

California Arbovirus Surveillance Bulletin # 28

Week 43 Monday, November 1, 2004

Weekly Summary

California Weekly Summary Comments:

This week, California reported 17 new humans infected with West Nile virus (WNV). As of October 29, 2004, a total of **790** WNV infections have been reported from the following local health jurisdictions: Los Angeles (312), San Bernardino (191), Riverside (110), Orange (65), Kern (56), Fresno (14), Tehama (10), Butte (7), Shasta (6), Glenn (2), Tulare (2), Ventura (2), Imperial (1), Lake (1), Lassen (1), Merced (1), Placer (1), Sacramento (1), San Diego (1), San Joaquin (3), Santa Clara (1), San Luis Obispo (1), and Yolo (1) counties. Seventy-four of the 790 WNV infections were initially detected in asymptomatic individuals through screening done at blood banks – 11 of these individuals later became symptomatic.

Of the 727 WNV cases with symptoms, 266 are classified as West Nile fever cases, 211 are classified as West Nile neuroinvasive disease, and 250 are of unknown status. The median age for all cases where data was available is 52 years (range: 2-94 years). Median age for West Nile fever cases is 49 years (range 7-89 years). Median age for West Nile neuroinvasive disease cases = 58 years (range: 4-91 years). Sixty-two per cent (449/727) of the cases are male. There have been 23 fatalities to date in California in Los Angeles (11), San Bernardino (5), Orange (3), Riverside (2), Kern (1) and Tehama (1) counties. The median age of the 23 fatalities is 76 years (range: 57-91 years).

Equine:

The California Department of Food & Agriculture confirmed eight WNV equine cases from Riverside (2), Sacramento (1), San Joaquin (2), Stanislaus (1), Tulare (1), and Yolo (1) counties. Currently, the YTD total stands at 529 positive cases. A total of 226 horses have died or euthanatized from the WNV infections.

Dead Birds:

The hotline received 673 reported dead birds last week (YTD = 90,373). The UC Davis Center for Vectorborne Diseases (CVEC) reported 27 out of 75 dead birds submitted last week have tested positive for WNV by RT-PCR: American crows (7), an American robin (1), a Brewer's blackbird (1), a Cooper's hawk (1), a fox sparrow (1), a golden-crowned sparrow (1), a hermit thrush (1), Steller's jays (2), western scrub-jays (6), and yellow-billed magpies (6).

The positive birds were collected within the 17 counties of Alameda (1), Butte (1), Inyo (1), Kern (1), Kings (1), Lake (2), Marin (1), Merced (2), Nevada (1), Placer (2), Sacramento (4), San Joaquin (1), Shasta (1), Sonoma (2), Stanislaus (4), Yolo (1), and Yuba (1).

A total of 75 dead birds were tested, thus 36.0% (27/75) of the birds tested from these counties were WNV positive.

No additional American crows were tested via Vec-Test, therefore the YTD total stands at 3,106 positive bird carcasses.

News Flash:

CVEC reported last Wednesday that 43 of 66 dead birds have tested positive for WNV. The positive birds were collected within the 25 counties of Alameda (2), Calaveras (1), Contra Costa (2), Del Norte (2), El Dorado (1), Fresno (2), Humboldt (2), Inyo (2), Los Angeles (1), Mariposa (1), Merced (3), Orange (2), Placer (2), Sacramento (2), San Benito (1), San Diego (1), San Francisco (1), San Joaquin (1), Santa Clara (1), Santa Cruz (2), Sonoma (2), Stanislaus (6), Ventura (1), Yolo (1), and Yuba (1).

California Arbovirus Surveillance Bulletin # 28

Week 43 Monday, November 1, 2004

Mosquito Pools:

CVEC reported five positive pools from Kern (3) and Los Angeles (2) counties. To date, 20 CA counties have reported positive mosquito activities. WNV has been isolated from nine mosquito species: *Culex tarsalis*, *Cx. erythrothorax*, *Cx. quinquefasciatus*, *Cx. stigmatosoma*, *Cx. thriambus*, *Cx. pipiens*, *Anopheles hermsi*, and *Ochlerotatus squamiger* and *Oc. melanimon*. The YTD total stands at 1124 positive pools.

Chickens:

Seventy WNV chicken seroconversions were detected in 28 flocks from Kern (3), Los Angeles (47), Moab (1), Placer (12), Riverside (2), Shasta (2), and Stanislaus (3) counties. Of the 70 seroconversions, 33 came from 12 new flocks in Los Angeles (20), Placer (9), Riverside (1), Shasta (2), and Stanislaus (1) counties. Currently, 22 counties: Butte, Fresno, Glenn, Imperial, Kern, Kings, Lake, Los Angeles, Orange, Placer, Riverside, Sacramento, San Bernardino, San Joaquin, Santa Clara, Shasta, Stanislaus, Sutter, Tehama, Tulare, Ventura, and Yolo have positive WNV seroconversions. The current YTD total stands at 758 WNV seroconversions.

