

California Arbovirus Surveillance Bulletin # 20

Week 26 Friday, July 1, 2005

Weekly Summary

Comments:

Humans:

This week, California reported its first two human cases of WNV in 2005. A 47-year-old Tulare County man experienced fever and headache in early June. He was never hospitalized and is currently recovering. A Riverside County youth was the second individual reported infected with WNV. The youth, who experienced an onset of symptoms in mid-June, was hospitalized but is currently recovering at home.

Horses:

No additional horse cases were reported this week from the California Department of Food & Agriculture. The year-to-date total stands at three positive for WNV.

Dead Birds:

This week the hotline received 3,030 dead bird reports, for a YTD total of 26,749 reports. 108 out of 390 (27.7%) dead birds collected from 49 counties tested positive for WNV this week.

- Fifty-seven out of 302 (18.9%) dead birds tested positive via RT-PCR.
- Three out of four (75%) corvids tested positive via VecTest.
- Thirteen out of 13 (100 %) corvids tested positive via RAMP.
- Thirty-five out of 71 (49.3%) dead birds tested positive via immunohistochemistry.

The WNV positive dead birds were collected from the following counties: Butte, Calaveras, Fresno, Kern, Kings, Los Angeles, Madera, Merced, Orange, Placer, Riverside, San Mateo, Santa Barbara, Santa Clara, Stanislaus, Tulare, Tuolumne, Ventura, and Yolo. **This is the first indication of WNV activity in Butte, Calaveras, Tuolumne, and Ventura counties in 2005.**

The following bird species tested positive for WNV: American crow (67); American robin (4); canary (2); European starling (1); house finch (1); house sparrow (1); northern mockingbird (2); western scrub-jay (27); yellow-billed magpie (3). See "WNV Positive Dead Birds" table for details.

Since January 1, 2005, 257 of 3,553 (7.2%) dead birds have tested positive for WNV.

Mosquito Pools:

CVEC reported 45 positive mosquito pools from the following counties: Los Angeles (30), Kern (3), Orange (2), Riverside (4), Santa Barbara (1), Sutter (4), and Tulare (1). The positive pools from Santa Barbara and Tulare counties are the first indication of WNV in 2005. The YTD total for the State is 86. CVEC also reported 1 positive WEE pool in Riverside. The YTD total for the State is 17.

Sentinel Chickens:

VRDL reported that the previous flavivirus positive chicken (Bulletin # 18) from Lake Elsinore (Riverside County) tested positive for WNV. This brings the year-to-date total to four WNV seroconversions. Furthermore, VRDL reported that 23 chickens from four different flocks in Imperial County have seroconverted to western equine encephalomyelitis (WEE). This is the first reporting of WEE seroconversions in 2005.

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.

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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	51	0	2	0	0	0	0	0	0
	YTD	588	0	2	0	0	0	0	0	0
Horses Tested	Week	27	0	0	0	0	0	0	0	0
	YTD	201	0	3	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	390	108
YTD	3,553	257

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
Chicken sera	Week	987*	1	23	0	0
	YTD	14281	4	23	0	0
Mosquito pools	Week	589	45	1	0	0
	YTD	7644	86	17	0	0

*Total has been adjusted to include local agency submission

Virus Isolations From Mosquito Pools:

Virus	Mosquito species	Date Collected	ACODE	Pool #	City	County	Date Received
WNV	Cx. tarsalis	6/19/05	COAV	1794	Mecca	Riverside	6/29/05
WNV	Cx. quinquefasciatus	6/23/05	COAV	1855	Rancho Mirage	Riverside	6/29/05
WNV	Cx. quinquefasciatus	6/28/05	DLTA	37	Visalia	Tulare	6/29/05
WNV	Cx. quinquefasciatus	6/13/05	GRLA	648	Long Beach	Los Angeles	6/23/05
WNV	Cx. quinquefasciatus	6/13/05	GRLA	649	Long Beach	Los Angeles	6/23/05
WNV	Cx. tarsalis	6/20/05	GRLA	754	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/21/05	GRLA	758	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/21/05	GRLA	761	Long Beach	Los Angeles	6/29/05
WNV	Cx. stigmatosoma	6/21/05	GRLA	763	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/21/05	GRLA	764	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/21/05	GRLA	768	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/21/05	GRLA	771	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/21/05	GRLA	781	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/22/05	GRLA	804	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/22/05	GRLA	806	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/22/05	GRLA	818	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/22/05	GRLA	820	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/22/05	GRLA	821	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/22/05	GRLA	825	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/22/05	GRLA	826	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/22/05	GRLA	830	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/23/05	GRLA	833	Long Beach	Los Angeles	6/29/05

