

## California Arbovirus Surveillance Bulletin #35

Week 43 Friday, October 30, 2015



### Weekly Update

#### **Humans**

A total of 48 new human cases of West Nile virus (WNV) illness were reported this week from the following 7 counties: Butte (1), Kern (1), Los Angeles (22), Orange (7), Riverside (4), San Bernardino (6), and San Diego (7). As of October 28, a total of 469 human cases of WNV illness have been reported to the California Department of Public Health from 30 counties; 28 were fatal. At this time last year, 608 cases had been reported from 29 counties. Of the 469 case-patients, 344 (73%) had neuroinvasive illness. The median age of the individuals is 59 years (range: 5-98 years); 278 (59%) are male. Dates of symptom onset ranged from May 15 to October 13. In addition, a total of 48 asymptomatic WNV-positive blood donors have been reported this year in 16 local health jurisdictions: Butte (5), Fresno (5), Glenn (2), Kern (1), Los Angeles (12), Merced (1), Napa (1), Orange (4), Placer (1), Riverside (2), Sacramento (2), San Bernardino (6), San Diego (2), Tehama (2), Tulare (1), and Yolo (1).

#### **Dead Birds**

A total of 27 WNV positive dead birds were reported this week from the following 6 counties: Los Angeles (3), Orange (6), Riverside (1), San Diego (12), San Mateo (4), and Santa Barbara (1). In 2015, 1,219 birds have tested positive for WNV from 37 counties. At this time last year, 2,375 WNV positive birds had been detected in 36 counties.

#### **Mosquito Pools**

A total of 34 WNV positive mosquito pools were reported this week from the following 6 counties: Los Angeles (15), Placer (2), Riverside (4), Sacramento (1), San Diego (11), and Yolo (1). In 2015, 3,006 mosquito pools have tested positive for WNV from 29 counties, and 38 mosquito pools have tested positive for St. Louis encephalitis virus (SLEV) from one county (Riverside). At this time last year, 3,282 WNV mosquito pools had been reported from 30 counties.

#### **Sentinel Chickens**

A total of 6 WNV seroconversions were reported this week from 5 flocks located in the following 3 counties: Contra Costa (1), Los Angeles (3), and Riverside (2). In 2015, 385 WNV seroconversions have been detected among 89 flocks located in 22 counties and 8 SLEV seroconversions have been detected from 2 flocks in Riverside County. At this time last year, 423 WNV positive chickens had been reported from 95 flocks in 23 counties.

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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	52	38	94	37
Colusa	1	3		10
Contra Costa	1	11	8	18
El Dorado		4		
Fresno	7	3	108	
Glenn	19	4	21	10
Humboldt		2		
Kern	11	1	135	
Kings		3	144	
Lake	2	5	31	4
Los Angeles	103	59	242	99
Madera	4	1	21	
Marin	1	3		
Mendocino	1			
Merced	1	3	8	21
Napa		7		
Nevada	2	10		4
Orange	46	70	360	
Placer		21	52	8
Riverside	93	77	154	16
Sacramento	2	103	164	2
San Bernardino	37	25	248	26
San Diego	28	295	42	9
San Joaquin	2	18	207	
San Mateo		21	5	
Santa Barbara		3	1	
Santa Clara	6	229	19	5
Shasta	3	16	48	22
Siskiyou	1			
Solano	1	10	6	7
Sonoma		11	12	
Stanislaus	12	14	84	9
Sutter	2	16	54	36
Tehama	5			18
Trinity		2		
Tulare	7	22	528	
Ventura	5	26		7
Yolo	7	61	173	6
Yuba	7	6	23	11
<b>Totals</b>	<b>469</b>	<b>1,219</b>	<b>3,006</b>	<b>385</b>

