quinquefasciatus	Inglewood	50	GRVD	10/6/2015	WNV
Los Angeles	SGVA8	402	Cx. quinquefasciatus	Pomona	27	CO2	10/13/2015	WNV
Madera	MADR3334	321	Cx. quinquefasciatus	Madera	39	CO2	10/13/2015	WNV
Placer	PLCR86	1970	Cx. pipiens	Rocklin	13	CO2	10/7/2015	WNV
Riverside	NWST9200	307	Cx. tarsalis		50	CO2	10/9/2015	WNV
Riverside	NWST9803	301	Cx. tarsalis	Corona	17	CO2	10/8/2015	WNV
Sacramento	SAYO214013	6355	Cx. pipiens	Carmichael	50	CO2	10/9/2015	WNV
Sacramento	SAYO233050	6570	Cx. pipiens	Elk Grove	20	CO2	10/14/2015	WNV
Sacramento	SAYO233065	6591	Cx. tarsalis	Elk Grove	36	CO2	10/14/2015	WNV
Sacramento	SAYO242004	6524	Cx. tarsalis	Elk Grove	16	CO2	10/14/2015	WNV
Sacramento	SAYO243025	6550	Cx. tarsalis	Elk Grove	15	CO2	10/14/2015	WNV
Sacramento	SAYO245002	6422	Cx. tarsalis	Wilton	14	CO2	10/9/2015	WNV
San Bernardino	SANB36	493	Cx. quinquefasciatus	Redlands	50	CO2	10/14/2015	WNV
San Bernardino	SANB46	513	Cx. tarsalis	Colton	50	CO2	10/15/2015	WNV
San Bernardino	SANB47	506	Cx. quinquefasciatus	San Bernardino	40	CO2	10/15/2015	WNV
San Bernardino	SANB61	489	Cx. quinquefasciatus	Loma Linda	28	CO2	10/14/2015	WNV
San Bernardino	SANB64	504	Cx. quinquefasciatus	Muscoy	4	CO2	10/15/2015	WNV
Solano	SOLA200	199	Cx. tarsalis	Fairfield	50	CO2	10/7/2015	WNV
Sonoma	MARN118	662	Cx. stigmatosoma	Cloverdale	6	GRVD	10/13/2015	WNV

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Week 41 Friday, October 16, 2015

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Contra Costa	CNTR2302	Martinez	10/5/2015	WNV	1132			
Glenn	GLEN9701	Willows	10/7/2015	WNV	1333			
Los Angeles	ANTV7947	Palmdale	9/30/2015	WNV	1052			
Los Angeles	ANTV8656	Lancaster	9/30/2015	WNV	1012			
Los Angeles	GRLA2056	Long Beach	9/30/2015	WNV	5302	5303	5305	5309
Los Angeles	GRLA2223	Rowland Heights	9/30/2015	WNV	5325	5326		
Los Angeles	GRLA2465	Los Feliz	9/28/2015	WNV	5347	5349	5350	
Los Angeles	GRLA2615	Newhall	9/28/2015	WNV	5366	5367	5370	
Shasta	SHAS9702	Millville	10/7/2015	WNV	1567	1568		

### 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.

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#### **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.

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#### **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.

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#### **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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