

# California Arbovirus Surveillance Bulletin # 37

Week 44 Friday, November 3, 2006

## Weekly Summary

### COMMENTS

#### **Humans**

This week, 3 new human cases of West Nile virus (WNV) were reported from Orange (1) and Yuba (2) counties. As of November 3, 2006, a total of 266 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 (6), 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 (5). Of the 266 WNV cases, 78 (29%) have been classified as West Nile neuroinvasive disease, and 183 (69%) as West Nile fever. The median age of all cases is 49.5 years (range: 8-86 years). Of the cases, 169 (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 no new equine cases this week. 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, 22 out of 93 (23.7%) dead birds tested positive for WNV.

- 8/58 dead birds tested positive via RT-PCR.
- 4/11 dead birds tested positive via VecTest.
- 1/1 dead birds tested positive via RAMP.
- 9/23 dead birds tested positive via IHC.

The WNV positive dead birds were collected from the following 11 counties: Contra Costa (1); Los Angeles (1); Orange (9); Riverside (1); Sacramento (1); San Bernardino (3); San Diego (2); San Luis Obispo (1); Shasta (1); Sonoma (1); and Ventura (1).

To date in 2006, 1,362 out of 5,450 (25.0%) dead birds have tested positive for WNV from 53 counties:

Alameda (39); Amador (2); Butte (40); Calaveras (2); Colusa (9); Contra Costa (84); El Dorado (19); Fresno (71); Glenn (35); Humboldt (2); Inyo (8); Kern (24); Kings (13); Lake (8); Lassen (3); Los Angeles (88); Madera (3); Marin (7); Mariposa (1); Mendocino (7); Merced (40); Modoc (2); Mono (1); Monterey (5); Napa (8); Nevada (4); Orange (44); Placer (12); Riverside (2); Sacramento (86); San Benito (1); San Bernardino (33); San Diego (18); San Francisco (3); San Joaquin (47); San Luis Obispo (12); San Mateo (7); Santa Barbara (15); Santa Clara (220); Santa Cruz (7); Shasta (86); Siskiyou (1); Solano (16); Sonoma (19); Stanislaus (71); Sutter (2); Tehama (12); Trinity (1); Tulare (14); Tuolumne (1); Ventura (54); 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 44,139 dead bird reports (hotline and website) this year.

#### **Mosquito Pools**

CVEC reported 1 WNV positive mosquito pool this week from Riverside County. In 2006, 826 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 (30); 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 3 WNV seroconversions from 2 counties: Los Angeles (1) and Solano (2).

In 2006, 631 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 (35), Madera (9), Marin (2), Merced (15), Placer (11), Riverside (24), Sacramento (13), San Bernardino (24), 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](http://www.westnile.ca.gov), the CDC website, [www.cdc.gov](http://www.cdc.gov), and the USGS website, [www.westnilemaps.usgs.gov](http://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	14	0	3	0	0	0	0	0	0
	YTD	1402	0	266	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	454	0	53	0	0	0	0	0	0

### Dead Birds

	Number Tested	WNV Positive
Week	93	22
YTD	5450	1362

### Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Flavivirus* Positive
YTD	29,812	631	14	0	13	
Mosquito pools	Week	174	1	0	0	0
	YTD	15,611	656	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	41	0	N/A	N/A	N/A
	YTD	2333	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 30 – November 3, 2006							
ID	Report Date	County <sup>1</sup>	Age	Sex	Clin Pres <sup>2</sup>	Onset Date	WNV Fatality?
06-0265	10/31/06	YUBA	<18	M	n/a	n/a	NO
06-0266	10/31/06	ORANGE	74	M	WNND	Week 42	NO
06-0267	11/02/06	YUBA	>18	M	n/a	n/a	NO

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

<sup>1</sup> County of residence

<sup>2</sup> 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	2055	Cx tarsalis	11/1/06	11/3/06	WNV

### Sentinel Chicken Seroconversions

Site Code	County	Nearest City	Date Bled	Virus	BAND 01
LACW1025	Los Angeles	West Lake Village	10/31/06	WNV	2175
SOLA0010	Solano	Vacaville	10/6/06	WNV	4327
SOLA0010	Solano	Vacaville	10/26/06	WNV	4334

