

## California Arbovirus Surveillance Bulletin #39

Week 49 Friday, December 6, 2013



### WEEKLY UPDATE

#### **Human Cases**

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

As of December 3, 2013, a total of 364 cases of West Nile virus (WNV) illness have been reported in 31 counties. Of the 364 case-patients, 239 (66%) had neuroinvasive illness. The median age of the 364 individuals for whom data are available is 57 years (range: 1 - 93 years); 229 (63%) are male. Dates of symptom onset range from May 22 to October 25, 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, 446 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 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 3 WNV positive birds were reported this week from Sant Clara County. In 2013, 1,238 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, 1,639 dead birds and 22 squirrels tested positive for recent WNV infection from 39 and 6 counties, respectively.

#### **Mosquito Pools**

One WNV positive mosquito pool was reported this week from San Bernardino County. 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**

One WNV seroconversion was reported this week from a new flock located in Riverside County. In 2013, 484 WNV antibody-positive chickens have been detected among 112 flocks in 26 counties. At this time last year, 536 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>						
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			20			
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	148		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	8		11	14	11	
<b>Totals</b>	<b>364</b>	<b>13</b>	<b>1,238</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	20,499	14,560
# Positive Counties	42	43
# Human Cases	446	364
# Horse Cases	22	13
# Positive Dead Birds / # Tested	1,639 / 4,382	1,238 / 3,243
# Positive Mosquito Pools / # Tested	2,849 / 32,820	2,528 / 30,734
# Seroconversions / # Tested	536 / 22,586	484 / 16,919
# Positive Squirrels / # Tested	22 / 180	8 / 97

### TESTING SUMMARIES

#### Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	7	0	0	0	0	0
	YTD	364	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	27	3
	YTD	3,243	1,238
Tree Squirrels	Week	0	0
	YTD	97	8

#### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	57	1	0	0
	YTD	16,919	484	0	0
Mosquito Pools	Week	132	1	0	0
	YTD	30,734	2,528	0	0

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### POSITIVES

#### Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Santa Clara	Santa Clara VCD	Cupertino	95014	American Crow	11/19/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara VCD	Milpitas	95035	American Crow	11/26/2013	WNV	Recent	RT-PCR
Santa Clara	Santa Clara VCD	Milpitas	95035	American Crow	11/26/2013	WNV	Recent	RT-PCR

#### Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap	Collected	Virus	Method
San Bernardino	WVAL6004	1517	<i>Cx. quinquefasciatus</i>	Ontario	50	GRVD	11/27/2013	WNV	RT-PCR

#### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Riverside	NWST9227	Riverside	11/14/2013	WNV	4000

### 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.

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