

California Arbovirus Surveillance Bulletin # 36

Week 42 Friday, October 21, 2005

Weekly Summary

Comments:

Humans: As of October 21, 2005, 877 human West Nile virus (WNV) infections have been identified from the following local health jurisdictions: Alameda (1), Amador (4), Butte (24), Calaveras (2), Colusa (2), Contra Costa (11), El Dorado (1), Fresno (61), Glenn (13), Humboldt (1), Imperial (1), Kern (62), Kings (32), Los Angeles (40), Madera (12), Merced (25), Nevada (4), Orange (17), Placer (35), Plumas (1), Riverside (93), Sacramento (171), San Bernardino (32), San Diego (1), San Francisco (2), San Joaquin (36), San Mateo (1), Santa Barbara (2), Santa Clara (5), Shasta (1), Solano (5), Sonoma (1), Stanislaus (87), Sutter (9), Tehama (3), Tulare (56), Tuolumne (1), Ventura (1), Yolo (12), and Yuba (6). Ninety-six of the 877 infections were initially detected in asymptomatic individuals through screening done at blood banks; 39 individuals later developed symptoms. Eight of the 96 presumptively viremic blood donors did not confirm in follow-up testing, and have subsequently been removed from the list. In addition to the individuals detected at blood banks, four individuals who had no symptoms for WNV were detected through the local health department. Of the 824 WNV cases with symptoms, 275 are classified as West Nile neuroinvasive disease cases, 476 as West Nile fever, and 73 are of unknown clinical presentation. The median age for all symptomatic cases where data is available is 50 years (range: 2-95 years). 453 (55%) of the cases are male. There have been 18 WNV-related fatalities to date in California this year, from Amador (1), Butte (1), Fresno (2), Kings (3), Madera (1), Riverside (5), Sacramento (1), San Bernardino (1), San Joaquin (1), Stanislaus (1), and Tulare (1) counties. The median age of the 18 fatalities was 79 years.

Horses:

No horse data was supplied this week. The YTD total for the State is 444.

Dead Birds:

This week the hotline received 1,389 dead bird reports, for a YTD total of 104,033 reports. 80 out of 245 (32.6%) dead birds collected from 38 counties tested positive for WNV this week.

- 51 out of 187 (27.3%) dead birds tested positive via RT-PCR.
- 10 out of 23 (43.5%) corvids tested positive via VecTest.
- 19 out of 35 (54.3%) dead birds tested positive via immunohistochemistry.

The WNV positive dead birds were collected from the following counties: Alameda (2); Amador (2); Colusa (1); Contra Costa (5); El Dorado (3); Inyo (1); Los Angeles (3); Merced (1); Orange (19); Placer (1); Sacramento (8); San Diego (8); San Luis Obispo (3); San Joaquin (1); Santa Clara (5); Siskiyou (1); Solano (2); Sonoma (6); Stanislaus (1); Ventura (5); and Yolo (2).

The following bird species tested positive for WNV: American crow (42); Brewer's blackbird (1); European starling (1); fox sparrow (1); house finch (1); house sparrow (2); red-tailed hawk (8); sharp-shinned hawk (1); spotted towhee (1); western scrub-jay (16); and yellow-billed magpie (6). See "WNV Positive Dead Birds" table for details.

Since January 1, 2005, 2,917 of 8,387 dead birds have tested positive for WNV.

Mosquito Pools:

WNV: CVEC reported 18 WNV positive mosquito pools from the following counties: Alameda (6); Lake (2); Los Angeles (2); Orange (4); Riverside (1) and Stanislaus (3). The YTD total for the State is 1234.

WEE: CVEC also reported no WEE positive mosquito pools for this week. The YTD for the State is 50.

Sentinel Chickens: WNV: VRDL reported 32 seroconversions among 23 flocks from Imperial (7), Kern (1), Los Angeles (5), Merced (1), Riverside (10), San Bernardino (4), Stanislaus (1), and Yolo (3) counties. The current YTD total stands at 749 seroconversions. Additionally, there are six flavivirus positive seroconversions.

WEE: VRDL reported three WEE seroconversions from Kern County this week. The current YTD total stands at 108 seroconversions.

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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.

