

# California Arbovirus Surveillance Bulletin # 41

Week 46 Monday, November 23, 2009

## Weekly Summary

### WEEKLY COMMENTS



As of November 20, 2009, 42 counties in California have reported West Nile virus (WNV) activity. At this time last year, 49 counties had reported WNV activity.

#### **Humans**

Two new cases of WNV were reported in California last week from Los Angeles and Madera counties. **This is the first case reported from Madera County this year.** In 2009, 101 human cases of West Nile virus have been identified in 18 counties: Butte (2), Contra Costa (5), El Dorado (1), Fresno (13), Kern (18), Kings (3), Los Angeles (20), Madera (1), Merced (1), Orange (3), Riverside (3), San Bernardino (1), San Diego (3), San Joaquin (7), Stanislaus (13), Tulare (4), Yolo (2), and Yuba (1). Of the 101 individuals, 57 (57%) developed neuroinvasive symptoms. The median age of the 101 individuals is 53 years (range: 7-88 years), and 63 (62%) are male. Four fatalities have been reported in Fresno (1), Los Angeles (1), Merced (1), and Stanislaus (1) counties. In addition, 23 WNV-positive blood donation samples have been reported this year; 7 of the individuals developed symptoms and were reclassified as cases. At this time last year, 392 cases from 25 counties had been reported.

#### **Horses**

One equine case of WNV was reported in California last week from Riverside County. The 2 year-old horse developed symptoms on 10/22/09 and was subsequently euthanized. In 2009, 18 equine cases of WNV have been reported from 12 counties. Of the 18 cases, 8 have died or were euthanized as a result of their illness. At this time last year, 32 cases had been reported from 14 counties.

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

Three WNV positive dead birds were reported in California last week from Los Angeles (1), Sacramento (1), and San Diego (1) counties. In 2009, 507 birds from 36 counties have tested positive for WNV. At this time last year, 2,501 WNV positive dead birds had been reported from 46 counties.

No positive tree squirrels were reported in California last week. In 2009, 10 tree squirrels from 7 counties have tested positive for WNV. At this time last year, 32 WNV positive tree squirrels had been reported from 7 counties.

#### **Mosquito Pools**

One WNV positive mosquito pool was reported in California last week from Los Angeles County. In 2009, 1,063 mosquito pools have tested positive for WNV from 27 counties. At this time last year, 1,956 WNV positive mosquito pools had been reported from 26 counties.

#### **Sentinel Chickens**

No new seroconversions were reported in California last week. In 2009, 441 chickens from 23 counties have tested positive for WNV antibodies. At this time last year, 576 WNV seroconversions had been reported from 24 counties.

**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, 2009

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			10	1		
Amador			1			
Butte	2		13	5	36	
Colusa			2			
Contra Costa	5	1	43	17	13	2
El Dorado	1		9			
Fresno	13	1	62	136	17	1
Glenn			6		3	
Imperial				3	42	
Kern	18		28	138	104	1
Kings	3		9	105		
Lake			2	2	1	
Los Angeles	20	1	81	98	39	
Madera	1		11	3	7	
Merced	1	3	9	11	14	
Modoc			1			
Mono				1		
Monterey			4			
Napa					3	
Orange	3		10	15		
Placer			4	40	11	
Riverside	3	1	2	27	37	
Sacramento		2	28	36	2	1
San Bernardino	1		17	51	14	2
San Diego	3		38	5	5	
San Francisco			1			
San Joaquin	7	3	23	84	10	
San Luis Obispo			1			
San Mateo			1			
Santa Barbara			1			
Santa Clara			13	14		2
Santa Cruz			1			
Shasta		1	8	2		
Solano		1	3	2	13	
Stanislaus	13	2	28	94	25	
Sutter				25	11	
Tehama		1			2	1
Tulare	4	1	25	131	28	
Tuolumne			2			
Ventura			3			
Yolo	2		7	16	4	
Yuba	1			1		
<b>Total</b>	<b>101</b>	<b>18</b>	<b>507</b>	<b>1063</b>	<b>441</b>	<b>10</b>

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2009 & 2008 YTD West Nile Virus Comparisons		
	2008	2009
Total # Dead Bird Reports	32,240	15,079
# Positive Counties	49	42
# Human Cases / # Tested	392 / 1,137	101 / 893
# Horse Cases / # Tested	32 / 304	18 / 186
# Positive Dead Birds / # Tested	2,501 / 5,852	507 / 2,717
# Positive Mosquito Pools / # Tested	1,956 / 30,143	1,063 / 25,452
# Positive Chicken Sera / # Tested	576 / 28,774	441 / 24,340
# Positive Squirrels / # Tested	32 / 298	10 / 99

## TEST SUMMARIES

### Human & Horse Cases

	Number Tested	WNV		WEE		SLE		Other	
		Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	5	0	2	0	0	0	0	0
	YTD	893	1	100	0	0	0	0	0
Horses Tested	Week	1	0	1	0	0	0	0	0
	YTD	186	0	18	0	0	0	0	0

### Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	22	3
	YTD	2,717	507
Tree Squirrels	Week	1	0
	YTD	99	10

### Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	108	0	0	0
	YTD	24,340	441	0	0
Mosquito Pools: RT-PCR	Week	203	1	0	0
	YTD	24,194	990	0	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	1,258	73	N/A	N/A

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## POSITIVES

### Dead Birds

County	Submitting Agency	City	Zip	Species	Reported	Virus	Method
Los Angeles	Los Angeles Co Veterinarian	Northridge	91324	American Crow	11/13/2009	WNV	VecTest
Sacramento	Sacramento-Yolo MVCD	Sacramento	95822	Cedar Waxwing	10/20/2009	WNV	RT-PCR
San Diego	San Diego Co Dept EHS	San Diego	92124	American Crow	11/9/2009	WNV	RT-PCR

### Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Virus	Method
Los Angeles	GRLA2574	6175	Cx quinquefasciatus	50	11/13/2009	11/18/2009	Sherman Oaks	WNV	RTPCR

## NATIONAL COMMENTS

As of November 17, 2009, 608 human cases had been reported nationwide in the following 34 states: Arizona (18), Arkansas (4), California (99), Colorado (99), Florida (3), Georgia (4), Idaho (8), Illinois (4), Indiana (4), Iowa (5), Kansas (10), Kentucky (3), Louisiana (13), Maryland (2), Minnesota (4), Mississippi (51), Missouri (3), Montana (5), Nebraska (41), Nevada (12), New Jersey (2), New Mexico (8), New York (6), North Dakota (1), Ohio (2), Oklahoma (8), Oregon (7), South Carolina (3), South Dakota (20), Tennessee (7), Texas (103), Washington (36), Wisconsin (1), and Wyoming (12). Of the 608 individuals, 324 (53%) have neuroinvasive illness. A total of 28 fatalities had been reported as of November 17 in Arizona (1), California (4), Colorado (3), Georgia (1), Idaho (1), Indiana (1), Maryland (1), Mississippi (4), New Mexico (1), Oklahoma (1), Tennessee (1), Texas (7), Washington (1), and Wyoming (1).

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## 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).

\*Human denominator data only includes specimens tested at VRDL and does not include additional negative specimens that are tested by local agencies only.

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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 Center for Vectorborne Diseases (CVEC) for West Nile virus testing using the singleplex RT-PCR Taqman assay and confirmed with a second primer set. The WNV Dead Bird Surveillance Coordinator, Erin Parker, can be reached directly at (510) 412-6254.

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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 (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), 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 or email: [tina.feiszli@cdph.ca.gov](mailto:tina.feiszli@cdph.ca.gov)*

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