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WNV	Cx. quinquefasciatus	6/23/05	GRLA	834	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/23/05	GRLA	840	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/23/05	GRLA	841	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/23/05	GRLA	843	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/23/05	GRLA	844	Long Beach	Los Angeles	6/29/05
WNV	Cx. tarsalis	6/23/05	GRLA	845	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/25/05	GRLA	851	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/25/05	GRLA	857	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/25/05	GRLA	859	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/25/05	GRLA	863	Long Beach	Los Angeles	6/29/05
WNV	Cx. quinquefasciatus	6/25/05	GRLA	864	Long Beach	Los Angeles	6/29/05
WNV	Cx. tarsalis	6/21/05	KERN	184	Old River	Kern	6/28/05
WNV	Cx. tarsalis	6/21/05	KERN	197	Bakersfield	Kern	6/28/05
WNV	Cx. tarsalis	6/21/05	KERN	5406	Buttonwillow	Kern	6/28/05
WNV	Cx. quinquefasciatus	6/23/05	ORCO	1980	Irvine	Orange	6/28/05
WNV	Cx. tarsalis	6/23/05	ORCO	1994	Irvine	Orange	6/28/05
WNV	Cx. tarsalis	6/21/05	RIVR	179	Nuevo	Riverside	6/24/05
WNV	Cx. tarsalis	6/21/05	RIVR	191	San Jacinto	Riverside	6/24/05
WNV	Cx. tarsalis	6/23/05	SBCD	122	N/A	Santa Barbara	6/28/05
WNV	Cx. tarsalis	6/27/05	SUYA	49	Pleasant Grove	Sutter	6/28/05
WNV	Cx. tarsalis	6/27/05	SUYA	52	Pleasant Grove	Sutter	6/28/05
WNV	Cx. pipiens	6/27/05	SUYA	57	Tudor	Sutter	6/28/05
WNV	Cx. tarsalis	6/27/05	SUYA	71	Sutter National Wild	Sutter	6/28/05
WEE	Cx. tarsalis	6/23/05	COAV	1873	Mecca	Riverside	6/29/05

Chicken Seroconversions Reported by DHS:

	Virus	County	State	Acode	City	Location
****	WNV	Riverside	CA	NWST6666	Lake Elsinore	Lake Elsinore
	Band: 6189					Probable Seroconversion Date: 7-June-05
****	WEE	Imperial	CA	IMPR0002	Seeley	Campbell's Site
	Band: 5836, 5837, 5838, 5840, 5841, 5844, 5845					Probable Seroconversion Date: 8-June-05
	WEE	Imperial	CA	IMPR0002	Seeley	Campbell's Site
	Band: 5839, 5843					Probable Seroconversion Date: 20-June-05
****	WEE	Imperial	CA	IMPR0003	El Centro	Nichol's Flock
	Band: 5826, 5827, 5828, 5832, 5833					Probable Seroconversion Date: 8-June-05
	WEE	Imperial	CA	IMPR0003	El Centro	Nichol's Flock
	Band: 5831					Probable Seroconversion Date: 20-June-05
****	WEE	Imperial	CA	IMPR0013	Brawley	Brawley
	Band: 5851, 5855					Probable Seroconversion Date: 8-June-05
	WEE	Imperial	CA	IMPR0013	Brawley	Brawley
	Band: 5848					Probable Seroconversion Date: 20-June-05
****	WEE	Imperial	CA	IMPR0016	Holtville	Zenos's Site
	Band: 5856, 5858, 5859, 5862					Probable Seroconversion Date: 8-June-05
	WEE	Imperial	CA	IMPR0016	Holtville	Zenos's Site
	Band: 5865					Probable Seroconversion Date: 20-June-05

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WNV Positive Dead Birds Reported June 25- July 1, 2005

