

# California Arbovirus Surveillance Bulletin # 35

Week 42 Friday, October 20, 2006

## Weekly Summary

### COMMENTS

#### **Humans**

This week, 4 new human cases of West Nile virus (WNV) were reported from Kern (1), Merced (1), Shasta (1), and Tulare (1) counties. As of October 20, 2006, a total of 257 human West Nile virus (WNV) cases have been identified from the following 36 counties: Alameda (1), Butte (30), 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 (3), Sacramento (11), San Bernardino (1), 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 257 WNV cases, 72 (28%) have been classified as West Nile neuroinvasive disease, and 177 (69%) as West Nile fever. The median age of all cases is 50 years (range: 8-86 years). Of the cases, 163 (63%) are male. Five WNV-related fatalities have been reported in 2006, from Butte (2), Contra Costa (2), 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**

No new equine cases were reported this week. To date in 2006, 52 equine cases of WNV have been reported from 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, 42 out of 103 (40.8%) dead birds tested positive for WNV.

- 21/73 dead birds tested positive via RT-PCR.
- 15/23 dead birds tested positive via VecTest.
- 6/7 dead birds tested positive via RAMP.

The WNV positive dead birds were collected from 16 counties: Alameda (2); Contra Costa (2); Kern (1); Lake (1); Los Angeles (7); Madera (1); Merced (1); San Bernardino (1); San Joaquin (1); San Mateo (1); Santa Clara (4); Shasta (11); Sonoma (4); Stanislaus (1); Tulare (3); and Ventura (1).

To date in 2006, 1,298 out of 5,254 (24.7%) dead birds have tested positive for WNV from the following 53 counties: Alameda (35) Amador (2); Butte (40); Calaveras (2); Colusa (9); Contra Costa (83); El Dorado (19); Fresno (71); Glenn (35); Humboldt (2); Inyo (8); Kern (23); Kings (12); Lake (8); Lassen (3); Los Angeles (83); Madera (3); Marin (7); Mariposa (1); Mendocino (7); Merced (40); Modoc (2); Mono (1); Monterey (5); Napa (7); Nevada (4); Orange (35); Placer (12); Riverside (1); Sacramento (84); San Benito (1); San Bernardino (28); San Diego (14); San Francisco (3); San Joaquin (46); San Luis Obispo (9); San Mateo (7); Santa Barbara (13); Santa Clara (207); Santa Cruz (4); Shasta (85); Siskiyou (1); Solano (16); Sonoma (17); Stanislaus (70); Sutter (2); Tehama (12); Trinity (1); Tulare (13); Tuolumne (1); Ventura (51); Yolo (52) and Yuba (1).

**Tree Squirrels:** This week, 2 tree squirrels tested positive for West Nile virus. To date in 2006, 32 of 126 (25.4%) 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 42,992 dead bird reports (hotline and website) this year.

#### **Mosquito Pools**

This week, CVEC reported 5 WNV positive mosquito pools from Imperial (1), Los Angeles (1), Riverside (1), San Bernardino (1), and Stanislaus (1) counties.

In 2006, 821 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 (14); Inyo (3); Kern (229); Kings (34); Lake (12); Lassen (3); Los Angeles (72); Madera (4); Marin (3); Merced (6); Orange (11); Placer (23); Riverside (28); 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.

#### **Sentinel Chickens**

This week, VRDL reported 20 WNV seroconversions from 12 (7 new) flocks within the following 8 counties: Butte (1); Imperial (1); Kern (1); Los Angeles (5); Marin (1); Riverside (5); Stanislaus (4); and Tulare (2). Three WEE seroconversions were detected in chickens from 2 flocks in Kern County.

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In 2006, 609 WNV seroconversions have been confirmed in chickens from Butte (48), Colusa (1), Contra Costa (25), Fresno (35), Glenn (11), Imperial (52), Kern (95), Kings (24), Lake (6), Los Angeles (32), Madera (9), Marin (3), Merced (14), Placer (11), Riverside (20), Sacramento (13), San Bernardino (22), San Joaquin (19), Santa Clara (1), Shasta (4), Solano (20), Stanislaus (43), Sutter (36), Tehama (3), Tulare (27), Ventura (1), Yolo (25), and Yuba (9) counties. 115 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	24	0	4	0	0	0	0	0	0
	YTD	1324	0	257	0	0	0	0	0	0
Horses Tested	Week	18	0	0	0	0	0	0	0	0
	YTD	445	0	52	0	0	0	0	0	0

