

## California Arbovirus Surveillance Bulletin #34

Week 43 Friday, October 25, 2013



### WEEKLY UPDATE

#### **Human Cases**

##### **West Nile virus**

A total of 25 new cases of West Nile virus (WNV) illness were reported this week from 6 counties: Butte (1), Kern (2), Los Angeles (11), Riverside (6), San Bernardino (4), and Shasta (1). **This is the first WNV case reported from Shasta County this year.** As of October 22, 2013, a total of 297 cases of WNV illness have been reported in 27 counties. Of the 297 case-patients, 188 (63%) had neuroinvasive illness. The median age of the 297 individuals for whom data are available is 56 years (range: 5 - 93 years); 188 (63%) are male. Dates of symptom onset range from May 22 to October 2, 2013. 11 WNV-related fatalities have been reported in Glenn (1), Los Angeles (7), Sacramento (1), San Joaquin (1), and San Bernardino (1) counties. A total of 52 WNV-positive blood donors have been reported this year; 10 developed symptoms and were classified as case-patients. At this time last year, 339 cases had been reported from 30 counties.

National Comments: As of October 22, 2013, 1,927 cases had been reported nationwide from 46 states. Of these, 938 (49%) were classified as neuroinvasive disease, and 73 (4%) died.

#### **Horses**

No new equine cases were reported this week. In 2013, 11 horses from seven counties have tested positive for WNV; five have died as a result of their infection. At this time last year, 21 horses had tested positive for WNV from 12 counties.

#### **Dead Birds & Squirrels**

A total of 12 WNV positive birds were reported this week from the following 4 counties: Orange (4), Sacramento (2), Sonoma (5), and Yolo (1). In 2013, 1,200 dead birds have tested positive for WNV from 38 counties and 8 dead squirrels have tested positive for WNV from 6 counties. At this time last year, 1,604 dead birds and 21 squirrels tested positive for recent WNV infection from 38 and 5 counties, respectively.

#### **Mosquito Pools**

A total of 18 WNV positive mosquito pools were reported this week from the following 6 counties: Los Angeles (11), Orange (2), Sacramento (1), San Bernardino (1), San Joaquin (1), and Tulare (2). In 2013, 2,507 mosquito pools from 27 counties have tested positive for WNV. At this time last year, 2,792 mosquito pools from 28 counties had tested positive for WNV.

#### **Sentinel Chickens**

A total of 15 sentinel chickens tested positive for WNV antibodies this week from 10 flocks in the following 6 counties: Los Angeles (9), Riverside (2), San Benito (1), San Bernardino (1), Shasta (1), and Yolo (1). **This is the first WNV seroconversion detected in San Benito County this year.** In 2013, 478 WNV antibody-positive chickens have been detected among 111 flocks in 26 counties. At this time last year, 492 WNV antibody-positive chickens had been detected among 101 flocks in 21 counties.

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<b>YTD WNV Activity by Element and County, 2013</b>						
<b>County</b>	<b>Humans</b>	<b>Horses</b>	<b>Dead Birds</b>	<b>Mosquito Pools</b>	<b>Sentinel Chickens</b>	<b>Squirrels</b>
Alameda			18			
Butte	23		42	33	57	
Colusa	2		1		8	
Contra Costa	4	1	68	13	7	1
El Dorado	1					
Fresno	5		11	66		
Glenn	8		8	16	9	
Humboldt			1			
Kern	20	2	2	181	12	
Kings			12	78		
Lake			10	61	6	
Los Angeles	121		306	411	147	3
Madera	3		7	16	2	
Marin	2		6		1	
Mendocino			2			
Merced			38	8	21	
Napa	1		2			
Nevada			6		2	
Orange	4		35	47		1
Placer	5	1	38	89	13	
Riverside	31	1	22	80	43	
Sacramento	3	3	177	384	6	
San Benito		1			1	
San Bernardino	9		37	237	29	1
San Diego			6			
San Francisco	1					
San Joaquin	6		34	163		
San Luis Obispo			1	1		
Santa Clara	2		65	25	2	
Santa Cruz			1	1		
Shasta	1		37	15	21	1
Solano	1		13	1	12	
Sonoma			32	5	1	
Stanislaus	16	2	13	158	8	
Sutter	9		16	61	35	
Tehama			3		8	
Trinity			1			
Tulare	4		6	97	5	
Ventura	2		8			1
Yolo	7		104	246	11	
Yuba	6		11	14	11	
<b>Totals</b>	<b>297</b>	<b>11</b>	<b>1,200</b>	<b>2,507</b>	<b>478</b>	<b>8</b>

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2012 & 2013 YTD West Nile Virus Comparisons		
	2012	2013
Total # Dead Bird Reports	19,518	14,033
# Positive Counties	42	41
# Human Cases	339	297
# Horse Cases	21	11
# Positive Dead Birds / # Tested	1,604 / 4,148	1,200 / 3,134
# Positive Mosquito Pools / # Tested	2,792 / 31,587	2,507 / 29,699
# Seroconversions / # Tested	492 / 21,169	478 / 15,720
# Positive Squirrels / # Tested	21 / 174	8 / 97

### TESTING SUMMARIES

#### Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
<b>Human Cases</b>	Week	25	0	0	0	0	0
	YTD	297	0	0	0	1	0
<b>Horse Cases</b>	Week	0	0	0	0	0	0
	YTD	11	0	0	0	0	0

#### Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
<b>Dead Birds</b>	Week	38	12
	YTD	3,134	1,200
<b>Tree Squirrels</b>	Week	0	0
	YTD	97	8

#### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
<b>Chicken Sera</b>	Week	512	15	0	0
	YTD	15,720	478	0	0
<b>Mosquito Pools</b>	Week	690	18	0	0
	YTD	29,699	2,507	0	0

