Table 1. Pesticide Regulatory Process Participation and Outcomes in 2012-13.

Outcome in 2012-13	CASQA Participation Actions*
Adoption of California regulations, "Surface Water Protection in Outdoor Nonagricultural Settings." Regulations were completed in June 2012 and became effective July 19, 2012. The regulations reduce the quantities of pyrethroids applied on outdoor impervious surfaces by professional applicators, thus reducing the quantity of pyrethroids that can be washed directly into gutters and storm drains when it rains or when water like irrigation overflow runs across treated surfaces. Together, the regulations and new bifenthrin labeling (see below) are anticipated to reduce the amount of pyrethroid insecticides in urban stormwater runoff by 80-90%.[2] UP3 Project analysis—based on pyrethroid monitoring data, pyrethroid use data, and urban runoff modeling by U.C. Davis—suggests that the regulations (in combination with label changes described below) will largely, but not completely, end widespread water and sediment toxicity from pyrethroids in San Francisco Bay Area urban watersheds. In some watersheds, lower levels of toxicity may continue. In a larger number of watersheds, pyrethroid concentrations will continue to exceed aquatic life protection benchmarks such as the values developed by U.C. Davis with funding from the Central Valley Water Board. In September and October 2012, the Pyrethroid Working Group (a pesticide industry group) placed videos that provide instruction to the pest management industry on how to comply with the new California DPR Surface Water Regulations on YouTube (see https://www.youtube.com/user/PWG2PMP?feature=mhee).	Commendation letter and award to DPR 9/13/12** Since the early-2000s, multiple meetings, letters, and ongoing communications with California DPR.

*The San Francisco Bay Regional Water Quality Control Board also participated in almost all of these regulatory processes, providing input that paralleled CASQA's. The State Water Resources Control Board, the Central Valley Regional Water Quality Control Board, and California municipal wastewater treatment plants also joined CASQA and the San Francisco Bay Water Board in participating in many of these processes. Outcomes should be attributed to the combined communications of all participants.
**The table lists FY 2012/13 actions and summarizes past actions that relate directly to the outcome.

[2] Jorgenson, B. C. (2011). Off-Target Transport of Pyrethroid Insecticides in the Urban Environment: An Investigation into Factors Contributing to Washoff and Opportunities for Mitigation. Ph.D. Thesis, University of California, Davis.

Table 1. Pesticide Regulatory Process Participation and Outcomes in 2012-13 (continued).

Outcome in 2012-13	CASQA Participation Actions*
California Professional Bifenthrin Product Application Limitations Implemented through Product Label Changes. DPR agreed with water quality agencies that additional reductions in outdoor bifenthrin use—beyond what is required in the surface water regulations—are warranted because of bifenthrin's significant contribution to aquatic toxicity. At manufacturers' request, DPR allowed bifenthrin-specific restrictions to be implemented through label changes on bifenthrin professional product labels rather than through bifenthrin-specific regulations. For professional applicators, restrictions on pesticide labels are enforceable. New bifenthrin labels will prohibit applications to any exposed horizontal impervious surface and any building wall that abuts impervious surfaces that drain to storm drains. In fall 2011, bifenthrin manufacturers set out a relatively rapid schedule for bringing the newly labeled products to the California marketplace by summer 2012. Manufacturers jointly committed to the label changes and the aggressive implementation schedule in a Memorandum of Agreement (MOA), which was signed by all manufacturers of bifenthrin professional products. In a letter concurring with the MOA, DPR promised not to include special bifenthrin restrictions in its regulations if the MOA is implemented as promised. Available evidence indicates that the label changes are occurring as promised in the MOA. For example, in May 2012, FMC, the manufacturer of one of the most popular professional bifenthrin products announced that it was shipping products reflecting the new labeling.	Since the mid 2000s, multiple meetings and ongoing communications with California DPR about bifenthrin water pollution.

Table 1. Pesticide Regulatory Process Participation and Outcomes in 2012-13 (continued).