### Dead Birds

	Number Tested	WNV Positive
Week	103	42
YTD	5254	1298

### Sentinel Chickens and Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive	Flavivirus*
Chicken sera	Week	959	20	3	0	0
	YTD	28,306	609	14	0	14
Mosquito pools	Week	606	5	0	0	0
	YTD	15,114	651	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	91	0	0	0	0
	YTD	5603	101	0	0	0
RAMP	Week	66	0	N/A	N/A	N/A
	YTD	2227	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 16 – October 20, 2006							
ID	Report Date	County <sup>1</sup>	Age	Sex	Clin Pres <sup>2</sup>	Onset Date	WNV Fatality?
06-0255	10/16/06	MERCED	45	F	WNF	09/17/06	NO
06-0256	10/17/06	KERN	39	F	n/a	n/a	NO
06-0257	10/19/06	SHASTA	>18	n/a	WNF	Week 35	NO
06-0258	10/19/06	TULARE	<18	M	WNND	10/11/06	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
COAV0048	Riverside	Mecca	1569	Cx tarsalis	9/30/06	10/17/06	WN
COAV5001	Imperial	Niland	1660	Cx tarsalis	10/4/06	10/17/06	WN
GRLA2655	Los Angeles	Encino	5606	Cx quinquefasciatus	10/11/06	10/20/06	WN
SANB0007	San Bernardino	Fontana	409	Cx quinquefasciatus	9/27/06	10/17/06	WN
TRLK0408	Stanislaus	Turlock	1736	Cx pipiens	10/17/06	10/20/06	WN

### Sentinel Chicken Seroconversions

Site Number	County	Nearest City	Date Bled	Virus	BAND 01	BAND 02	BAND 03
BUCO0003	BUTTE	Oroville	10/9/2006	WNV	1627		
COAV0035	RIVERSIDE	Mecca	10/2/2006	WNV	1321	1325	4265
COAV0201	RIVERSIDE	Thermal	10/6/2006	WNV	1184		
COAV5001	IMPERIAL	Niland	9/18/2006	WNV	4281		
DLTA1002	TULARE	Reedley	10/16/2006	WNV	1505	1509	
EAST1947	STANISLAUS	Modesto	10/11/2006	WNV	1552	1553	1555
KERN0101	KERN	Lost Hills	10/9/2006	WEE	1962	1965	
KERN0113	KERN	Bakersfield	10/9/2006	WEE	1945		
LACW1010	LOS ANGELES	Los Angeles(Miracle Mile)	10/16/2006	WNV	2130	2131	2135
LACW1026	LOS ANGELES	Beverly Hills	10/12/2006	WNV	2181	2192	
NWST0004	RIVERSIDE	Rubidoux	10/3/2006	WNV	2480		
TRLK9701	STANISLAUS	Grayson	10/9/2006	WNV	3829		
WEST6203	KERN	Hwy 119 and Hwy 43	10/3/2006	WNV	3678		

