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Richard Woodard  
 CALFED Bay-Delta Program  
 Water Quality Technical Group  
 1416 Ninth Street; Suite 1155  
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Dear Rick:

This spring I have devoted time to developing several papers and presentations concerned with urban stormwater runoff water quality management issues. These papers and reports provide additional information on issues I have previously raised about the inappropriate approaches that I found that the urban and industrial stormwater runoff advisory group had developed as proposed CALFED management programs. While I have heard nothing more about this area for a number of months, I assume that CALFED is still interested in the topic area and that it is still proceeding to develop a management program for urban area stormwater runoff-associated constituents. If my assumptions are correct, then the recently developed papers, reports and presentations provide guidance on how to use CALFED resources in a technically valid, cost-effective manner to control real water quality use impairment problems associated with constituents derived from urban area, industrial site and highway stormwater runoff.

Previously I have brought to your attention poster items from a paper devoted to regulating chromium which was presented at the American Chemical Society's national meeting Environmental Division poster session. This paper discussed the potential significance of chromium VI as a pollutant in urban area and highway stormwater runoff. From the information available, it can be concluded that chromium VI is under-regulated in urban area and highway stormwater runoff and could be a significant source of aquatic life toxicity in receiving waters for such runoff. The basic problem is that the US EPA has not reviewed the literature on chromium VI toxicity to zooplankton since the early 1980s, with the result that the US EPA water quality criterion is badly out-of-date compared to what is known on the toxicity of chromium. VI. While the US EPA criterion is now 10 µg/L, chromium VI is toxic to several important forms of zooplankton at 0.5 µg/L. Note, chromium VI will not be removed by the detention basins that the CALFED urban area and industrial stormwater runoff advisory panel recommended.

Enclosed are copies of the slides that I used in connection with a presentation that I made at the Fourth International Biogeochemistry Conference that was recently held. This paper discusses the potential significance of copper in urban area and highway stormwater runoff as a water pollutant. The copies of the slides provide a good overview of the key issues that need to be considered in evaluating the significance of copper as a stormwater runoff-associated constituent. In general, urban area street and highway stormwater runoff-associated copper is being significantly over-regulated.

At a state of California Storm Water Task Force meeting held this past spring, there were some discussions by City of Sacramento representatives on the need to control lead in urban area stormwater runoff because of the exceedance of the lead water quality criterion in the runoff waters. This prompted me to develop the attached write-up and summary slides on lead as an urban area and highway stormwater runoff constituent. Lead, like copper, is being significantly over-regulated with respect to water quality and soil quality. DTSC is in the process of significantly raising the allowed concentrations of lead in soils that are considered "safe" for child and adult contact.

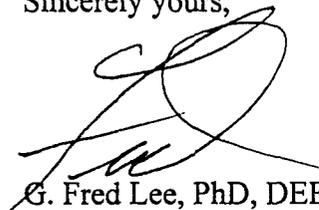
You may recall that I am active in developing alternative approaches for evaluating urban area and highway stormwater runoff water quality impacts in Orange County, California as they may impact the beneficial uses of Upper Newport Bay. I have recently completed an over 100-page report covering Phase 1 of my work on this topic which specifically focuses on review of the existing information on what real water quality problems exist in Upper Newport Bay that are potentially associated with urban area and highway stormwater runoff. It also includes some work that we have done on assessing the aquatic life toxicity in the stormwater runoff as it enters Upper Newport Bay where we, like others, have found that organophosphorus pesticides, diazinon and chlorpyrifos, are the cause of some of the aquatic life toxicity. The full Phase 1 report is currently under review through the granting agencies. It will soon be available as a downloadable file from my web site (<http://members.aol.com/gfredlee/gfl.htm>) as "Evaluation Monitoring Demonstration Project: Phase 1 Report." The key parts of the Phase 1 report concerned with organophosphorus pesticide toxicity are available as a separate file as "Development and Implementation of Evaluation Monitoring for Stormwater Runoff Water Quality Impact, Assessment and Management" that will soon be available as a downloadable file from my web site.

Enclosed is a set of slides that summarize the key issues that need to be addressed in evaluating the water quality significance of diazinon- and chlorpyrifos-caused toxicity in urban area stormwater runoff. Over the past several months, I have become active as a member of the Urban Pesticide Committee. This Committee is reviewing what is known about the potential water quality problems associated with diazinon and chlorpyrifos toxicity in urban streams. As discussed, finding toxicity in runoff waters does not mean that this toxicity is the cause of the significant water quality problems in the receiving waters for the runoff.

I also wish to bring to your attention that I have completed an over 125-page review of the development and implementation of Evaluation Monitoring as an alternative to conventional monitoring and management that is available as a downloadable file from our web site. It is called "Development and Implementation of Evaluation Monitoring for Stormwater Runoff Water Quality Impact, Assessment and Management." This report discusses the need for alternative approaches for urban area and highway stormwater runoff water quality evaluation and management. It also provides guidance on how to formulate technically valid assessments of real water quality use impairments and the management of these use impairments in accord with current regulatory requirements.

These various recent publications and presentations have direct applicability to CALFED's development of a technically valid, cost-effective approach for assessing real water quality problems that impact the "Delta's" resources and, in particular, the role that urban and industrial stormwater runoff-associated constituents play in impacting these resources. If you or others in CALFED review these and have questions or comments on them, please contact me.

Sincerely yours,

A handwritten signature in black ink, appearing to be "G. Fred Lee", written over a horizontal line.

G. Fred Lee, PhD, DEE

Copy to: L. Snow

GFL:oh

Enclosures