TEST SUMMARIES

Humans and Horses

		Number Tested	WNV Positive		WEE Positive		SLE Positive		Other Positive	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested	Week	49	0	32	0	0	0	0	0	0
	YTD	1916	0	877	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	913	0	444	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	245	80
YTD	8,387	2,917

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
Chicken sera	Week	770*	32	3	0	0
	YTD	30310	749	108	0	0
Mosquito pools	Week	306	18	0	0	0
	YTD	18766	1234	50	0	0

*Total has been adjusted to include local agency submission

Human Positives Reported (October 17 – October 21):

Virus	Onset Date	Status	Diagnosis	County	Age
WNV	9/20/2005	Probable	WNND	Orange	65
WNV	Unknown	Probable	WNF	Contra Costa	49
WNV	n/a	Probable	n/a	Yuba	n/a
WNV	9/10/2005	Probable	WNND	Solano	<18
WNV	9/xx/05	Probable	WNF	Shasta	>18
WNV	9/7/2005	Probable	WNND	Riverside	76
WNV	8/15/2005	Probable	WNF	Santa Barbara	52
WNV	Week 19	Probable	WNF	Butte	>18
WNV	9/18/2005	Probable	WNND	Riverside	60
WNV	9/17/2005	Probable	WNND	Placer	>18
WNV	9/20/2005	Probable	WNND	Stanislaus	53
WNV	10/3/2005	Probable	WNF	Stanislaus	82
WNV	Week 31	Probable	WNF	Butte	>18
WNV	10/6/2005	Probable	WNF	Sacramento	56
WNV	n/a	Probable	n/a	Yuba	n/a
WNV	9/5/2005	Probable	WNND	Los Angeles	76

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WNV	9/4/2005	Probable	WNND	Los Angles	70
WNV	9/13/2005	Probable	UNK	Fresno	57
WNV	10/10/2005	Probable	WNF	Fresno	55
WNV	Unknown	Probable	WNF	Fresno	73
WNV	9/3/2005	Probable	WNF	Riverside	50
WNV	Unknown	Probable	UNK	Riverside	60
WNV	Unknown	Probable	WNF	Riverside	58
WNV	9/17/2005	Probable	WNND	Riverside	55
WNV	9/16/2005	Probable	WNND	Riverside	58
WNV	Unknown	Probable	UNK	Riverside	68
WNV	9/24/2005	Probable	UNK	Riverside	46
WNV	9/8/2005	Probable	WNF	Stanislaus	66
WNV	10/9/2005	Probable	WNND	Stanislaus	46
WNV	8/1/2005	Probable	WNF	Kern	49
WNV	9/27/2005	Probable	WNF	Kern	52
WNV	8/31/2005	Probable	WNF	Kern	62

Virus Positive From Mosquito Pools:

Results	Species	Date Collected	Site	Pool #	County	City	Date Received
WN	Cx erythrothorax	10/12/05	ALCO8122	386	Alameda	Newark	10/18/05
WN	Cx erythrothorax	10/12/05	ALCO8122	387	Alameda	Newark	10/18/05
WN	Cx erythrothorax	10/12/05	ALCO8122	388	Alameda	Newark	10/18/05
WN	Cx erythrothorax	10/12/05	ALCO6069	394	Alameda	Fremont	10/18/05
WN	Cx erythrothorax	10/12/05	ALCO6069	395	Alameda	Fremont	10/18/05
WN	Cx erythrothorax	10/12/05	ALCO6069	396	Alameda	Fremont	10/18/05
WN	Cx quinquefasciatus	10/6/05	COAV0311	2748	Riverside	Indio	10/12/05
WN	Cx quinquefasciatus	10/11/05	GRLA2476	6156	Los Angeles	Sunland	10/19/05
WN	Cx quinquefasciatus	10/13/05	GRLA2458	6174	Los Angeles	Los Angeles	10/19/05
WN	Cx erythrothorax	10/12/05	LAKE1100	351	Lake	Nice	10/19/05
WN	Cx stigmatosoma	10/13/05	LAKE1004	353	Lake	Upper Lake	10/19/05
WN	Cx quinquefasciatus	10/4/05	ORCO0002	2691	Orange	Fullerton	10/18/05
WN	Cx quinquefasciatus	10/11/05	ORCO0052	2707	Orange	Anaheim	10/18/05
WN	Cx quinquefasciatus	10/11/05	ORCO0002	2708	Orange	Fullerton	10/18/05
WN	Cx quinquefasciatus	10/11/05	ORCO0002	2709	Orange	Fullerton	10/18/05
WN	Cx pipiens	9/29/05	TRLK0549	1112	Stanislaus	Newman	10/6/05
WN	Cx pipiens	9/29/05	TRLK0424	1125	Stanislaus	Patterson	10/6/05
WN	Cx pipiens	10/11/05	TRLK0516	1214	Stanislaus	Denair	10/13/05

