

California Arbovirus Surveillance Bulletin # 36

Week 43 Friday, October 27, 2006

Weekly Summary

COMMENTS

Humans

This week, 6 new human cases of West Nile virus (WNV) were reported from Butte (1), Riverside (1), Sacramento (2), and San Bernardino (2) counties. As of October 27, 2006, a total of 263 human West Nile virus (WNV) cases have been identified from 36 counties: Alameda (1), Butte (31), Colusa (3), Contra Costa (8), El Dorado (1), Fresno (9), Glenn (12), Imperial (1), Kern (48), Kings (1), Lake (2), Los Angeles (12), Marin (1), Merced (4), Modoc (2), Mono (1), Napa (1), Nevada (1), Orange (5), Placer (8), Riverside (4), Sacramento (13), 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 (8), Ventura (3), Yolo (26), and Yuba (3). Of the 263 WNV cases, 74 (28%) have been classified as West Nile neuroinvasive disease, and 182 (69%) as West Nile fever. The median age of all cases is 49 years (range: 8-86 years). Of the cases, 166 (63%) 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 & Agriculture reported one new equine case of WNV this week from Contra Costa County. This is the first WNV positive horse from Contra Costa County this year.

To date in 2006, 53 equine cases of WNV have been reported from 23 counties: Contra Costa (1); 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-four have died or were euthanized.

Dead Birds

This week, 42 out of 105 (40.0%) dead birds tested positive for WNV.

- 29/85 dead birds tested positive via RT-PCR.
- 11/18 dead birds tested positive via VecTest.
- 2/2 dead birds tested positive via RAMP.

The WNV positive dead birds were collected from the following 17 counties: Alameda (4); Kern (1); Kings (1); Los Angeles (4); Napa (1); Sacramento (1); San Bernardino (2); San Diego (2); San Joaquin (1); San Luis Obispo (2); Santa Barbara (2); Santa Clara (13); Santa Cruz (3); Sonoma (1); Stanislaus (1); Tulare (1); and Ventura (2).

To date in 2006, 1,340 out of 5,360 (25.0%) dead birds have tested positive for WNV from 53 counties:

Alameda (39); Amador (2); Butte (40); Calaveras (2); Colusa (9); Contra Costa (83); El Dorado (19); Fresno (71); Glenn (35); Humboldt (2); Inyo (8); Kern (24); Kings (13); Lake (8); Lassen (3); Los Angeles (87); Madera (3); Marin (7); Mariposa (1); Mendocino (7); Merced (40); Modoc (2); Mono (1); Monterey (5); Napa (8); Nevada (4); Orange (35); Placer (12); Riverside (1); Sacramento (85); San Benito (1); San Bernardino (30); San Diego (16); San Francisco (3); San Joaquin (47); San Luis Obispo (11); San Mateo (7); Santa Barbara (15); Santa Clara (220); Santa Cruz (7); Shasta (85); Siskiyou (1); Solano (16); Sonoma (18); Stanislaus (71); Sutter (2); Tehama (12); Trinity (1); Tulare (14); Tuolumne (1); Ventura (53); Yolo (52) and Yuba (1).

Tree Squirrels: No tree squirrels tested positive for West Nile virus this week. To date in 2006, 32 of 126 (25.4%) dead tree squirrels have tested positive from Alameda (2), Butte (1), Contra Costa (18), Los Angeles (1), Marin (1), San Bernardino (3), San Mateo (2), Santa Clara (2), and Shasta (2) counties.

The California Department of Health Services has received a total of 43,632 dead bird reports (hotline and website) this year.

Mosquito Pools

This week, CVEC reported 4 WNV positive mosquito pools from Fresno (1), Los Angeles (1), Orange (1), and Riverside (1) counties.

In 2006, 825 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 (229); Kings (34); Lake (12); Lassen (3); Los Angeles (73); Madera (4); Marin (3); Merced (6); Orange (12); Placer (23); Riverside (29); 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 18 WNV seroconversions from 14 (5 new) flocks within the following 8 counties: Butte (1); Fresno (2); Imperial (4); Los Angeles (2); Merced (1); Riverside (4); San Bernardino (2); and Stanislaus (2). In addition, Sacramento-Yolo MVCD reported one WNV seroconversion from Yolo County.

