

## California Arbovirus Surveillance Bulletin #36

Week 42 Friday, October 21, 2011



### WEEKLY UPDATE

#### **Human Cases**

Nine new human cases of West Nile virus (WNV) were reported this week from Kern (1), Los Angeles (3), Orange (2), Riverside (1), San Joaquin (1), and Tulare (1) counties. To date this year, 122 WNV cases have been reported from 20 counties; of the 122 cases, 86 (70%) developed neuroinvasive disease. The median age for all cases is 58 years (range: 14-87 years) and 75 (61%) are male. Five fatalities have been reported from Los Angeles (3) and Kern (2) counties. Additionally, 22 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, 82 WNV cases had been reported from 14 counties.

**National Activity:** As of October 18, 2011, 524 human cases of WNV had been reported nationwide in 42 states and the District of Columbia: Alabama (3), Arizona (31), Arkansas (1), California (113), Colorado (7), Connecticut (9), Delaware (1), District of Columbia (1), Florida (20), Georgia (9), Idaho (1), Illinois (26), Indiana (9), Iowa (9), Kansas (2), Kentucky (3), Louisiana (8), Maryland (19), Massachusetts (5), Michigan (32), Minnesota (2), Mississippi (48), Missouri (7), Montana (1), Nebraska (23), Nevada (16), New Jersey (5), New Mexico (4), New York (36), North Carolina (2), North Dakota (4), Ohio (18), Pennsylvania (5), Rhode Island (1), South Dakota (2), Tennessee (16), Texas (9), Utah (3), Vermont (1), Virginia (7), West Virginia (1), Wisconsin (1), and Wyoming (3). Of the 524 cases, 354 (68%) developed neuroinvasive disease. As of October 18, 2011, a total of 32 WNV-related fatalities had been reported in Alabama (1), Arizona (2), 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**

Two equine cases of WNV were reported this week from Merced County. Both horses were unvaccinated for WNV and one was subsequently euthanized as a result of his illness. 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**

Thirty-nine WNV positive dead birds were reported this week from 16 counties: Contra Costa (6), El Dorado (1), Kings (2), Los Angeles (7), Merced (1), Orange (5), Placer (1), Riverside (1), Sacramento (3), San Bernardino (4), San Joaquin (3), Santa Clara (1), Solano (1), Stanislaus (1), Sutter (1), and Tulare (1). This is the first WNV positive dead bird reported from Solano County this year. In addition, four tree squirrels tested positive for WNV from Alameda (1) and Yolo (3) counties. These are first WNV tree squirrels reported from Yolo county; and the first detection of WNV activity in Alameda county in 2011. To date this year, 656 dead birds from 26 counties and 21 tree squirrels from 6 counties have tested positive for WNV. An additional 117 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.

*\*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**

Twenty-eight WNV positive mosquito pools were reported this week from the following 7 counties: Los Angeles (15), Riverside (3), Sacramento (3), San Bernardino (4), San Joaquin (1), Sonoma (1), and Stanislaus (1). This is the first detection of WNV activity in Sonoma County this year. In 2011, 2,030 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**

Twenty-one WNV seroconversions were reported this week from 13 flocks in the following 8 counties: Butte (3), Kern (4), Los Angeles (3), Merced (6), Placer (1), Sacramento (2), Sutter (1), and Tulare (1). To date this year, 332 WNV positive chickens have been detected among 67 flocks in 15 counties.

At this time last year, 271 chickens (59 flocks) had tested positive for WNV from 20 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)

## California Arbovirus Surveillance Bulletin #36

Week 42 Friday, October 21, 2011

2010 & 2011 YTD West Nile Virus Comparisons		
	2010	2011
Total # Dead Bird Reports	9,858	9,149
# Positive Counties	35	34
# Human Cases	82	122
# Horse Cases	19	14
# Positive Dead Birds / # Tested	401 / 2,053	656 / 2,282
# Positive Mosquito Pools / # Tested	1,294 / 29,220	2,030 / 30,933
# Seroconversions / # Tested	271 / 23,958	332 / 20,325
# Positive Squirrels / # Tested	21 / 104	21 / 95