****Note: Bulletin 29 will go out on Monday, November 8.**

Website Information:

For updated information on WNV, please visit the California WNV website, www.westnile.ca.gov; the CDC website, www.cdc.gov, and the USGS website, www.westnilemaps.usgs.gov. Please go to the Vector website at <http://vector.ucdavis.edu/arbo.html> for flock location and more information on WNV and other vector-borne diseases.

TESTING SUMMARIES

Humans and Equines

		Number Tested	WNV Positive		WEE Positive		SLE Positive		Other Positive	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Individuals Tested	Week	34	0	17	0	0	0	0	0	0
	YTD	1657	0	790	0	0	0	0	0	0
Suspect Equine Cases	Week	n/a	0	8	0	0	0	0	0	0
	YTD	1273	0	529	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	75	27
YTD	5,007	3,106

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
Chicken sera	Week	800*	70	0	0	0
	YTD	29,106	758	0	0	0
Mosquito pools	Week	216	5	0	0	0
	YTD	14,353	1124	0	0	0

*This total has been adjusted to include local agency submission

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California Arbovirus Surveillance Bulletin # 28

Week 43 Monday, November 1, 2004

POSITIVES

Human Positives Reported:

Virus	Date of Onset	Status	Diagnosis	County	Imported/Local	From
WNV	Unknown	Probable	Unknown	Tulare	Local	
WNV	Unknown	Probable	Unknown	Riverside	Local	
WNV	Unknown	Probable	West Nile Fever	Kern	Local	
WNV	Unknown	Probable	Unknown	Kern	Local	
WNV	9/18/04	Probable	West Nile Fever	Kern	Local	
WNV	10/08/04	Probable	West Nile Neuroinvasive Disease	Kern	Local	
WNV	9/21/04	Probable	West Nile Neuroinvasive Disease	Kern	Local	
WNV	8/02/04	Probable	West Nile Neuroinvasive Disease	Riverside	Local	
WNV	7/26/04	Probable	West Nile Neuroinvasive Disease	Riverside	Local	
WNV	7/21/04	Probable	Unknown	Riverside	Local	
WNV	8/27/04	Probable	West Nile Fever	Riverside	Local	
WNV	7/08/04	Probable	West Nile Fever	Riverside	Local	
WNV	7/19/04	Probable	West Nile Fever	Riverside	Local	
WNV	7/26/04	Probable	West Nile Neuroinvasive Disease	Riverside	Local	
WNV	Unknown	Probable	Unknown	Los Angeles	Local	
WNV	Unknown	Probable	Unknown	Los Angeles	Local	
WNV	Unknown	Probable	Unknown	Los Angeles	Local	

*Indicates fatality

Chicken Seroconversions Reported by DHS:

Virus	County	State	Acode	City	Location
WNV	Kern	CA	KERN0104	Bakersfield	Old River
Bands: 2061					
Probable Seroconversion Date: 27-September-04					
WNV	Kern	CA	KERN0105	Bakersfield	Wible/Houghton
Bands: 2068					
Probable Seroconversion Date: 27-September-04					
WNV	Kern	CA	KERN0110	Bakersfield	Kern River
Bands: 2067					
Probable Seroconversion Date: 27-September-04					
**** WNV	Los Angeles	CA	ANTV3247	Lancaster	Fairgrounds
Bands: 1051					
Probable Seroconversion Date: 22-September-04					
WNV	Los Angeles	CA	ANTV8656	Lancaster	Volmer
Bands: 1049					
Probable Seroconversion Date: 22-September-04					
WNV	Los Angeles	CA	ANTV8656	Lancaster	Volmer
Bands: 4156, 4159					
Probable Seroconversion Date: 6-October-04					
**** WNV	Los Angeles	CA	GRLA1001	Harbor City	Machado Lake
Band: 4684, 4685, 4687, 4688					
Probable Seroconversion Date: 4-October-04					
WNV	Los Angeles	CA	GRLA1001	Harbor City	Machado Lake
Band: 4686					
Probable Seroconversion Date: 7-October-04					
WNV	Los Angeles	CA	GRLA1002	Los Angeles	Griffith Park
Band: 4697					
Probable Seroconversion Date: 22-September-04					
**** WNV	Los Angeles	CA	LACW1002	Torrance	Madrona Marsh
Band: 2132, 2135, 2136					
Probable Seroconversion Date: 21-October-04					
WNV	Los Angeles	CA	LACW1009	Los Angeles	Rosedale Cemetery
Band: 2177, 2178					
Probable Seroconversion Date: 11-October-04					
**** WNV	Los Angeles	CA	LACW1023	Topanga	Topanga State Park
Band: 2213					
Probable Seroconversion Date: 21-October-04					
**** WNV	Los Angeles	CA	LACW1026	Beverly Hills	Franklin Canyon Park
Band: 2228					
Probable Seroconversion Date: 11-October-04					
WNV	Los Angeles	CA	LONG0003	Long Beach	Del Amo Blvd Horse Stable
Band: 1228					
Probable Seroconversion Date: 7-September-04					
WNV	Los Angeles	CA	LONG0004	Long Beach	Long Beach Marina Oil
Band: 4376, 4385					
Probable Seroconversion Date: 4-October-04					

