

California Arbovirus Surveillance Bulletin # 38

Week 46 Friday, November 17, 2006

Biweekly Summary: November 6 - November 17

COMMENTS

Humans

Six new human cases of West Nile virus (WNV) have been reported from Fresno (2), Kern (1), Los Angeles (1), and Sacramento (2) counties. As of November 17, 2006, a total of 270 human WNV cases have been identified from 36 counties: Alameda (1), Butte (31), Colusa (3), Contra Costa (8), El Dorado (1), Fresno (11), Glenn (12), Imperial (1), Kern (49), Kings (1), Lake (2), Los Angeles (13), Marin (1), Merced (4), Modoc (2), Mono (1), Napa (1), Nevada (1), Orange (6), Placer (8), Riverside (4), Sacramento (15), San Bernardino (3), San Diego (1), San Joaquin (8), San Luis Obispo (1), Santa Clara (5), Shasta (4), Solano (6), Stanislaus (11), Sutter (12), Tehama (3), Tulare (6), Ventura (3), Yolo (26), and Yuba (5). Of the 270 WNV cases, 81 (30%) have been classified as West Nile neuroinvasive disease, and 183 (68%) as West Nile fever. The median age of all cases is 49.5 years (range: 8-86 years). Of the cases, 174 (64%) are male. Six WNV-related fatalities have been reported in 2006, from Butte (2), Contra Costa (2), Riverside (1), and Shasta (1). 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 and Agriculture reported 3 new equine cases from Kern, Tehama, and Tulare counties. To date in 2006, 56 equine cases of WNV have been reported from 23 counties: Contra Costa (1); Fresno (5); Kern (4); 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 (2); Tulare (3); and Yuba (2). Twenty-four have died or were euthanized.

Dead Birds

In the last two weeks, 23 out of 192 (12.0%) dead birds have tested positive for WNV.

- 18/155 dead birds tested positive via RT-PCR.
- 2/12 dead birds tested positive via VecTest.
- 3/3 dead birds tested positive via RAMP.
- 0/22 dead birds tested positive via IHC.

The WNV positive dead birds were collected from the following 13 counties: Alameda (2); Contra Costa (3); Fresno (1); Los Angeles (2); Marin (1); Merced (1); Sacramento (1); San Luis Obispo (1); Santa Barbara (3); Santa Clara (2); Stanislaus (1); Ventura (4); and Yolo (1).

To date in 2006, 1,385 out of 5,648 (24.5%) dead birds have tested positive for WNV from 53 counties:

Alameda (41); Amador (2); Butte (40); Calaveras (2); Colusa (9); Contra Costa (87); El Dorado (19); Fresno (72); Glenn (35); Humboldt (2); Inyo (8); Kern (24); Kings (13); Lake (8); Lassen (3); Los Angeles (90); Madera (3); Marin (8); Mariposa (1); Mendocino (7); Merced (41); Modoc (2); Mono (1); Monterey (5); Napa (8); Nevada (4); Orange (44); Placer (12); Riverside (2); Sacramento (87); San Benito (1); San Bernardino (33); San Diego (18); San Francisco (3); San Joaquin (47); San Luis Obispo (13); San Mateo (7); Santa Barbara (18); Santa Clara (222); Santa Cruz (7); Shasta (86); Siskiyou (1); Solano (16); Sonoma (19); Stanislaus (72); Sutter (2); Tehama (12); Trinity (1); Tulare (14); Tuolumne (1); Ventura (58); Yolo (53) and Yuba (1).

Tree Squirrels: No new tree squirrels have tested positive for West Nile virus. To date in 2006, 32 of 135 (23.7%) dead tree squirrels have tested positive from 9 counties: Alameda (2), Butte (1), Contra Costa (18), Los Angeles (1), Marin (1), San Bernardino (3), San Mateo (2), Santa Clara (2), and Shasta (2).

The California Department of Health Services has received a total of 44,769 dead bird reports (hotline and website) this year.

