

California Arbovirus Surveillance Bulletin # 33

Week 40 Friday, October 6, 2006

Weekly Summary

COMMENTS

Humans

This week, 5 new human cases of West Nile virus (WNV) were reported from Kern, Lake, Sutter, and Tulare counties. As of October 3, 2006, a total of 242 human West Nile virus (WNV) cases have been identified from the following 36 counties: Alameda (1), Butte (30), Colusa (2), Contra Costa (8), El Dorado (1), Fresno (8), Glenn (12), Imperial (1), Kern (47), Kings (1), Lake (2), Los Angeles (10), Marin (1), Merced (2), Modoc (2), Mono (1), Napa (1), Nevada (1), Orange (5), Placer (7), Riverside (3), Sacramento (11), San Bernardino (1), San Diego (1), San Joaquin (8), San Luis Obispo (1), Santa Clara (5), Shasta (2), Solano (6), Stanislaus (10), Sutter (12), Tehama (3), Tulare (5), Ventura (3), Yolo (25), and Yuba (3). Of the 242 WNV cases, 66 (27%) have been classified as West Nile neuroinvasive disease, and 168 (69%) as West Nile fever. The median age of all cases is 50 years (range: 8-86 years). Of the cases, 154 (64%) are male. Four WNV-related fatalities have been reported in 2006, from Butte (2) and Contra Costa (2). Twenty-eight WNV-positive blood donation samples have been identified to date; 14 of the individuals reported symptoms and were reclassified as cases.

Horses

The California Department of Food & Agriculture reported 3 new equine cases of WNV this week from San Joaquin (1), San Luis Obispo (1), and Santa Clara (1) counties; this is Santa Clara County's first reported case of WNV in a horse this year.

To date in 2006, a total of 52 equine cases of WNV have been reported from the following 22 counties: Fresno (5); Kern (3); Lake (2); Lassen (7); Marin (1), Mendocino (2); Merced (3); Modoc (2); Placer (1); Sacramento (1); San Diego (1); San Joaquin (2); San Luis Obispo (5); Santa Barbara (2); Santa Clara (1); Shasta (4); Sonoma (1); Stanislaus (3); Sutter (1); Tehama (1); Tulare (2); and Yuba (2). Twenty-three have died or were euthanized.

Dead Birds

This week, 50 out of 143 (35.0%) dead birds tested positive for WNV.

- 30/116 dead birds tested positive via RT-PCR.
- 11/15 dead birds tested positive via VecTest.
- 9/12 dead birds tested positive via RAMP.

The WNV positive dead birds were collected from 23 counties: Alameda (2); Contra Costa (6); Fresno (2); Kings (1); Lake (1); Los Angeles (6); Merced (1); Monterey (2); Napa (1); Nevada (1); Sacramento (2); San Bernardino (3); San Diego (1); San Francisco (1); San Joaquin (1); Santa Barbara (4); Santa Clara (2); Shasta (6); Siskiyou (1); Solano (1); Stanislaus (1); Tulare (1); and Ventura (3). **This is the first indication of WNV activity in Siskiyou County this year.**

To date in 2006, 1,212 out of 5,044 (24.0%) dead birds have tested positive for WNV from the following 52 counties: Alameda (31) Amador (2); Butte (40); Calaveras (2); Colusa (9); Contra Costa (79); El Dorado (17); Fresno (70); Glenn (35); Humboldt (2); Inyo (8); Kern (22); Kings (12); Lake (7); Lassen (3); Los Angeles (70); Madera (2); Marin (5); Mariposa (1); Mendocino (7); Merced (34); Modoc (2); Mono (1); Monterey (5); Napa (4); Nevada (4); Orange (35); Placer (11); Riverside (1); Sacramento (83); San Benito (1); San Bernardino (25); San Diego (12); San Francisco (3); San Joaquin (45); San Luis Obispo (9); San Mateo (5); Santa Barbara (10); Santa Clara (202); Santa Cruz (4); Shasta (72); Siskiyou (1); Solano (16); Sonoma (11); Stanislaus (68); Sutter (2); Tehama (12); Trinity (1); Tulare (9); Ventura (47); Yolo (52) and Yuba (1).