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2014 & 2015 YTD West Nile Virus Comparisons		
	2014	2015
Total # Dead Bird Reports	13,848	10,125
# Positive Counties	40	40
# Human Cases	608	469
# Positive Dead Birds / # Tested	2,375 / 3,856	1,219 / 2,980
# Positive Mosquito Pools / # Tested	3,282 / 29,851	3,006 / 36,006
# Seroconversions / # Tested	423 / 13,896	385 / 11,644

### TESTING SUMMARIES

#### Humans

		WNV	SLE	WEE
Human Cases	Week	48	0	0
	YTD	469	0	0

#### Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	58	27
	YTD	2,980	1,219

#### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	333	6	0	0
	YTD	11,644	385	8	0
Mosquito Pools	Week	726	34	0	0
	YTD	36,006	3,006	38	0

### NEW POSITIVES

#### Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90004	American Crow	10/20/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Santa Monica	90405	American Crow	10/22/2015	WNV
Los Angeles	Los Angeles Co Veterinarian	Van Nuys	91406	American Crow	10/15/2015	WNV
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/22/2015	WNV
Orange	Orange Co VCD	Huntington Beach	92646	American Crow	10/15/2015	WNV
Orange	Orange Co VCD	Huntington Beach	92647	American Crow	10/19/2015	WNV
Orange	Orange Co VCD	Irvine	92620	American Crow	10/19/2015	WNV
Orange	Orange Co VCD	San Juan Capistrano	92675	American Crow	10/19/2015	WNV

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Orange	Orange Co VCD	Yorba Linda	92886	Sharp-shinned Hawk	10/15/2015	WNV
Riverside	Northwest Mosquito VCD	Corona	92880	American Crow	10/13/2015	WNV
San Diego	San Diego Co VCP	Alpine	91901	American Crow	10/26/2015	WNV
San Diego	San Diego Co VCP	Carlsbad	92009	American Crow	10/26/2015	WNV
San Diego	San Diego Co VCP	Carlsbad	92009	American Crow	10/26/2015	WNV
San Diego	San Diego Co VCP	Escondido	92027	American Crow	10/27/2015	WNV
San Diego	San Diego Co VCP	Escondido	92027	American Crow	10/27/2015	WNV
San Diego	San Diego Co VCP	La Mesa	91941	American Crow	10/26/2015	WNV
San Diego	San Diego Co VCP	National City	91950	Western Scrub-Jay	10/29/2015	WNV
San Diego	San Diego Co VCP	San Diego	92109	American Crow	10/26/2015	WNV
San Diego	San Diego Co VCP	San Diego	92115	American Crow	10/30/2015	WNV
San Diego	San Diego Co VCP	San Diego	92124	American Crow	10/26/2015	WNV
San Diego	San Diego Co VCP	San Marcos	92078	American Crow	10/27/2015	WNV
San Diego	San Diego Co VCP	Vista	92084	Western Scrub-Jay	10/26/2015	WNV
San Mateo	San Mateo Co MAD	Atherton	94027	American Crow	10/28/2015	WNV
San Mateo	San Mateo Co MAD	Menlo Park	94025	American Crow	10/22/2015	WNV
San Mateo	San Mateo Co MAD	Redwood City	94061	American Crow	10/16/2015	WNV
San Mateo	Santa Clara Co VCD	East Palo Alto	94303	American Crow	10/20/2015	WNV
Santa Barbara	MVCD of Santa Barbara Co	Santa Ynez	93460	American Crow	10/19/2015	WNV

