## California Arbovirus Surveillance Bulletin # 29

Week 36 Friday, September 7, 2007

## Weekly and Year-To-Date Summaries



### Humans

Twenty-six new human cases of West Nile virus (WNV) were reported this week from the following 13 counties: Butte (1), Imperial (1), Kern (9), Kings (1), Los Angeles (2), Orange (1), Sacramento (3), San Bernardino (1), San Diego (2), San Joaquin (1), Shasta (2), Stanislaus (1), and Tehama (1). **These are the first human cases reported from San Diego County this year.** A total of 198 WNV cases have been reported in 2007, for a statewide incidence of 0.58 cases per 100,000 people. Of the 198 cases reported, 113 (57%) are classified as West Nile fever, 73 (37%) are classified as neuroinvasive disease, and 12 (6%) are of unknown clinical presentation. The median age of all cases is 53 years (range: 2-96 years), and 105 cases (53%) are male. Ten WNV-related fatalities have been reported in 2007 from Colusa (1), Fresno (1), Kern (4), Kings (1), Los Angeles (1), Sacramento (1), and San Joaquin (1) counties. Thirty-three WNV-positive blood donation samples have been reported this year; 14 of the individuals subsequently developed symptoms and were reclassified as cases.

### Horses

One new equine case of WNV was reported this week from San Luis Obispo County; **this is the first WNV-positive horse reported from San Luis Obispo County this year.** In 2007, 19 horses from 11 counties have tested positive for WNV, of which eight were euthanized or died.

### Dead Birds & Tree Squirrels

Forty-three WNV-positive dead birds were reported this week from 16 counties: Colusa (1), Fresno (6), Kern (1), Kings (1), Los Angeles (12), Merced (2), Placer (1), Sacramento (5), San Bernardino (1), San Francisco (1), Santa Clara (2), Siskiyou (1), Stanislaus (5), Tehama (1), Tulare (2), and Yolo (1). This is the first indication of WNV activity in San Francisco County in 2007. A total of 832 dead birds from 48 counties have tested positive for WNV this year.

One eastern gray squirrel from Sacramento County tested positive for WNV this week. Eleven squirrels from six counties have tested positive for WNV this year.

Reminder: Local agencies should check the Surveillance Gateway for their county DYCAST bird reporting updates.

### **Mosquito Pools**

Fifty-nine new WNV-positive mosquito pools were reported this week from 15 counties: Colusa (1), Contra Costa (1), Fresno (4), Kern (18), Los Angeles (5), Orange (1), Placer (3), Sacramento (3), San Bernardino (1), San Diego (2), San Joaquin (6), Santa Clara (2), Stanislaus (3), Tehama (1), and Tulare (8). **These are the first WNV-positive mosquito pools detected in Colusa and San Diego counties this year.** A total of 819 mosquito pools from 28 counties have tested positive for WNV this year.

Four pools tested positive for western equine encephalomyelitis virus (WEE) this week from Fresno (1) and Kern (3) counties. **This is the first detection of WEE in Fresno County this year.** In 2007, 15 WEE-positive pools have been detected in Fresno (1) and Kern (14) counties.

### Sentinel Chickens

Forty-two new WNV seroconversions were reported this week from 13 counties: Butte (4), Fresno (10), Kern (11), Lake (1), Merced (1), Sacramento (1), San Diego (1), San Joaquin (2), Solano (4), Stanislaus (4), Sutter (1), Tulare (1), and Yuba (1) counties. **These are the first WNV-positive chickens reported from San Diego and Tulare counties.** A total of 231 sentinel chickens from 25 counties have tested positive for WNV this year.

No new WEE seroconversions were detected this week. Two chickens from Kern County have tested positive for WEE this year.