In 2006, 628 WNV seroconversions have been confirmed in chickens from Butte (49), Colusa (1), Contra Costa (25), Fresno (37), Glenn (11), Imperial (56), Kern (95), Kings (24), Lake (6), Los Angeles (34), Madera (9), Marin (3), Merced (15), Placer (11), Riverside (24), Sacramento (13), San Bernardino (24), San Joaquin (19), Santa Clara (1), Shasta (4), Solano (20), Stanislaus (45), Sutter (36), Tehama (3), Tulare (27), Ventura (1), Yolo (26), and Yuba (9) counties. 120 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	64	0	6	0	0	0	0	0	0
	YTD	1388	0	263	0	0	0	0	0	0
Horses Tested	Week	9	0	1	0	0	0	0	0	0
	YTD	454	0	53	0	0	0	0	0	0

Dead Birds

	Number Tested	WNV Positive
Week	105	42
YTD	5360	1340

Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Flavivirus* Positive
	YTD	29,443	628	14	0	13
Mosquito pools	Week	323	4	0	0	0
	YTD	15,437	655	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	5680	101	0	0	0
RAMP	Week	65	0	N/A	N/A	N/A
	YTD	2292	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 23 – October 27, 2006							
ID	Report Date	County ¹	Age	Sex	Clin Pres ²	Onset Date	WNV Fatality?
06-0259	10/20/06	SACRAMENTO	31	M	WNND	09/15/06	NO
06-0260	10/20/06	SACRAMENTO	41	M	WNF	09/29/06	NO
06-0261	10/20/06	SAN BERNARDINO	62	F	WNF	09/24/06	NO
06-0262	10/20/06	SAN BERNARDINO	<18	M	WNF	n/a	NO
06-0263	10/23/06	RIVERSIDE	64	F	WNND	08/20/06	YES
06-0264	09/28/06	BUTTE	>18	F	WNF	08/25/06	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
COAV0035	Riverside	Mecca	1926	Cx tarsalis	10/11/06	10/27/06	WNV
FRWS0026	Fresno	Helm	66	Cx quinquefasciatus	10/24/06	10/27/06	WNV
GRLA2414	Los Angeles	Granada Hills	5618	Cx quinquefasciatus	10/20/06	10/26/06	WNV
ORCO0002	Orange	Fullerton	849	Cx quinquefasciatus	10/18/06	10/27/06	WNV

Sentinel Chicken Seroconversions

Site Code	County	Nearest City	Date Bled	Virus	BAND 01	BAND 02	BAND 03
BUCO0001	BUTTE	Chico	10/19/2006	WNV	1603		
COAV0035	RIVERSIDE	Mecca	10/16/2006	WNV	4385		
COAV5001	IMPERIAL	Niland	10/16/2006	WNV	4390		
COAV5003	IMPERIAL	Westmoreland	10/16/2006	WNV	4248	4250	4270
FRNO0002	FRESNO	Kerman	10/17/2006	WNV	1571		
FRNO0012	FRESNO	Fresno	10/17/2006	WNV	1557		
GRLA2465	LOS ANGELES	Los Angeles	10/17/2006	WNV	1689	1690	
MERC0501	MERCED	El Nido	10/2/2006	WNV	4234		
NWST6666	RIVERSIDE	EVMWD	10/3/2006	WNV	2490		
NWST9401	RIVERSIDE	Corona	10/4/2006	WNV	2505	2507	
SAYO6001	YOLO	Knights Landing	10/23/06	WNV	2776		
TRLK0403	STANISLAUS	Newman	9/25/2006	WNV	3591		
TRLK9703	STANISLAUS	Crows Landing	10/9/2006	WNV	4289		
WVAL0002	SAN BERNARDINO	Chino	10/17/2006	WNV	3692		
WVAL0009	SAN BERNARDINO	Rancho Cucamonga	10/4/2006	WNV	3712		