### 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	14	
Contra Costa	3		38	7		
El Dorado	1		2			
Fresno	7	5	15	123		
Glenn	1		2		5	
Imperial				3	3	
Inyo				2		
Kern	14	1	3	376	122	
Kings			9	63		
Lake			1	3		
Los Angeles	49	1	215	448	53	14
Madera	1		3	5		
Merced	1	3	9	11	6	
Nevada			1			
Orange	8		44	87		1
Placer	1	2	10	48	5	
Riverside	4		7	55	33	
Sacramento	1		131	381	5	1
San Bernardino	3		32	132	40	
San Diego				1		
San Joaquin	4		24	50		
Santa Barbara	1					
Santa Clara			30	16		1
Shasta				1		
Solano			1		1	
Sonoma				1		
Stanislaus	9		24	100	7	
Sutter			2	26	7	
Tehama			1			
Tulare	9	1	42	82	6	
Ventura			1			
Yolo		1	8	7		3
Yuba	1		1	1	4	
<b>Totals</b>	<b>122</b>	<b>14</b>	<b>656</b>	<b>2,030</b>	<b>311</b>	<b>21</b>

# California Arbovirus Surveillance Bulletin #36

Week 42 Friday, October 21, 2011

## TESTING SUMMARIES

### Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	9	0	0	0	0	0
	YTD	122	0	0	0	0	0
Horse Cases	Week	2	0	0	0	0	0
	YTD	14	0	0	0	0	0

### Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	84	39
	YTD	2,282	656
Tree Squirrels	Week	5	4
	YTD	95	21

### Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	706	21	0	0
	YTD	20,325	332	0	0
Mosquito Pools: RT-PCR	Week	843	28	0	0
	YTD	30,620	2,011	0	0
Mosquito Pools: RAMP	Week	2	0	N/A	N/A
	YTD	313	19	N/A	N/A

## NEW POSITIVES

### Humans

WNV Cases							
ID	Report Date	County	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
11-0114	10/17/11	San Joaquin	46	M	WNF	09/02/11	NO
11-0115	10/18/11	Kern	57	M	WNND	09/17/11	NO
11-0116	10/18/11	Riverside	81	F	WNND	09/17/11	NO
11-0117	10/20/11	Orange	70	F	WNND	WEEK 38	NO
11-0118	10/20/11	Orange	67	M	WNND	WEEK 38	NO
11-0119	10/20/11	Tulare	18	M	WNND	09/10/11	NO
11-0120	10/20/11	Los Angeles	63	M	WNND	10/01/11	NO
11-0121	10/20/11	Los Angeles	63	M	WNND	09/10/11	NO
11-0122	10/20/11	Los Angeles	65	F	WNND	09/08/11	NO
Presumptive Viremic Blood Donors (Asymptomatic Infections)							
BD11-0017	10/20/11	Los Angeles	45	M			

