

California Arbovirus Surveillance Bulletin # 29

Week 44 Monday, November 8, 2004

Weekly Summary

California Weekly Summary Comments:

This week, California reported 12 new humans infected with West Nile virus (WNV). As of November 5, 2004, a total of **794** WNV infections have been reported from the following local health jurisdictions: Los Angeles (317), San Bernardino (188), Riverside (108), Orange (66), Kern (58), Fresno (14), Tehama (10), Butte (7), Shasta (6), Glenn (3), 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. Sixty-nine of the 794 WNV infections were initially detected in asymptomatic individuals through screening done at blood banks – 12 of these individuals later became symptomatic.

Of the 737 WNV cases with symptoms, 269 are classified as West Nile fever cases, 215 are classified as West Nile neuroinvasive disease, and 253 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 (458/737) 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 four WNV equine cases from Fresno (1), Placer (1), San Bernardino (1), and Yuba (1) counties. Currently, the YTD total stands at 533 positive cases. A total of 227 horses have died or euthanized from the WNV infections.

Dead Birds:

The hotline received 506 reported dead birds last week (YTD = 90,878). The UC Davis Center for Vectorborne Diseases (CVEC) reported 43 out of 66 dead birds submitted last week have tested positive for WNV by RT-PCR: an American goldfinch (1), an American kestrel (1), a barn owl (1), a common raven (1), Cooper's hawks (2), European starlings (3), fox sparrows (2), golden-crowned sparrows (4), house finches (2), a killdeer (1), a lesser goldfinch (1), a northern mockingbird (1), a Pacific-slope flycatcher (1), purple finches (2), red-shouldered hawks (2), a sharp-shinned hawk (1), Steller's jays (2), western scrub-jays (6), yellow-billed magpies (7), and yellow-rumped warblers (2). The killdeer, purple finch, and yellow-rumped warbler were the first of their species to test positive for WNV this year.

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).

A total of 66 dead birds were tested, thus 65.0% (43/66) 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 30 of 67 dead birds have tested positive for WNV. The positive birds were collected within the 17 counties of Alameda (1), Contra Costa (2), Fresno (1), Kern (3), Madera (1), Marin (1), Mendocino (2), Merced (3), Monterey (1), Orange (1), Plumas (1), Sacramento (2), San Diego (1), San Mateo (1), Santa Cruz (6), Sonoma (2), and Yolo (1).

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Mosquito Pools:

CVEC reported nine positive pools from Orange (8) and Placer (1) counties. To date, 20 CA counties have reported positive mosquito activities. WNV has been isolated from nine mosquito species: *Culex tarsalis* (315), *Cx. erythrothorax* (19), *Cx. quinquefasciatus*, (738) *Cx. stigmatosoma*, (41), *Cx. thriambus* (3), *Cx. pipiens* (13), *Anopheles hermsi* (1), *Ochlerotatus squamiger* (1) and *Oc. melanimon* (2). The YTD total stands at 1133 positive pools.

Chickens:

Five WNV chicken seroconversions were detected in five flocks from Kern (4) and Glenn (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 763 WNV seroconversions.

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	24	0	12	0	0	0	0	0	0
	YTD	1681	0	794	0	0	0	0	0	0
Suspect Equine Cases	Week	n/a	0	4	0	0	0	0	0	0
	YTD	1273	0	533	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	66	43
YTD	5,073	3,149

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
Chicken sera	Week	902*	5	0	0	0
	YTD	30,008	763	0	0	0
Mosquito pools	Week	182	9	0	0	0
	YTD	14,535	1133	0	0	0

*This total has been adjusted to include local agency submission

POSITIVES

Human Positives Reported:

Virus	Date of Onset	Status	Diagnosis	County	Imported/Local	From
WNV	10/04/04	Probable	West Nile Fever	Kern	Local	
WNV	10/11/04	Probable	West Nile Neuroinvasive Disease	Kern	Local	
WNV	10/25/04	Probable	West Nile Fever	Los Angeles	Local	
WNV	Unknown	Probable	Unknown	Los Angeles	Local	
WNV	Unknown	Probable	Unknown	Los Angeles	Local	
WNV	10/15/04	Probable	West Nile Neuroinvasive Disease	Los Angeles	Local	
WNV	Unknown	Probable	Unknown	Los Angeles	Local	
WNV	9/12/04	Probable	West Nile Neuroinvasive Disease	Orange	Local	
WNV	Unknown	Probable	West Nile Fever*	San Bernardino	Local	
WNV	Not Applicable	Probable	Asymptomatic – Blood Bank	Riverside	Local	
WNV	Not Applicable	Probable	Asymptomatic – Blood Bank	Los Angeles	Local	

*Indicates Fatality

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Chicken Seroconversions Reported by DHS:

Virus	County	State	Acode	City	Location
WNV	Glenn	CA	GLEN9701	Willows	N.E. Willows
Bands: 1807					Probable Seroconversion Date: 27-October-04
WNV	Kern	CA	KERN0104	Bakersfield	Old River
Bands: 1971					Probable Seroconversion Date: 25-October-04
WNV	Kern	CA	KERN0105	Bakersfield	Wible/Houghton
Bands: 1986					Probable Seroconversion Date: 25-October-04
WNV	Kern	CA	KERN106	Bakersfield	Oildale
Bands: 1992					Probable Seroconversion Date: 25-October-04
WNV	Kern	CA	KERN0110	Bakersfield	Kern River
Bands: 2017					Probable Seroconversion Date: 25-October-04

****Indicates a new flock

Virus Isolations From Mosquito Pools:

Virus	Mosquito species	Date Collected	ACODE	Pool #	City	County	Date Received
WNV	Culex quinquefasciatus	12-Oct	ORCO	1693	Santa Ana	Orange	22-Oct
WNV	Culex quinquefasciatus	14-Oct	ORCO	1706	Huntington Beach	Orange	22-Oct
WNV	Culex quinquefasciatus	14-Oct	ORCO	1707	Orange	Orange	22-Oct
WNV	Culex quinquefasciatus	15-Oct	ORCO	1731	Cypress	Orange	22-Oct
WNV	Culex quinquefasciatus	19-Oct	ORCO	1746	Anaheim	Orange	22-Oct
WNV	Culex quinquefasciatus	19-Oct	ORCO	1754	Anaheim	Orange	22-Oct
WNV	Culex quinquefasciatus	19-Oct	ORCO	1756	Anaheim	Orange	22-Oct
WNV	Culex quinquefasciatus	19-Oct	ORCO	1758	Santa Ana	Orange	22-Oct
WNV	Culex thriambus	14-Oct	PLCR	158	Auburn	Placer	26-Oct

Dead Birds Tested Positive for WNV last week

Species	County	City	ZIP	Date Collected	Date Tested
American Kestrel	Alameda	Fremont	94536	10/12/2004	10/25/2004
Fox Sparrow	Alameda	Berkeley	94703	10/12/2004	10/25/2004
House Finch	Calaveras	Valley Springs	95252	10/13/2004	10/25/2004
Cooper's Hawk	Contra Costa	El Cerrito	94530	10/12/2004	10/25/2004
Red-shouldered Hawk	Contra Costa	Martinez	94553	10/14/2004	10/25/2004
Fox Sparrow	Del Norte	Crescent City	95531	10/12/2004	10/25/2004
Lesser Goldfinch	Del Norte	Gasquet	95543	10/18/2004	10/25/2004
Northern Mockingbird	El Dorado	Shingle Springs	95682	10/14/2004	10/25/2004
European Starling	Fresno	Fresno	93728	10/12/2004	10/25/2004
Western Scrub-Jay	Fresno	Kingsburg	93631	10/13/2004	10/25/2004
Golden-crowned Sparrow	Humboldt	Eureka	95503	10/13/2004	10/25/2004
Purple Finch	Humboldt	Arcata	95521	10/14/2004	10/25/2004
American Goldfinch	Inyo	Bishop	93514	10/18/2004	10/25/2004

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Yellow-Rumped Warbler	Inyo	Bishop	93514	10/18/2004	10/25/2004
Common Raven	Los Angeles	Agoura Hills	91301	10/14/2004	10/25/2004
European Starling	Mariposa	Coulterville	95311	10/14/2004	10/25/2004
Golden-crowned Sparrow	Merced	Winton	95388	10/12/2004	10/25/2004
Killdeer	Merced	Merced	95340	10/14/2004	10/25/2004
Purple Finch	Merced	Gustine	95322	10/14/2004	10/25/2004
Cooper's Hawk	Orange	Irvine	92606	10/7/2004	10/25/2004
Pacific-slope Flycatcher	Orange	Laguna Beach	92651	10/5/2004	10/25/2004
Sharp-shinned Hawk	Placer	Newcastle	95658	10/12/2004	10/25/2004
Yellow-billed Magpie	Placer	Roseville	95661	10/11/2004	10/25/2004
Steller's Jay	Sacramento	Elk Grove	95624	10/13/2004	10/25/2004
Yellow-billed Magpie	Sacramento	Sacramento	95841	10/14/2004	10/25/2004
European Starling	San Benito	Hollister	95023	10/20/2004	10/25/2004
Red-shouldered Hawk	San Diego	Encinitas	92024	10/14/2004	10/25/2004
Golden-crowned Sparrow	San Francisco	San Francisco	94127	10/14/2004	10/25/2004
Yellow-billed Magpie	San Joaquin	Stockton	95206	10/18/2004	10/25/2004
Barn Owl	Santa Clara	Palo Alto	94303	10/12/2004	10/25/2004
Golden-crowned Sparrow	Santa Cruz	Watsonville	95076	10/19/2004	10/25/2004
Steller's Jay	Santa Cruz	Boulder Creek	95006	10/13/2004	10/25/2004
House Finch	Sonoma	Petaluma	94954	10/20/2004	10/25/2004
Yellow-Rumped Warbler	Sonoma	Petaluma	94954	10/20/2004	10/25/2004
Western Scrub-Jay	Stanislaus	Hughson	95326	10/12/2004	10/25/2004
Western Scrub-Jay	Stanislaus	Modesto	95357	10/12/2004	10/25/2004
Yellow-billed Magpie	Stanislaus	Ceres	95307	10/13/2004	10/25/2004
Yellow-billed Magpie	Stanislaus	Ceres	95307	10/13/2004	10/25/2004
Yellow-billed Magpie	Stanislaus	Turlock	95380	10/19/2004	10/25/2004
Yellow-billed Magpie	Stanislaus	Waterford	95386	10/18/2004	10/25/2004
Western Scrub-Jay	Ventura	Oxnard	93030	10/14/2004	10/25/2004
Western Scrub-Jay	Yolo	West Sacramento	95691	10/18/2004	10/25/2004
Western Scrub-Jay	Yuba	Browns Valley	95918	10/14/2004	10/25/2004

***Indicates Vec-Test

National Comments:

As of November 2, 2004, a total of 2241 human WNV cases have been reported in 40 states, DC and New York City. At this time in 2003, 8219 cases had been reported from 44 states, DC, and NYC. Of the 2211 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 28% at this time in 2003. There have been 76 WNV-related fatalities nationwide in 2004. The median age of the 76 fatalities where data were available was 74 years (range: 43-95 years).

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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].