

California Arbovirus Surveillance Bulletin # 36

Week 43 Friday, October 26, 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 four counties: Fresno (2), Los Angeles (1), Sacramento (3), and Stanislaus (1). A total of 360 WNV cases have been reported in 2007, for a statewide incidence of 1.0 case per 100,000 people. Of the 360 cases reported, 203 (56%) are classified as West Nile fever, 150 (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 197 cases (55%) 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

No new equine cases were reported this week. In 2007, 27 horses from 14 counties have tested positive for WNV, of which 13 were euthanized or died.

Dead Birds & Tree Squirrels

Twenty-eight WNV-positive dead birds were reported this week from 11 counties: Alameda (1), Contra Costa (2), Los Angeles (5), Sacramento (4), San Diego (2), San Joaquin (2), San Luis Obispo (1), Santa Clara (4), Sonoma (2), Tulare (2), and Ventura (3). A total of 1,339 dead birds from 50 counties have tested positive for WNV this year.

One WNV-positive fox squirrel from Contra Costa County was reported this week. A total of 26 tree squirrels from 10 counties have tested positive for WNV this year.

Mosquito Pools

Four new WNV-positive mosquito pools were reported this week from Los Angeles (3) and Orange (1) counties. A total of 985 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

Eighteen new WNV seroconversions were reported this week from 6 counties: Fresno (6), Kern (5), Los Angeles (1), Riverside (1), Stanislaus (3), and Yuba (2). A total of 467 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.

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			17	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	45	4
Glenn	7		36	1	8	
Humboldt			2			
Imperial	3			4	17	
Inyo			1			
Kern	132	4	123	206	78	
Kings	7	2	9	30	26	
Lake			3	8	2	
Lassen			2			
Los Angeles	36		155	87	19	3
Madera	2		6	8	4	
Marin			3			
Mendocino	2		3			1
Merced	4		34	2	8	
Modoc			1			
Napa	1		2			
Nevada			5			
Orange	8		25	23		
Placer	3	1	16	25	13	
Plumas			1			
Riverside	15		6	30	30	
Sacramento	22	2	139	135	15	2
San Bernardino	3		26	5	28	
San Diego	16	4	104	6	1	
San Francisco			1			
San Joaquin	10	1	44	154	24	1
San Luis Obispo		1	8			
San Mateo			2			1
Santa Barbara			1			
Santa Clara	4		79	9		6
Santa Cruz			6			
Shasta	9	3	46	17	7	
Siskiyou		1	4			
Solano	1	1	3		5	
Sonoma	1	2	13	1		
Stanislaus	20		130	77	35	
Sutter	2		1	23	17	
Tehama	4	2	20	2	8	
Trinity			1			
Tulare	10	2	37	23	24	
Tuolumne			1			
Ventura	1		14		1	
Yolo	1		25	10	4	
Yuba			1	2	10	
Totals	360	27	1,339	985	467	26

* Does not include asymptomatic infections

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	29,674	43,632
# Positive Counties	51	54
# Human Cases/ # Tested	360 / 1,128	263 / 1,388
# Horse Cases/ # Tested	27 / 314	53 / 454
# Positive Dead Birds/ # Tested	1,339 / 5,236	1,340 / 5,360
# Positive Mosquito Pools/ # Tested	985 / 26,520	825 / 23,418
# Positive Chicken Sera/ # Tested	467 / 26,351	628 / 30,309
# Positive Squirrels/ # Tested	26 / 203	32 / 130

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	24	0	7	0	0	0	0	0	0
	YTD	1,128	0	360	0	0	0	0	0	0
Horses Tested	Week	5	0	0	0	0	0	0	0	0
	YTD	314	0	27	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	153	28
	YTD	5,236	1,339
Tree Squirrels	Week	11	1
	YTD	203	26

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	787	18	0	0
	YTD	26,351	467	11	0
Mosquito Pools: RT-PCR	Week	324	4	0	0
	YTD	24,468	810	16	0
Mosquito Pools: RAMP	Week	32	0	N/A	N/A
	YTD	2,052	175	N/A	N/A

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POSITIVES: 10/22/07 - 10/26/07