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Chicken Seroconversions Reported by DHS:

Virus	Site Number	County	State	Nearest City	Location	Date Seroconverted	Band #1	Band #2	Band #3	Band #4	Band #5
**** WNV	COAV5002	Imperial	CA	Niland	Bono Wildlife Res.	8/15/05	744				
WNV	COAV5002	Imperial	CA	Niland	Bono Wildlife Res.	9/12/05	737	741			
WNV	COAV5002	Imperial	CA	Niland	Bono Wildlife Res.	10/10/05	736	745			
WNV	COAV5003	Imperial	CA	Westmorland	Westmorland	10/10/05	746	748			
**** WNV	SFMO1001	Kern	CA	Weldon	Haferfeld Ranch	9/19/05	3737				
WNV	ANTV7947	Los Angeles	CA	Palmdale	PWD Headquarter	10/12/05	8802				
WNV	GRLA1004	Los Angeles	CA	Valencia	Vista Valencia	10/12/05	7232	7234	7235		
WNV	LACW1005	Los Angeles	CA	El Segundo	Chevron Refinery	10/10/05	3829				
**** WNV	MERC0003	Merced	CA	Gustine	Newman Gun Club	9/21/05	4741				
WNV	COAV0035	Riverside	CA	Mecca	Adohr	10/10/05	8861	8869			
**** WNV	COAV0114	Riverside	CA	Desert	North Shore	9/12/05	8941				
WNV	COAV0131	Riverside	CA	Oasis	Jessup	10/10/05	8573	8945	8960		
WNV	NWST6666	Riverside	CA	Lake Elsinore	Lake Elsinore	10/11/05	1054				
WNV	RIVR0001	Riverside	CA	San Jacinto	Country Lake Mobile	10/12/05	5271	5274			
WNV	RIVR0008	Riverside	CA	Murrieta	Auld Road	10/12/05	962				
**** WNV	SANB0001	San Bernardino	CA	Needles	Treatment Plant	9/12/05	5002				
**** WNV	SANB0004	San Bernardino	CA	San Bernardino	Wildwood Park Flood	9/12/05	5033				
WNV	SANB0004	San Bernardino	CA	San Bernardino	Wildwood Park	10/11/05	5031				
WNV	SANB0009	San Bernardino	CA	Victorville	Mojave Narrows	10/12/05	5080				
**** WNV	TRLK9702	Stanislaus	CA	Patterson	Modesto Sewer	9/6/05	581				
WNV	SAYO7002	Yolo	CA	Hood	Hood	10/18/05	6035				
WNV	SAYO6002	Yolo	CA	Woodland	Merritt	10/18/05	6068				
WNV	SAYO6001	Yolo	CA	Knights Landing	Knights Landing	10/18/05	6086				
**** WEE	KERN0105	Kern	CA	Bakersfield	Wible/Houghton	10/3/05	4336	4338	4340		
Flav +	GRLA1002	Los Angeles	CA	Glendale	Griffith Park	10/13/05	7215				
Flav +	LACW1001	Los Angeles	CA	Rolling Hills Est.	Botanical Garden	10/10/05	3803				
Flav +	LACW1022	Los Angeles	CA	Pacific Palisades	Will Rogers SP	10/11/05	3883				
Flav +	LACW1049	Los Angeles	CA	Inglewood	Inglewood cemetery	10/10/05	4722				
Flav +	DLTA1001	Tulare	CA	Kingsburg	Johnson, M&G	10/10/05	5000				
Flav +	VENT0500	Ventura	CA	Camarillo	Pancho Road	10/11/05	5761				

WNV Positive Dead Birds Reported (October 17-21)

Species	County	City	ZIP	Date Collected	Date Tested	Tested By
American Crow	Inyo	Bishop	93514	10/5/05	10/17/05	RT-PCR
American Crow	Los Angeles	Canyon Country	91351	10/11/05	10/11/05	VecTest
American Crow	Los Angeles	Santa Clarita	91350	10/12/05	10/12/05	VecTest
American Crow	Orange	Fountain Valley	92708	9/23/05	9/23/05	IHC
American Crow	Orange	Villa Park	92861	9/30/05	9/30/05	IHC
American Crow	Orange	Orange	92869	10/5/05	10/5/05	IHC
American Crow	Orange	Irvine	92620	10/5/05	10/5/05	IHC
American Crow	Orange	Tustin	92780	10/6/05	10/6/05	IHC
American Crow	Orange	Irvine	92620	10/10/05	10/10/05	IHC
American Crow	Orange	Lake Forest	92630	10/11/05	10/11/05	IHC
American Crow	Orange	Mission Viejo	92692	10/12/05	10/12/05	IHC