California Arbovirus Surveillance Bulletin # 28

Week 43 Monday, November 1, 2004

Virus	County	State	Acode	City	Location
WNV Band: 3101, 3102, 3104, 3105	Los Angeles	CA	SGVA0001	Industry	California Country Club Probable Seroconversion Date: 8-September-04
WNV Band: 3127	Los Angeles	CA	SGVA0004	Arcadia	LA Arboretum Probable Seroconversion Date: 8-September-04
**** WNV Band: 3133, 3134, 3135, 3167, 3170	Los Angeles	CA	SGVA0005	Irwindale	Santa Fe Dam Probable Seroconversion Date: 8-September-04
WNV Band: 3138, 3139, 3140, 3142	Los Angeles	CA	SGVA0006	Glendora	Los Cerritos Rd Probable Seroconversion Date: 8-September-04
WNV Band: 3150, 3152, 3154	Los Angeles	CA	SGVA0007	Claremont	Bernard Bio Station Probable Seroconversion Date: 8-September-04
WNV Band: 3158	Los Angeles	CA	SGVA0008	Pomona	Cal-Poly Rose Bowl Probable Seroconversion Date: 8-September-04
WNV Band: 3161, 3165	Los Angeles	CA	SGVA0009	Walnut	Gartel Dr. Probable Seroconversion Date: 8-September-04
**** WNV Band: 3143, 3145, 3146, 3147, 3148	Los Angeles	CA	SGVA0014	La Verne	Live Oak Cyn .Rd Probable Seroconversion Date: 8-September-04
WNV Band: 3122	Los Angeles	CA	SGVA0024	Altadena	Eaton Cyn Nature Ctr. Probable Seroconversion Date: 8-September-04
WNV Band: 0006	Moab	UT	MOAB0002	Moab	Riversands Probable Seroconversion Date: 20-October-04
**** WNV Band: 2743, 2744, 2747	Placer	CA	PLCR0027	Loomis	Loomis Probable Seroconversion Date: 27-September-04
WNV Band: 2742, 2746	Placer	CA	PLCR0027	Loomis	Loomis Probable Seroconversion Date: 12-October-04
**** WNV Band: 2751, 2752, 2755, 2757, 2759, 2760	Placer	CA	PLCR0028	Auburn	Brown Probable Seroconversion Date: 28-September-04
WNV Band: 2756	Placer	CA	PLCR0028	Auburn	Brown Probable Seroconversion Date: 12-October-04
**** WNV Band: 1301	Riverside	CA	COAV0208	Niland	Mesquite Probable Seroconversion Date: 6-September-04
WNV Band: 1303	Riverside	CA	COAV0208	Niland	Mesquite Probable Seroconversion Date: 20-September-04
**** WNV Band: 3440, 3442	Shasta	CA	SHAS9702	Millville	Millville Probable Seroconversion Date: 29-September-04
**** WNV Band: 1743	Stanislaus	CA	EAST1957	Modesto	Mapes Probable Seroconversion Date: 15-September-04
WNV Band: 1747	Stanislaus	CA	EAST1957	Modesto	Mapes Probable Seroconversion Date: 29-September-04
WNV Band: 1748	Stanislaus	CA	EAST1957	Modesto	Mapes Probable Seroconversion Date: 13-October-04

****Indicates a new flock

California Arbovirus Surveillance Bulletin # 28

Week 43 Monday, November 1, 2004

Virus Isolations From Mosquito Pools:

Virus	Mosquito species	Date Collected	ACODE	Pool #	City	County	Date Received
WNV	Culex quinquefasciatus	12-Oct	GRLA	3383	Harbor City	Los Angeles	21-Oct
WNV	Culex quinquefasciatus	14-Oct	KERN	478	Shafter	Kern	20-Oct
WNV	Culex quinquefasciatus	14-Oct	KERN	481	Shafter	Kern	20-Oct
WNV	Culex quinquefasciatus	13-Oct	KERN	5843	Bakersfield	Kern	20-Oct
WNV	Culex quinquefasciatus	13-Oct	LACW	215	Rolling Hills Estate	Los Angeles	19-Oct