Dead Birds & Tree Squirrels

County	City	Zip Code	Species	Reported	Tested	Test Method
Alameda	Livermore	94550	American Crow	10/15/07	10/22/07	RT-PCR
Contra Costa	Brentwood	94513	Western Scrub-Jay	10/7/07	10/22/07	RT-PCR
Contra Costa	Concord	94513	Fox Squirrel	10/8/07	10/22/07	RT-PCR
Contra Costa	San Ramon	94583	White-tailed Kite	10/9/07	10/22/07	RT-PCR
Los Angeles	Covina	91723	American Crow	10/4/07	10/22/07	RT-PCR
Los Angeles	Los Angeles	90036	American Crow	10/15/07	10/22/07	RT-PCR
Los Angeles	Los Angeles	90046	American Crow	10/11/07	10/22/07	RT-PCR
Los Angeles	Northridge	91326	American Crow	10/16/07	10/22/07	RT-PCR
Los Angeles	West Hollywood	90069	American Crow	10/18/07	10/22/07	VecTest
Sacramento	Elverta	95626	House Finch	10/12/07	10/22/07	RT-PCR
Sacramento	Fair Oaks	95628	Western Scrub-Jay	10/5/07	10/22/07	RT-PCR
Sacramento	Sacramento	95822	American Crow	10/15/07	10/22/07	RT-PCR
Sacramento	Sacramento	95822	American Crow	10/14/07	10/22/07	RT-PCR
San Diego	El Cajon	92020	American Crow	10/16/07	10/22/07	VecTest
San Diego	Oceanside	92054	American Crow	10/14/07	10/22/07	VecTest
San Joaquin	Tracy	95376	American Crow	10/18/07	10/22/07	VecTest
San Joaquin	Tracy	95304	American Crow	10/17/07	10/22/07	VecTest
San Luis Obispo	Los Osos	93402	Great Horned Owl	9/13/07	10/22/07	RT-PCR
Santa Clara	Gilroy	95020	American Crow	10/16/07	10/22/07	VecTest
Santa Clara	Los Altos	94024	American Crow	10/18/07	10/22/07	VecTest
Santa Clara	Los Gatos	95030	American Crow	10/11/07	10/22/07	VecTest
Santa Clara	San Jose	95126	American Crow	10/16/07	10/22/07	VecTest
Sonoma	Santa Rosa	95405	Western Scrub-Jay	10/17/07	10/22/07	RAMP
Sonoma	Santa Rosa	95401	American Crow	10/16/07	10/22/07	RT-PCR
Tulare	Tulare	93274	Sharp-shinned Hawk	10/15/07	10/22/07	RT-PCR
Tulare	Tulare	93274	American Crow	10/11/07	10/22/07	RT-PCR
Ventura	Thousand Oaks	91360	Gouldian Finch	10/11/07	10/22/07	RT-PCR
Ventura	Thousand Oaks	91360	Cooper's Hawk	10/5/07	10/22/07	RT-PCR
Ventura	Westlake Village	91361	American Crow	10/17/07	10/22/07	RT-PCR

Mosquito Pools

County	Site Code	Pool #	Species	# in Pool	Collected	City	Virus
Los Angeles	GRLA2230	909	Cx quinquefasciatus	18	10/17/2007	Rowland Heights	WNV
Los Angeles	GRLA2636	5980	Cx quinquefasciatus	23	10/18/2007	Van Nuys	WNV
Los Angeles	GRLA2655	5977	Cx quinquefasciatus	25	10/18/2007	Encino	WNV
Orange	ORCO30	820	Cx quinquefasciatus	21	10/17/2007	La Habra	WNV

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Sentinel Chickens

County	Site Code	City	Date Bled	Result	Band 01	Band 02	Band 03	Band 04	Band 05	Band 06
Fresno	CNSL5008	Orange Cove	10/18/2007	WNV	1484	1487	1488	1489	1493	1494
Kern	KERN0101	Lost Hills	10/15/2007	WNV	1790					
Kern	KERN0106	Bakersfield	10/15/2007	WNV	1823					
Kern	KERN0112	Wasco	10/15/2007	WNV	1856	1859				
Kern	KERN0113	Bakersfield	10/15/2007	WNV	1868					
Los Angeles	ANTV5662	Lancaster	10/10/2007	WNV	1068					
Riverside	NWST0002	Glen Ivy Hot Spring	10/11/2007	WNV	2462					
Stanislaus	EAST1959	Oakdale	10/17/2007	WNV	1591					
Stanislaus	TRLK0401	Hickman	10/15/2007	WNV	3342					
Stanislaus	TRLK9701	Grayson	10/15/2007	WNV	3351					
Yuba	SUYA0007	Marysville	10/18/2007	WNV	3190					
Yuba	SUYA0071	Olivehurst	10/18/2007	WNV	3201					

NATIONAL COMMENTS

As of October 23, 2007, a total of 3,107 human cases had been reported nationwide in the following 42 states: Alabama (18), Arizona (71), Arkansas (18), California (353), Colorado (544), Connecticut (5), Delaware (1), Florida (3), Georgia (45), Idaho (109), Illinois (81), Indiana (10), Iowa (24), Kansas (37), Kentucky (3), Louisiana (2), Maryland (8), Massachusetts (6), Michigan (13), Minnesota (96), Mississippi (114), Missouri (63), Montana (193), Nebraska (140), Nevada (11), New Jersey (1), New Mexico (57), New York (14), North Dakota (360), Ohio (15), Oklahoma (86), Oregon (22), Pennsylvania (6), Rhode Island (1), South Carolina (4), South Dakota (206), Tennessee (7), Texas (121), Utah (51), Virginia (3), Wisconsin (6), and Wyoming (179). Of the 3,107 cases reported, 981 (32%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,095 cases where data was available was 51 years (range: 15 months-97 years), and 55% were male. A total of 83 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 (3), Nebraska (3), New Mexico (3), New York (1), North Dakota (2), Ohio (1), Oklahoma (7), South Dakota (5), Tennessee (1), Texas (7), 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>.

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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, Ryan Carney, 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