## California Arbovirus Surveillance Bulletin #36

Week 42 Friday, October 21, 2011

### Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Alameda	Alameda County MAD	Oakland	94611	Fox Squirrel	10/12/2011	WNV	Recent	RT-PCR
Contra Costa	Contra Costa MVCD	Oakley	94561	American Crow	10/11/2011	WNV	Recent	RAMP
Contra Costa	Contra Costa MVCD	Concord	94521	American Crow	10/11/2011	WNV	Recent	RAMP
Contra Costa	Contra Costa MVCD	Pleasant Hill	94523	American Crow	10/12/2011	WNV	Recent	RAMP
Contra Costa	Contra Costa MVCD	Concord	94518	American Crow	10/13/2011	WNV	Recent	RAMP
Contra Costa	Contra Costa MVCD	Pleasant Hill	94523	American Crow	10/14/2011	WNV	Recent	RAMP
Contra Costa	Contra Costa MVCD	Concord	94518	American Crow	10/14/2011	WNV	Recent	RAMP
El Dorado	El Dorado Co Env Mgmt	Cool	95614	Golden-Crowned Sparrow	10/3/2011	WNV	Recent	RT-PCR
Kings	Kings MAD	Hanford	93230	American Crow	10/10/2011	WNV	Recent	RT-PCR
Kings	Kings MAD	Hanford	93230	American Crow	10/12/2011	WNV	Recent	RT-PCR
Los Angeles	Greater LA VCD-Sylmar	Newhall	91321	American Crow	10/11/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Vet	Torrance	90503	American Crow	9/30/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Vet	Woodland Hills	91367	American Crow	9/29/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Vet	West Hollywood	90069	American Crow	10/1/2011	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Vet	Culver City	90230	American Crow	10/18/2011	WNV	Recent	VecTest
Los Angeles	Los Angeles Co Vet	Torrance	90501	American Crow	10/4/2011	WNV	Chronic	RT-PCR
Los Angeles	LA Co West VCD	Culver City	90230	American Crow	10/6/2011	WNV	Recent	RT-PCR
Los Angeles	LA Co West VCD	Los Angeles	90046	American Crow	10/12/2011	WNV	Recent	RT-PCR
Merced	Merced Co MAD	Merced	95341	Yellow-billed Magpie	10/5/2011	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Fullerton	92821	American Crow	10/3/2011	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Anaheim	92804	American Crow	10/5/2011	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Fullerton	92831	American Crow	10/5/2011	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Garden Grove	92840	American Crow	10/5/2011	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Fullerton	92832	American Crow	10/13/2011	WNV	Recent	RT-PCR
Placer	Placer MVCD	Auburn	95603	Western Scrub-Jay	10/3/2011	WNV	Recent	RT-PCR
Riverside	Riverside Co VCP	Hemet	92545	American Crow	10/3/2011	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95758	House Finch	10/5/2011	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Rancho Cordova	95670	American Crow	10/7/2011	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Sacramento	95811	American Crow	10/10/2011	WNV	Recent	RT-PCR
San Bernardino	West Valley MVCD	Chino	91710	American Crow	9/26/2011	WNV	Recent	RT-PCR
San Bernardino	West Valley MVCD	Rancho Cucamonga	91701	American Crow	9/29/2011	WNV	Recent	RT-PCR
San Bernardino	West Valley MVCD	Chino Hills	91709	American Crow	10/10/2011	WNV	Recent	RT-PCR
San Bernardino	West Valley MVCD	Montclair	91763	American Crow	10/14/2011	WNV	Recent	VecTest
San Joaquin	San Joaquin Co MVCD	Manteca	95337	Western Scrub-Jay	9/30/2011	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Lathrop	95330	American Crow	10/3/2011	WNV	Recent	RT-PCR
San Joaquin	San Joaquin Co MVCD	Manteca	95337	Western Scrub-Jay	10/4/2011	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95121	American Crow	10/9/2011	WNV	Recent	VecTest
Solano	Solano Co MAD	Dixon	95620	American Crow	10/7/2011	WNV	Recent	RAMP
Stanislaus	Turlock MAD	Patterson	95363	American Crow	10/6/2011	WNV	Recent	RT-PCR
Sutter	Sutter-Yuba MVCD	Live Oak	95953	Yellow-billed Magpie	10/5/2011	WNV	Recent	RT-PCR
Tulare	Tulare MAD	Porterville	93257	American Crow	10/11/2011	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95618	Eastern Gray Squirrel	10/3/2011	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95618	Eastern Gray Squirrel	10/5/2011	WNV	Recent	RT-PCR
Yolo	Sacramento-Yolo MVCD	Davis	95618	Eastern Gray Squirrel	10/11/2011	WNV	Recent	RT-PCR

### Mosquitoes

County	Site Code	Pool #	Species	# in Pool	Collected	City	Virus	Method
Los Angeles	GRLA2113	1592	Cx. quinquefasciatus	50	10/13/2011	Los Angeles	WNV	RTPCR
Los Angeles	GRLA2527	6417	Cx. quinquefasciatus	50	10/13/2011	Los Angeles	WNV	RTPCR
Los Angeles	GRLA2549	6437	Cx. quinquefasciatus	49	10/13/2011	Granada Hills	WNV	RTPCR
Los Angeles	GRLA2552	6434	Cx. quinquefasciatus	40	10/13/2011	Glendale	WNV	RTPCR
Los Angeles	GRLA2552	6435	Cx. quinquefasciatus	13	10/13/2011	Glendale	WNV	RTPCR
Los Angeles	GRLA2636	6406	Cx. quinquefasciatus	50	10/12/2011	Van Nuys	WNV	RTPCR
Los Angeles	GRLA2637	6400	Cx. quinquefasciatus	26	10/12/2011	Van Nuys	WNV	RTPCR