Tree Squirrels: This week, 1 tree squirrel tested positive for West Nile virus. To date in 2006, 25 of 108 (24%) dead tree squirrels have tested positive from 9 counties: Alameda (2), Butte (1), Contra Costa (13), Los Angeles (1), Marin (1), San Bernardino (2), San Mateo (2), Santa Clara (1), and Shasta (2).

The California Department of Health Services has received a total of 41,762 dead bird reports (hotline and website) this year.

Mosquito Pools

This week, CVEC reported 16 WNV positive mosquito pools from Kern (1), Kings (3), Los Angeles (4), Orange (2), and Riverside (6) counties. In addition, 4 WNV positive pools were reported by local agencies from Sacramento (3) and San Joaquin (1) counties.

In 2006, 814 mosquito pools have tested positive for WNV from 34 counties: Alameda (9), Butte (1), Calaveras (2), Contra Costa (18); El Dorado (2); Fresno (39); Glenn (1); Imperial (13); Inyo (3); Kern (229); Kings (34); Lake (12); Lassen (3); Los Angeles (71); Madera (4); Marin (3); Merced (5); Orange (11); Placer (23); Riverside (27); Sacramento (34); San Bernardino (24), San Joaquin (39); Santa Barbara (1); Santa Clara (9); Shasta (7); Solano (1); Sonoma (2); Stanislaus (53); Sutter (55); Tulare (8); Ventura (2); Yolo (63); and Yuba (6). 18 mosquito pools from Kern County have tested positive for western equine encephalomyelitis virus (WEE) this year.

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Sentinel Chickens

This week, VRDL reported 19 WNV seroconversions from 7 counties: Imperial (7); Kern (3); Lake (2); Los Angeles (2); San Bernardino (2); Santa Clara (1); and Stanislaus (2). **This is the first WNV seroconversion for Santa Clara County in 2006.** In addition, four flavivirus seroconversions were detected in chickens from Shasta (1) and Stanislaus (3) counties. Two WEE seroconversions were confirmed in chickens from a flock in Kern County.

In 2006, 568 WNV seroconversions have been confirmed in chickens from Butte (47), Colusa (1), Contra Costa (25), Fresno (30), Glenn (11), Imperial (49), Kern (94), Kings (23), Lake (6), Los Angeles (20), Madera (7), Marin (2), Merced (14), Placer* (11), Riverside (15), Sacramento* (13), San Bernardino (19), San Joaquin (19), Santa Clara (1), Shasta (3), Solano (20), Stanislaus (39), Sutter (36), Tehama (3), Tulare (25), Ventura (1), Yolo* (25), and Yuba (9) counties. WEE antibodies have been detected in 11 chickens from Kern (9) and Riverside (2) counties this year.

*Total has been adjusted to include previously reported flavivirus positives

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	**	0	5	0	0	0	0	0	0
	YTD	1212	0	242	0	0	0	0	0	0
Horses Tested	Week	16	0	3	0	0	0	0	0	0
	YTD	409	0	52	0	0	0	0	0	0

**Data not available this week

Dead Birds

	Number Tested	WNV Positive
Week	143	50
YTD	5044	1212

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Flavivirus* Positive
Chicken sera	Week	749	19	2	0	4
	YTD	26,594	568	11	0	15
Mosquito pools	Week	673	16	0	0	0
	YTD	14,172	645	18	0	0

*Does not include those later confirmed as WNV or SLE

Mosquito pools tested by local agencies

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Other Positive
RT-PCR	Week	211	3	0	0	0
	YTD	5385	100	0	0	0
RAMP	Week	91	1	N/A	N/A	N/A
	YTD	2106	69	--	--	--
VecTest	Week	0	0	N/A	N/A	N/A
	YTD	9	0	--	--	--