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

County	Humans*	Horses	Dead Birds	Element and Co Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			7			
Amador			1	1		
Butte	11		27	5	18	
Calaveras	11		3	5	10	
Calaveras	1		2	1	2	
Contra Costa	I		15	23	3	
				23	3	
El Dorado	40	4	2	54	20	2
Fresno	10	1	96	54	30	3
Glenn	7		32	1	8	
Humboldt	-		2		10	
Imperial	3			4	16	
Inyo			1			
Kern	100	3	106	194	50	
Kings	3	1	3	25	8	
Lake			2	6	2	
Lassen			2			
Los Angeles	8		68	60	1	
Madera			3	7		
Mendocino	1		1			1
Merced	3		26	1	1	
Modoc			1			
Nevada			2			
Orange	3		9	4		
Placer			12	21	3	
Plumas			1			
Riverside	1		3	22	22	
Sacramento	13	2	82	122	10	1
San Bernardino	2		11	3	7	
San Diego	2	3	11	2	1	
San Francisco	_	-	1	_		
San Joaquin	4	1	30	133	8	1
San Luis Obispo		1	5	100	0	
San Mateo			1			1
Santa Barbara			1			
Santa Clara	2		52	9		4
Santa Cruz	<u> </u>		4			т 
Shasta	4	2	4	16	2	
Siskiyou	4	2	2		۷	
	4				E	
Solano	1	2	1		5	
Sonoma	1	2	1		0	
Stanislaus	11		106	55	9	
Sutter	2		1	21	10	
Tehama	4	1	18	2	7	
Trinity		_	1			
Tulare		2	15	18	1	
Tuolumne			1			
Ventura			3			
Yolo	1		16	7	3	
Yuba			1	2	4	
Totals	198	19	832	819	231	11

\*Total does not include asymptomatic infections

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2007 & 2006 YTD West Nile Virus Comparisons									
	2007	2006							
Total # Dead Bird Reports	24,968	37,489							
# Positive Counties	49	51							
# Human Cases/ # Tested	198 / 814	159 / 1,003							
# Horse Cases/ # Tested	19 / 273	38 / 338							
# Positive Dead Birds/ # Tested	832 / 4,156	931 / 4,423							
# Positive Mosquito Pools/ # Tested	819 / 20,995	683 / 17,577							
# Positive Chicken Sera/ # Tested	231 / 20,536	399 / 24,874							
# Positive Squirrels/ # Tested	11 / 143	20 / 91							

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## TEST SUMMARIES

## Human & Horse Cases

		Number		WNV		WEE		SLE		Other	
		Tested	Imported	Local	Imported	Local	Imported	Local	Imported	Local	
	Humans Tested	Week	56	0	26	0	0	0	0	0	0
		YTD	814	0	198	0	0	0	0	0	0
	Horses Tested	Week	10	0	1	0	0	0	0	0	0
Horses resteu	YTD	273	0	19	0	0	0	0	0	0	

## Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead	Week	117	43
Birds	YTD	4,156	832
Tree	Week	10	1
Squirrels	YTD	143	11

## Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	935	42	0	0
	YTD	20,536	231	2	0
Mosquito Pools:	Week	913	50	4	0
RT-PCR	YTD	19,117	655	15	0
Mosquito Pools:	Week	86	9	N/A	N/A
RAMP	YTD	1,878	164	N/A	N/A