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## WNV Positive Dead Birds

County	City	Zip	Species	Date Collected	Date Tested	Tested By
Alameda	Hayward	94544	Downy Woodpecker	10/9/06	10/16/06	RT-PCR
Alameda	Livermore	94550	American Crow	10/11/06	10/11/06	RAMP
Contra Costa	Oakley	94561	Western Scrub-Jay	10/3/06	10/16/06	RT-PCR
Contra Costa	Pleasant Hill	94523	Western Scrub-Jay	10/11/06	10/11/06	RAMP
Kern	Bakersfield	93308	House Sparrow	10/9/06	10/16/06	RT-PCR
Lake	Kelseyville	95451	American Crow	10/4/06	10/4/06	VecTest
Los Angeles	Encino	91316	House Finch	10/5/06	10/16/06	RT-PCR
Los Angeles	Los Angeles	90039	American Coot	9/28/06	10/16/06	RT-PCR
Los Angeles	Los Angeles	90068	American Crow	10/3/06	10/16/06	RT-PCR
Los Angeles	Northridge	91326	American Crow	10/9/06	10/9/06	VecTest
Los Angeles	Pico Rivera	90660	Sparrow	10/6/06	10/16/06	RT-PCR
Los Angeles	Sherman Oaks	91423	House Sparrow	9/28/06	10/16/06	RT-PCR
Los Angeles	Sherman Oaks	91423	Northern Mockingbird	10/4/06	10/16/06	RT-PCR
Madera	Madera	93637	American Crow	10/6/06	10/16/06	RT-PCR
Merced	Atwater	95301	Yellow-billed Magpie	10/4/06	10/16/06	RT-PCR
San Bernardino	Rancho Cucamonga	91739	American Crow	10/11/06	10/11/06	RAMP
San Joaquin	Manteca	95336	Yellow-billed Magpie	8/8/06	8/8/06	RAMP
San Mateo	San Carlos	94070	Chipping Sparrow	10/6/06	10/16/06	RT-PCR
Santa Clara	San Jose	95135	American Crow	10/6/06	10/6/06	VecTest
Santa Clara	Santa Clara	95051	American Crow	10/5/06	10/5/06	VecTest
Santa Clara	Saratoga	95070	Western Scrub-Jay	10/3/06	10/16/06	RT-PCR
Santa Clara	Saratoga	95070	Western Scrub-Jay	10/5/06	10/16/06	RT-PCR
Shasta	Redding	96001	American Crow	8/27/06	8/27/06	VecTest
Shasta	Redding	96001	American Crow	8/28/06	8/28/06	VecTest
Shasta	Redding	96001	American Crow	8/28/06	8/28/06	VecTest
Shasta	Redding	96001	Western Scrub-Jay	8/28/06	8/28/06	VecTest
Shasta	Redding	96002	American Crow	8/29/06	8/29/06	VecTest
Shasta	Redding	96002	American Crow	8/29/06	8/29/06	VecTest
Shasta	Redding	96002	American Crow	10/10/06	10/10/06	VecTest
Shasta	Redding	96003	American Crow	10/10/06	10/10/06	VecTest
Shasta	Redding	96001	American Crow	10/10/06	10/10/06	VecTest
Shasta	Redding	96002	Western Scrub-Jay	10/11/06	10/11/06	VecTest
Shasta	Redding	96001	American Crow	10/12/06	10/12/06	VecTest
Sonoma	Petaluma	94952	Western Scrub-Jay	10/2/06	10/16/06	RT-PCR
Sonoma	Santa Rosa	95407	American Crow	10/12/06	10/12/06	RAMP
Sonoma	Santa Rosa	95407	Red-tailed Hawk	9/22/06	10/16/06	RT-PCR
Sonoma	Sonoma	95476	Western Scrub-Jay	10/9/06	10/9/06	RAMP
Stanislaus	Turlock	95382	Yellow-billed Magpie	10/9/06	10/16/06	RT-PCR
Tulare	Dinuba	93618	Barn Owl	9/27/06	10/16/06	RT-PCR
Tulare	Visalia	93291	Western Scrub-Jay	10/6/06	10/16/06	RT-PCR
Tulare	Visalia	93277	American Crow	10/10/06	10/16/06	RT-PCR
Ventura	Camarillo	93012	Sharp-shinned Hawk	10/9/06	10/16/06	RT-PCR

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**National Comments:** As of October 17, 2006, WNV activity had been reported from 48 states, the District of Columbia (DC), and New York City (NYC). A total of 3,498 human cases were reported to the Centers for Disease Control and Prevention (CDC) from 41 states and DC: Alabama (5), Arizona (83), Arkansas (26), California (253), Colorado (310), Connecticut (8), DC (1), Florida (3), Georgia (7), Idaho (824), Illinois (192), Indiana (56), Iowa (29), Kansas (24), Kentucky (6), Louisiana (115), Maryland (4), Massachusetts (3), Michigan (40), Minnesota (63), Mississippi (158), Missouri (58), Montana (34), Nebraska (156), Nevada (122), New Jersey (5), New Mexico (4), New York (11), North Dakota (135), Ohio (36), Oklahoma (35), Oregon (54), Pennsylvania (8), South Dakota (110), Tennessee (9), Texas (280), Utah (143), Virginia (4), Washington (3), West Virginia (1), Wisconsin (19), and Wyoming (61). Of the 3,498 cases, 1,199 (34%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,488 cases where data was available was 51 years (range: 3 months-99 years) and 54% were male. A total of 109 WNV-associated fatalities have been reported in 2006, from Arizona (4), 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 (7), Nebraska (1), Nevada (1), New York (2), North Dakota (1), Ohio (4), Oklahoma (5), Pennsylvania (2), South Dakota (3), Tennessee (1), Texas (25), Utah (4), 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].*