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POSITIVES

Human Cases

West Nile Virus Cases* Reported October 2 – October 6, 2006							
ID	Report Date	County ¹	Age	Sex	Clin Pres ²	Onset Date	WNV Fatality?
06-0239	10/02/06	Tulare	77	M	WNND	9/09/06	No
06-0240	10/03/06	Lake	59	F	WNF	n/a	No
06-0241	10/03/06	Sutter	>18	n/a	WNND	9/16/06	No
06-0242	10/03/06	Kern	77	F	WNND	9/11/06	
06-0243	10/03/06	Kern	45	M	WNF	9/13/06	

* Cases of WNV illness in California residents with infection likely acquired in California

¹ County of residence

² Clinical presentation of WNV: WNF=fever; WNND=neuroinvasive

^ Initially identified as blood donor, later developed symptoms

Mosquito Pools

Site Code	County	City	Pool #	Species	Collected	Tested	Virus
AFSB0102	Kern	Bakersfield	5928	Cx quinquefasciatus	9/27/2006	10/3/2006	WN
COAV0033	Riverside	Mecca	1385	Cx tarsalis	9/22/2006	10/6/2006	WN
COAV0034	Riverside	Mecca	1390	Cx tarsalis	9/22/2006	10/6/2006	WN
COAV0034	Riverside	Mecca	1456	Cx tarsalis	9/24/2006	10/6/2006	WN
COAV0034	Riverside	Mecca	1490	Cx tarsalis	9/26/2006	10/5/2006	WN
GRLA2636	Los Angeles	Van Nuys	5591	Cx quinquefasciatus	9/20/2006	10/4/2006	WN
GRLA2650	Los Angeles	Encino	5593	Cx quinquefasciatus	9/20/2006	10/4/2006	WN
GRLA2650	Los Angeles	Encino	5594	Cx quinquefasciatus	9/20/2006	10/6/2006	WN
GRLA2655	Los Angeles	Encino	5595	Cx quinquefasciatus	9/20/2006	10/4/2006	WN
KNGS3010	Kings	Hanford	413	Cx quinquefasciatus	9/27/2006	10/6/2006	WN
KNGS4005	Kings	Hanford	398	Cx quinquefasciatus	9/27/2006	10/3/2006	WN
KNGS4007	Kings	Lemoore	416	Cx quinquefasciatus	9/27/2006	10/3/2006	WN
ORCO0002	Orange	Fullerton	773	Cx quinquefasciatus	9/27/2006	10/4/2006	WN
ORCO0017	Orange	Orange	767	Cx quinquefasciatus	9/26/2006	10/4/2006	WN
RIVR0027	Riverside	San Jacinto	620	Cx tarsalis	10/4/2006	10/6/2006	WN
RIVR0047	Riverside	Hemet	585	Cx tarsalis	9/27/2006	10/6/2006	WN
SAYO4118*	Sacramento		3655	Cx tarsalis	9/28/2006	9/29/2006	WN
SAYO4251*	Sacramento	Elk Grove	3624	Cx tarsalis	9/28/2006	9/29/2006	WN
SAYO4260*	Sacramento	Elk Grove	3636	Cx tarsalis	9/28/2006	9/29/2006	WN
SJCM8029^	San Joaquin	Farmington	7516	Cx pipiens	10/3/2006	10/5/2006	WN

*Local agency RT-PCR

^Local agency RAMP

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Sentinel Chicken Seroconversions