## California Arbovirus Surveillance Bulletin #36

Week 42 Friday, October 21, 2011

Los Angeles	GRLA2651	6403	Cx. quinquefasciatus	50	10/12/2011	Encino	WNV	RTPCR
Los Angeles	GRLA2952	1560	Cx. quinquefasciatus	50	10/12/2011	South Whittier	WNV	RTPCR
Los Angeles	GRLA2956	1549	Cx. quinquefasciatus	50	10/12/2011	Lakewood	WNV	RTPCR
Los Angeles	GRLA3045	1564	Cx. quinquefasciatus	16	10/12/2011	Whittier	WNV	RTPCR
Los Angeles	GRLA3052	1565	Cx. quinquefasciatus	38	10/12/2011	La Habra Heights	WNV	RTPCR
Los Angeles	GRLA3053	1566	Cx. quinquefasciatus	12	10/12/2011	Hacienda Heights	WNV	RTPCR
Los Angeles	LACW1010	334	Cx. quinquefasciatus	16	10/11/2011	Los Angeles	WNV	RTPCR
Los Angeles	LACW1024	338	Cx. quinquefasciatus	50	10/12/2011	Calabasas	WNV	RTPCR
Riverside	COAV0131	2653	Cx. tarsalis	35	10/12/2011	Oasis	WNV	RTPCR
Riverside	COAV0533	2647	Cx. tarsalis	50	10/12/2011	Mecca	WNV	RTPCR
Riverside	COAV0057	2608	Cx. tarsalis	50	10/12/2011	Mecca	WNV	RTPCR
Sacramento	SAYO203003	6190	Cx. pipiens	36	9/29/2011	Antelope	WNV	RTPCR
Sacramento	SAYO234010	6195	Cx. tarsalis	31	9/29/2011	Sacramento	WNV	RTPCR
Sacramento	SAYO234013	6471	Cx. pipiens	35	10/18/2011	Elk Grove	WNV	RTPCR
San Bernardino	WVAL5005	942	Cx. quinquefasciatus	50	10/10/2011	Rancho Cucamonga	WNV	RTPCR
San Bernardino	WVAL6005	950	Cx. quinquefasciatus	26	10/10/2011	Ontario	WNV	RTPCR
San Bernardino	WVAL6005	952	Cx. quinquefasciatus	50	10/10/2011	Ontario	WNV	RTPCR
San Bernardino	WVAL7001	966	Cx. quinquefasciatus	10	10/10/2011	Montclair	WNV	RTPCR
San Joaquin	SJCM8161	1264	Cx. pipiens	43	10/18/2011	Ripon	WNV	RTPCR
Sonoma	MARN0002	1528	Cx. pipiens	2	10/12/2011	Santa Rosa	WNV	RTPCR
Stanislaus	TRLK0420	1062	Cx. pipiens	22	10/18/2011	Turlock	WNV	RTPCR

### Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03
Butte	BUCO0002	Oroville	10/10/2011	WNV	1113	1115	
Butte	BUCO0004	Gridley	10/10/2011	WNV	1139		
Kern	KERN0107	Arvin	10/10/2011	WNV	1652		
Kern	KERN0118	Buttonwillow	10/10/2011	WNV	1611	1614	
Kern	KERN3028	Bakersfield	10/10/2011	WNV	1639		
Los Angeles	SGVA0004	Arcadia	10/12/2011	WNV	2718	2719	2720
Merced	MERC0001	Merced	10/14/2011	WNV	1979	1981	
Merced	MERC0502	Hilmar	10/14/2011	WNV	2016		
Merced	MERC0006	Merced	10/14/2011	WNV	2000	2002	2005
Placer	PLCR0017	Sheridan	10/10/2011	WNV	2127		
Sacramento	SAYO245019	Wilton	10/17/2011	WNV	2383	2384	
Sutter	SUYA0014	Sutter	10/13/2011	WNV	3104		
Tulare	DLNO0021	Earlimart	10/13/2011	WNV	1440		

## California Arbovirus Surveillance Bulletin #36

Week 42 Friday, October 21, 2011

### 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-PC

---