### Mosquitoes

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Los Angeles	GRLA2299	729	Cx. quinquefasciatus	Los Angeles	46	GRVD	10/22/2015	WNV
Los Angeles	GRLA2323	726	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/22/2015	WNV
Los Angeles	GRLA2414	5912	Cx. quinquefasciatus	Granada Hills	50	GRVD	10/23/2015	WNV
Los Angeles	GRLA2465	5897	Cx. quinquefasciatus	Los Feliz	50	GRVD	10/21/2015	WNV
Los Angeles	GRLA2500	5892	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/21/2015	WNV
Los Angeles	GRLA2503	5893	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/21/2015	WNV
Los Angeles	GRLA2511	5895	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/21/2015	WNV
Los Angeles	GRLA2512	5896	Cx. quinquefasciatus	Los Angeles	50	GRVD	10/21/2015	WNV
Los Angeles	GRLA2552	5899	Cx. quinquefasciatus	Glendale	50	GRVD	10/21/2015	WNV
Los Angeles	GRLA2574	5902	Cx. quinquefasciatus	Sherman Oaks	48	GRVD	10/23/2015	WNV
Los Angeles	GRLA2937	5900	Cx. quinquefasciatus	Burbank	50	GRVD	10/21/2015	WNV
Los Angeles	GRLA3070	725	Cx. quinquefasciatus	Commerce	50	GRVD	10/22/2015	WNV
Los Angeles	GRLA3071	727	Cx. quinquefasciatus	East Los Angeles	50	GRVD	10/22/2015	WNV
Los Angeles	GRLA3073	730	Cx. quinquefasciatus	Lincoln Heights	50	GRVD	10/22/2015	WNV
Los Angeles	GRLA3074	731	Cx. quinquefasciatus	Lincoln Heights	50	GRVD	10/22/2015	WNV
Placer	PLCR1003	2107	Cx. tarsalis	Lincoln	42	CO2	10/27/2015	WNV
Placer	PLCR191373	2103	Cx. tarsalis		15	CO2	10/27/2015	WNV
Riverside	COAV203	3494	Cx. quinquefasciatus	Palm Desert	10	GRVD	10/22/2015	WNV
Riverside	NWST140	371	Cx. quinquefasciatus	Riverside	50	CO2	10/22/2015	WNV
Riverside	NWST61	366	Cx. quinquefasciatus	Norco	29	CO2	10/21/2015	WNV
Riverside	NWST86	354	Cx. quinquefasciatus	Corona	50	CO2	10/20/2015	WNV
Sacramento	SAYO233040	7142	Cx. tarsalis	Elk Grove	1	CO2	10/27/2015	WNV
San Diego	SAND10321	300	Cx. quinquefasciatus	San Diego	14	GRVD	10/2/2015	WNV
San Diego	SAND10332	304	Cx. stigmatosoma	Ramona	24	GRVD	10/6/2015	WNV
San Diego	SAND10337	309	Cx. tarsalis	San Diego	3	CO2	10/6/2015	WNV
San Diego	SAND10343	321	Cx. quinquefasciatus	San Diego	16	GRVD	10/8/2015	WNV
San Diego	SAND10345	320	Cx. quinquefasciatus	San Diego	22	GRVD	10/9/2015	WNV
San Diego	SAND10357	325	Cx. quinquefasciatus	Vista	15	GRVD	10/13/2015	WNV

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San Diego	SAND10360	328	Cx. quinquefasciatus	San Diego	6	GRVD	10/13/2015	WNV
San Diego	SAND10360	331	Cx. quinquefasciatus	San Diego	16	GRVD	10/13/2015	WNV
San Diego	SAND152	317	Cx. quinquefasciatus	San Diego	8	GRVD	10/7/2015	WNV
San Diego	SAND438	316	Cx. quinquefasciatus	San Diego	39	GRVD	10/7/2015	WNV
San Diego	SAND439	319	Cx. quinquefasciatus	Santee	35	GRVD	10/10/2015	WNV
Yolo	SAYO146006	7087	Cx. pipiens	Davis	4	CO2	10/27/2015	WNV

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02
Contra Costa	CNTR2302	Martinez	10/19/2015	WNV	1127	
Los Angeles	LACW1012	Venice	10/23/2015	WNV	1459	
Los Angeles	LACW1022	Pacific Palisades	10/20/2015	WNV	1468	
Los Angeles	LACW1026	Los Angeles	10/20/2015	WNV	1496	
Riverside	RIVR0001	San Jacinto	10/14/2015	WNV	1909	1910

## 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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