## **POSITIVES: 9/3/07-9/7/07**

County	City	Zip Code	Species	Reported	Tested	Test Method
Colusa	Princeton	95970	American Crow	8/28/2007	9/4/2007	RT-PCR
Fresno	Fresno	93722	American Crow	8/23/2007	9/4/2007	RT-PCR
Fresno	Fresno	93711	American Crow	8/27/2007	9/4/2007	VecTest
Fresno	Fresno	93706	American Crow	8/29/2007	9/5/2007	VecTest
Fresno	Fresno	93723	House Finch	8/27/2007	9/4/2007	RT-PCR
Fresno	Fresno	93722	Western Scrub-Jay	8/23/2007	9/4/2007	RT-PCR
Fresno	Fresno	93711	Western Scrub-Jay	8/27/2007	9/4/2007	RT-PCR
Kern	Bakersfield	93305	American Crow	8/24/2007	9/4/2007	RT-PCR
Kings	Lemoore	93245	American Crow	8/22/2007	9/4/2007	RT-PCR
Los Angeles	Chatsworth	91311	American Crow	8/26/2007	9/4/2007	RT-PCR
Los Angeles	Chatsworth	91311	American Crow	8/27/2007	9/4/2007	RT-PCR
Los Angeles	Encino	91316	American Crow	8/27/2007	9/4/2007	RT-PCR
Los Angeles	North Hills	91343	American Crow	8/22/2007	9/4/2007	RT-PCR
Los Angeles	North Hollywood	91601	American Crow	8/23/2007	9/4/2007	RT-PCR
Los Angeles	North Hollywood	91601	American Crow	8/27/2007	9/4/2007	RT-PCR
Los Angeles	Sherman Oaks	91423	American Crow	8/27/2007	9/4/2007	RT-PCR
Los Angeles	Van Nuys	91401	American Crow	8/27/2007	9/4/2007	RT-PCR
Los Angeles	West Covina	91790	Common Raven	8/22/2007	9/4/2007	RT-PCR
Los Angeles	Winnetka	91306	American Crow	8/27/2007	9/4/2007	RT-PCR
Los Angeles	Winnetka	91306	American Crow	8/27/2007	9/4/2007	RT-PCR
Los Angeles	Woodland Hills	91367	Common Raven	8/27/2007	9/4/2007	RT-PCR
Merced	Atwater	95301	American Crow	8/22/2007	9/4/2007	RT-PCR
Merced	Merced	95348	Yellow-billed Magpie	8/27/2007	9/4/2007	RT-PCR
Placer	Newcastle	95658	American Crow	8/29/2007	9/4/2007	RT-PCR
Sacramento	Rancho Cordova	95670	Western Scrub-Jay	8/28/2007	9/4/2007	RT-PCR
Sacramento	Sacramento	95834	American Crow	8/27/2007	9/4/2007	RT-PCR
Sacramento	Sacramento	95822	American Robin	8/23/2007	9/4/2007	RT-PCR
Sacramento	Sacramento	95841	Eastern Gray Squirrel	8/22/07	9/4/07	RT-PCR
Sacramento	Sacramento	95841	Yellow-billed Magpie	8/25/2007	9/4/2007	RT-PCR
Sacramento	Sacramento	95833	Yellow-billed Magpie	8/27/2007	9/4/2007	RT-PCR
San Bernardino	Rancho Cucamonga	91739	Common Raven	8/23/2007	9/4/2007	RT-PCR
San Francisco	San Francisco	94134	House Finch	8/23/2007	9/4/2007	RT-PCR
Santa Clara	Campbell	95008	American Crow	8/28/2007	9/4/2007	VecTest
Santa Clara	Los Gatos	95032	American Crow	8/27/2007	9/4/2007	VecTest
Siskiyou	Yreka	96097	Western Scrub-Jay	8/24/2007	9/4/2007	RT-PCR
Stanislaus	Ceres	95307	House Finch	8/26/2007	9/4/2007	RT-PCR
Stanislaus	Hughson	95326	American Crow	8/24/2007	9/4/2007	RT-PCR
Stanislaus	Hughson	95326	Yellow-billed Magpie	8/24/2007	9/4/2007	RT-PCR
Stanislaus	Hughson	95326	Yellow-billed Magpie	8/26/2007	9/4/2007	RT-PCR
Stanislaus	Modesto	95358	Western Scrub-Jay	8/27/2007	9/4/2007	RT-PCR
Tehama	Red Bluff	96080	European Starling	8/23/2007	9/4/2007	RT-PCR
Tulare	Tulare	93274	American Crow	8/28/2007	9/4/2007	RT-PCR
Tulare	Visalia	93291	Western Scrub-Jay	8/28/2007	9/4/2007	RT-PCR
Yolo	Davis	95618	Western Scrub-Jay	8/24/2007	9/4/2007	RT-PCR