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American Crow	Orange	Lake Forest	92630	10/12/05	10/12/05	IHC
American Crow	Orange	Santa Ana	92704	8/1/05	8/1/05	IHC
American Crow	Orange	Irvine	92620	8/1/05	8/1/05	IHC
American Crow	Orange	Buena Park	90620	8/1/05	8/1/05	IHC
American Crow	Orange	San Clemente	92672	8/2/05	8/2/05	IHC
American Crow	Orange	Irvine	92604	8/2/05	8/2/05	IHC
American Crow	Orange	Anaheim	92804	8/3/05	8/3/05	IHC
American Crow	Orange	Garden Grove	92841	8/3/05	8/3/05	IHC
American Crow	Orange	Irvine	92604	8/3/05	8/3/05	IHC
American Crow	Orange	Santa Ana	92707	7/26/05	7/26/05	IHC
American Crow	Orange	Irvine	92612	8/9/05	8/9/05	IHC
American Crow	Sacramento	Sacramento	95837	7/29/05	7/29/05	RT-PCR
American Crow	Sacramento	Sacramento	95837	7/29/05	7/29/05	RT-PCR
American Crow	Sacramento	Sacramento	95837	7/29/05	7/29/05	RT-PCR
American Crow	Sacramento	Sacramento	95837	7/29/05	7/29/05	RT-PCR
American Crow	Sacramento	Sacramento	95837	7/29/05	7/29/05	RT-PCR
American Crow	Sacramento	Sacramento	95837	7/29/05	7/29/05	RT-PCR
American Crow	Sacramento	Sacramento	95837	7/29/05	7/29/05	RT-PCR
American Crow	San Diego	Ramona	92065	10/7/05	10/17/05	RT-PCR
American Crow	San Diego	Oceanside	92057	10/11/05	10/11/05	VecTest
American Crow	San Diego	Pauma	92061	10/10/05	10/10/05	VecTest
American Crow	San Diego	Valley Center	92082	10/13/05	10/13/05	VecTest
American Crow	San Luis Obispo	Santa Margarita	93453	9/30/05	10/17/05	RT-PCR
American Crow	Santa Clara	Los Gatos	95032	10/6/05	10/6/05	VecTest
American Crow	Santa Clara	San Jose	95129	10/6/05	10/6/05	VecTest
American Crow	Santa Clara	Santa Clara	95051	10/11/05	10/11/05	VecTest
American Crow	Sonoma	Santa Rosa	95405	10/5/05	10/17/05	RT-PCR
American Crow	Ventura	Ojai	93023	10/6/05	10/17/05	RT-PCR
American Crow	Ventura	Ventura	93003	10/7/05	10/17/05	RT-PCR
American Crow	Ventura	Simi Valley	93065	10/11/05	10/17/05	RT-PCR
American Crow	Ventura	Ventura	93001	10/12/05	10/17/05	RT-PCR
Brewer's Blackbird	Amador	Plymouth	95669	10/4/05	10/17/05	RT-PCR
European Starling	Sonoma	Santa Rosa	95407	10/10/05	10/17/05	RT-PCR
Fox Sparrow	Siskiyou	Fort Jones	96032	9/29/05	10/17/05	RT-PCR
House Finch	Sonoma	Glen Ellen	95442	10/3/05	10/17/05	RT-PCR
House Sparrow	Contra Costa	Concord	94518	10/4/05	10/17/05	RT-PCR
House Sparrow	Los Angeles	San Dimas	91773	10/12/05	10/17/05	RT-PCR
Red-Tailed Hawk	Alameda	Livermore	94550	10/5/05	10/17/05	RT-PCR
Red-Tailed Hawk	Alameda	Oakland	94619	8/16/05	8/16/05	RT-PCR
Red-Tailed Hawk	Contra Costa	Clayton	94517	8/18/05	8/18/05	RT-PCR
Red-Tailed Hawk	Contra Costa	Concord	94519	8/7/05	8/7/05	RT-PCR
Red-Tailed Hawk	Contra Costa	Martinez	94553	7/28/05	7/28/05	RT-PCR
Red-Tailed Hawk	Placer	Roseville	95747	8/6/05	8/6/05	RT-PCR
Red-Tailed Hawk	San Luis Obispo	Arroyo Grande	93420	9/27/05	10/17/05	RT-PCR
Red-Tailed Hawk	Sonoma	Petaluma	95452	10/5/05	10/17/05	RT-PCR
Sharp-shinned Hawk	Sonoma	Sonoma	95476	10/4/05	10/17/05	RT-PCR
Spotted Towhee	Amador	Jackson	95642	9/29/05	10/17/05	RT-PCR