Mosquito Pools

CVEC reported 5 new WNV positive mosquito pools from Kern (1), Los Angeles (3), and Riverside (1) counties. In 2006, 831 mosquito pools have tested positive for WNV from 34 counties: Alameda (9); Butte (1); Calaveras (2); Contra Costa (18); El Dorado (2); Fresno (40); Glenn (1); Imperial (14); Inyo (3); Kern (230); Kings (34); Lake (12); Lassen (3); Los Angeles (76); Madera (4); Marin (3); Merced (6); Orange (12); Placer (23); Riverside (31); Sacramento (35); San Bernardino (25), San Joaquin (39); Santa Barbara (1); Santa Clara (9); Shasta (7); Solano (1); Sonoma (2); Stanislaus (54); 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 4 WNV seroconversions from 3 counties: Kings (1), Riverside (2), and San Bernardino (1). In addition, one chicken from Los Angeles County tested flavivirus positive.

In 2006, 635 WNV seroconversions have been confirmed in chickens from Butte (49), Colusa (1), Contra Costa (25), Fresno (37), Glenn (11), Imperial (56), Kern (95), Kings (25), Lake (6), Los Angeles (35), Madera (9), Marin (2), Merced (15), Placer (11), Riverside (26), Sacramento (13), San Bernardino (25), San Joaquin (19), Santa Clara (1), Shasta (4), Solano (22), Sonoma (1), Stanislaus (45), Sutter (36), Tehama (3), Tulare (27), Ventura (1), Yolo (26), and Yuba (9) counties. 121 flocks have had at least one chicken test positive for WNV. WEE antibodies have been detected in 14 chickens from Kern (12) and Riverside (2) counties this year.

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	6	0	0	0	0	0	0
	YTD	1451	0	270	0	0	0	0	0	0
Horses Tested	Week	11	0	3	0	0	0	0	0	0
	YTD	473	0	56	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	192	23
YTD	5648	1385

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Flavivirus* Positive
	YTD	30,768	635	14	0	14
Mosquito pools	Week	280	5	0	0	0
	YTD	15,891	661	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
	YTD	5744	101	0	0	0
RAMP	Week	90	0	N/A	N/A	N/A
	YTD	2423	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 November 4 – November 18, 2006							
ID	Report Date	County ¹	Age	Sex	Clin Pres ²	Onset Date	WNV Fatality?
06-0268	11/03/06	FRESNO	82	M	WNND	10/12/06	NO
06-0269	11/03/06	SACRAMENTO	28	M	WNF	09/13/06	NO
06-0270	11/08/06	LOS ANGELES	82	M	WNND	n/a	NO
06-0271	11/14/06	KERN	72	F	n/a	n/a	NO
06-0272	11/14/06	SACRAMENTO	47	M	WNND	10/27/06	NO
06-0273	11/15/06	FRESNO	48	M	WNF	11/02/06	NO

* 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
AFSB0041	Kern	Lost Hills	6077	Ae melanimon	11/3/06	11/9/06	WNV
GRLA2229	Los Angeles	Rowland Heights	865	Cx quinquefasciatus	11/8/06	11/17/06	WNV
GRLA2648	Los Angeles	Encino	5649	Cx quinquefasciatus	11/8/06	11/17/06	WNV
GRLA2954	Los Angeles	Cerritos	856	Cx quinquefasciatus	11/1/06	11/9/06	WNV
RIVR0018	Riverside	Murrieta	703	Cx erythrothorax	10/31/06	11/9/06	WNV

Sentinel Chicken Seroconversions

Site Number	County	Nearest City	Date Bled	Virus	BAND 01
COAV0035	RIVERSIDE	Mecca	10/30/06	WNV	1322
GRLA2615	LOS ANGELES	Newhall	10/31/06	Flav	1703
KNGS2003	KINGS	Stratford	11/1/06	WNV	2024
RIVR0006	RIVERSIDE	Blythe	10/19/06	WNV	4209
SANB0001	SAN BERNARDINO	Needles	10/30/06	WNV	2823

