

## California Arbovirus Surveillance Bulletin #35

Week 44 Friday, November 1, 2013



### WEEKLY UPDATE

#### **Human Cases**

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

A total of 22 new cases of West Nile virus (WNV) illness were reported this week from the following 10 counties: Fresno (1), Kern (1), Kings (1), Los Angeles (9), Orange (2), Riverside (3), San Bernardino (2), San Joaquin (1), Siskiyou (1), and Yuba (1). **These are the first WNV cases reported from Kings and Siskiyou counties this year.** As of October 29, 2013, a total of 319 cases of WNV illness have been reported in 29 counties. Of the 319 case-patients, 209 (66%) had neuroinvasive illness. The median age of the 319 individuals for whom data are available is 57 years (range: 5 - 93 years); 198 (62%) are male. Dates of symptom onset range from May 22 to October 12, 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 56 WNV-positive blood donors have been reported this year; 11 developed symptoms and were classified as case-patients. At this time last year, 377 cases had been reported from 30 counties.

National Comments: As of October 29, 2013, 2,059 cases had been reported nationwide from 46 states. Of these, 1,015 (49%) were classified as neuroinvasive disease, and 83 (4%) died.

#### **Horses**

Two new equine cases of WNV were reported this week from Placer County. In 2013, 13 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 10 WNV positive birds were reported this week from the following 4 counties: Orange (4), Placer (1), Sacramento (2), Santa Clara (1), and Sonoma (2). In 2013, 1,210 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, 1,614 dead birds and 21 squirrels tested positive for recent WNV infection from 39 and 5 counties, respectively.

#### **Mosquito Pools**

Four WNV positive mosquito pools were reported this week from the following 3 counties: Los Angeles (1), Riverside (1), and San Bernardino (2). In 2013, 2,511 mosquito pools from 27 counties have tested positive for WNV. At this time last year, 2,814 mosquito pools from 28 counties had tested positive for WNV.

#### **Sentinel Chickens**

No new seroconversions were reported this week. In 2013, 478 WNV antibody-positive chickens have been detected among 111 flocks in 26 counties. At this time last year, 507 WNV antibody-positive chickens had been detected among 105 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	6		11	66		
Glenn	8		8	16	9	
Humboldt			1			
Kern	21	2	2	181	12	
Kings	1		12	78		
Lake			10	61	6	
Los Angeles	130		306	412	147	3
Madera	3		7	16	2	
Marin	2		6		1	
Mendocino			2			
Merced			38	8	21	
Napa	1		2			
Nevada			6		2	
Orange	6		39	47		1
Placer	5	3	39	89	13	
Riverside	34	1	22	81	43	
Sacramento	3	3	179	384	6	
San Benito		1			1	
San Bernardino	11		37	239	29	1
San Diego			6			
San Francisco	1					
San Joaquin	7		34	163		
San Luis Obispo			1	1		
Santa Clara	2		66	25	2	
Santa Cruz			1	1		
Shasta	1		37	15	21	1
Siskiyou	1					
Solano	1		13	1	12	
Sonoma			34	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	7		11	14	11	
<b>Totals</b>	<b>319</b>	<b>13</b>	<b>1,210</b>	<b>2,511</b>	<b>478</b>	<b>8</b>

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2012 & 2013 YTD West Nile Virus Comparisons		
	2012	2013
Total # Dead Bird Reports	19,835	14,162
# Positive Counties	42	42
# Human Cases	377	319
# Horse Cases	21	13
# Positive Dead Birds / # Tested	1,614 / 4,192	1,210 / 3,165
# Positive Mosquito Pools / # Tested	2,814 / 32,015	2,511 / 30,021
# Seroconversions / # Tested	507 / 21,588	478 / 16,062
# Positive Squirrels / # Tested	21 / 176	8 / 97

### TESTING SUMMARIES

#### Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
<b>Human Cases</b>	Week	22	0	0	0	0	0
	YTD	319	0	0	0	1	0
<b>Horse Cases</b>	Week	2	0	0	0	0	0
	YTD	13	0	0	0	0	0

#### Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
<b>Dead Birds</b>	Week	31	10
	YTD	3,165	1,210
<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	342	0	0	0
	YTD	16,062	478	0	0
<b>Mosquito Pools</b>	Week	322	4	0	0
	YTD	30,021	2,511	0	0

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### POSITIVES

#### Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Orange	Orange Co VCD	Huntington Beach	92648	American Crow	10/21/2013	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/21/2013	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/21/2013	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/21/2013	WNV	Recent	RT-PCR
Placer	Placer MVCD	Penryn	95663	Sharp-shinned Hawk	10/24/2013	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95624	House Finch	10/26/2013	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Rio Linda	95673	Western Scrub-Jay	10/23/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Sunnyvale	94087	American Crow	10/21/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95401	Western Scrub-Jay	10/22/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95405	American Crow	10/20/2013	WNV	Recent	RT-PCR

#### Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus	Method
Los Angeles	GRLA2097	1067	Cx. quinquefasciatus	La Mirada	31	GRVD	10/22/2013	WNV	RT-PCR
Riverside	RIVR0022	651	Cx. erythrothorax	Murrieta	50	CO2	10/16/2013	WNV	RT-PCR
San Bernardino	WVAL2020	1364	Cx. quinquefasciatus	Fwy CA 71	6	GRVD	10/30/2013	WNV	RT-PCR
San Bernardino	WVAL6004	1373	Cx. quinquefasciatus	Ontario	42	GRVD	10/24/2013	WNV	RT-PCR

### 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.

#### 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.

#### 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.

#### 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.

#### 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.

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.westmilemaps.usgs.gov](http://www.westmilemaps.usgs.gov)