

# California Arbovirus Surveillance Bulletin # 34

Week 41 Friday, October 12, 2007

## Weekly and Year-To-Date Summaries

### WEEKLY COMMENTS



#### **Humans**

Twenty-one new human cases of West Nile virus (WNV) were reported this week from the following seven counties: Kern (6), Los Angeles (5), Madera (1), Riverside (4), Sacramento (3), Shasta (1), and Stanislaus (1). A total of 343 WNV cases have been reported in 2007, for a statewide incidence of 1.0 case per 100,000 people. Of the 343 cases reported, 191 (56%) are classified as West Nile fever, 145 (42%) are classified as neuroinvasive disease, and seven (2%) are of unknown clinical presentation. The median age of all cases is 55 years (range: 2-96 years), and 188 cases (55%) are male. Fourteen WNV-related fatalities have been reported in 2007 from Colusa (1), Fresno (1), Kern (4), Kings (1), Los Angeles (1), Riverside (3), Sacramento (1), San Joaquin (1), and Tulare (1) counties. Forty-seven WNV-positive blood donation samples have been reported this year; 16 of the individuals subsequently developed symptoms and were reclassified as cases.

#### **Horses**

No new equine cases were reported this week. In 2007, 25 horses from 13 counties have tested positive for WNV, of which 13 were euthanized or died.

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

Forty-seven WNV-positive dead birds were reported this week from 20 counties: Contra Costa (1), El Dorado (2), Fresno (2), Kern (1), Los Angeles (6), Nevada (1), Orange (1), Riverside (2), Sacramento (7), San Bernardino (1), San Diego (6), San Joaquin (1), Santa Clara (4), Shasta (1), Sonoma (1), Stanislaus (3), Tehama (1), Tulare (3), Ventura (1), and Yolo (2). A total of 1,284 dead birds from 50 counties have tested positive for WNV this year.

Six WNV-positive tree squirrels were reported this week from Contra Costa (1), El Dorado (2), and Los Angeles (3) counties. **These are the first WNV-positive tree squirrels reported from El Dorado and Los Angeles counties this year.** In 2007, 25 squirrels from 10 counties have tested positive for WNV.

*Reminder: Local agencies should check the Surveillance Gateway for their county DYCAST bird reporting updates.*

#### **Mosquito Pools**

Seven new WNV-positive mosquito pools were reported this week from three counties: Kern (1), Los Angeles (3), and Orange (3). A total of 980 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-five new WNV seroconversions were reported this week from 8 counties: Butte (2), Fresno (2), Kern (1), Placer (8), San Joaquin (1), Shasta (1), Stanislaus (8), and Yuba (2). A total of 427 sentinel chickens from 26 counties have tested positive for WNV this year.

No new WEE seroconversions were reported this week. A total of nine chickens have tested positive for WEE this year from Kern (8) and Los Angeles (1) 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			16	1		1
Amador			1	1		
Butte	16		27	5	31	
Calaveras			3			
Colusa	2		4	1	2	
Contra Costa	2		26	28	5	4
El Dorado			7			2
Fresno	14	1	112	60	37	4
Glenn	7		36	1	8	
Humboldt			2			
Imperial	3			4	17	
Inyo			1			
Kern	130	4	123	206	68	
Kings	7	1	9	30	22	
Lake			3	8	2	
Lassen			2			
Los Angeles	35		147	84	16	3
Madera	2		6	8	4	
Marin			3			
Mendocino	2		3			1
Merced	4		33	2	5	
Modoc			1			
Napa	1		2			
Nevada			4			
Orange	8		20	22		
Placer	2	1	16	25	14	
Plumas			1			
Riverside	14		6	30	28	
Sacramento	19	2	135	135	15^	2
San Bernardino	3		26	5	24	
San Diego	15	4	100	6	1	
San Francisco			1			
San Joaquin	6	1	42	154	24	1
San Luis Obispo		1	6			
San Mateo			2			1
Santa Barbara			1			
Santa Clara	4		73	9		6
Santa Cruz			6			
Shasta	9	3	45	17	6	
Siskiyou		1	4			
Solano	1		3		5	
Sonoma	1	2	8	1		
Stanislaus	18		127	77	32	
Sutter	2		1	23	17	
Tehama	4	2	19	2	8	
Trinity			1			
Tulare	10	2	33	23	24	
Tuolumne			1			
Ventura	1		11			
Yolo	1		24	10	4^	
Yuba			1	2	8	
<b>Totals</b>	<b>343</b>	<b>25</b>	<b>1,284</b>	<b>980</b>	<b>427</b>	<b>25</b>

