

California Arbovirus Surveillance Bulletin # 40

Week 48 Friday, November 30, 2007

Weekly and Year-To-Date Summaries

WEEKLY COMMENTS



Humans

Two new human cases of West Nile virus (WNV) were reported this week from Sacramento (1) and Sutter (1) counties. A total of 377 WNV cases have been reported in 2007, for a statewide incidence of 1.1 cases per 100,000 people. Of the 377 cases reported, 218 (58%) are classified as West Nile fever, 154 (41%) are classified as neuroinvasive disease, and five are of unknown clinical presentation. The median age of all cases is 55 years (range: 2-96 years), and 211 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-nine WNV-positive blood donation samples have been reported this year; 19 of the individuals subsequently developed symptoms and were reclassified as cases.

Horses

No new equine cases were reported this week. To date in 2007, 28 horses from 14 counties have tested positive for WNV, of which 14 were euthanized or died.

Dead Birds & Tree Squirrels

Eighteen new WNV-positive dead birds were reported from the following seven counties: Fresno (1), Los Angeles (3), Orange (9), San Diego (2), Shasta (1), Sonoma (1), and Tulare (1). A total of 1,386 dead birds from 50 counties have tested positive for WNV this year.

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

Mosquito Pools

Two new WNV-positive mosquito pools from Los Angeles County were reported this week. In 2007, 1,006 mosquito pools from 30 counties have tested positive for WNV. In addition, in 2007 16 mosquito pools have tested positive for western equine encephalomyelitis virus (WEE) from Fresno (1) and Kern (15) counties.

Sentinel Chickens

No new seroconversions were reported this week. In 2007, 510 sentinel chickens from 27 counties have tested positive for WNV. In addition, there have been 13 WEE seroconversions detected in chickens this year from Kern (10) and Los Angeles (3) counties.

Website Information For updated information on WNV in California, please visit the California WNV website, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC website, www.cdc.gov, and the USGS website, 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	32	
Calaveras			3			
Colusa	2		4	1	2	
Contra Costa	2		28	28	5	5
El Dorado			7			2
Fresno	17	1	114	61	46	4
Glenn	7		36	1	8	
Humboldt			2			
Imperial	3			4	17	
Inyo			1			
Kern	137	4	124	206	82	
Kings	7	2	9	30	22	
Lake			3	8	2	
Lassen			2			
Los Angeles	37		160	91	27	3
Madera	2		6	8	4	
Marin			4			
Mendocino	2		3			1
Merced	4		34	2	11	
Modoc			1			
Napa	1		2			
Nevada			5			
Orange	9		41	27		
Placer	4	1	16	25	13	
Plumas			1			
Riverside	17		6	30	44	
Sacramento	25	2	142	135	19	2
San Bernardino	4		26	6	35	
San Diego	16	4	108	6	1	
San Francisco			1			
San Joaquin	10	1	46	154	24	1
San Luis Obispo		1	9			
San Mateo			2			1
Santa Barbara			1			
Santa Clara	4		83	10		6
Santa Cruz			6			
Shasta	9	3	47	17	7	
Siskiyou		2	4			
Solano	1	1	3		7	
Sonoma	1	2	18	1		
Stanislaus	21		130	88	35	
Sutter	3		1	23	17	
Tehama	4	2	20	2	8	
Trinity			1			
Tulare	10	2	38	23	27	
Tuolumne			1			
Ventura	1		15		1	
Yolo	1		25	10	4	
Yuba			1	2	10	
Totals	377	28	1,386	1,006	510	26

* Does not include asymptomatic infections

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	31,205	45,224
# Positive Counties	51	54
# Human Cases/ # Tested	377 / 1,254	272 / 1,496
# Horse Cases/ # Tested	28 / 332	56 / 473
# Positive Dead Birds/ # Tested	1,386 / 5,669	1,391 / 5,750
# Positive Mosquito Pools/ # Tested	1,006 / 27,460	835 / 24,289
# Positive Chicken Sera/ # Tested	510 / 28,306	638 / 31,486
# Positive Squirrels/ # Tested	26 / 218	32 / 138

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	59	0	2	0	0	0	0	0	0
	YTD	1,254	0	377	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	332	0	28	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	173	18
	YTD	5,669	1,386
Tree Squirrels	Week	5	0
	YTD	218	26