Site Code	County	Nearest City	Date Bled	Antigen	BAND 01	BAND 02	BAND 03	BAND 04	BAND 05	BAND 06
IMPR0013	IMPERIAL	Calipatria	8/22/06	WNV	1757	1761	1762	1763	1764	1765
IMPR0013	IMPERIAL	Calipatria	9/5/06	WNV	1756					
KERN0101	KERN	Lost Hills	9/25/06	WNV	1964					
KERN0111	KERN	Arvin	9/25/06	WNV	1966					
KERN0112	KERN	Wasco	9/25/06	WNV	1877					
KERN0113	KERN	Bakersfield	9/25/06	WEE	1945	1980				
LAKE1000	LAKE	Upper Lake	9/27/06	WNV	2211	2217				
ANTV5662	LOS ANGELES	Lancaster	9/20/06	WNV	1068	1069				
SANB0007	SAN BERNARDINO	Fontana	9/7/06	WNV	2876	2877				
STCL0028	SANTA CLARA	Palo Alto	8/1/06	WNV	3219					
SHAS9701	SHASTA	Cottonwood	9/28/06	Flav	3287					
TRLK0403	STANISLAUS	Newman	9/25/06	Flav	3558	3591	3826			
TRLK9701	STANISLAUS	Grayson	9/25/06	WNV	3525	3831				

WNV Positive Dead Birds

County	City	ZIP	Species	Date Collected	Date Tested	Tested By
Alameda	Livermore	94550	American Crow	09/28/06	09/28/06	RAMP
Alameda	Union City	94587	Dark-eyed Junco	09/13/06	10/02/06	RT-PCR
Contra Costa	Antioch	94509	American Crow	09/25/06	09/25/06	RAMP
Contra Costa	Concord	94519	Western Scrub-Jay	09/26/06	09/26/06	RAMP
Contra Costa	Concord	94518	Western Scrub-Jay	09/27/06	09/27/06	RAMP
Contra Costa	Martinez	94553	Western Scrub-Jay	09/24/06	10/02/06	RT-PCR
Contra Costa	Walnut Creek	94596	Western Scrub-Jay	09/29/06	09/29/06	RAMP
Contra Costa	Walnut Creek	94595	Western Scrub-Jay	09/21/06	10/02/06	RT-PCR
Fresno	Dinuba	93618	Western Scrub-Jay	09/20/06	10/02/06	RT-PCR
Fresno	Prather	93651	Oak Titmouse	09/21/06	10/02/06	RT-PCR
Kings	Hanford	93230	American Crow	09/19/06	10/02/06	RT-PCR
Lake	Kelseyville	95451	Western Scrub-Jay	09/20/06	10/02/06	RT-PCR
Los Angeles	Burbank	91505	American Crow	09/21/06	10/02/06	RT-PCR
Los Angeles	Los Angeles	90020	Common Raven	09/25/06	09/25/06	VecTest
Los Angeles	Northridge	91324	American Crow	09/26/06	09/26/06	VecTest
Los Angeles	Tarzana	91356	Finch	09/22/06	10/02/06	RT-PCR
Los Angeles	Westlake Village	91362	Western Scrub-Jay	09/21/06	10/02/06	RT-PCR
Los Angeles	Woodland Hills	91364	American Crow	09/27/06	09/27/06	VecTest
Merced	Atwater	95301	Yellow-billed Magpie	09/21/06	10/02/06	RT-PCR
Monterey	Monterey	93940	Red-tailed Hawk	09/25/06	10/02/06	RT-PCR
Monterey	Prunedale	93907	Western Scrub-Jay	09/14/06	10/02/06	RT-PCR

