

# California Arbovirus Surveillance Bulletin # 37

Week 44 Friday, November 2, 2007

## Weekly and Year-To-Date Summaries

### WEEKLY COMMENTS



#### **Humans**

Seven new human cases of West Nile virus (WNV) were reported this week from the following five counties: Kern (2), Orange (1), Sacramento (2), San Bernardino (1), and Stanislaus (1). A total of 367 WNV cases have been reported in 2007, for a statewide incidence of 1.1 cases per 100,000 people. Of the 367 cases reported, 211 (57%) are classified as West Nile fever, 151 (41%) are classified as neuroinvasive disease, and five are of unknown clinical presentation. The median age of all cases is 54 years (range: 2-96 years), and 204 cases (56%) are male. Sixteen WNV-related fatalities have been reported in 2007 from Colusa (1), Fresno (1), Kern (4), Kings (1), Los Angeles (3), Riverside (3), Sacramento (1), San Joaquin (1), and Tulare (1) counties. Forty-eight WNV-positive blood donation samples have been reported this year; 19 of the individuals subsequently developed symptoms and were reclassified as cases.

#### **Horses**

One new equine case of WNV was reported this week from Siskiyou County; the horse was unvaccinated for WNV and euthanized. In 2007, 28 horses from 14 counties have tested positive for WNV, of which 14 were euthanized or died.

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

Fourteen WNV-positive dead birds were reported this week from the following nine counties: Alameda (1), Kern (1), Los Angeles (1), Orange (4), Sacramento (2), San Diego (1), San Joaquin (1), San Luis Obispo (1), and Santa Clara (2). A total of 1,353 dead birds from 50 counties have tested positive for WNV this year.

No positive tree squirrels were reported this week. In 2007, a total of 26 tree squirrels from 10 counties have tested positive for WNV.

#### **Mosquito Pools**

Four new WNV-positive mosquito pools were reported this week from Los Angeles (2) and Orange (2) counties. A total of 989 mosquito pools from 30 counties have tested positive for WNV in 2007.

No mosquito pools tested positive for western equine encephalomyelitis virus (WEE) this week. A total of 16 mosquito pools have tested positive for WEE this year from two counties: Fresno (1) and Kern (15).

#### **Sentinel Chickens**

Twenty-seven new WNV seroconversions were reported this week from 7 counties: Fresno (1), Los Angeles (4), Merced (1), Riverside (11), San Bernardino (6), Solano (2), and Tulare (2). A total of 494 sentinel chickens from 27 counties have tested positive for WNV this year.

No new WEE seroconversions were reported this week. A total of 11 chickens have tested positive for WEE this year from Kern (8) and Los Angeles (3) counties.

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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).

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## YTD WNV Activity by Element and County, 2007

County	Humans*	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			18	1		1
Amador			1	1		
Butte	16		27	5	31	
Calaveras			3			
Colusa	2		4	1	2	
Contra Costa	2		28	28	5	5
El Dorado			7			2
Fresno	16	1	113	61	46	4
Glenn	7		36	1	8	
Humboldt			2			
Imperial	3			4	17	
Inyo			1			
Kern	134	4	124	206	78	
Kings	7	2	9	30	26	
Lake			3	8	2	
Lassen			2			
Los Angeles	36		156	89	23	3
Madera	2		6	8	4	
Marin			3			
Mendocino	2		3			1
Merced	4		34	2	9	
Modoc			1			
Napa	1		2			
Nevada			5			
Orange	9		29	25		
Placer	3	1	16	25	13	
Plumas			1			
Riverside	15		6	30	41	
Sacramento	24	2	141	135	15	2
San Bernardino	4		26	5	34	
San Diego	16	4	105	6	1	
San Francisco			1			
San Joaquin	10	1	45	154	24	1
San Luis Obispo		1	9			
San Mateo			2			1
Santa Barbara			1			
Santa Clara	4		81	9		6
Santa Cruz			6			
Shasta	9	3	46	17	7	
Siskiyou		2	4			
Solano	1	1	3		7	
Sonoma	1	2	13	1		
Stanislaus	21		130	77	35	
Sutter	2		1	23	17	
Tehama	4	2	20	2	8	
Trinity			1			
Tulare	10	2	37	23	26	
Tuolumne			1			
Ventura	1		14		1	
Yolo	1		25	10	4	
Yuba			1	2	10	
<b>Totals</b>	<b>367</b>	<b>28</b>	<b>1,353</b>	<b>989</b>	<b>494</b>	<b>26</b>