Mosquit	o Pools
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County	Site Code	Pool #	Species	# in Pool	Collected	City	Virus
Colusa	CLSA1012	111	Cx tarsalis	50	8/30/07	Colusa	WNV
Contra Costa	CNTR3802	376	Cx tarsalis	41	8/29/2007	Antioch	WNV
Fresno	CNSL1434	194	Cx quinquefasciatus	50	8/31/07	Clovis	WNV
Fresno	CNSL1435	191	Cx quinquefasciatus	50	8/31/07	Clovis	WNV
Fresno	CNSL1435	192	Cx quinquefasciatus	50	8/31/07	Clovis	WNV
Fresno	CNSL1435	193	Cx stigmatosoma	11	8/31/07	Clovis	WNV
Fresno	FRWS0010	52	Cx tarsalis	50	9/5/07	Dos Palos	WEE
Kern	AFSB0056	5422	Cx quinquefasciatus	50	8/28/07	Buttonwillow	WNV
Kern	AFSB0062	5440	Cx tarsalis	50	8/28/07	Lost Hills	WNV
Kern	AFSB0108	5406	Cx quinquefasciatus	50	8/28/07	Bakersfield	WNV
Kern	AFSB1009	5397	Cx quinquefasciatus	50	8/28/07	Bakersfield	WNV
Kern	AFSB1009	5400	Cx quinquefasciatus	50	8/28/07	Bakersfield	WNV
Kern	AFSB1009	5401	Cx quinquefasciatus	41	8/28/07	Bakersfield	WNV
Kern	AFSB2011	5410	Cx quinquefasciatus	50	8/28/07	Bakersfield	WNV
Kern	AFSB2011	5412	Cx quinquefasciatus	33	8/28/07	Bakersfield	WNV
Kern	KERN0009	403	Cx quinquefasciatus	34	8/28/07	Bakersfield	WNV
Kern	KERN0015	397	Cx tarsalis	50	8/28/07	Pumpkin Center	WEE
Kern	KERN0015	398	Cx quinquefasciatus	50	8/28/07	Pumpkin Center	WNV
Kern	KERN0031	408	Cx tarsalis	50	8/29/07	Arvin	WEE
Kern	KERN0032	413	Cx tarsalis	50	8/29/07	Arvin	WNV
Kern	KERN0044	420	Cx quinquefasciatus	50	8/29/07	Shafter	WNV
Kern	KERN0046	421	Cx tarsalis	9	8/29/07	Wasco	WNV
Kern	KERN0083	411	Cx tarsalis	50	8/29/07	Arvin	WEE
Kern	KERN0083	411	Cx tarsalis	50	8/29/07	Arvin	WNV
Kern	KERN2001	425	Cx quinquefasciatus	29	8/31/07	Bakersfield	WNV
Kern	KERN2020	434	Cx quinquefasciatus	48	8/31/07	Bakersfield	WNV
Kern	KERN3005	409	Cx tarsalis	50	8/29/07	Bakersfield	WNV
Kern	KERN3005	410	Cx tarsalis	50	8/29/07	Bakersfield	WNV
Los Angeles	GRLA2671	5808	Cx tarsalis	50	8/31/07	Granada Hills	WNV
Los Angeles	GRLA2674	5827	Cx quinquefasciatus	37	8/31/07	Granada Hills	WNV
Los Angeles	SGVA0062	22	Cx tarsalis	30	8/23/07	West Covina	WNV
Los Angeles	SGVA0063	26	Cx quinquefasciatus	17	8/30/07	West Covina	WNV
Los Angeles	SGVA9999	24	Cx quinquefasciatus	40	8/29/07	West Covina	WNV
Orange	ORCO2	590	Cx quinquefasciatus	39	8/29/2007	Fullerton	WNV
Placer	PLCR0026	454	Cx tarsalis	50	8/29/07	Sheridan	WNV
Placer	PLCR0296	444	Cs particeps	5	8/28/07	Auburn	WNV
Placer	PLCR0467	445	Cx tarsalis	50	8/28/07	Roseville	WNV
Sacramento	SAYO4225	5664	Cx pipiens	12	8/31/2007	Rancho Cordova	WNV
Sacramento	SAY07000	5858	Cx pipiens	50	9/5/2007	Elk Grove	WNV
Sacramento	SAY07005	5787	Cx pipiens	23	9/5/2007	Rancho Cordova	WNV
Sacramento	SA107003	5/0/	ox pipieris	20	3/3/2007	Rancho	VVINV
San Bernardino	WVAL5005	572	Cx quinquefasciatus	49	8/28/07	Cucamonga	WNV
San Diego	SAND0061	69	Cx quinquefasciatus	35	8/7/07	Oceanside	WNV
San Diego	SAND0098	77	Cx quinquefasciatus	50	8/16/07	San Diego	WNV
San Joaquin	SJCM7016	1583	Cx pipiens	14	8/31/2007	Tracy	WNV
San Joaquin	SJCM8018	1577	Cx pipiens	50	8/31/2007	El Rancho	WNV
San Joaquin	SJCM8020	1580	Cx tarsalis	29	8/31/2007	Acampo	WNV
Jan Joaquin	300110020	1000			5,51,2001	, touripo	

San Joaquin	SJCM8020	1582	Cx pipiens	19	8/31/2007	Acampo	WNV
San Joaquin	SJCM8097	1575	Cx pipiens	42	8/31/2007	Banta	WNV
Santa Clara	STCL	214	Cx tarsalis	3	8/24/07	Saratoga	WNV
Santa Clara	STCL	249	Cx tarsalis	2	08/29/07	San Jose	WNV
Stanislaus	TRLK0516	1437	Cx tarsalis	8	8/28/07	Denair	WNV
Stanislaus	TRLK0718	1484	Cx pipiens	50	9/5/07	Turlock	WNV
Stanislaus	TRLK0718	1488	Cx pipiens	50	9/5/07	Turlock	WNV
Tehama	TEHA0072	13	Cx tarsalis	50	8/29/07	Corning	WNV
Tulare	DLTA2301	252	Cx quinquefasciatus	50	9/5/07	Kingsburg	WNV
Tulare	DLTA2301	256	Cx quinquefasciatus	50	9/5/07	Kingsburg	WNV
Tulare	DLTA2301	257	Cx quinquefasciatus	50	9/5/07	Kingsburg	WNV
Tulare	DLTA2301	259	Cx quinquefasciatus	50	9/5/07	Kingsburg	WNV
Tulare	DLTA2301	273	Cx quinquefasciatus	50	9/5/07	Kingsburg	WNV
Tulare	DLTA2304	268	Cx quinquefasciatus	50	9/5/07	Traver	WNV
Tulare	DLTA9023	246	Cx quinquefasciatus	50	8/29/07	Porterville	WNV
Tulare	DLTA9024	247	Cx tarsalis	12	8/29/07	Porterville	WNV

