

## California Arbovirus Surveillance Bulletin #37

Week 43 Friday, October 29, 2011



### WEEKLY UPDATE

#### **Human Cases**

Seven new human cases of West Nile virus (WNV) were reported this week from Kern (1), Los Angeles (2), Riverside (1), Sacramento (1), Santa Clara (1) and Stanislaus (1) counties. This is the first human case reported from Santa Clara County in 2011. To date this year, 129 WNV cases have been reported from 21 counties; of the 129 cases, 91 (71%) developed neuroinvasive disease. The median age for all cases is 57 years (range: 14-87 years) and 80 (62%) are male. Five fatalities have been reported from Los Angeles (3) and Kern (2) counties. Additionally, 23 WNV-positive blood donors have been reported this year; 8 of the individuals subsequently developed symptoms and were reclassified as cases. At this time last year, 93 WNV cases had been reported from 17 counties.

**National Activity:** As of October 25, 2011, 555 human cases of WNV had been reported nationwide in 42 states and the District of Columbia: Alabama (3), Arizona (39), Arkansas (1), California (122), Colorado (7), Connecticut (9), Delaware (1), District of Columbia (1), Florida (21), Georgia (9), Idaho (1), Illinois (28), Indiana (9), Iowa (9), Kansas (4), Kentucky (3), Louisiana (10), Maryland (19), Massachusetts (5), Michigan (33), Minnesota (2), Mississippi (48), Missouri (7), Montana (1), Nebraska (26), Nevada (16), New Jersey (5), New Mexico (4), New York (36), North Carolina (2), North Dakota (4), Ohio (20), Pennsylvania (4), Rhode Island (1), South Dakota (2), Tennessee (16), Texas (9), Utah (3), Vermont (1), Virginia (8), West Virginia (1), Wisconsin (2), and Wyoming (3). Of the 555 cases, 376 (68%) developed neuroinvasive disease. As of October 25, 2011, a total of 34 WNV-related fatalities had been reported in Alabama (1), Arizona (4), California (5), Florida (2), Georgia (2), Illinois (3), Indiana (1), Kansas (1), Michigan (2), Minnesota (1), Mississippi (4), Nevada (1), New York (2), Ohio (1), Pennsylvania (1), Tennessee (1), Texas (1), and Virginia (1).

#### **Horses**

No new cases among horses were reported this week. In 2011, 14 horses from 7 counties have tested positive for WNV, and 3 fatalities have been reported. At this time last year, 19 cases of WNV had been reported among horses from 11 counties.

#### **Dead Birds & Squirrels**

Six WNV positive dead birds were reported this week from Los Angeles (3) and San Joaquin (3) counties. In addition, 3 tree squirrels tested positive for WNV from Los Angeles (1) and Sacramento (2) counties. To date this year, 662 dead birds from 26 counties and 24 tree squirrels from 6 counties have tested positive for WNV. An additional 118 birds have tested positive for chronic\* WNV infection from 27 counties. At this time last year, 401 birds from 27 counties, and 21 tree squirrels from 8 counties had tested positive for WNV.

NOTE: The statewide dead bird testing program has been suspended until March, 2012. If your agency would like to continue local testing during the winter months, please contact Leslie Foss at 510-412-6255, so the appropriate zip codes can remain open. Otherwise, all zip codes will be closed until the 2012 season. The WNV hotline will continue to operate Monday-Friday (8am-5pm) to receive dead bird and squirrel reports and answer questions from the public.

*\*In 2010, The University of California, Center for Vectorborne Diseases (CVEC) and the California Department of Public Health, Vector-Borne Disease Section began differentiating between chronic and acute infections in WNV positive dead birds. Birds considered to have chronic infection with WNV are unlikely to have been infected recently with WNV and have limited surveillance utility.*

#### **Mosquito Pools**

Thirty WNV positive mosquito pools were reported this week from the following 5 counties: Kern (9), Los Angeles (7), San Bernardino (12), San Joaquin (1), and Sonoma (1). In 2011, 2,060 mosquito pools from 26 counties have tested positive for WNV. At this time last year, 1,294 mosquito pools from 24 counties had tested positive for WNV.

#### **Sentinel Chickens**

Nineteen WNV seroconversions were reported this week from 9 flocks in 3 counties: Los Angeles (15), Riverside (3), and San Bernardino (1). To date this year, 351 WNV positive chickens have been detected among 68 flocks in 15 counties. At this time last year, 277 chickens (61 flocks) had tested positive for WNV from 21 counties.