\* Does not include asymptomatic infections

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	29,992	44,139
# Positive Counties	51	54
# Human Cases/ # Tested	367 / 1,160	266 / 1,402
# Horse Cases/ # Tested	28 / 315	53 / 454
# Positive Dead Birds/ # Tested	1,353 / 5,333	1,362 / 5,450
# Positive Mosquito Pools/ # Tested	989 / 26,788	826 / 23,697
# Positive Chicken Sera/ # Tested	494 / 27,023	631 / 30,678
# Positive Squirrels/ # Tested	26 / 207	32 / 135

## TEST SUMMARIES

### Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	32	0	7	0	0	0	0	0	0
	YTD	1,160	0	367	0	0	0	0	0	0
Horses Tested	Week	1	0	1	0	0	0	0	0	0
	YTD	315	0	28	0	0	0	0	0	0

### Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	97	14
	YTD	5,333	1,353
Tree Squirrels	Week	4	0
	YTD	207	26

### Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	672	27	0	0
	YTD	27,023	494	11	0
Mosquito Pools: RT-PCR	Week	268	4	0	0
	YTD	24,736	814	16	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	2,052	175	N/A	N/A

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Week 44 Friday, November 2, 2007

## POSITIVES: 10/29/07 – 11/2/07

### Dead Birds & Tree Squirrels

County	City	Zip Code	Species	Reported	Tested	Test Method
Alameda	Livermore	94550	Golden-Crowned Sparrow	10/9/07	10/29/07	RT-PCR
Kern	Wofford Heights	93285	Cooper's Hawk	10/19/07	10/29/07	RT-PCR
Los Angeles	Norwalk	90650	House Sparrow	10/15/07	10/29/07	RT-PCR
Orange	Anaheim	92804	American Crow	9/24/07	10/29/07	RT-PCR
Orange	Cypress	90630	American Crow	10/18/07	10/29/07	RT-PCR
Orange	Garden Grove	92845	House Finch	9/28/07	10/29/07	RT-PCR
Orange	Lake Forest	92630	American Crow	9/13/07	10/29/07	RT-PCR
Sacramento	Rancho Cordova	95670	American Crow	10/23/07	10/29/07	RT-PCR
Sacramento	Sacramento	95822	Western Scrub-Jay	10/17/07	10/29/07	RT-PCR
San Diego	San Diego	92109	American Crow	10/22/07	10/29/07	VecTest
San Joaquin	Tracy	95376	American Crow	10/25/07	10/29/07	VecTest
San Luis Obispo	Paso Robles	93446	American Crow	10/10/07	10/29/07	RT-PCR
Santa Clara	Morgan Hill	95037	Western Scrub-Jay	10/22/07	10/29/07	VecTest
Santa Clara	Santa Clara	95050	Common Raven	10/18/07	10/29/07	VecTest

### Mosquito Pools

County	Site Code	Pool #	Species	# in Pool	Collected	City	Virus
Los Angeles	GRLA2094	926	Cx quinquefasciatus	50	10/24/2007	Whittier	WN
Los Angeles	GRLA2774	945	Cx quinquefasciatus	15	10/25/2007	Whittier	WN
Orange	ORCO52	847	Cx quinquefasciatus	23	10/24/07	Anaheim	WN
Orange	ORCO2	849	Cx quinquefasciatus	50	10/24/07	Fullerton	WN