Dead Birds Tested Positive for WNV last week

Species	County	City	ZIP	Date Collected	Date Tested
American Crow	Inyo	Bishop	93514	10/7/2004	10/18/2004
American Crow	Lake	Lucerne	95458	10/8/2004	10/18/2004
American Crow	Lake	Nice	95464	10/7/2004	10/18/2004
American Crow	Merced	Delhi	95315	10/8/2004	10/18/2004
American Crow	Placer	Roseville	95661	10/5/2004	10/18/2004
American Crow	Sacramento	Orangevale	95662	10/8/2004	10/18/2004
American Crow	Sacramento	Sacramento	95825	10/8/2004	10/18/2004
American Robin	Marin	Novato	94947	10/11/2004	10/18/2004
Brewer's Blackbird	Kern	North Edwards	93523	10/11/2004	10/18/2004
Cooper's Hawk	Alameda	Alameda	94501	10/8/2004	10/18/2004
Fox Sparrow	Shasta	Burney	96013	10/11/2004	10/18/2004
Golden-crowned Sparrow	Merced	Merced	95340	10/8/2004	10/18/2004
Hermit Thrush	Sonoma	Guerneville	95446	10/8/2004	10/18/2004
Steller's Jay	Placer	Loomis	95650	10/6/2004	10/18/2004
Steller's Jay	Yuba	Olivehurst	95961	10/11/2004	10/18/2004
Western Scrub-Jay	Butte	Magalia	95954	10/7/2004	10/18/2004
Western Scrub-Jay	Kings	Hanford	93230	10/11/2004	10/18/2004
Western Scrub-Jay	Nevada	Nevada	95959	10/8/2004	10/18/2004
Western Scrub-Jay	Sonoma	Sebastopol	95472	10/6/2004	10/18/2004
Western Scrub-Jay	Stanislaus	Hughson	95326	10/7/2004	10/18/2004
Western Scrub-Jay	Yolo	West Sacramento	95691	10/12/2004	10/18/2004
Yellow-billed Magpie	Sacramento	Orangevale	95662	10/7/2004	10/18/2004
Yellow-billed Magpie	Sacramento	Orangevale	95662	10/8/2004	10/18/2004
Yellow-billed Magpie	San Joaquin	Acampo	95220	10/6/2004	10/18/2004
Yellow-billed Magpie	Stanislaus	Ceres	95307	10/11/2004	10/18/2004
Yellow-billed Magpie	Stanislaus	Ceres	95307	10/11/2004	10/18/2004
Yellow-billed Magpie	Stanislaus	Ceres	95307	10/11/2004	10/18/2004

***Indicates Vec-Test

California Arbovirus Surveillance Bulletin # 28

Week 43 Monday, November 1, 2004

National Comments:

As of October 26, 2004, West Nile Virus (WNV) activity has been detected in 47 states, the District of Columbia, Puerto Rico, and New York City. A total of 2231 human WNV cases have been reported in 40 states, DC and New York City. At this time in 2003, 7718 cases had been reported from 44 states, DC, and NYC. Of the 2201 WNV cases where data is available, the median age is 52 years (range: 1 month – 99 years) and 59% are male. Thirty-six percent of the cases were neuroinvasive, compared with 29% at this time in 2003. There have been 73 WNV-related fatalities nationwide in 2004. The median age of the 72 fatalities where data were available was 75 years (range: 43-95 years).

Dead Birds:

Dead bird kidney tissues are tested at CVEC using the PCR Taqman assay, subsequent to carcass necropsy at the California Animal Health and Food Safety (CAHFS) Laboratories. Organ pools from PCR positive carcasses are tested using cell culture for virus isolation. The WNV Dead Bird Surveillance Coordinator, Ryan Carney, can be reached directly at (510) 412-6251.

Crows from positive zip codes are no longer accepted for necropsy. Positive Vec-tests from oral swabs from crows are no longer confirmed. Other bird species tested by RT-PCR using singleplex and confirmed with a second primer set.

Sentinel Chickens:

Dried blood spot specimens from sentinel chickens submitted each week to the DHS Viral and Rickettsial Disease Laboratory (VRDL) are 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. The VRDL performs additional testing (including Plaque Reduction Neutralization (PRNT) and IgM Capture – Enzyme Linked Immunosorbent Assay (MAC-ELISA)) on specimens from sentinel chickens in which antibodies are detected in new geographic areas. The VRDL also forwards selected serum to the UC Davis Center for Vectorborne Diseases (CVEC) for additional testing for WNV, WEE, and SLE antibodies as needed.

Mosquito Pools:

All mosquito pools are 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. There will be an elimination of *in situ* EIA testing for all mosquito species.

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch) and the Viral and Rickettsial Disease Laboratory Branch, Division of Communicable Disease Control, California Department of Health Services, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Al Hom by phone (510) 412-6254, FAX (510) 412-6263, or email [ahom@dhs.ca.gov].