

# California Arbovirus Surveillance Bulletin # 37

Week 44 Friday, October 31, 2008

## Weekly and Year-To-Date Summaries

### WEEKLY COMMENTS



#### **Humans**

Ten new human cases of West Nile virus (WNV) illness were reported this week from five counties: Fresno (1), Los Angeles (4), Orange (1), Riverside (1), and San Bernardino (3). A total of 355 human WNV cases have been identified in the following 24 counties: Alameda (1), Butte (5), Calaveras (1), Colusa (1), Contra Costa (4), El Dorado (1), Fresno (2), Kings (1), Los Angeles (126, including 2 from Long Beach), Merced (1), Orange (61), Placer (5), Riverside (55), Sacramento (13), San Bernardino (21), San Diego (22), San Joaquin (11), Santa Clara (1), Shasta (1), Solano (1), Stanislaus (17), Tehama (1), Tulare (2) and Yolo (1). Of the 355 individuals, 231 (65%) developed neuroinvasive symptoms. The median age of the 355 individuals is 55 years (range: 3-94 years), and 217 (61%) are male. Nine WNV-related fatalities have been reported in Los Angeles (3), Orange (2), Riverside (3) and San Bernardino (1) counties. A total of 64 WNV-positive blood donation samples have been reported this year; 19 of the individuals reported symptoms and were reclassified as cases.

#### **Horses**

No new equine cases were reported this week. In 2008, 29 horses from 14 counties have tested positive for WNV; 17 died or were euthanized as a result of their infection.

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

Forty-one WNV-positive dead birds were reported this week from 7 counties: Butte (2), Fresno (3), Los Angeles (9), Orange (2), San Bernardino (3), San Diego (20), and Sonoma (2). In 2008, 2,459 WNV-positive dead birds have been detected in 45 counties.

Two WNV-positive tree squirrels were reported this week from Los Angeles County. In 2008, 32 tree squirrels have tested positive for WNV from seven counties.

#### **Mosquito Pools**

Twenty-six WNV-positive mosquito pools were reported this week from 5 counties: Los Angeles (7), Orange (15), San Bernardino (2), San Diego (1) and Sutter (1). In 2008, 1,947 WNV-positive mosquito pools have been detected in 26 counties.

#### **Sentinel Chickens**

Forty-nine WNV seroconversions were reported this week from 9 counties: Fresno (2), Imperial (3), Kern (4), Los Angeles (16), Madera (2), Merced (3), Riverside (14), San Bernardino (4), and San Diego (1). **These are the first WNV-positive chickens reported from Madera and Merced counties this year.** In 2008, 564 WNV seroconversions have been detected in chickens 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, 2008

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda	1		12	1		1
Amador			3			
Butte	5		38	5	31	
Calaveras	1		1		9	
Colusa	1		3		1	
Contra Costa	4	3	87	31	15	6
El Dorado	1		9			
Fresno	2	1	39	52	24	1
Glenn			17	1	5	
Humboldt			1			
Imperial				7	26	
Kern			10	7	17	
Kings	1		1		1	
Lake		1	2	3		
Lassen				1		
Los Angeles	126		466	498	117	14
Madera			3	1	2	
Marin			1			
Mendocino			1			
Merced	1	1	5		3	
Modoc			1			
Mono			2			
Monterey			6			
Napa			1			
Nevada			5			
Orange	61	2	617	330	3	4
Placer	5	1	3	27	11	
Riverside	55	7	39	118	116	
Sacramento	13	3	129	277	7	1
San Bernardino	21	1	170	167	61	5
San Diego	22	4	538	39	15	
San Joaquin	11		69	207	18	
San Luis Obispo			1			
San Mateo			2			
Santa Barbara			1			
Santa Clara	1		11	1		
Santa Cruz			3			
Shasta	1		7		3	
Solano	1		7	1	7	
Sonoma			10	2		
Stanislaus	17	2	45	75	38	
Sutter			2	12	9	
Tehama	1		6			
Trinity			1			
Tulare	2	1	51	64	20	
Ventura		1	24		4	
Yolo	1	1	9	19		
Yuba				1	1	
<b>Totals</b>	<b>355</b>	<b>29</b>	<b>2,459</b>	<b>1,947</b>	<b>564</b>	<b>32</b>

