

## California Arbovirus Surveillance Bulletin #38

Week 45 Friday, November 9, 2012



### Human Cases

A total of 22 new cases of West Nile virus (WNV) were reported this week from the following 6 counties: Lake (1), Los Angeles (14), Riverside (2), Sacramento (3), San Bernardino (1), and Stanislaus (1). This is the first WNV human case reported from Lake County this year. As of November 8, 2012, a total of 399 human cases of WNV illness have been reported in 31 counties. Of the 399 case-patients, 255 (64%) had neuroinvasive illness. The median age of the 398 individuals for whom data are available is 55 years (range: 1-93 years); 236 (59%) are male. Dates of symptom onset for all patients ranged from May 23 to October 18, 2012. A total of 16 WNV-related fatalities have been reported to date in Fresno (2), Glenn (1), Kern (2), Los Angeles (5), Merced (1), Placer (1), Sacramento (2), San Bernardino (1), and Sutter (1) counties. A total of 59 WNV-positive blood donors have been reported this year; 18 individuals developed symptoms and were reclassified as cases.

At this time last year, 144 WNV cases had been reported from 21 counties.

**National Comments:** As of November 6, 2012, 5,054 cases had been reported nationwide from 48 states and the District of Columbia (DC). This is the highest number of cases reported through the first week of November since 2003. Almost 80 percent of the cases have been reported from 12 states (Texas, California, Louisiana, Mississippi, Illinois, South Dakota, Michigan, Oklahoma, Nebraska, Colorado, Ohio, and Arizona). Of the 5,054 cases, 2,559 (51%) were classified as neuroinvasive disease, and 228 (5%) patients died.

### Horses

One WNV equine case was reported this week from Madera County; an unvaccinated colt with onset date October 22. This is the first equine case reported from Madera County this year. In 2012, 22 horses from 13 counties have tested positive for WNV; 7 (32%) died or were euthanized as a result of their illness. At this time last year, 15 equine cases of WNV from 7 counties had been reported.

### Dead Birds & Squirrels

A total of 4 WNV positive dead birds were reported this week from 2 counties: Los Angeles (2) and Orange (2). In 2012, 1,618 dead birds and 21 squirrels have tested positive for recent WNV infection from 39 and 5 counties, respectively. At this time last year, 678 dead birds from 26 counties and 24 tree squirrels from 6 counties had tested positive for WNV.

### Mosquito Pools

A total of 5 WNV positive mosquito pools were reported this week from 4 counties: Fresno (1), Los Angeles (2), San Joaquin (1), and San Bernardino (1). In 2012, 2,819 mosquito pools from 28 counties have tested positive for WNV. At this time last year, 2,083 mosquito pools had tested positive for WNV from 26 counties.

### Sentinel Chickens

A total of 9 WNV seroconversions were reported this week from 6 flocks 3 counties: Los Angeles (5), Riverside (1), and San Bernardino (3). In 2012, 516 WNV antibody-positive chickens have been detected among 106 flocks in 21 counties. At this time last year, 381 WNV positive chickens had been detected among 69 flocks in 15 counties.

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<b>YTD WNV Activity by Element and County, 2012</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	2		15			1
Butte	10	1	53	27	43	2
Calaveras		1				
Colusa	3		5		6	
Contra Costa	3		66	19	7	
El Dorado			5			
Fresno	22	3	25	147		
Glenn	7	1	16	4	8	
Imperial	1			4	10	
Kern	25	2	14	571	74	
Kings	3		2	102		
Lake	1		10	23	4	
Los Angeles	119		259	316	127	15
Madera	1	1	2	14		
Marin			1			
Mendocino			6			
Merced	13	1	42	4		
Monterey	1					
Napa			1	1		
Nevada			3			
Orange	35		89	68		
Placer	12		60	108	8	
Riverside	15		4	130	63	
Sacramento	29	2	464	487	36	
San Bernardino	25		36	56	45	
San Diego	1		1			
San Francisco	1		1			
San Joaquin	10	2	55	168		
San Luis Obispo			1			
San Mateo			5			
Santa Clara			19	3		2
Santa Cruz			1			
Shasta	1	5	36	17	6	1
Solano	2		28	3	2	
Sonoma			8	3	1	
Stanislaus	24	1	51	210	8	
Sutter	8		29	19	38	
Tehama	4		5			
Tulare	7		54	144	11	
Ventura	4		37	2	2	
Yolo	5	1	98	154	4	
Yuba	5	1	11	15	13	
<b>Totals</b>	<b>399</b>	<b>22</b>	<b>1,618</b>	<b>2,819</b>	<b>516</b>	<b>21</b>

## California Arbovirus Surveillance Bulletin #38

Week 45 Friday, November 9, 2012

2011 & 2012 YTD West Nile Virus Comparisons		
	2011	2012
Total # Dead Bird Reports	9,624	20,004
# Positive Counties	35	42
# Human Cases	144	399
# Horse Cases	15	22
# Positive Dead Birds / # Tested	678 / 2,363	1,618 / 4,204
# Positive Mosquito Pools / # Tested	2,083 / 32,324	2,819 / 32,236
# Seroconversions / # Tested	381 / 22,059	516 / 22,033
# Positive Squirrels / # Tested	24 / 106	21 / 176