Species	County	City	Zip	Date Collected	Date Tested	Tested By
American Crow	Fresno	Clovis	93611	6/15/2005	6/27/05	RT-PCR
American Crow	Kings	Hanford	93230	6/20/05	6/20/05	RAMP
American Crow	Kings	Hanford	93230	6/22/05	6/22/05	RAMP
American Crow	Kings	Hanford	93230	6/22/05	6/22/05	RAMP
American Crow	Kings	Hanford	93230	6/23/05	6/23/05	RAMP
American Crow	Los Angeles	Van Nuys	91406	6/27/05	6/27/05	VecTest
American Crow	Madera	Madera	93637	6/22/05	6/27/05	RT-PCR
American Crow	Merced	Livingston	95334	6/20/05	6/27/05	RT-PCR
American Crow	Orange	Costa Mesa	92626	6/6/05	6/6/05	IHC
American Crow	Orange	Huntington Beach	92649	6/7/05	6/7/05	IHC
American Crow	Orange	Huntington Beach	92647	6/8/05	6/8/05	IHC
American Crow	Orange	Huntington Beach	92647	6/8/05	6/8/05	IHC
American Crow	Orange	Huntington Beach	92647	6/8/05	6/8/05	IHC
American Crow	Orange	Huntington Beach	92646	6/9/05	6/9/05	IHC
American Crow	Orange	Orange	92865	6/9/05	6/9/05	IHC
American Crow	Orange	Fountain Valley	92708	6/9/05	6/9/05	IHC
American Crow	Orange	Fountain Valley	92708	6/9/05	6/9/05	IHC
American Crow	Orange	Huntington Beach	92646	6/9/05	6/9/05	IHC
American Crow	Orange	Westminster	92683	6/10/05	6/10/05	IHC
American Crow	Orange	Fountain Valley	92708	6/10/05	6/10/05	IHC
American Crow	Orange	Huntington Beach	92646	6/10/05	6/10/05	IHC
American Crow	Orange	Fountain Valley	92708	6/10/05	6/10/05	IHC
American Crow	Orange	Santa Ana	92704	6/10/05	6/10/05	IHC
American Crow	Orange	Costa Mesa	92626	6/13/05	6/13/05	IHC
American Crow	Orange	Huntington Beach	92649	6/13/05	6/13/05	IHC
American Crow	Orange	Huntington Beach	92646	6/13/05	6/13/05	IHC
American Crow	Orange	Fountain Valley	92708	6/13/05	6/13/05	IHC
American Crow	Orange	Fountain Valley	92708	6/13/05	6/13/05	IHC
American Crow	Orange	Cypress	90630	6/13/05	6/13/05	IHC
American Crow	Orange	Orange	92869	6/13/05	6/13/05	IHC
American Crow	Orange	Cypress	90630	6/13/05	6/13/05	IHC
American Crow	Orange	Huntington Beach	92646	6/13/05	6/13/05	IHC
American Crow	Orange	Huntington Beach	92646	6/14/05	6/14/05	IHC
American Crow	Orange	Huntington Beach	92647	6/14/05	6/14/05	IHC
American Crow	Orange	Fountain Valley	92708	6/14/05	6/14/05	IHC
American Crow	Orange	Fountain Valley	92708	6/14/05	6/14/05	IHC
American Crow	Orange	Rossmoor	90720	6/14/05	6/14/05	IHC
American Crow	Orange	Fountain Valley	92708	6/14/05	6/14/05	IHC
American Crow	Orange	Garden Grove	92845	6/15/05	6/15/05	IHC
American Crow	Orange	Rossmoor	90720	6/15/05	6/15/05	IHC
American Crow	Orange	Huntington Beach	92646	6/15/05	6/15/05	IHC
American Crow	Orange	Huntington Beach	92647	6/15/05	6/15/05	IHC
American Crow	Placer	Roseville	95747	6/17/05	6/17/05	RT-PCR
American Crow	Riverside	Nuevo	92567	6/9/05	6/27/05	RT-PCR
American Crow	Riverside	Cherry Valley	92223	6/13/05	6/27/05	RT-PCR
American Crow	Riverside	Menifee	92584	6/14/05	6/27/05	RT-PCR