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2007 & 2008 YTD West Nile Virus Comparisons		
	2007	2008
Total # Dead Bird Reports	29,992	31,673
# Positive Counties	51	48
# Human Cases/ # Tested	368 / 1,160	355 / 1,077
# Horse Cases/ # Tested	28 / 315	29 / 288
# Positive Dead Birds/ # Tested	1,358 / 5,333	2,459 / 5,707
# Positive Mosquito Pools/ # Tested	1,003 / 26,788	1,947 / 29,777
# Positive Chicken Sera/ # Tested	495 / 27,023	564 / 28,038
# Positive Squirrels/ # Tested	26 / 207	32 / 290

## 2008 TEST SUMMARIES

### Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
<b>Humans Tested*</b>	Week	49	0	10	0	0	0	0	0	0
	YTD	1,077	0	355	0	0	0	0	0	0
<b>Horses Tested</b>	Week	0	0	0	0	0	0	0	0	0
	YTD	288	0	29	0	0	0	0	0	0

### Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
<b>Dead Birds</b>	Week	135	41
	YTD	5,707	2,459
<b>Tree Squirrels</b>	Week	8	2
	YTD	290	32

### Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
<b>Chicken Sera</b>	Week	899	49	0	0
	YTD	28,038	564	0	0
<b>Mosquito Pools: RT-PCR</b>	Week	422	26	0	0
	YTD	26,966	1,590	0	0
<b>Mosquito Pools: RAMP</b>	Week	4	0	N/A	N/A
	YTD	2,811	357	N/A	N/A

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## POSITIVES: 10/27/08 – 10/31/08

### Humans

County	Report Date	Age	Sex	Clin Pres	Onset Date	WNV Fatality
FRESNO	10/22/08	56	M	WNND	10/1/08	NO
LOS ANGELES	10/23/08	79	F	WNND	9/19/08	NO
LOS ANGELES	10/23/08	69	M	WNND	10/1/08	NO
LOS ANGELES	10/23/08	38	M	WNF	10/4/08	NO
LOS ANGELES	10/23/08	69	M	WNND	10/10/08	NO
ORANGE	10/21/08	86	F	WNND	9/10/08	NO
RIVERSIDE	10/28/08	39	M	WNND	9/2/08	NO
SAN BERNARDINO	10/21/08	45	M	WNF	7/26/08	NO
SAN BERNARDINO	10/22/08	50	M	WNND	9/8/08	NO
SAN BERNARDINO	10/27/08	27	M	WNND	9/8/08	NO