### Sentinel Chickens

County	Site Code	City	Date Bled	Result	Band 01	Band 02	Band 03	Band 04
Fresno	FRNO0004	Kerman	10/22/2007	WNV	1628			
Los Angeles	ANTV3247	Lancaster	10/24/2007	WNV	1034			
Los Angeles	GRLA2651	Encino	10/22/2007	WNV	1718			
Los Angeles	LACW1026	Beverly Hills	10/25/2007	WNV	2123	2126		
Merced	MERC0001	Merced	10/22/2007	WNV	2284			
Riverside	COAV0035	Mecca	10/22/2007	WNV	1323			
Riverside	COAV0122	Mecca	10/22/2007	WNV	1428			
Riverside	COAV0200	Mecca	10/22/2007	WNV	1264	1271		
Riverside	COAV0201	Thermal	10/22/2007	WNV	1245	1251		
Riverside	NWST0004	Flabob Airport	10/24/2007	WNV	3704	3709		
Riverside	NWST9227		10/24/2007	WNV	2471			
Riverside	NWST9401	Corona	10/24/2007	WNV	2441	2450		
San Bernardino	SANB0001	Needles	10/22/2007	WNV	2725	2729	2730	2733
San Bernardino	SANB0006	Yucaipa	10/22/2007	WNV	2775			
San Bernardino	SANB0007	Fontana	10/22/2007	WNV	2790			
San Bernardino	SANB0011	Rialto	10/22/2007	WNV	2829			
Solano	SOLA0125	Cordelia	10/25/2007	WNV	3164	3166		
Tulare	DLNO0021	Earlimart	10/24/2007	WNV	1538	1542		

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Week 44 Friday, November 2, 2007

## NATIONAL COMMENTS

As of October 30, 2007, a total of 3,195 human cases had been reported nationwide in the following 42 states: Alabama (19), Arizona (74), Arkansas (18), California (360), Colorado (544), Connecticut (5), Delaware (1), Florida (3), Georgia (45), Idaho (109), Illinois (85), Indiana (19), Iowa (24), Kansas (37), Kentucky (3), Louisiana (29), Maryland (10), Massachusetts (6), Michigan (13), Minnesota (99), Mississippi (121), Missouri (64), Montana (195), Nebraska (140), Nevada (11), New Jersey (1), New Mexico (60), New York (14), North Dakota (361), Ohio (19), Oklahoma (86), Oregon (22), Pennsylvania (7), Rhode Island (1), South Carolina (4), South Dakota (207), Tennessee (7), Texas (132), Utah (52), Virginia (3), Wisconsin (6), and Wyoming (179). Of the 3,195 cases reported, 1,030 (32%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,181 cases where data was available was 51 years (range: 1 month-97 years), and 55% were male. A total of 87 human fatalities had been reported from Alabama (3), Arizona (1), Arkansas (1), California (16), Colorado (6), Florida (1), Georgia (2), Idaho (1), Iowa (2), Illinois (4), Indiana (1), Kansas (1), Michigan (2), Minnesota (2), Mississippi (3), Missouri (2), Montana (4), Nebraska (3), New Mexico (3), New York (1), North Dakota (2), Ohio (2), Oklahoma (7), South Dakota (6), Tennessee (1), Texas (8), Utah (1), and Wyoming (1). For the latest updates about WNV activity in the United States, please visit the CDC WNV website at <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>.

## 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 by plaque reduction neutralization test (PRNT).

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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:**

All bird and tree squirrel species from all zip codes are currently being accepted for testing unless otherwise requested by a local agency. Additionally, once WNV has been detected within a county, doves, pigeons, and chickens will no longer be accepted for testing from that county. Corvids that test positive via RAMP or VecTest are no longer confirmed. Dead birds and 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 Center for Vectorborne Diseases (CVEC) for WNV testing using the singleplex RT-PCR Taqman assay and confirmed with a second primer set. The WNV Dead Bird Surveillance Coordinator, Ryan Carney, can be reached directly at (510) 412-6254.

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### **Sentinel Chickens:**

Dried blood spot specimens from sentinel chickens are submitted to VRDL and tested for the presence of antibodies to West Nile virus (WNV), western equine encephalomyelitis (WEE), and St. Louis encephalitis (SLE) 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 WEE, SLE, 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) and the Viral and Rickettsial Disease Laboratory 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) 412-6298, FAX (510) 412-6263, or email: [tina.feiszli@cdph.ca.gov](mailto:tina.feiszli@cdph.ca.gov)*

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