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American Crow	Riverside	Calimesa	92320	6/14/05	6/27/05	RT-PCR
American Crow	Riverside	Calimesa	92320	6/14/05	6/27/05	RT-PCR
American Crow	Riverside	Sun City	92586	6/18/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93111	6/6/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93117	6/9/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93117	6/9/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93117	6/9/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93117	6/10/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93117	6/15/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93117	6/17/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93117	6/17/05	6/27/05	RT-PCR
American Crow	Santa Barbara	Goleta	93117	6/17/05	6/27/05	RT-PCR
American Crow	Santa Clara	San Jose	95136	6/15/05	6/15/05	VecTest
American Crow	Santa Clara	San Jose	95136	6/16/05	6/16/05	VecTest
American Crow	Stanislaus	Modesto	95355	6/20/05	6/27/05	RT-PCR
American Crow	Tulare	Visalia	93292	6/16/05	6/27/05	RT-PCR
American Crow	Tulare	Visalia	93277	6/17/05	6/27/05	RT-PCR
American Crow	Tulare	Visalia	93277	6/19/05	6/27/05	RT-PCR
American Crow	Tulare	Visalia	93277	6/20/05	6/27/05	RT-PCR
American Crow	Tulare	Visalia	93291	6/22/05	6/27/05	RT-PCR
American Crow	Tulare	Visalia	93277	6/22/05	6/27/05	RT-PCR
American Robin	Fresno	Clovis	93619	6/20/05	6/27/05	RT-PCR
American Robin	Kern	Bakersfield	93309	6/16/05	6/27/05	RT-PCR
American Robin	Kern	Bakersfield	93309	6/16/05	6/27/05	RT-PCR
American Robin	Stanislaus	Turlock	95382	6/20/05	6/27/05	RT-PCR
Canary	Kings	Hanford	93230	6/21/05	6/27/05	RT-PCR
Canary	Kings	Hanford	93230	6/21/05	6/27/05	RT-PCR
European Starling	Calaveras	San Andreas	95249	6/20/05	6/27/05	RT-PCR
House Finch	Tulare	Visalia	93277	6/22/05	6/27/05	RT-PCR
House Sparrow	Orange	Huntington Beach	92649	6/8/05	6/8/05	IHC
Mockingbird	San Mateo	Burlingame	94010	6/10/05	6/27/05	RT-PCR
Northern Mockingbird	Ventura	Moorpark	93021	6/8/05	6/27/05	RT-PCR
Western Scrub-Jay	Butte	Paradise	95969	6/20/05	6/27/05	RT-PCR
Western Scrub-Jay	Fresno	Clovis	93619	6/22/05	6/22/05	RAMP
Western Scrub-Jay	Fresno	Clovis	93619	6/24/05	6/24/05	RAMP
Western Scrub-Jay	Fresno	Clovis	93619	6/15/05	6/27/05	RT-PCR
Western Scrub-Jay	Kings	Hanford	93230	6/19/05	6/19/05	RAMP
Western Scrub-Jay	Kings	Hanford	93230	6/20/05	6/20/05	RAMP
Western Scrub-Jay	Kings	Hanford	93230	6/21/05	6/21/05	RAMP
Western Scrub-Jay	Kings	Hanford	93230	6/21/05	6/21/05	RAMP
Western Scrub-Jay	Kings	Hanford	93230	6/21/05	6/21/05	RAMP
Western Scrub-Jay	Kings	Hanford	93230	6/21/05	6/21/05	RAMP
Western Scrub-Jay	Kings	Hanford	93230	6/22/05	6/22/05	RAMP
Western Scrub-Jay	Kings	Hanford	93230	6/22/05	6/22/05	RAMP
Western Scrub-Jay	Kings	Hanford	93230	6/10/05	6/27/05	RT-PCR
Western Scrub-Jay	Kings	Hanford	93230	6/13/05	6/27/05	RT-PCR
Western Scrub-Jay	Kings	Hanford	93230	6/15/05	6/27/05	RT-PCR
Western Scrub-Jay	Kings	Hanford	93230	6/17/05	6/27/05	RT-PCR
Western Scrub-Jay	Kings	Hanford	93230	6/20/05	6/27/05	RT-PCR
Western Scrub-Jay	Merced	Livingston	95334	6/21/05	6/27/05	RT-PCR
Western Scrub-Jay	Riverside	Banning	92220	6/15/05	6/27/05	RT-PCR

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Western Scrub-Jay	Stanislaus	Modesto	95350	6/21/05	6/27/05	RT-PCR
Western Scrub-Jay	Tulare	Visalia	93277	6/15/05	6/27/05	RT-PCR
Western Scrub-Jay	Tulare	Visalia	93292	6/16/05	6/27/05	RT-PCR
Western Scrub-Jay	Tulare	Visalia	93291	6/17/05	6/27/05	RT-PCR
Western Scrub-Jay	Tulare	Visalia	93277	6/17/05	6/27/05	RT-PCR
Western Scrub-Jay	Tulare	Visalia	93277	6/19/05	6/27/05	RT-PCR
Western Scrub-Jay	Tulare	Visalia	93277	6/21/05	6/27/05	RT-PCR
Western Scrub-Jay	Tuolumne	Sonora	95370	6/20/05	6/27/05	RT-PCR
Western Scrub-Jay	Yolo	Davis	95616	6/21/05	6/27/05	RT-PCR
Yellow-billed Magpie	Merced	Livingston	95334	6/16/05	6/27/05	RT-PCR
Yellow-billed Magpie	Merced	Merced	95340	6/22/05	6/27/05	RT-PCR
Yellow-billed Magpie	Stanislaus	Modesto	95350	6/16/05	6/27/05	RT-PCR

National Comments:

As of June 28, 2005, West Nile virus (WNV) activity has been detected in the following 23 states: Alabama, Arkansas, Arizona, California, Florida, Georgia, Illinois, Indiana, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New Mexico, New York, Ohio, South Dakota Tennessee, Texas, Wisconsin, and Wyoming. In addition to California, human WNV cases have also been reported in Kansas (1), Missouri (1), South Dakota (4), and Texas (1).

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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 Vec-Tests from oral swabs from crows 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].