WNV Positive Dead Birds

County	City	ZIP	Species	Collected	Tested	Tested By
Alameda	Dublin	94568	American Crow	10/31/06	10/31/06	RAMP
Alameda	San Lorenzo	94580	Sparrow	10/19/06	11/06/06	RT-PCR
Contra Costa	Pittsburg	94565	American Crow	11/02/06	11/14/06	RT-PCR
Contra Costa	Walnut Creek	94597	American Crow	10/30/06	10/30/06	RAMP
Contra Costa	Walnut Creek	94597	American Crow	10/29/06	10/29/06	RAMP

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Fresno	Fresno	93710	American Crow	10/25/06	11/06/06	RT-PCR
Los Angeles	Burbank	91504	American Crow	10/24/06	11/06/06	RT-PCR
Los Angeles	Los Angeles	90005	American Crow	10/23/06	11/06/06	RT-PCR
Marin	Novato	94947	American Crow	11/03/06	11/14/06	RT-PCR
Merced	Gustine	95322	American Crow	10/23/06	11/06/06	RT-PCR
Sacramento	Sacramento	95817	American Crow	11/05/06	11/14/06	RT-PCR
San Luis Obispo	Arroyo Grande	93420	American Crow	10/24/06	11/14/06	RT-PCR
Santa Barbara	Los Olivos	93441	American Crow	11/02/06	11/14/06	RT-PCR
Santa Barbara	Santa Barbara	93105	American Crow	10/31/06	11/06/06	RT-PCR
Santa Barbara	Solvang	93463	American Crow	10/27/06	11/06/06	RT-PCR
Santa Clara	Cupertino	95014	Western Scrub-Jay	10/26/06	10/26/06	VecTest
Santa Clara	Santa Clara	95050	Western Scrub-Jay	11/02/06	11/02/06	VecTest
Stanislaus	Modesto	95355	Sharp-shinned Hawk	11/07/06	11/14/06	RT-PCR
Ventura	Simi Valley	93065	American Crow	10/25/06	11/06/06	RT-PCR
Ventura	Simi Valley	93065	American Crow	11/05/06	11/14/06	RT-PCR
Ventura	Simi Valley	93065	American Crow	11/06/06	11/14/06	RT-PCR
Ventura	Simi Valley	93065	American Crow	11/07/06	11/14/06	RT-PCR
Yolo	Davis	95616	American Crow	11/06/06	11/14/06	RT-PCR

National Comments: As of November 14, 2006, WNV activity had been reported from 48 states, the District of Columbia (DC), and New York City (NYC). A total of 3,887 human cases were reported to the Centers for Disease Control and Prevention (CDC) from 41 states and DC: Alabama (7), Arizona (141), Arkansas (26), California (267), Colorado (310), Connecticut (9), DC (1), Florida (3), Georgia (8), Idaho (847), Illinois (211), Indiana (75), Iowa (36), Kansas (30), Kentucky (6), Louisiana (164), Maryland (10), Massachusetts (3), Michigan (48), Minnesota (65), Mississippi (173), Missouri (60), Montana (34), Nebraska (217), Nevada (123), New Jersey (5), New Mexico (8), New York (12), North Dakota (137), Ohio (46), Oklahoma (47), Oregon (65), Pennsylvania (9), South Dakota (113), Tennessee (17), Texas (305), Utah (156), Virginia (4), Washington (3), West Virginia (1), Wisconsin (20), and Wyoming (65).

At the same time last year, 2,676 cases had been reported from 42 states and NYC. Of the 3,887 cases reported in 2006, 1,355 (35%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,877 cases where data was available was 51 years (range: 3 months-99 years) and 55% were male. A total of 120 WNV-associated fatalities have been reported in 2006, from Arizona (6), California (6), Colorado (4), Connecticut (1), Georgia (1), Idaho (11), Illinois (9), Indiana (3), Kansas (4), Kentucky (1), Michigan (4), Minnesota (3), Missouri (3), Mississippi (10), Nebraska (1), Nevada (1), New York (2), North Dakota (1), Ohio (4), Oklahoma (5), Pennsylvania (2), South Dakota (3), Tennessee (1), Texas (26), Utah (5), Wisconsin (1), 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].