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Western Scrub-Jay	Contra Costa	Pleasant Hill	94523	10/7/05	10/17/05	RT-PCR
Western Scrub-Jay	El Dorado	Rescue	95672	10/6/05	10/17/05	RT-PCR
Western Scrub-Jay	El Dorado	Placerville	95667	10/6/05	10/17/05	RT-PCR
Western Scrub-Jay	El Dorado	Placerville	95667	10/3/05	10/17/05	RT-PCR
Western Scrub-Jay	San Diego	Lakeside	92040	10/5/05	10/17/05	RT-PCR
Western Scrub-Jay	San Diego	San Diego	92129	10/9/05	10/17/05	RT-PCR
Western Scrub-Jay	San Diego	Poway	92064	10/10/05	10/17/05	RT-PCR
Western Scrub-Jay	San Diego	Alpine	91901	10/13/05	10/13/05	VecTest
Western Scrub-Jay	San Luis Obispo	Templeton	93465	9/22/05	10/17/05	RT-PCR
Western Scrub-Jay	Santa Clara	San Jose	95120	10/11/05	10/17/05	RT-PCR
Western Scrub-Jay	Santa Clara	Saratoga	95070	10/6/05	10/6/05	VecTest
Western Scrub-Jay	Solano	Vacaville	95687	8/25/05	10/17/05	RT-PCR
Western Scrub-Jay	Solano	Fairfield	94534	8/26/05	10/17/05	RT-PCR
Western Scrub-Jay	Sonoma	Santa Rosa	95409	9/30/05	10/17/05	RT-PCR
Western Scrub-Jay	Ventura	Thousand Oaks	91361	10/6/05	10/17/05	RT-PCR
Western Scrub-Jay	Yolo	Winters	95694	8/12/05	10/17/05	RT-PCR
Yellow-billed Magpie	Colusa	Arbuckle	95912	10/5/05	10/17/05	RT-PCR
Yellow-billed Magpie	Merced	Merced	95340	10/12/05	10/17/05	RT-PCR
Yellow-billed Magpie	Sacramento	Sacramento	95837	7/29/05	7/29/05	RT-PCR
Yellow-billed Magpie	San Joaquin	Manteca	95336	10/4/05	10/17/05	RT-PCR
Yellow-billed Magpie	Stanislaus	Newman	95360	10/6/05	10/17/05	RT-PCR
Yellow-billed Magpie	Yolo	Davis	95616	10/9/05	10/17/05	RT-PCR

National Comments:

As of October 18, 2005, West Nile virus (WNV) activity has been detected in 48 states, New York City (NYC), and the District of Columbia (DC). At this time in 2004, a total of 47 states, Puerto Rico, and NYC had published WNV activity. A total of 2,316 human WNV cases have been reported in 2005 from 42 states. At this time in 2004, 2,151 cases had been reported from 40 states, DC, and NYC. In 2005, of the 2,163 cases with available data, the median age is 51 years (range: 3 months-92 years) and 1,227 (57%) of the cases are male. Eight hundred seventy-eight (41%) of the cases are neuroinvasive. There have been 66 reported WNV-related fatalities. The median age of the 78 decedents where data is available was 78 years (range: 44-96 years).

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TEST PROTOCOLS

Dead Birds:

All bird species, except chickens, doves, and pigeons, from all zip codes are currently being accepted for testing unless otherwise requested by a local agency. Positive RAMP and Vec-Tests from oral swabs from corvids are no longer confirmed. Other bird species are tested by singleplex RT-PCR and confirmed with a second primer set.

Dead birds are necropsied at the California Animal Health and Food Safety (CAHFS) Laboratories and kidney tissue from the dead birds are forward to the UC Davis Center for Vectorborne Diseases (CVEC) for WNV using the PCR Taqman assay. 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) 412-6254.

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), on specimens from sentinel chickens from geographic areas where WNV is detected for the first time. The VRDL also forwards selected serum to 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.

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) 412-6252, FAX (510) 412-6263, or email [ahom@dhs.ca.gov].