### Dead Birds and Tree Squirrels

County	City	Zip Code	Species	Reported	Tested	Result	Test Method
Butte	Chico	95928	American Crow	10/20/08	10/27/08	WNV	RT-PCR
Butte	Oroville	95965	Western Scrub-Jay	10/20/08	10/27/08	WNV	RT-PCR
Fresno	Fresno	93711	Great Horned Owl	10/20/08	10/27/08	WNV	RT-PCR
Fresno	Fresno	93722	Northern Flicker	10/21/08	10/27/08	WNV	RT-PCR
Fresno	Kingsburg	93631	American Crow	10/20/08	10/27/08	WNV	RT-PCR
Los Angeles	Burbank	91505	American Crow	10/20/08	10/27/08	WNV	RT-PCR
Los Angeles	Gardena	90249	American Crow	10/17/08	10/27/08	WNV	RT-PCR
Los Angeles	Glendora	91740	American Crow	9/9/08	9/3/08	WNV	RAMP
Los Angeles	La Canada Flintridge	91011	American Crow	10/15/08	10/27/08	WNV	RT-PCR
Los Angeles	La Crescenta	91214	Western Scrub-Jay	10/15/08	10/27/08	WNV	RT-PCR
Los Angeles	Montebello	90640	American Crow	10/20/08	10/27/08	WNV	RT-PCR
Los Angeles	Pomona	91768	American Crow	9/12/08	9/3/08	WNV	RAMP
Los Angeles	San Dimas	91773	American Crow	9/17/08	9/3/08	WNV	RAMP
Los Angeles	Tarzana	91356	Fox Squirrel	10/20/08	10/27/08	WNV	RT-PCR
Los Angeles	Tarzana	91356	Fox Squirrel	10/20/08	10/27/08	WNV	RT-PCR
Los Angeles	Torrance	90502	American Crow	10/10/08	10/27/08	WNV	RT-PCR
Orange	ANAheim	92805	American Crow	10/9/08	10/14/08	WNV	RT-PCR
Orange	Costa Mesa	92627	American Crow	10/14/08	10/14/08	WNV	RT-PCR
San Bernardino	Fontana	92335	American Crow	9/19/08	9/22/08	WNV	VecTest
San Bernardino	Yucaipa	92399	American Crow	9/25/08	9/26/08	WNV	VecTest
San Bernardino	Yucaipa	92399	American Crow	10/13/08	10/27/08	WNV	RT-PCR
San Diego	Bonita	91902	American Crow	10/20/08	10/20/08	WNV	RT-PCR
San Diego	Bonita	91902	American Crow	10/20/08	10/20/08	WNV	RT-PCR
San Diego	Carlsbad	92011	Cooper's Hawk	10/21/08	10/27/08	WNV	RT-PCR
San Diego	Chula Vista	91910	American Crow	10/20/08	10/20/08	WNV	RT-PCR
San Diego	Del Mar	92014	American Crow	10/20/08	10/20/08	WNV	RT-PCR
San Diego	Descanso	91916	American Crow	10/24/08	10/27/08	WNV	RT-PCR
San Diego	Escondido	92027	Rainbow Lorikeet	10/28/08	10/27/08	WNV	RT-PCR
San Diego	Lakeside	92040	American Crow	10/20/08	10/20/08	WNV	RT-PCR
San Diego	National City	91950	American Crow	10/20/08	10/20/08	WNV	RT-PCR

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San Diego	Poway	92064	American Crow	10/20/08	10/20/08	WNV	RT-PCR
San Diego	Ramona	92065	American Crow	9/26/08	9/29/08	WNV	RT-PCR
San Diego	Ramona	92065	American Crow	10/22/08	10/17/08	WNV	RT-PCR
San Diego	Ramona	92065	American Crow	10/24/08	10/27/08	WNV	RT-PCR
San Diego	San Diego	92130	American Crow	10/20/08	10/20/08	WNV	RT-PCR
San Diego	San Diego	92122	American Crow	10/21/08	10/21/08	WNV	RT-PCR
San Diego	San Diego	92115	American Crow	10/21/08	10/21/08	WNV	RT-PCR
San Diego	San Diego	92121	American Crow	10/21/08	10/21/08	WNV	RT-PCR
San Diego	San Diego	92139	American Crow	10/24/08	10/27/08	WNV	RT-PCR
San Diego	Spring Valley	91977	Sharp-shinned Hawk	10/22/08	10/27/08	WNV	RT-PCR
San Diego	Valley Center	92082	American Crow	10/20/08	10/20/08	WNV	RT-PCR
Sonoma	Rohnert Park	94928	Rock Dove	10/15/08	10/27/08	WNV	RT-PCR
Sonoma	Santa Rosa	95409	American Crow	10/19/08	10/27/08	WNV	RT-PCR