^Total has been adjusted to include chickens tested by local agency that were not previously reported

\* Does not include asymptomatic infections

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	28,773	42,388
# Positive Counties	51	54
# Human Cases/ # Tested	343 / 1,066	253 / 1,300
# Horse Cases/ # Tested	25 / 309	52 / 427
# Positive Dead Birds/ # Tested	1,284 / 4,974	1,256 / 5,147
# Positive Mosquito Pools/ # Tested	980 / 25,933	816 / 22,190
# Positive Chicken Sera/ # Tested	427 / 24,790	589 / 28,213
# Positive Squirrels/ # Tested	25 / 192	32 / 127

## TEST SUMMARIES

### Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	57	0	21	0	0	0	0	0	0
	YTD	1,066	0	343	0	0	0	0	0	0
Horses Tested	Week	9	0	0	0	0	0	0	0	0
	YTD	309	0	25	0	0	0	0	0	0

### Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	150	47
	YTD	4,974	1,284
Tree Squirrels	Week	19	6
	YTD	192	25

### Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	663	25	0	0
	YTD	24,790	427	9	0
Mosquito Pools: RT-PCR	Week	695	7	0	0
	YTD	23,947	805	16	0
Mosquito Pools: RAMP	Week	8	0	N/A	N/A
	YTD	1,986	175	N/A	N/A

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## POSITIVES: 10/8/07 - 10/12/07

