

## California Arbovirus Surveillance Bulletin #40

Week 51 Friday, December 20, 2013



### WEEKLY UPDATE

#### **Human Cases**

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

As of December 20, 2013, a total of 368 cases of West Nile virus (WNV) illness have been reported in 31 counties. Of the 368 case-patients, 243 (66%) had neuroinvasive illness. The median age of the 368 individuals for whom data are available is 57 years (range: 1 - 93 years); 232 (63%) are male. Dates of symptom onset range from May 22 to November 5, 2013. Fourteen WNV-related fatalities have been reported in Glenn (1), Kern (1), Los Angeles (8), Sacramento (1), San Joaquin (1), San Bernardino (1), and Yuba (1) counties. A total of 60 WNV-positive blood donors have been reported this year; 10 developed symptoms and were classified as case-patients. At this time last year, 453 cases had been reported from 31 counties.

National Comments: As of December 3, 2013, 2,318 cases had been reported nationwide from 46 states. Of these, 1,171 (51%) were classified as neuroinvasive disease, and 105 (5%) died.

#### **Horses**

No new equine cases have been reported. In 2013, 13 horses from seven counties have tested positive for WNV; five 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**

No new WNV positive dead birds have been reported. In 2013, 1,240 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, 1,642 dead birds and 23 squirrels tested positive for recent WNV infection from 39 and 6 counties, respectively.

#### **Mosquito Pools**

No new positive mosquito pools have been reported. In 2013, 2,528 mosquito pools from 27 counties have tested positive for WNV. At this time last year, 2,849 mosquito pools from 28 counties had tested positive for WNV.

#### **Sentinel Chickens**

No new seroconversions have been reported. In 2013, 484 WNV antibody-positive chickens have been detected among 112 flocks in 26 counties. At this time last year, 540 WNV antibody-positive chickens had been detected among 112 flocks in 22 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			22			
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	25	2	2	181	12	
Kings	1		12	78		
Lake			10	62	6	
Los Angeles	151		312	417	151	3
Madera	3		7	16	2	
Marin	2		6		1	
Mendocino			2			
Merced			38	8	21	
Napa	1		2			
Nevada			6		2	
Orange	9		40	48		1
Placer	5	3	39	89	13	
Riverside	35	1	22	81	44	
Sacramento	10	3	179	384	6	
San Benito		1			1	
San Bernardino	13		37	249	29	1
San Diego			9			
San Francisco	1					
San Joaquin	8		34	163		
San Luis Obispo			1	1		
Santa Barbara	1					
Santa Clara	2		77	25	2	
Santa Cruz			1	1		
Shasta	1		38	15	21	1
Siskiyou	1					
Solano	1		13	1	12	
Sonoma			36	5	2	
Stanislaus	17	2	13	158	8	
Sutter	10		16	61	35	
Tehama	3		3		8	
Trinity			1			
Tulare	5		6	97	5	
Ventura	2		8			1
Yolo	6		106	246	11	
Yuba	9		11	14	11	
<b>Totals</b>	<b>368</b>	<b>13</b>	<b>1,240</b>	<b>2,528</b>	<b>484</b>	<b>8</b>

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2012 & 2013 YTD West Nile Virus Comparisons		
	2012	2013
Total # Dead Bird Reports	20,608	14,651
# Positive Counties	42	43
# Human Cases	453	368
# Horse Cases	22	13
# Positive Dead Birds / # Tested	1,642 / 4,387	1,240 / 3,249
# Positive Mosquito Pools / # Tested	2,849 / 32,884	2,528 / 30,833
# Seroconversions / # Tested	540 / 22,586	484 / 16,919
# Positive Squirrels / # Tested	23 / 181	8 / 97

### TESTING SUMMARIES

#### Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
<b>Human Cases</b>	Week	4	0	0	0	0	0
	YTD	368	0	0	0	1	0
<b>Horse Cases</b>	Week	0	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	1	0
	YTD	3,249	1,240
<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	0	0	0	0
	YTD	16,919	484	0	0
<b>Mosquito Pools</b>	Week	99	0	0	0
	YTD	30,833	2,528	0	0

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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)*