**Website Information:** For updated information on WNV in California, please visit the California WNV website, [www.westnile.ca.gov](http://www.westnile.ca.gov), or the California Vectorborne Disease Surveillance System website, [www.calsurv.org](http://www.calsurv.org). For national information on WNV and other arboviruses, please visit the CDC website, [www.cdc.gov](http://www.cdc.gov), and the USGS website, [www.westnilemaps.usgs.gov](http://www.westnilemaps.usgs.gov)

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2010 & 2011 YTD West Nile Virus Comparisons		
	2010	2011
Total # Dead Bird Reports	9,974	9,307
# Positive Counties	35	34
# Human Cases	93	129
# Horse Cases	19	14
# Positive Dead Birds / # Tested	401 / 2,053	662 / 2,315
# Positive Mosquito Pools / # Tested	1,294 / 29,771	2,060 / 31,505
# Seroconversions / # Tested	277 / 24,795	351 / 21,074
# Positive Squirrels / # Tested	21 / 104	24 / 105

### YTD WNV Activity by Element and County, 2011

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda						1
Amador	1					
Butte	3			1	17	
Contra Costa	3		38	7		
El Dorado	1		2			
Fresno	7	5	15	123		
Glenn	1		2		5	
Imperial				3	3	
Inyo				2		
Kern	15	1	3	385	126	
Kings			9	63		
Lake			1	3		
Los Angeles	51	1	218	455	71	15
Madera	1		3	5		
Merced	1	3	9	11	12	
Nevada			1			
Orange	8		44	87		1
Placer	1	2	10	48	6	
Riverside	5		7	55	36	
Sacramento	2		131	381	7	3
San Bernardino	3		32	144	41	
San Diego				1		
San Joaquin	4		27	51		
Santa Barbara	1					
Santa Clara	1		30	16		1
Shasta				1		
Solano			1		1	
Sonoma				2		
Stanislaus	10		24	100	7	
Sutter			2	26	8	
Tehama			1			
Tulare	9	1	42	82	7	
Ventura			1			
Yolo		1	8	7		3
Yuba	1		1	1	4	
<b>Totals</b>	<b>129</b>	<b>14</b>	<b>662</b>	<b>2,060</b>	<b>351</b>	<b>24</b>

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## TESTING SUMMARIES

### Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	7	0	0	0	0	0
	YTD	129	0	0	0	0	0
Horse Cases	Week	0	0	0	0	0	0
	YTD	14	0	0	0	0	0

### Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	33	6
	YTD	2,315	662
Tree Squirrels	Week	10	3
	YTD	105	24

### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	749	19	0	0
	YTD	21,074	351	0	0
Mosquito Pools: RT-PCR	Week	569	30	0	0
	YTD	31,189	2,041	0	0
Mosquito Pools: RAMP	Week	3	0	N/A	N/A
	YTD	316	19	N/A	N/A

## NEW POSITIVES

### Humans

WNV Cases							
ID	Report Date	County	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
11-0123	10/24/11	Santa Clara	78	F	WNND	08/29/11	No
11-0124	10/25/11	Riverside	49	M	WNND	09/19/11	No
11-0125	10/27/11	Sacramento	39	F	WNF	07/05/11	No
11-0126	10/27/11	Los Angeles	49	M	WNND	09/23/11	No
11-0127	10/27/11	Los Angeles	46	M	WNND	09/13/11	No
11-0128	10/20/11	Kern	30	M	WNND	09/28/11	No
11-0129	10/28/11	Stanislaus	71	M	WNF	09/11/11	No
Presumptive Viremic Blood Donors (Asymptomatic Infections)							
BD11-0018	10/24/11	Tulare	58	F			

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### Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Los Angeles	Los Angeles Co Veterinarian	Burbank	91506	American Crow	10/8/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90035	American Crow	10/7/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Simi Valley	90034	American Crow	10/9/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	91321	Fox Squirrel	10/13/11	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Veterinarian	Los Angeles	90012	American Crow	10/6/2011	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo	Sacramento	95822	Fox Squirrel	10/17/11	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo	Sacramento	95670	Fox Squirrel	10/18/11	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Tracy	95304	Yellow-billed Magpie	10/12/11	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Tracy	95304	Western Scrub-Jay	10/13/11	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Lathrop	95330	American Crow	10/13/11	WNV	Recent	RT-PCR