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WNV Positive Dead Birds

County	City	ZIP	Species	Collected	Tested	Tested By
Alameda	Fremont	94539	Sparrow	10/12/06	10/23/06	RT-PCR
Alameda	Fremont	94536	American Crow	10/15/06	10/23/06	RT-PCR
Alameda	Livermore	94550	Yellow-billed Magpie	10/18/06	10/18/06	RAMP
Alameda	San Leandro	94578	Sparrow	10/09/06	10/23/06	RT-PCR
Kern	Delano	93215	American Crow	10/11/06	10/23/06	RT-PCR
Kings	Hanford	93230	Sparrow	09/25/06	10/23/06	RT-PCR
Los Angeles	Canyon Country	91387	Sparrow	10/07/06	10/23/06	RT-PCR
Los Angeles	Commerce	90040	Black-crowned Night-Heron	10/12/06	10/23/06	RT-PCR
Los Angeles	Long Beach	90808	Domestic Duck	10/13/06	10/23/06	RT-PCR
Los Angeles	Van Nuys	91401	American Crow	10/12/06	10/23/06	RT-PCR
Napa	Saint Helena	94574	American Crow	10/09/06	10/09/06	VecTest
Sacramento	Galt	95632	American Robin	10/16/06	10/23/06	RT-PCR
San Bernardino	Pinon Hills	92372	Cooper's Hawk	10/11/06	10/23/06	RT-PCR
San Bernardino	Yucaipa	92399	American Crow	10/16/06	10/16/06	RAMP
San Diego	Encinitas	92024	Red-shouldered Hawk	10/16/06	10/23/06	RT-PCR
San Diego	San Marcos	92069	Barn Owl	10/09/06	10/23/06	RT-PCR
San Joaquin	Lodi	95242	Song Sparrow	10/05/06	10/23/06	RT-PCR
San Luis Obispo	Atascadero	93422	American Crow	09/15/06	10/23/06	RT-PCR
San Luis Obispo	San Luis Obispo	93405	Steller's Jay	10/06/06	10/23/06	RT-PCR
Santa Barbara	Carpinteria	93013	Common Yellow-Throated Warbler	10/16/06	10/23/06	RT-PCR
Santa Barbara	Los Olivos	93441	American Crow	10/12/06	10/23/06	RT-PCR
Santa Clara	Gilroy	95020	Red-shouldered Hawk	10/18/06	10/23/06	RT-PCR
Santa Clara	Los Gatos	95030	American Crow	10/12/06	10/12/06	VecTest
Santa Clara	Mountain View	94035	Cooper's Hawk	10/17/06	10/23/06	RT-PCR
Santa Clara	San Jose	95130	American Crow	10/11/06	10/11/06	VecTest
Santa Clara	San Jose	95129	American Crow	10/13/06	10/13/06	VecTest
Santa Clara	San Jose	95124	American Crow	10/13/06	10/13/06	VecTest
Santa Clara	San Jose	95126	American Crow	10/16/06	10/16/06	VecTest
Santa Clara	Santa Clara	95050	American Crow	10/12/06	10/12/06	VecTest
Santa Clara	Saratoga	95070	Western Scrub-Jay	10/10/06	10/23/06	RT-PCR
Santa Clara	Saratoga	95070	American Crow	10/11/06	10/11/06	VecTest
Santa Clara	Saratoga	95070	Western Scrub-Jay	10/16/06	10/16/06	VecTest
Santa Clara	Sunnyvale	94087	American Crow	10/06/06	10/06/06	VecTest
Santa Clara	Sunnyvale	94087	American Crow	10/11/06	10/11/06	VecTest
Santa Cruz	Bonny Doon	95060	Burrowing Owl	10/06/06	10/23/06	RT-PCR
Santa Cruz	Boulder Creek	95006	Song Sparrow	10/17/06	10/23/06	RT-PCR
Santa Cruz	Santa Cruz	95062	Great Horned Owl	10/06/06	10/23/06	RT-PCR
Sonoma	Petaluma	94952	American Crow	10/09/06	10/23/06	RT-PCR
Stanislaus	Modesto	95357	House Finch	10/10/06	10/23/06	RT-PCR
Tulare	Tulare	93274	American Crow	10/15/06	10/23/06	RT-PCR
Ventura	Simi Valley	93063	Cooper's Hawk	10/16/06	10/23/06	RT-PCR
Ventura	Ventura	93003	American Crow	10/05/06	10/23/06	RT-PCR

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National Comments: As of October 24, 2006, WNV activity had been reported from 48 states, the District of Columbia (DC), and New York City (NYC). A total of 3,660 human cases were reported to the Centers for Disease Control and Prevention (CDC) from 41 states and DC: Alabama (6), Arizona (120), Arkansas (26), California (257), Colorado (310), Connecticut (9), DC (1), Florida (3), Georgia (7), Idaho (824), Illinois (202), Indiana (55), Iowa (31), Kansas (27), Kentucky (6), Louisiana (147), Maryland (9), Massachusetts (3), Michigan (42), Minnesota (65), Mississippi (164), Missouri (58), Montana (34), Nebraska (176), Nevada (123), New Jersey (5), New Mexico (4), New York (12), North Dakota (136), Ohio (40), Oklahoma (43), Oregon (54), Pennsylvania (9), South Dakota (112), Tennessee (13), Texas (290), Utah (146), Virginia (4), Washington (3), West Virginia (1), Wisconsin (19), and Wyoming (64). Of the 3,660 cases, 1,278 (35%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,649 cases where data was available was 51 years (range: 3 months-99 years) and 55% were male. A total of 112 WNV-associated fatalities have been reported in 2006, from Arizona (5), California (5), Colorado (4), Connecticut (1), Georgia (1), Idaho (11), Illinois (9), Indiana (2), Kansas (3), Kentucky (1), Michigan (3), Minnesota (3), Missouri (3), Mississippi (8), Nebraska (1), Nevada (1), New York (2), North Dakota (1), Ohio (4), Oklahoma (5), Pennsylvania (2), South Dakota (3), Tennessee (1), Texas (25), Utah (5), Wisconsin (1), and Wyoming (2).

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].