Outcome in 2012-13	CASQA Participation Actions*
Water Quality Protection Label Changes for All Types of Pyrethroid Products—Including Consumer Products—Start to Appear on Product Shelves But Are Being Implemented Slowly. In 2009, EPA began working with pyrethroid manufacturers to modify pyrethroid product labels with instructions that provide additional water quality protections. The instructions direct users to apply only spot or "crack and crevice" treatments on impervious surfaces and contain other recommendations, such as to avoid applications when rain is forecast in the next 24 hours. EPA required these changes for pyrethroids that went through re-registration (cypermethrin, permethrin, resmethrin, tetramethrin, sumithrin, and allethrins). For all other pyrethroids (e.g., bifenthrin, cyfluthrin, esfenvalerate), the changes are voluntary until Registration Reviews are completed late this decade. EPA's initial goal was to achieve 100% voluntary label changes and to approve both voluntary and mandatory label changes in 2010. The reality has fallen short of this goal. The first modified consumer product labels began appearing on retail shelves in fall 2011. In spring 2012, manufacturers started to ship professional products with the new labels. In May 2012, EPA admitted that there is no current target implementation date for the new labels and that not all manufacturers are voluntarily making the label changes. On January 10, 2013, in response to requests from pesticide users and regulators facing pest problems not present in California, EPA modified label language designed to minimize water pollution to allow additional types of applications on buildings by professional applications under limited circumstances. EPA's language changes clarify the legality of California's regulatory exception allowing treatments under building eaves in areas full sheltered from rain. Otherwise, these changes should not affect California because DPR's surface water protection regulations do not include the new exceptions. EPA has only required this language be placed on labels for the pyrethroids that were reviewed in EPA's last review cycle, re-registration (cypermethrin, permethrin, allethrins, tau-fluvalinate, resmethrin, sumithrin, and tetramethrin). For all other pyrethroids (bifenthrin, cyhalothrin, cyhalothrin, cyfluthrin, tralomethrin, deltamethrin, esfenvalerate, etofenprox) the language is voluntary.	Since the mid 2000s, multiple meetings and ongoing communications with California DPR and EPA about pyrethroid insecticide water pollution and specific early mitigation actions, including product label language improvements. The label change process was initiated by DPR in response to October 2007 letters from CASQA and the Water Boards requesting early mitigation actions for pyrethroids in urban runoff.

Table 1. Pesticide Regulatory Process Participation and Outcomes in 2012-13 (continued).

Outcome in 2012-13	CASQA Participation Actions (*see end note)
(continued) DPR's adoption of the Surface Water Protection regulations was partially motivated by the delays and limited adoption of these product labels. Since DPR regulations can only address professional applicators, the EPA label change program is the only effort underway to reduce pyrethroid water pollution from non-professional (consumer) products. For most of the pyrethroids linked to water pollution, non-professional use is relatively small. The exception is bifenthrin, for which non-professional use comprises about 20% of the market.[3]	
DPR Incorporated Surface Water Into Registration Process for Most New Pesticide Chemicals Intended for Use Outdoors in Urban Areas. On September 16, 2011, DPR announced a formal procedure to ensure that pesticides with potential to pollute surface water will be identified when they enter DPR's registration process and will be routed to DPR's Surface Water Program for review. Past DPR registration process shortcomings have allowed at least one problem pesticide (fipronil) to slip through and have constrained the quality of DPR's evaluations. DPR's new procedure should identify most pesticides likely to be water quality problems (however, there are a few critical gaps in the program, such as swimming pool chemicals). When registration is approved, DPR will have the necessary scientific basis to require appropriate mitigation measures. In parallel, DPR has established procedures to create a surface water quality "watch list," to require analytical methods when it registers pesticides on this watch list, and to track usage and annually reevaluate its monitoring program to respond to changes in use of watch list pesticides. In July 2011, just as DPR was finalizing its procedure, DPR demonstrated how the new process would work when it denied the application to register a product called Abtech Smart Sponge. The "Smart Sponge" is designed to kill bacteria in storm drains with a biocide that may also be toxic to aquatic organisms. Although EPA's Antimicrobials Division gave minimal review of water quality implications when approving this product, DPR (in an early implementation of its new procedure) ensured that the product was fully reviewed by DPR's Surface Water Program. Because DPR Surface Water Program reviewers determined that there was insufficient information available to determine if the product would adversely impact water quality, DPR denied the registration application.	Letter to DPR 11/15/12 Since the early 2000s, multiple meetings, letters, and ongoing communications with California DPR.

[3] TDC Environmental (2010). Pesticides in Urban Runoff, Wastewater, and Surface Water: Annual Urban Pesticide Use Data Report 2010. Prepared for the San Francisco Estuary Partnership.