### Mosquitoes

County	Site Code	Pool #	Species	# in Pool	City	Collected	Virus	Method
Kern	KERN0000	2989	Unknown	50	Bakersfield	10/26/2011	WNV	RTPCR
Kern	KERN0038	2950	Cx. tarsalis	25	Shafter	10/19/2011	WNV	RTPCR
Kern	KERN0043	2974	Cx. quinquefasciatus	43	Shafter	10/20/2011	WNV	RTPCR
Kern	KERN0045	2947	Cx. quinquefasciatus	50	Buttonwillow	10/19/2011	WNV	RTPCR
Kern	KERN0115	2744	Cx. quinquefasciatus	50	Bakersfield	10/11/2011	WNV	RTPCR
Kern	KERN1005	2881	Cx. quinquefasciatus	33	Bakersfield	10/18/2011	WNV	RTPCR
Kern	KERN3016	2862	Cx. quinquefasciatus	50	Bakersfield	10/14/2011	WNV	RTPCR
Kern	KERN3029	2799	Cx. quinquefasciatus	50	Buttonwillow	10/12/2011	WNV	RTPCR
Kern	KERN3031	2876	Cx. quinquefasciatus	50	Shafter	10/18/2011	WNV	RTPCR
Los Angeles	GRLA2512	6461	Cx. quinquefasciatus	24	Los Angeles	10/20/2011	WNV	RTPCR
Los Angeles	GRLA2583	6444	Cx. quinquefasciatus	45	Studio City	10/20/2011	WNV	RTPCR
Los Angeles	GRLA2592	6463	Cx. quinquefasciatus	33	San Marino	10/20/2011	WNV	RTPCR
Los Angeles	GRLA2604	6462	Cx. quinquefasciatus	14	Los Angeles	10/20/2011	WNV	RTPCR
Los Angeles	GRLA2957	1545	Cx. quinquefasciatus	50	Hawaiian Gardens	10/12/2011	WNV	RTPCR
Los Angeles	GRLA2962	6451	Cx. quinquefasciatus	40	Chatsworth	10/20/2011	WNV	RTPCR
Los Angeles	GRLA3127	6455	Cx. quinquefasciatus	16	castaic	10/20/2011	WNV	RTPCR
San Bernardino	WVAL2020	1023	Cx. quinquefasciatus	10	Fwy CA 71	10/18/2011	WNV	RTPCR
San Bernardino	WVAL5007	993	Cx. quinquefasciatus	15	Rancho Cucamonga	10/17/2011	WNV	RTPCR
San Bernardino	WVAL6003	1006	Cx. quinquefasciatus	24	Ontario	10/17/2011	WNV	RTPCR
San Bernardino	WVAL6005	988	Cx. quinquefasciatus	48	Ontario	10/17/2011	WNV	RTPCR
San Bernardino	WVAL6005	997	Cx. quinquefasciatus	50	Ontario	10/17/2011	WNV	RTPCR
San Bernardino	WVAL6005	998	Cx. quinquefasciatus	50	Ontario	10/17/2011	WNV	RTPCR
San Bernardino	WVAL6005	999	Cx. quinquefasciatus	50	Ontario	10/17/2011	WNV	RTPCR
San Bernardino	WVAL6012	1001	Cx. quinquefasciatus	50	Ontario	10/17/2011	WNV	RTPCR
San Bernardino	WVAL6012	1002	Cx. quinquefasciatus	50	Ontario	10/17/2011	WNV	RTPCR
San Bernardino	WVAL6012	1003	Cx. quinquefasciatus	50	Ontario	10/17/2011	WNV	RTPCR
San Bernardino	WVAL7001	996	Cx. quinquefasciatus	31	Montclair	10/17/2011	WNV	RTPCR
San Bernardino	WVAL7002	994	Cx. quinquefasciatus	50	Montclair	10/17/2011	WNV	RTPCR
San Joaquin	SJCM8161	1284	Cx. pipiens	50	Ripon	10/24/2011	WNV	RTPCR
Sonoma	MARN1137	1637	Cx. erythrothorax	6	Petaluma	10/20/2011	WNV	RTPCR

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### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04	Band 05
Los Angeles	ANTV2667	Palmdale	10/19/2011	WNV	1055	1060			
Los Angeles	ANTV7947	Palmdale	10/19/2011	WNV	1043	1044	1046		
Los Angeles	GRLA2223	Rowland Heights	10/17/2011	WNV	3632	3634			
Los Angeles	GRLA2371	South El Monte	10/17/2011	WNV	1533				
Los Angeles	GRLA2465	Los Angeles	10/17/2011	WNV	1544				
Los Angeles	GRLA2651	Encino	10/18/2011	WNV	3622	3624	3626	3628	3630
Los Angeles	LACW1026	Beverly Hills	10/11/2011	WNV	1881				
Riverside	COAV0200	Mecca	10/17/2011	WNV	1242	1244	1248		
San Bernardino	SANB0003	Colton	10/18/2011	WNV	2532				

### TEST PROTOCOLS

#### **Humans:**

Specimens are tested by local laboratories with an IgM or IgG immunofluorescent assay (IFA) and/or an IgM enzyme immunoassay (EIA). Specimens with inconclusive results are forwarded to the California Department of Public Health Viral and Rickettsial Disease Laboratory (VRDL) for further testing or confirmation.

#### **Horses:**

Serum or brain tissue specimens from horses displaying neurological symptoms are submitted to the California Animal Health and Safety Laboratory (CAHFS) and tested by EIA and PRNT.

#### **Dead Birds and Tree Squirrels:**

Dead birds and tree squirrels are necropsied at CAHFS laboratory at University of California, Davis. Oral swabs from American Crows and kidney tissue from all other dead birds and squirrels are forwarded to the UC Davis Center for Vectorborne Diseases (CVEC) for West Nile virus testing using the singleplex RT-PCR Taqman assay and confirmed with a second primer set.

#### **Sentinel Chickens:**

Dried blood spot specimens from sentinel chickens are submitted to the California Department of Public Health Vector-Borne Disease Laboratory and tested for the presence of antibodies to West Nile, western equine encephalomyelitis (WEEV), and St. Louis encephalitis (SLEV) viruses by EIA and IFA. Positive samples are confirmed by western-blot or PRNT.

#### **Mosquito Pools:**

Mosquito pools are submitted to CVEC and screened for WEEV, SLEV, 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.