### Dead Birds & Tree Squirrels

County	City	Zip Code	Species	Reported	Tested	Test Method
Contra Costa	Brentwood	94513	American Crow	9/30/07	10/8/2007	RAMP
Contra Costa	Concord	94519	Fox Squirrel	10/1/07	10/8/07	RT-PCR
El Dorado	Cool	95614	Western Gray Squirrel	9/27/07	10/8/07	RT-PCR
El Dorado	Cool	95614	Western Gray Squirrel	9/27/07	10/8/07	RT-PCR
El Dorado	Diamond Springs	95619	Cooper's Hawk	10/1/07	10/8/07	RT-PCR
El Dorado	South Lake Tahoe	96150	Steller's Jay	9/26/07	10/8/07	RT-PCR
Fresno	Fresno	93705	European Starling	9/27/07	10/8/07	RT-PCR
Fresno	Fresno	93730	Mourning Dove	10/1/07	10/8/07	RT-PCR
Kern	Bakersfield	93312	Pacific-slope Flycatcher	9/25/07	10/8/07	RT-PCR
Los Angeles	Encino	91316	House Finch	9/28/07	10/8/07	RT-PCR
Los Angeles	Encino	91436	House Finch	9/29/07	10/8/07	RT-PCR
Los Angeles	Los Angeles	90046	American Crow	9/27/07	10/8/07	RT-PCR
Los Angeles	Los Angeles	91401	Fox Squirrel	9/27/07	10/8/07	RT-PCR
Los Angeles	Los Angeles	90018	Fox Squirrel	9/27/07	10/8/07	RT-PCR
Los Angeles	Los Angeles	91401	Fox Squirrel	9/27/07	10/8/07	RT-PCR
Los Angeles	San Gabriel	91775	American Crow	9/27/07	10/8/07	RT-PCR
Los Angeles	Sylmar	91342	American Crow	9/27/07	10/8/07	RT-PCR
Los Angeles	West Covina	91791	American Crow	9/25/07	10/8/07	RT-PCR
Nevada	Grass Valley	95945	Western Scrub-Jay	10/2/07	10/8/07	RT-PCR
Orange	Tustin	92780	American Crow	9/18/07	10/8/2007	IHC
Riverside	Mira Loma	91752	Band-tailed Pigeon	9/21/07	10/8/07	RT-PCR
Riverside	Riverside	92508	American Crow	9/26/07	10/8/07	RT-PCR
Sacramento	Antelope	95843	Western Scrub-Jay	9/30/07	10/8/07	RT-PCR
Sacramento	Carmichael	95608	American Crow	9/27/07	10/8/07	RT-PCR
Sacramento	Carmichael	95608	House Sparrow	9/30/07	10/8/07	RT-PCR
Sacramento	Fair Oaks	95628	Northern Flicker	10/2/07	10/8/07	RT-PCR
Sacramento	Sacramento	95821	Yellow-billed Magpie	9/27/07	10/8/07	RT-PCR
Sacramento	Sacramento	95821	House Finch	10/2/07	10/8/07	RT-PCR
Sacramento	Wilton	95693	Sharp-shinned Hawk	10/1/07	10/8/07	RT-PCR
San Bernardino	Phelan	92371	House Finch	9/21/07	10/8/07	RT-PCR
San Diego	El Cajon	92019	American Crow	10/1/07	10/8/2007	VecTest
San Diego	Encinitas	92024	American Crow	10/4/07	10/8/2007	VecTest
San Diego	La Jolla	92037	American Crow	9/28/07	10/8/2007	VecTest
San Diego	Lakeside	92040	American Crow	10/1/07	10/8/2007	VecTest
San Diego	Lakeside	92040	American Crow	10/3/07	10/8/2007	VecTest
San Diego	San Diego	92103	American Crow	9/28/07	10/8/2007	VecTest
San Joaquin	Tracy	95376	Barn Owl	10/2/07	10/8/07	RT-PCR
Santa Clara	Gilroy	95020	Western Scrub-Jay	9/26/07	10/8/07	RT-PCR
Santa Clara	San Jose	95117	American Crow	10/3/07	10/8/2007	VecTest
Santa Clara	San Jose	95129	American Crow	10/3/07	10/8/2007	VecTest
Santa Clara	Saratoga	95070	American Crow	9/29/07	10/8/2007	VecTest
Shasta	Redding	96002	Western Scrub-Jay	10/8/07	10/8/2007	RAMP
Sonoma	Santa Rosa	95403	Lesser Goldfinch	9/28/07	10/8/07	RT-PCR
Stanislaus	Riverbank	95367	American Crow	9/29/07	10/8/07	RT-PCR
Stanislaus	Turlock	95380	Yellow-billed Magpie	9/24/07	10/8/07	RT-PCR
Stanislaus	Turlock	95382	Yellow-billed Magpie	9/26/07	10/8/07	RT-PCR
Tehama	Cottonwood	96022	American Crow	10/4/07	10/8/2007	VecTest
Tulare	Dinuba	93618	American Crow	9/25/07	10/8/07	RT-PCR
Tulare	Exeter	93221	House Finch	10/1/07	10/8/07	RT-PCR

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Tulare	Visalia	93277	American Crow	9/27/07	10/8/07	RT-PCR
Ventura	Santa Paula	93060	Cooper's Hawk	10/2/07	10/8/07	RT-PCR
Yolo	Brooks	95606	Western Scrub-Jay	9/25/07	10/8/07	RT-PCR
Yolo	Woodland	95776	Brewer's Blackbird	9/27/07	10/8/07	RT-PCR