### WNV Positive Dead Birds

County	City	ZIP	Species	Collected	Tested	Tested By
Contra Costa	Concord	94518	American Crow	10/20/06	10/20/06	RAMP
Los Angeles	Lancaster	93536	Cooper's Hawk	10/16/06	10/30/06	RT-PCR
Orange	Irvine	92612	American Crow	09/28/06	09/28/06	IHC
Orange	Irvine	92612	American Crow	10/05/06	10/05/06	IHC
Orange	Orange	92704	American Crow	09/27/06	09/27/06	IHC
Orange	Orange	92869	Great Blue Heron	10/03/06	10/03/06	IHC
Orange	Rancho Santa Margarita	92688	American Crow	09/18/06	09/18/06	IHC
Orange	Santa Ana	92704	American Crow	09/18/06	09/18/06	IHC
Orange	Tustin	92780	Western-Scrub Jay	09/13/06	09/13/06	IHC
Orange	Tustin	92782	American Crow	10/06/06	10/06/06	IHC
Orange	Yorba Linda	92886	House Finch	09/22/06	09/22/06	IHC
Riverside	Desert Hot Springs	92240	Rock Dove	10/17/06	10/30/06	RT-PCR
Sacramento	Sacramento	95823	Western Scrub-Jay	10/23/06	10/30/06	RT-PCR
San Bernardino	Angelus Oaks	92305	Sparrow	10/09/06	10/30/06	RT-PCR
San Bernardino	Angelus Oaks	92305	Sparrow	10/09/06	10/30/06	RT-PCR
San Bernardino	San Bernardino	92404	Common Raven	09/20/06	09/20/06	VecTest
San Diego	El Cajon	92021	American Crow	10/25/06	10/25/06	VecTest
San Diego	Valley Center	92082	American Crow	10/23/06	10/23/06	VecTest
San Luis Obispo	Los Osos	93402	Red-winged Blackbird	10/17/06	10/30/06	RT-PCR
Shasta	Palo Cedro	96073	Western Scrub-Jay	10/23/06	10/23/06	VecTest
Sonoma	Petaluma	94952	Western Scrub-Jay	10/16/06	10/30/06	RT-PCR
Ventura	Newbury Park	91320	American Crow	10/19/06	10/30/06	RT-PCR

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**National Comments:** As of October 31, 2006, WNV activity had been reported from 48 states, the District of Columbia (DC), and New York City (NYC). A total of 3,752 human cases were reported to the Centers for Disease Control and Prevention (CDC) from 41 states and DC: Alabama (7), Arizona (128), Arkansas (26), California (263), Colorado (310), Connecticut (9), DC (1), Florida (3), Georgia (7), Idaho (824), Illinois (205), Indiana (55), Iowa (33), Kansas (28), Kentucky (6), Louisiana (147), Maryland (10), Massachusetts (3), Michigan (46), Minnesota (65), Mississippi (165), Missouri (60), Montana (34), Nebraska (217), Nevada (123), New Jersey (5), New Mexico (7), New York (12), North Dakota (137), Ohio (43), Oklahoma (45), Oregon (54), Pennsylvania (9), South Dakota (113), Tennessee (13), Texas (293), Utah (153), Virginia (4), Washington (3), West Virginia (1), Wisconsin (20), and Wyoming (65).

At the same time last year, 2,581 cases had been reported from 42 states and NYC. Of the 3,752 cases reported in 2006, 1,305 (35%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,741 cases where data was available was 51 years (range: 3 months-99 years) and 55% were male. A total of 117 WNV-associated fatalities have been reported in 2006, from Arizona (6), California (6), Colorado (4), Connecticut (1), Georgia (1), Idaho (11), Illinois (9), Indiana (2), Kansas (3), 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 (25), Utah (5), Wisconsin (1), and Wyoming (2).

## TEST PROTOCOLS

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### **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.

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### **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.

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### **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.

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*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].*