## Mosquito Pools

County	Site Code	Pool #	Species	# in Pool	Collected	Tested	City	Result
Los Angeles	GRLA2121	1315	Cx quinquefasciatus	48	10/23/2008	10/29/2008	Long Beach	WNV
Los Angeles	GRLA2299	1289	Cx quinquefasciatus	34	10/23/2008	10/31/2008	Los Angeles	WNV
Los Angeles	GRLA2300	1299	Cx quinquefasciatus	50	10/23/2008	10/29/2008	Los Angeles	WNV
Los Angeles	GRLA2323	1347	Cx quinquefasciatus	46	10/23/2008	10/29/2008	Los Angeles	WNV
Los Angeles	GRLA2334	1329	Cx quinquefasciatus	18	10/23/2008	10/31/2008	Whittier	WNV
Los Angeles	GRLA2787	1358	Cx quinquefasciatus	27	10/23/2008	10/31/2008	Lakewood	WNV
Los Angeles	LACW1002	263	Cx quinquefasciatus	13	10/14/2008	10/29/2008	Torrance	WNV
Orange	ORCO0014	1600	Cx tarsalis	6	10/22/2008	10/27/2008	Yorba Linda	WNV
Orange	ORCO0018	1598	Cx quinquefasciatus	7	10/22/2008	10/27/2008	Lake Forest	WNV
Orange	ORCO0025	1580	Cx quinquefasciatus	50	10/22/2008	10/27/2008	Cypress	WNV
Orange	ORCO0030	1590	Cx quinquefasciatus	38	10/22/2008	10/27/2008	La Habra	WNV
Orange	ORCO0033	1582	Cx quinquefasciatus	34	10/22/2008	10/27/2008	Westminster	WNV
Orange	ORCO0036	1583	Cx quinquefasciatus	50	10/22/2008	10/27/2008	Cypress	WNV
Orange	ORCO0036	1584	Cx quinquefasciatus	47	10/22/2008	10/27/2008	Cypress	WNV
Orange	ORCO0050	1588	Cx quinquefasciatus	9	10/22/2008	10/27/2008	Buena Park	WNV
Orange	ORCO0052	1592	Cx quinquefasciatus	10	10/22/2008	10/27/2008	Anaheim	WNV
Orange	ORCO0056	1593	Cx stigmatosoma	7	10/22/2008	10/27/2008	Laguna Niguel	WNV
Orange	ORCO0060	1594	Cx quinquefasciatus	45	10/22/2008	10/27/2008	Laguna Woods	WNV
Orange	ORCO0060	1595	Cx quinquefasciatus	44	10/22/2008	10/27/2008	Laguna Woods	WNV
Orange	ORCO0063	1596	Cx quinquefasciatus	10	10/22/2008	10/27/2008	Dana Point	WNV
Orange	ORCO0076	1597	Cx quinquefasciatus	16	10/22/2008	10/27/2008	San Juan Capistrano	WNV
Orange	ORCO0082	1586	Cx quinquefasciatus	21	10/22/2008	10/27/2008	Cypress	WNV
San Bernardino	SANB0006	504	Cx tarsalis	50	10/1/2008	10/28/2008	Yucaipa	WNV
San Bernardino	SANB0026	517	Cx tarsalis	10	10/1/2008	10/28/2008	San Bernardino	WNV
San Diego	SAND0257	259	Cx quinquefasciatus	11	10/17/2008	10/29/2008	San Diego	WNV
Sutter	SUYA0044	277	Cx tarsalis	40	9/8/2008	10/29/2008	Pleasant Grove	WNV