### Mosquito Pools

County	Site Code	Pool #	Species	# in Pool	Collected	City	Virus
Kern	KERN2002	515	Cx quinquefasciatus	41	10/5/2007	Bakersfield	WNV
Los Angeles	GRLA2655	5949	Cx quinquefasciatus	48	10/3/2007	Encino	WNV
Los Angeles	GRLA2771	887	Cx quinquefasciatus	11	10/4/2007	Whittier	WNV
Los Angeles	LACW1010	376	Cx quinquefasciatus	17	10/1/2007	Los Angeles(Miracle Mile)	WNV
Orange	ORCO2	758	Cx quinquefasciatus	24	10/3/2007	Fullerton	WNV
Orange	ORCO58	755	Cx stigmatosoma	26	10/2/2007	Laguna Niguel	WNV
Orange	ORCO81	767	Cx quinquefasciatus	34	10/3/2007	Seal Beach	WNV

### Sentinel Chickens

County	Agency Code	Date Bled	Nearest City	Virus	Band 01	Band 02	Band 03	Band 04	Band 05
Butte	BUCO1	10/1/07	Chico	WNV	1087				
Butte	BUCO5	10/1/07	Honcut	WNV	1135				
Fresno	CNSL5007	10/8/07	Laton	WNV	1498				
Fresno	CNSL5008	9/24/07	Orange Cove	WNV	1490				
Kern	WEST6203	9/25/07	Hwy 119 and Hwy 43	WNV	3495				
Placer	PLCR27	10/8/07	Loomis	WNV	2517				
Placer	PLCR396	10/8/07	Roseville	WNV	2524				
Placer	PLCR401	10/8/07	Auburn	WNV	2493	2492	2491	2490	2489
Placer	PLCR403	10/8/07	Sheridan	WNV	2529				
San Joaquin	SJCM9912	10/9/2007	Stockton	WNV	2919				
Shasta	SHAS9702	10/2/07	Millville	WNV	3098				
Stanislaus	EAST1959	10/3/07	Oakdale	WNV	1592				
Stanislaus	TRLK401	10/1/07	Hickman	WNV	3347				
Stanislaus	TRLK402	10/1/07	Denair	WNV	3330				
Stanislaus	TRLK403	10/1/07	Newman	WNV	3366				
Stanislaus	TRLK9701	10/1/07	Grayson	WNV	3352	3356	3358		
Stanislaus	TRLK9702	10/1/07	Patterson	WNV	3396				
Yuba	SUYA7	10/4/07	Marysville	WNV	3199				
Yuba	SUYA71	10/4/07	Olivehurst	WNV	3207				

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## NATIONAL COMMENTS

As of October 9, 2007, a total of 2,803 human cases had been reported nationwide in the following 41 states: Alabama (15), Arizona (62), Arkansas (13), California (322), Colorado (506), Connecticut (4), Delaware (1), Florida (3), Georgia (38), Idaho (104), Illinois (60), Indiana (10), Iowa (19), Kansas (29), Kentucky (3), Louisiana (2), Maryland (7), Massachusetts (4), Michigan (12), Minnesota (93), Mississippi (108), Missouri (56), Montana (185), Nebraska (81), Nevada (11), New Mexico (51), New York (10), North Dakota (343), Ohio (10), Oklahoma (77), Oregon (22), Pennsylvania (5), Rhode Island (1), South Carolina (4), South Dakota (196), Tennessee (6), Texas (102), Utah (44), Virginia (3), Wisconsin (5), and Wyoming (176). Of the 2,803 cases reported, 873 (31%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 2,793 cases where data was available was 51 years (range: 15 months-97 years), and 55% were male. A total of 70 human fatalities had been reported from Alabama (3), Arkansas (1), California (14), Colorado (5), Florida (1), Georgia (2), Idaho (1), Iowa (1), Illinois (4), Indiana (1), Kansas (1), Mississippi (3), Missouri (2), Montana (3), Nebraska (3), New Mexico (3), New York (1), North Dakota (2), Oklahoma (7), South Dakota (4), Tennessee (1), Texas (5), 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)*