## **Sentinel Chickens**

<b>O</b> surface		Nearest	Date	10	Band 01	Band 02	Band 03	Band 04	Band 05	Band 06	Band 07
County	Site Code	City	Bled	Virus							
Butte	BUCO0002	Oroville	8/20/2007	WNV	1100	1102	1104				
Butte	BUCO0004	Gridley	8/20/2007	WNV	1127						
Fresno	CNSL5006	Sanger	8/27/2007	WNV	1462	1465	1466				
Fresno	CNSL5007	Laton	8/27/2007	WNV	1497	1499	1500	1501	1502	1505	1506
Kern	KERN0102	Buttonwillow	8/20/2007	WNV	1792	1795	1796	1797			
Kern	KERN0104	Old River	8/20/2007	WNV	1914						
Kern	KERN0107	Arvin	8/20/2007	WNV	1838						
Kern	KERN0111	Arvin	8/20/2007	WNV	1841						
Kern	KERN0113	Bakersfield	8/20/2007	WNV	1862	1864	1867	1870			
Lake	LAKE1000	Upper Lake	8/22/2007	WNV	1961						
Merced	MERC0501	El Nido	8/13/2007	WNV	2293						
Sacramento	SAY07000	Elk Grove	8/28/2007	WNV	2624						
San Diego	SAND0057	Sorrento Valley	8/15/2007	WNV	2890						
San Joaquin	SJCM9901	Lodi	8/27/2007	WNV	2933	2934					
Solano	SOLA0010	Vacaville	8/21/2007	WNV	3157						
Solano	SOLA0125	Cordelta	8/21/2007	WNV	3161	3162	3165				
Stanislaus	EAST1947	Modesto	8/22/2007	WNV	1583	1585	1588	1589			
Sutter	SUYA0007	Live Oak	8/23/2007	WNV	3250						
Tulare	TLRE0012	Alpaugh	8/15/2007	WNV	3318						
Yuba	SUYA0030	Marysville	8/23/2007	WNV	3193						

## California Arbovirus Surveillance Bulletin # 29

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## NATIONAL COMMENTS

As of September 4, 2007, WNV activity had been reported from 45 states, New York City, and Puerto Rico. A total of 906 human cases had been reported nationwide in the following 33 states: Alabama (8), Arizona (16), Arkansas (5), California (172), Colorado (72), Connecticut (4), Florida (3), Georgia (11), Idaho (24), Illinois (11), Iowa (9), Kansas (10), Kentucky (1), Louisiana (2), Maryland (1), Minnesota (50), Mississippi (44), Missouri (15), Montana (50), Nebraska (46), Nevada (3), New Mexico (19), North Dakota (63), Ohio (1), Oklahoma (26), Oregon (11), Pennsylvania (1), South Dakota (81), Tennessee (3), Texas (18), Utah (6), Virginia (1), and Wyoming (119). Of the 906 cases reported, 280 (31%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the cases was 49 years (range: 15 months-96 years) and 55% were male. A total of 26 human fatalities had been reported from Alabama (1), Arkansas (1), California (10), Colorado (1), Florida (1), Illinois (1), Mississippi (1), Montana (1), North Dakota (1), Nebraska (1), Oklahoma (3), South Dakota (3), and Wyoming (1). For the latest updates about WNV activity in the United States, please visit the CDC WNV website at <a href="http://www.cdc.gov/ncidod/dvbid/westnile/index.htm">http://www.cdc.gov/ncidod/dvbid/westnile/index.htm</a>.

## **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 by plaque reduction neutralization test (PRNT).

### 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:**

All bird and tree squirrel 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 and 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 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 are submitted to VRDL and 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. Positive samples are confirmed by western-blot or PRNT.

### **Mosquito Pools:**

Mosquito pools are submitted to CVEC and 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, California Department of Public Health, 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: <u>tina.feiszli@cdph.ca.gov</u>