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	279	0	0	0
	YTD	28,306	510	13	0
Mosquito Pools: RT-PCR	Week	202	2	0	0
	YTD	25,407	830	16	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	2,053	176	N/A	N/A

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POSITIVES: 11/19/07 – 11/30/07

Dead Birds & Tree Squirrels

County	City	Zip Code	Species	Date Reported	Date Tested	Test Type
Fresno	Kingsburg	93631	Sharp-shinned Hawk	11/8/07	11/27/07	RT-PCR
Los Angeles	Calabasas	91302	American Crow	11/7/07	11/19/07	RT-PCR
Los Angeles	Montebello	90640	American Crow	11/1/07	11/19/07	RT-PCR
Los Angeles	Rowland Heights	91748	Yellow-rumped Warbler	11/5/07	11/19/07	RT-PCR
Orange	Anaheim	92804	House Finch	11/26/07	11/27/07	RT-PCR
Orange	Huntington Beach	92647	Brown-headed Cowbird	11/26/07	11/27/07	RT-PCR
Orange	Huntington Beach	92647	American Crow	11/26/07	11/27/07	RT-PCR
Orange	Huntington Beach	92646	American Crow	11/5/07	11/19/07	RT-PCR
Orange	Irvine	92614	American Crow	11/5/07	11/19/07	RT-PCR
Orange	Irvine	92612	American Crow	11/5/07	11/19/07	RT-PCR
Orange	Newport Beach	92660	American Crow	11/26/07	11/27/07	RT-PCR
Orange	San Clemente	92673	House Finch	9/7/07	11/27/07	RT-PCR
Orange	Yorba Linda	92887	Bullock's Oriole	9/24/07	11/27/07	RT-PCR
San Diego	Alpine	91901	American Crow	11/21/07	11/27/07	VecTest
San Diego	San Diego	92139	American Crow	11/19/07	11/27/07	VecTest
Shasta	Redding	96001	American Crow	11/15/07	11/19/07	VecTest
Sonoma	Sebastopol	95472	American Crow	11/8/07	11/19/07	RT-PCR
Tulare	Visalia	93292	American Crow	11/8/07	11/27/07	RT-PCR

Mosquito Pools

County	Site Code	Pool #	Species	# in Pool	Collected	City	Virus
Los Angeles	GRLA2649	6056	Cx quinquefasciatus	50	11/14/07	Encino	WNV
Los Angeles	GRLA2645	6078	Cx quinquefasciatus	50	11/14/07	Encino	WNV

NATIONAL COMMENTS

As of November 27, 2007, a total of 3,359 human cases had been reported nationwide in the following 43 states: Alabama (23), Arizona (89), Arkansas (20), California (375), Colorado (555), Connecticut (5), Delaware (1), Florida (3), Georgia (49), Idaho (109), Illinois (96), Indiana (23), Iowa (26), Kansas (39), Kentucky (4), Louisiana (36), Maryland (10), Massachusetts (6), Michigan (13), Minnesota (99), Mississippi (125), Missouri (72), Montana (200), Nebraska (144), Nevada (11), New Jersey (1), New Mexico (60), New York (14), North Carolina (5), North Dakota (365), Ohio (23), Oklahoma (94), Oregon (26), Pennsylvania (9), Rhode Island (1), South Carolina (4), South Dakota (207), Tennessee (10), Texas (147), Utah (66), Virginia (3), Wisconsin (11), and Wyoming (180). Of the 3,359 cases reported, 1,105 (33%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,344 cases where data was available was 51 years (range: 1 month-97 years), and 55% were male. A total of 98 human fatalities had been reported from Alabama (3), Arizona (2), Arkansas (1), California (16), Colorado (6), Florida (1), Georgia (2), Idaho (1), Iowa (2), Illinois (4), Indiana (1), Kansas (2), Louisiana (2), Michigan (2), Minnesota (2), Mississippi (3), Missouri (3), Montana (4), Nebraska (3), New Mexico (3), New York (2), North Dakota (2), Ohio (2), Oklahoma (8), South Dakota (6), Tennessee (1), Texas (11), Utah (2), 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>.

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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).

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.

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, Erin Parker, can be reached directly at (510) 412-6254.

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.

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.

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