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**POSITIVES**

**Dead Birds**

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Orange	Orange Co VCD	Cypress	90630	American Crow	10/7/2013	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Stanton	90680	American Crow	10/7/2013	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Seal Beach	90740	American Crow	10/9/2013	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Yorba Linda	92886	American Crow	9/30/2013	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95822	Western Scrub-Jay	10/17/2013	WNV	Recent	RT-PCR
Sacramento	Sac-Yolo MVCD	Sacramento	95841	Western Scrub-Jay	10/21/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95401	American Crow	10/10/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95403	American Crow	10/16/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95404	American Crow	10/16/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95405	American Crow	10/9/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Windsor	95492	American Crow	10/14/2013	WNV	Recent	RT-PCR
Yolo	Sac-Yolo MVCD	Davis	95616	American Crow	10/17/2013	WNV	Recent	RT-PCR

**Mosquito Pools**

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus	Method
Los Angeles	GRLA2194	1030	Cx. quinquefasciatus	South El Monte	50	GRVD	10/8/13	WNV	RTPCR
Los Angeles	GRLA2592	6142	Cx. quinquefasciatus	San Marino	50	GRVD	10/18/13	WNV	RTPCR
Los Angeles	GRLA2890	1044	Cx. quinquefasciatus	Lakewood	40	GRVD	10/17/13	WNV	RTPCR
Los Angeles	GRLA2937	6119	Cx. quinquefasciatus	Burbank	12	GRVD	10/11/13	WNV	RTPCR
Los Angeles	GRLA3034	6122	Cx. quinquefasciatus	North Hills	35	GRVD	10/16/13	WNV	RTPCR
Los Angeles	GRLA3038	6134	Cx. quinquefasciatus	Valley Village	21	GRVD	10/17/13	WNV	RTPCR
Los Angeles	GRLA3045	1038	Cx. quinquefasciatus	Whittier	50	GRVD	10/8/13	WNV	RTPCR
Los Angeles	GRLA3057	1056	Cx. quinquefasciatus	Huntington Park	50	GRVD	10/18/13	WNV	RTPCR
Los Angeles	GRLA3076	6135	Cx. quinquefasciatus	Valley Glen	50	GRVD	10/17/13	WNV	RTPCR
Los Angeles	GRLA3102	6133	Cx. quinquefasciatus	Studio City	50	GRVD	10/17/13	WNV	RTPCR
Los Angeles	GRLA3132	6146	Cx. quinquefasciatus	Los Angeles	15	GRVD	10/18/13	WNV	RTPCR
Orange	ORCO3	1696	Cx. quinquefasciatus	Garden Grove	13	CO2	10/18/13	WNV	RTPCR
Orange	ORCO3	1697	Cx. quinquefasciatus	Garden Grove	10	CO2	10/18/13	WNV	RTPCR
Sacramento	SAYO233001	6601	Cx. pipiens	Elk Grove	14	GRVD	10/22/13	WNV	RTPCR
San Bernardino	WVAL6004	1347	Cx. quinquefasciatus	Ontario	37	GRVD	10/18/13	WNV	RTPCR
San Joaquin	SJCM8135	1654	Cx. tarsalis	Mountain House	11	CO2	10/22/13	WNV	RTPCR
Tulare	DLTA7529	518	Cx. quinquefasciatus	Visalia	50	CO2	10/2/13	WNV	RTPCR
Tulare	DLTA7529	519	Cx. quinquefasciatus	Visalia	50	CO2	10/2/13	WNV	RTPCR

**Sentinel Chickens**

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04	Band 05	Band 06
Los Angeles	GRLA2223	Rowland Heights	10/3/2013	WNV	2651	2653	2655	2656	2658	2659
Los Angeles	GRLA2615	Newhall	10/16/2013	WNV	2613					
Los Angeles	LACW1026	Beverly Hills	10/8/2013	WNV	1397					
Los Angeles	SGVA0004	Arcadia	10/4/2013	WNV	3855					
Riverside	COAV0035	Mecca	10/15/2013	WNV	3203					
Riverside	COAV0122	Mecca	10/15/2013	WNV	3218					
San Benito	SBVC0001	Hollister	10/9/2013	WNV	1287					
San Bernardino	SANB0007	Fontana	10/15/2013	WNV	3357					
Shasta	SHAS9704	Redding	10/10/2013	WNV	1837					
Yolo	SAYO123001	Esparto	10/17/2013	WNV	2153					

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### Test Protocols

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#### **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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#### **Horses:**

Serum or brain tissue specimens from horses displaying neurological symptoms are submitted to the California Animal Health and Safety Laboratory (CAHFS) and tested by EIA and PRNT.

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#### **Dead Birds:**

Oral swab samples from corvids are collected onto RNase 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.

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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 (WEEV), and St. Louis encephalitis (SLEV) viruses by EIA and IFA. Positive samples are confirmed by western-blot or PRNT.

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#### **Mosquito Pools:**

Mosquito pools are submitted to CVEC and screened for WEEV, SLEV, and WNV viral RNA using a Taqman multiplex RT-PCR. CVEC will cease confirmation 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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*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](mailto:tina.feiszli@cdph.ca.gov). Website Information: For updated information on WNV in California, please visit the California WNV website, [www.westmile.ca.gov](http://www.westmile.ca.gov), or the California Vectorborne Disease Surveillance System website, [www.calsurv.org](http://www.calsurv.org). For national information on WNV and other arboviruses, please visit the CDC website, [www.cdc.gov](http://www.cdc.gov), and the USGS website, [www.westnilemaps.usgs.gov](http://www.westnilemaps.usgs.gov)*