### 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	399	0	0	0	0	0
<b>Horse Cases</b>	Week	1	0	0	0	0	0
	YTD	22	0	0	0	0	0

#### Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
<b>Dead Birds</b>	Week	12	4
	YTD	4,204	1,618
<b>Squirrels</b>	Week	2	0
	YTD	176	21

#### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
<b>Chicken Sera</b>	Week	445	9	0	0
	YTD	22,033	516	0	0
<b>Mosquito Pools</b>	Week	221	5	0	0
	YTD	32,236	2,819	0	0

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Week 45 Friday, November 9, 2012

### POSITIVES: WEEK 45

#### Humans

WNV Cases							
ID	Report Date	County/Local Health Jurisdiction	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
12-0378	11/01/12	LOS ANGELES	75	F	WNND	09/01/12	YES
12-0379	11/01/12	LOS ANGELES	82	M	WNF	09/24/12	NO
12-0380	11/01/12	LOS ANGELES	40	M	WNND	09/08/12	NO
12-0381	11/01/12	LOS ANGELES	30	F	WNF	09/01/12	NO
12-0382	11/01/12	LOS ANGELES	67	M	WNND	10/10/12	NO
12-0383	11/01/12	LOS ANGELES	53	M	WNND	10/01/12	NO
12-0384	11/01/12	LOS ANGELES	42	F	WNND	10/03/12	NO
12-0385	11/01/12	LOS ANGELES	41	F	WNND	10/02/12	NO
12-0386	11/01/12	LOS ANGELES	42	F	WNF	09/04/12	NO
12-0387	11/01/12	LOS ANGELES	88	M	WNND	10/06/12	NO
12-0388	11/01/12	LOS ANGELES	75	M	WNF	09/15/12	NO
12-0389	11/01/12	LOS ANGELES	62	F	WNND	10/05/12	NO
12-0390	11/01/12	LOS ANGELES	66	M	WNF	10/05/12	NO
12-0391	11/01/12	LOS ANGELES	75	M	WNF	07/25/12	NO
12-0392	11/05/12	LAKE	65	M	WNF	10/18/12	NO
12-0393	11/05/12	SACRAMENTO	41	F	WNF	08/14/12	NO
12-0394	11/05/12	SACRAMENTO	47	M	N/A	09/08/12	NO
12-0395	11/05/12	SACRAMENTO	79	M	WNND	08/03/12	NO
12-0396	11/06/12	STANISLAUS	60	M	WNND	09/23/12	NO
12-0397	11/07/12	SAN BERNARDINO	23	F	WNND	09/13/12	NO
12-0398	11/08/12	RIVERSIDE	67	F	WNND	10/04/12	NO
12-0399	11/08/12	RIVERSIDE	84	M	WNF	10/02/12	NO

#### Dead Birds & Squirrels

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Los Angeles	LA Co Vet	Los Angeles	90049	American Crow	10/30/2012	WNV	Recent	VecTest
Los Angeles	LA Co Vet	Santa Monica	90401	American Crow	11/4/2012	WNV	Recent	VecTest
Orange	Orange Co VCD	Santa Ana	92706	American Crow	10/29/2012	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Fullerton	92833	House Finch	10/29/2012	WNV	Recent	RT-PCR

## California Arbovirus Surveillance Bulletin #38

Week 45 Friday, November 9, 2012

### Mosquito Pools

County	Site Code	Pool #	City	Species	# in Pool	Trap Type	Collected	Virus	Test Method
Fresno	FRWS5110	393	Tranquillity	Cx. tarsalis	50	CO2	10/31/2012	WNV	RTPCR
Los Angeles	GRLA3051	1286	Signal Hill	Cx. quinquefasciatus	28	GRVD	11/1/2012	WNV	RTPCR
Los Angeles	LACW1073	345	Los Angeles	Cx. quinquefasciatus	14	GRVD	10/30/2012	WNV	RTPCR
San Bernardino	WVAL2020	665	Fwy CA 71	Cx. quinquefasciatus	20	GRVD	11/6/2012	WNV	RTPCR
San Joaquin	SJCM8005	1504	Stockton	Ae. vexans	4	CO2	11/6/2012	WNV	RTPCR

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03
Los Angeles	GRLA2223	Rowland Heights	10/29/2012	WNV	3559		
Los Angeles	LACW1005	El Segundo	11/1/2012	WNV	1079		
Los Angeles	LACW1073	Los Angeles	10/25/2012	WNV	1159	1162	1163
Riverside	COAV0200	Mecca	10/29/2012	WNV	4642		
San Bernardino	WVAL0001	Chino	10/22/2012	WNV	3777		
San Bernardino	WVAL0003	Chino Hills	10/22/2012	WNV	3781	3782	

### 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.

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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 and Tree Squirrels:**

Dead birds and tree squirrels are necropsied at CAHFS laboratory at University of California, Davis. Oral swabs from American Crows and kidney tissue from all other dead birds and squirrels are forwarded to the UC Davis

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Center for Vectorborne Diseases (CVEC) for West Nile virus testing using 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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*Website Information: For updated information on WNV in California, please visit the California WNV website, [www.westnile.ca.gov](http://www.westnile.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).*