

California Analytica

Analytics for Health



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OB

Oscar Biondi
Water Quality Certification Program
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

STATE WATER RESOURCES
CONTROL BOARD
2014 APR 17 PM 12:53
DIV OF WATER RIGHTS
SACRAMENTO

April 15, 2014

RE: **SPK-2014-00187 - Emergency Drought Barriers project**

Dear Mr. Biondi,

In response to the request for public comment on the application by the California Department of Water Resources to construct barriers in Steamboat and Sutter sloughs, I offer the following comment.

A significant consequence of this action will be to increase stationary surface water in the Delta at a time when mosquito-laying activity is at its peak. This will lead to a substantial increase in the public's risk of exposure to vector-borne diseases, particularly West Nile virus. Yet the proposed action does not include any assessment of this risk nor propose surveillance or mitigation activities.

According to the California Department of Public Health, "The statewide WNV minimum infection rate in mosquitoes and the sentinel chicken sero-conversion rate were higher in 2012 than in any other year since surveillance began for WNV in California in 2000".¹ The number of documented human cases of West Nile Virus in Sacramento, San Joaquin, Solano and Yolo counties has similarly expanded over the last three years. In 2012, 60 human cases of WNV were registered. The prevalence of the virus has now expanded rapidly so that in Sacramento and Yolo counties nearly 50% of all birds tested were positive for WNV. Moreover the season for WNV has expanded. In 2014 positive tests have already been registered in 4 counties. In 2012, the dates from first to last test ranged from March 28 to December 4.² It must therefore be considered that there is practically no "safe period" when WNV is not a threat.

¹ 2012 Annual Report, Vector-borne Disease Section, California Department of Public Health, p 17. Available on line at the CDPH website.

² 2012 Annual Report. Vector-borne Disease Section, California Department of Public Health.

2003-2013 WNV ACTIVITY SUMMARY

Element	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Human cases (fatal)	3 ¹ (0)	779 (29)	880 (19)	278 (7)	380 (21)	445 (15)	112 (4)	111 (6)	158 (9)	479 (20)	372 (14)	3,997 (144)
Horses	1 ²	540	456	58	28	32	18	19	15	22	13	1,202
Dead birds	96	3,232	3,046	1,446	1,396	2,569	515	416	688	1,644	1,251	16,299
Mosquito samples	32	1,136	1,242	832	1,007	2,003	1,063	1,305	2,087	2849	2,528	16,084
Sentinel chickens	70	809	1,053	640	510	585	443	281	391	540	485	5,807
Squirrels	-	49	48	32	26	32	10	24	24	23	8	276

¹ There were 20 imported human cases. ² There were 3 imported horse cases.

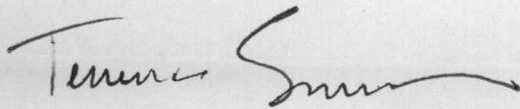
Source: The California Department of Public Health West Nile Virus Website

The Mosquito and Vector Control Association of California (MVCAC) has issued an advisory about the rapid increase in West Nile virus throughout the state and has, in addition, identified two new species of mosquito, *Aedes aegyptus* and *Aedes albopictus*. Both of these species are capable of transmitting dengue fever. Empirical models have shown that native cases of dengue fever may occur in California in the next two decades.³ These models do not account for alterations in the landscape that would serve to actually favor the more rapid expansion of these tropical species of mosquitoes, thus shortening the time in which they will appear.

The human population at risk of vector-borne disease are the residents of the farms and towns along the Sacramento River which includes the seasonally high number of agricultural workers in the pear, grape and other crop fields. Farmworkers would potentially have the highest level of exposure.

Expanding the stationary surface water in the Delta will add a significant threat to increased vector-borne diseases. Prior to permitting this project, increased surveillance is called for and efforts to mitigate the expansion of the mosquito population should be developed before any action is taken. These efforts need to be managed by appropriate public health officials with oversight and control to assure that operations do not result in human disease threats.

Sincerely,



Terrence Smith, MD, MPH
Director,
California Analytica

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³ Hales S, deWet N, Woodward A. Potential effect of population and climate changes on global distribution of dengue fever: an empirical model. Lancet. August 2, 2002
<http://image.thelancet.com/extras/01art11175web.pdf>