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## Sentinel Chickens

County	Site Code	City	Date Bled	Result	Band 01	Band 02	Band 03
Fresno	FRNO0012	Fresno	10/20/2008	WNV	2654	2656	
Imperial	COAV5002	Niland	10/20/2008	WNV	2388	2389	
Imperial	COAV5002	Niland	10/20/2008	WNV	3837		
Kern	DLNO0060	Delano	10/16/2008	WNV	2568		
Kern	KERN0107	Arvin	10/13/2008	WNV	2894	2900	
Kern	KERN0111	Arvin	10/13/2008	WNV	2906		
Los Angeles	ANTV3247	Lancaster	10/22/2008	WNV	2029		
Los Angeles	ANTV5662	Lancaster	10/22/2008	WNV	2035		
Los Angeles	GRLA2223	Rowland Heights	10/20/2008	WNV	2738		
Los Angeles	LACW1002	Torrance	10/21/2008	WNV	1040		
Los Angeles	LACW1003	Redondo Beach	10/21/2008	WNV	1044		
Los Angeles	LACW1006	Playa Del Rey	10/20/2008	WNV	1060	1061	1062
Los Angeles	LACW1007	Baldwin Hills	10/22/2008	WNV	1069	1071	
Los Angeles	LACW1009	Los Angeles	10/20/2008	WNV	1075	1077	
Los Angeles	LACW1010	Los Angeles(Miracle Mile)	10/20/2008	WNV	1081		
Los Angeles	LACW1012	Venice	10/17/2008	WNV	1084	1085	
Los Angeles	LACW1024	Calabasas	10/22/2008	WNV	1146		
Madera	MADR4123	Chowchilla	10/8/2008	WNV	1195		
Madera	MADR4123	Chowchilla	10/22/2008	WNV	1199		
Merced	MERC0003	Gustine	10/6/2008	WNV	1265		
Merced	MERC0502	Hilmar	10/6/2008	WNV	1299	1300	
Riverside	COAV0035	Mecca	10/20/2008	WNV	3828	3849	
Riverside	COAV0122	Mecca	10/20/2008	WNV	2338		
Riverside	COAV0131	Oasis	10/20/2008	WNV	2324	3832	
Riverside	COAV0204	Indio	10/20/2008	WNV	2368	2370	
Riverside	NWST0004	Flabob Airport	10/23/2008	WNV	1427	1428	
Riverside	NWST6666		10/23/2008	WNV	1380		
Riverside	NWST9227	High Grove	10/23/2008	WNV	1399	1402	
Riverside	RIVR0001	San Jacinto	10/22/2008	WNV	1509		
Riverside	RIVR0002	Nuevo	10/22/2008	WNV	1529		
San Bernardino	SANB0004	San Bernadino	10/20/2008	WNV	1722		
San Bernardino	SANB0007	Fontana	10/20/2008	WNV	1752		
San Bernardino	WVAL0011	Ontario Airport	10/24/2008	WNV	1990		
San Bernardino	WVAL0009	Rancho Cucamonga	10/24/2008	WNV	1989		
San Diego	SAND0016	Carlsbad	10/20/2008	WNV	1856		

## NATIONAL COMMENTS

As of October 21, 2008, 1,141 human cases had been reported nationwide this year in the following 42 states: Alabama (19), Arizona (77), Arkansas (8), California (329), Colorado (77), Connecticut (7), Delaware (1), Florida (2), Georgia (7), Idaho (32), Illinois (19), Indiana (3), Iowa (9), Kansas (25), Kentucky (2), Louisiana (36), Maryland (13), Michigan (14), Minnesota (21), Mississippi (97), Missouri (16), Montana (5), Nebraska (37), Nevada (15), New Jersey (7), New Mexico (4), New York (39), North Dakota (43), Ohio (16), Oklahoma (8), Oregon (4), Pennsylvania (5), Rhode Island (1), South Dakota (39), Tennessee (11), Texas (51), Utah (24), Virginia (1), Washington (2), West Virginia (1), Wisconsin (6), and Wyoming (8). Of the 1,141 individuals, 520 (46%) had neuroinvasive illness. As of October 21, 25 fatalities had been reported in Arizona (3), California (7), Iowa (1), Illinois (1), Mississippi (3), Missouri (1), New Jersey (1), New York (6), Ohio (1) and Texas (1). At this time last year, 3,107 human cases had been reported nationwide.

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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:**

All bird and tree squirrel species from all zip codes are currently being accepted for testing unless otherwise requested by a local agency. Additionally, doves, pigeons, and chickens are no longer be accepted for testing. 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, 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 VBDS Laboratory 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), 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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