Table 1. Pesticide Regulatory Process Participation and Outcomes in 2012-13 (continued).

Outcome in 2012-13	CASQA Participation Actions (*see end note)
(continued) In February 2013, based on CASQA, BACWA, and Water Board comments, DPR was challenged by the need to make a decision about registering a silver-based biocide designed to be impregnated into paint and other products. Treated products, like paint, are not regulated as pesticides, so DPR has no control of these products in commerce. DPR ultimately determined to register the silver biocide to avoid disadvantaging California manufacturers. However, it determined to start working with EPA on the exemption for treated products and on the gaps in EPA's environmental risk assessments for silver and other biocides that are widely used in these products. In its "Notice of Proposed and Final Decisions and Public Reports" DPR noted its commitment to working with EPA on silver: "…DPR is still concerned about the potential impact of silver pesticides on California POTWs and surface water quality. DPR has initiated discussions with the U.S. Environmental Protection Agency on this particular issue."	
DPR and EPA to Improve Ability to Model Pesticides in Urban Runoff. California input to EPA and DPR has long encouraged development of modeling methods that EPA and DPR can use to evaluate water quality risks associated with pesticide use in urban areas. In 2011, U.S. EPA formalized plans to modify its pesticide runoff model (PRSM/EXAMS) to account for both pervious and impervious surfaces, to use washoff data, and to develop multiple urban modeling scenarios. In late 2011, DPR initiated a project to fill a key gap in urban runoff modeling by developing a computational model for pesticide wash-off from impervious surfaces. In June 2012, DPR provided funding to U.C. Davis to extend an existing pesticide environmental fate and transport model (HYDRUS 2/3D) to address urban runoff. Developing these improved models will help protect water quality because DPR and EPA will be better able to predict water pollution before it occurs. In a February 2013 letter to EPA on the chlorinated isocyanurates registration review, CASQA recognized the improved examination of surface water quality risks done by EPA for that registration review. CASQA noted EPA developed conceptual models that appropriately identified pathways for transport of chlorinated isocyanurates through urban storm drainage systems to surface waters. Also noting that identifying all pathways by which antimicrobials may flow into and through urban storm drainage is a critical first step in a thorough ecological risk assessment.	Letter to EPA on improved examination of surface water quality risks and chlorinated isocyanurates registration review, 2/12/13 Since the early-2000s, multiple meetings, letters, and ongoing communications with EPA and DPR about the need for predictive modeling tools to inform pesticide registration decisions.

Table 1. Pesticide Regulatory Process Participation and Outcomes in 2012-13 (continued).

Outcome in 2012-13	CASQA Participation Actions (*see end note)
EPA Proposed Special Regulation of Nanoparticle Pesticides. In fall 2011, EPA proposed a policy for regulating nanoparticle pesticides based on a rebuttable presumption that nanoparticles are different than the non-nanoparticle versions of the same pesticide. Requiring separate registration of nanoparticle pesticides would provide EPA with the ability to obtain data to characterize their potential water quality impacts. EPA is currently considering public comments on the proposed policy, but signaled its intent to regulate nanoparticle pesticides separately through product-specific decisions on nanosilver pesticides. In September 2012, CASQA commented on the registration review of nanosilver pesticides. The input to EPA included information about nanosilver pesticides sources and pathways to urban runoff and surface waters; an explanation of the regulatory consequences and costs of pesticide water pollution; and specific recommendations: of questions to address as a result of a nanosilver disinfectant case study; of uses to evaluate for their potential environmental exposures; to develop a more robust and informative assessment plan for nanosilver; to require the registrants to develop water, soil and sediment chemical analysis methods for nanosilver with appropriate method detection limits; and to investigate cumulative impacts.	Letter to EPA 9/10/12
EPA Proposed to Restructure the Pesticide Registration Review Process. EPA is proposing to slightly restructure the pesticide Registration Review process in response to problems that have been encountered with pesticide Endangered Species Act (ESA) Consultations, which are required for nearly every pesticide in Registration Review. This restructured process would apply to all pesticide registration reviews. Water quality agencies have significant concerns about the main element of the restructuring proposal – closed-door kick-off meetings with pesticide manufacturers – based on very negative experience with similar meetings during re-registration. There is also concern about the proposal for early communications, which would only give manufacturers and farmers input into EPA's decisions. Despite these concerns, this is a significant opportunity. If the structure were slightly revised to provide stormwater quality and other experts and interested parties opportunity for early input, the change would strengthen the Registration Review process.	Letter to EPA 10/16/12

Table 1. Pesticide Regulatory Process Participation and Outcomes in 2012-13 (continued).