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Napa	Napa	94558	American Crow	09/26/06	09/26/06	VecTest
Nevada	Penn Valley	95946	Western Scrub-Jay	09/26/06	10/02/06	RT-PCR
Sacramento	North Highlands	95660	Cockatiel	09/20/06	10/02/06	RT-PCR
Sacramento	Sacramento	95822	American Crow	09/20/06	10/02/06	RT-PCR
San Bernardino	Chino	91710	American Crow	09/28/06	09/28/06	RAMP
San Bernardino	Rancho Cucamonga	91730	American Crow	09/28/06	09/28/06	RAMP
San Bernardino	Running Springs	92382	Yellow Warbler	09/13/06	10/02/06	RT-PCR
San Diego	Lemon Grove	91945	American Crow	09/25/06	09/25/06	VecTest
San Francisco	San Francisco	94122	Mourning Dove	09/18/06	10/02/06	RT-PCR
San Joaquin	Stockton	95209	Western Scrub-Jay	09/18/06	09/18/06	RAMP
Santa Barbara	Los Olivos	93441	American Crow	09/13/06	10/02/06	RT-PCR
Santa Barbara	Montecito	93108	Sharp-shinned Hawk	09/25/06	10/02/06	RT-PCR
Santa Barbara	Santa Ynez	93460	American Crow	09/14/06	10/02/06	RT-PCR
Santa Barbara	Santa Ynez	93460	American Crow	09/17/06	10/02/06	RT-PCR
Santa Clara	Los Gatos	95032	Western Scrub-Jay	09/25/06	10/02/06	RT-PCR
Santa Clara	Saratoga	95070	Western Scrub-Jay	09/21/06	10/02/06	RT-PCR
Shasta	Redding	96002	American Crow	09/26/06	09/26/06	VecTest
Shasta	Redding	96002	Western Scrub-Jay	09/26/06	09/26/06	VecTest
Shasta	Redding	96002	American Crow	09/27/06	09/27/06	VecTest
Shasta	Redding	96001	American Crow	09/27/06	09/27/06	VecTest
Shasta	Redding	96002	American Crow	09/28/06	09/28/06	VecTest
Shasta	Redding	96003	Western Scrub-Jay	09/28/06	09/28/06	VecTest
Siskiyou	Weed	96094	House Finch	09/07/06	10/02/06	RT-PCR
Solano	Vacaville	95687	American Crow	09/28/06	09/28/06	RAMP
Stanislaus	Modesto	95355	House Finch	09/22/06	10/02/06	RT-PCR
Tulare	Visalia	93277	American Crow	09/21/06	10/02/06	RT-PCR
Ventura	Simi Valley	93065	American Crow	09/20/06	10/02/06	RT-PCR
Ventura	Simi Valley	93065	American Crow	09/22/06	10/02/06	RT-PCR
Ventura	Thousand Oaks	91362	Northern Mockingbird	09/14/06	10/02/06	RT-PCR

National Comments: *No new update.* As of September 26, 2006, WNV activity had been reported from 48 states, the District of Columbia (DC), and New York City (NYC). A total of 2,720 human cases were reported to the Centers for Disease Control and Prevention (CDC) from 40 states and DC: Alabama (5), Arizona (25), Arkansas (17), California (215), Colorado (199), Connecticut (8), DC (1), Florida (3), Georgia (5), Idaho (642), Illinois (161), Indiana (28), Iowa (24), Kansas (24), Kentucky (5), Louisiana (103), Maryland (2), Michigan (29), Minnesota (60), Mississippi (130), Missouri (44), Montana (30), Nebraska (112), Nevada (114), New Jersey (4), New Mexico (3), New York (11), North Dakota (126), Ohio (23), Oklahoma (29), Oregon (22), Pennsylvania (8), South Dakota (101), Tennessee (8), Texas (211), Utah (114), Virginia (2), Washington (1), West Virginia (1), Wisconsin (15), and Wyoming (55). Of the 2720 cases, 958 (35%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 2699 cases where data was available was 50 years (range: 3 months-99 years) and 56% were male. Eighty-seven WNV-associated fatalities have been reported in 2006, from Arizona (1), California (3), Colorado (1), Connecticut (1), Georgia (1), Idaho (10), Illinois (9), Kansas (3), Kentucky (1), Michigan (3), Minnesota (3), Missouri (2), Mississippi (6), Nebraska (1), Nevada (1), New York (1), North Dakota (1), Ohio (1), Oklahoma (5), Pennsylvania (2), South Dakota (2), Tennessee (1), Texas (22), Utah (4), and Wyoming (2).

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TEST PROTOCOLS

Dead Birds:

All bird 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 are necropsied at the California Animal Health and Food Safety (CAHFS) laboratory at UC Davis. Oral swabs from American Crows and kidney tissue from all other dead birds are forwarded to the UC Davis Center for Vector borne 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 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.

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 Tina Feiszli by phone (510) 412-6298, FAX (510) 412-6263, or email [tfeiszli@dhs.ca.gov].