

## California Arbovirus Surveillance Bulletin #36

Week 45 Friday, November 8, 2013



### WEEKLY UPDATE

#### **Human Cases**

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

A total of 20 new cases of West Nile virus (WNV) illness were reported this week from the following six counties: Contra Costa (1), Glenn (1), Los Angeles (8), Orange (3), Riverside (1), and Sacramento (6). As of November 5, 2013, a total of 339 cases of WNV illness have been reported in 29 counties. Of the 339 case-patients, 226 (67%) had neuroinvasive illness. The median age of the 339 individuals for whom data are available is 56 years (range: 1 - 93 years); 211 (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 55 WNV-positive blood donors have been reported this year; 10 developed symptoms and were classified as case-patients. At this time last year, 399 cases had been reported from 31 counties.

National Comments: As of November 5, 2013, 2,170 cases had been reported nationwide from 46 states. Of these, 1,086 (50%) were classified as neuroinvasive disease, and 88 (4%) died.

#### **Horses**

No new equine cases were reported this week. 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, 22 horses had tested positive for WNV from 13 counties.

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

A total of 6 WNV positive birds were reported this week from the following 4 counties: San Diego (1), Shasta (1), Sonoma (2), and Yolo (2). An additional two dead birds tested positive for chronic WNV infection. In 2013, 1,216 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, 1,618 dead birds and 21 squirrels tested positive for recent WNV infection from 39 and 5 counties, respectively.

#### **Mosquito Pools**

Seven WNV positive mosquito pools were reported this week from the following 3 counties: Los Angeles (3), Lake (1), and San Bernardino (3). In 2013, 2,518 mosquito pools from 27 counties have tested positive for WNV. At this time last year, 2,819 mosquito pools from 28 counties had tested positive for WNV.

#### **Sentinel Chickens**

Two new seroconversions were reported this week from Los Angeles and Sonoma counties. In 2013, 480 WNV antibody-positive chickens have been detected among 111 flocks in 26 counties. At this time last year, 516 WNV antibody-positive chickens had been detected among 106 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	5	1	68	13	7	1
El Dorado	1					
Fresno	6		11	66		
Glenn	9		8	16	9	
Humboldt			1			
Kern	21	2	2	181	12	
Kings	1		12	78		
Lake			10	62	6	
Los Angeles	138		306	415	148	3
Madera	3		7	16	2	
Marin	2		6		1	
Mendocino			2			
Merced			38	8	21	
Napa	1		2			
Nevada			6		2	
Orange	9		39	47		1
Placer	5	3	39	89	13	
Riverside	35	1	22	81	43	
Sacramento	9	3	179	384	6	
San Benito		1			1	
San Bernardino	11		37	242	29	1
San Diego			7			
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		38	15	21	1
Siskiyou	1					
Solano	1		13	1	12	
Sonoma			36	5	2	
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		106	246	11	
Yuba	7		11	14	11	
<b>Totals</b>	<b>339</b>	<b>13</b>	<b>1,216</b>	<b>2,518</b>	<b>480</b>	<b>8</b>

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2012 & 2013 YTD West Nile Virus Comparisons		
	2012	2013
Total # Dead Bird Reports	20,004	14,278
# Positive Counties	42	42
# Human Cases	399	339
# Horse Cases	22	13
# Positive Dead Birds / # Tested	1,618 / 4,204	1,216 / 3,184
# Positive Mosquito Pools / # Tested	2,819 / 32,236	2,518 / 30,181
# Seroconversions / # Tested	516 / 22,033	480 / 16,305
# Positive Squirrels / # Tested	21 / 176	8 / 97

### TESTING SUMMARIES

#### Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	20	0	0	0	0	0
	YTD	339	0	0	0	1	0
Horse Cases	Week	0	0	0	0	0	0
	YTD	13	0	0	0	0	0

#### Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	19	6
	YTD	3,184	1,216
Tree Squirrels	Week	0	0
	YTD	97	8

#### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	243	2	0	0
	YTD	16,305	480	0	0
Mosquito Pools	Week	160	7	0	0
	YTD	30,181	2,518	0	0

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### POSITIVES

#### Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
San Diego	San Diego Co VCP	San Diego	92101	American Crow	10/30/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	Sunnyvale	94086	American Crow	9/13/2013	WNV	Chronic	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95125	Western Scrub-Jay	10/11/2013	WNV	Chronic	RT-PCR
Shasta	Shasta MVCD	Cottonwood	96022	Western Scrub-Jay	10/30/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Rohnert Park	94928	American Crow	10/28/2013	WNV	Recent	RT-PCR
Sonoma	Marin-Sonoma MVCD	Santa Rosa	95401	American Crow	10/28/2013	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	West Sacramento	95605	Western Scrub-Jay	10/30/2013	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95616	American Crow	10/30/2013	WNV	Recent	RT-PCR

#### Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus	Method
Los Angeles	GRLA2278	1099	Cx. quinquefasciatus	Long Beach	34	GRVD	10/30/2013	WNV	RT-PCR
Los Angeles	GRLA2500	6159	Cx. quinquefasciatus	Los Angeles	21	GRVD	10/30/2013	WNV	RT-PCR
Los Angeles	GRLA3078	6160	Cx. quinquefasciatus	Los Feliz	14	GRVD	10/30/2013	WNV	RT-PCR
Lake	LAKE1508	431	Cx. stigmatosoma	Kelseyville	10	REST	10/10/2013	WNV	RT-PCR
San Bernardino	WVAL6004	1376	Cx. quinquefasciatus	Ontario	44	GRVD	11/1/2013	WNV	RT-PCR
San Bernardino	WVAL6004	1377	Cx. quinquefasciatus	Ontario	50	GRVD	11/1/2013	WNV	RT-PCR
San Bernardino	WVAL6004	1381	Cx. quinquefasciatus	Ontario	19	GRVD	11/1/2013	WNV	RT-PCR

#### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Los Angeles	GRLA2615	Newhall	10/28/2013	WNV	2615
Sonoma	MARN0118	Cloverdale	10/21/2013	WNV	1521

### 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.

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