Outcome in 2012-13	CASQA Participation Actions (*see end note)
Application to Register Potential Pyrethroid Substitute Cyantraniliprole – Based on the limited information in EPA's and DPR's registration application public notices, it appears that cyantraniliprole could substitute for pyrethroids, and thereby could potentially see widespread use in urban areas if EPA and DPR register it. Although there are no publicly available aquatic toxicity data for cyantraniliprole, a related chemical, (chlorantraniliprole) is very highly toxic to aquatic invertebrates and has multiple stable (and similarly toxic) degradates. Comments requested a careful evaluation of the potential water quality risks associated with all proposed urban uses of this new insecticide. Both EPA and DPR are currently reviewing the registration application. In comments developed in late FY 2012-13 (submitted 7/6/13), CASQA commented on the registration review of cyantraniliprole urban products. The input to EPA focused on only one use – broadcast applications on urban impervious surfaces (e.g., building perimeter sprays to control ants). EPA's modeling predicts that such applications could cause toxicity to aquatic invertebrates. EPA's risk managers proposed mitigation measures that address toxicity in agricultural areas, but do not work in the urban setting. The letter proposes alternative measures, similar to those that California Department of Pesticide Regulation adopted for the pyrethroid insecticides (which were agreeable to the industry).	Letter to EPA 7/6/13

Table 1. Pesticide Regulatory Process Participation and Outcomes in 2012-13 (continued).

Outcome in 2012-13	CASQA Participation Actions (*see end note)
Other Comments Were Submitted and Are Awaiting Responses. EPA is currently considering public comments for: • Acetamiprid (a very highly toxic to aquatic organisms potential substitute for pyrethroids) • Dichlobenil (highly toxic root control product that could potentially be mis-applied in storm drains) • Hydramethylnon (a very highly toxic to aquatic organisms pesticide appearing in "uncontainerized baits," which are granules intended for broadcast distribution) • MGK-264 (a synergist commonly used with pyrethroids as well as other pesticides) • Polyhexamethylenebiguanide (PHMB) (registered uses as a swimming pool fungicide, algaecide and sanitizer can result in discharges to the storm drain system and ultimately surface waters) • Prallethrin (a pyrethroid that does not currently have a lot of use, but that could potentially become a substitute for the common pyrethroids) • Resmethrin (a pyrethroid that will in the future be used primarily for mosquito abatement (other uses are being phased out)) • Triclosan (a biocide incorporated into many personal care products and a wide range of other consumer products – mainly those made of plastic materials – that can receive outdoor exposure, which could contribute Triclosan to urban storm drain systems via leaching or degradation of the impregnated products)	Five Letters to EPA on 9/10/12; Letter to EPA 11/26/12; Letter to EPA 2/12/13; Letter to EPA 5/28/13

***Below is a list of 15 comment letters developed by CASQA's Pesticides Subcommittee in FY 2012-13**

September 10 – Comments to EPA on Dichlobenil Registration Review
September 10 – Comments to EPA on MGK-264 Registration Review
September 10 – Comments to EPA on Nanosilver Registration Review
September 10 – Comments to EPA on Polyhexamethylenebiguanide (PHMB) Registration Review
September 10 – Comments to EPA on Prallethrin Registration Review
September 10 – Comments to EPA on Resmethrin Registration Review
October 16 – Comments to EPA on ESA Consultation & Enhanced Stakeholder Input
November 15 – Comments on DPR Proposed Decision to Register Bactiblock 101 S.1.19
November 26 – Comments to EPA on Acetamiprid Registration Review

February 12 – Comments to EPA on Improved Examination of Surface Water Quality Risks and Chlorinated Isocyanurates Registration Review
February 12 – Comments to EPA on Hydramethylnon Registration Review
February 27 – Comments to Water Board on Coordinated Pesticides Monitoring in Urban Watersheds
March 28 – Comments to Central Coast Regional Water Board on Proposed TMDL for Toxicity and Pesticides in the Santa Maria Watershed
May 28 – Comments to EPA on Triclosan Registration Review
July 6 – Comments to EPA on Proposed Registration – Cyantraniliprole Urban Products