July 7, 2017

Pesticide Re-evaluation Division
Office of Pesticide Programs (OPP)
U.S. Environmental Protection Agency (U.S. EPA)
1200 Pennsylvania Ave., NW.
Washington, DC 20460–0001
Submitted via *www.regulations.gov*

Re: Preliminary Ecological Risk Assessment for the Pyrethroid Insecticides:
Bifenthrin – EPA-HQ-OPP-2010-0384
Cyfluthrins – EPA-HQ-OPP-2010-0684
Cypermethrins – EPA-HQ-OPP-2012-0167
Cyphenothrin – EPA-HQ-OPP-2009-0842
d-Phenothrin – EPA-HQ-OPP-2011-0539
Deltamethrin – EPA-HQ-OPP-2009-0637
Esfenvalerate – EPA-HQ-OPP-2009-0301
Etofenprox – EPA-HQ-OPP-2007-0804
Fenpropathrin – EPA-HQ-OPP-2010-0422
Flumethrin – EPA-HQ-OPP-2016-0031
Gamma-cyhalothrin – EPA-HQ-OPP-2010-0479
Imiprothrin – EPA-HQ-OPP-2011-0692
Lambda-cyhalothrin – EPA-HQ-OPP-2010-0480
Momfluorothrin – EPA-HQ-OPP-2015-0752
Permethrin – EPA-HQ-OPP-2011-0039
Prallethrin – EPA-HQ-OPP-2011-1009
Pyrethrins – EPA-HQ-OPP-2011-0885
Tau-fluvalinate – EPA-HQ-OPP-2010-0915
Tefluthrin – EPA-HQ-OPP-2012-0501
Tetramethrin – EPA-HQ-OPP-2011-0907

Dear U.S. EPA Chemical Review Managers:

The National Association of Clean Water Agencies (NACWA) appreciates the opportunity to comment on the Preliminary Risk Assessment for pyrethroid insecticides. NACWA represents the interests of nearly 300 publicly owned wastewater treatment agencies, serving the majority of the sewered population in the U.S.

NACWA's members continue to face challenges as they strive to meet increasingly stringent Clean Water Act (CWA) requirements, while having limited control over the

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toxic pollutants and other substances in the wastewater they treat. These requirements include acute and chronic whole effluent toxicity (WET) tests that may be influenced by pesticides in the wastewater. Toxicity test failures can result in significant costs to utilities due to the additional testing and evaluation requirements. Pesticides may also have impacts on receiving waters, recycled water quality, and the quality of biosolids for beneficial reuse.

Pyrethroids are concerning to NACWA's member utilities due to their high aquatic toxicity and their ability to pass through the wastewater treatment processes used at publicly owned treatment works (POTWs), ending up in effluent and biosolids. Pyrethroids are found in multiple consumer products with transport pathways to sewer systems, including pet flea control products, lice and scabies treatment, and impregnated clothing. POTWs are designed to treat municipal wastewater and are not designed to remove pesticides such as pyrethroids. Since most states do not allow local regulation of pesticide sales or use, it is very important to POTWs that OPP's Registration Review evaluate potential pesticide pathways to sewer systems and impacts of pesticides on wastewater treatment.

Because of the potential impacts of pyrethroids on POTWs, NACWA asks that EPA consider the following points regarding the *Preliminary Comparative Environmental Fate and Ecological Risk Assessment for the Registration Review of Eight Synthetic Pyrethroids and the Pyrethrins* (PRA) and in its discussions with pyrethroids registrants. NACWA also concurs with the more detailed comments submitted by the Bay Area Clean Water Agencies (BACWA).

EPA's Finding of Significant Ecological Risk and Need for Mitigation

NACWA agrees with EPA's conclusion that pyrethroids for urban indoor use, "when used in accordance with registered labels, can result in acute and/or chronic risk LOC exceedances for freshwater and estuarine/marine invertebrates, from the indoor down-the-drain exposure to POTWs which in turn result in release to certain bodies of water." This conclusion, which was reached through predictive modeling that used POTW modeling data from California and other U.S. locations, demonstrates the need to implement risk mitigation for pyrethroids.

Environmental Exposure Estimates

Although NACWA agrees with EPA's conclusion about significant ecological risk, the POTW modeling may still result in underestimation of environmental exposure. The PRA uses an assumption that pet spot-on treatments, collars, and indoor foggers do not contribute to POTWs. This assumption is not accurate, as shown by recent research detailed in Appendix 1 of BACWA's comments. These studies have demonstrated that pesticides can be discharged into the sewer system when pets are washed, and are transferred to indoor surfaces and to humans and their clothing. Subsequent washing of hands, clothing, and indoor surfaces results in the discharge of the pesticide into the sewer system. Topical pet products appear to be the primary source of fipronil and imidacloprid in wastewater at eight POTWs in the San Francisco Bay area.

In addition, lice and scabies treatments containing permethrins were not modeled in the PRA, but should be included since they are washed directly into the sewer system after use. Although the Food and Drug Administration (FDA) regulates these products, their contribution to aquatic risks should still be considered.

NACWA asks that EPA implement the recommendations made in Appendix 2 of BACWA's comments for improving EPA's predictive modeling methodology, which could be implemented within the existing E-FAST model.

Unknown Risk for "Non-PWG" Pyrethroids

The PRA only analyzed a set of pyrethroids manufactured by an industry organization called the Pyrethroid Working Group (PWG). NACWA asks EPA to include pyrethroids not manufactured by the PWG (the "non-PWG" pyrethroids) in its risk assessment. Eight of the ten non-PWG pyrethroids were identified in the PRA as having indoor uses that could result in discharges to the sewer system, including pet spot-on treatments, pet collars, dog sprays, sewer pipe treatments, food-contact surface sprays, and other indoor treatments, such as for furniture, rugs, and carpets. The limited data available about these non-PWG pyrethroids suggest that they may be less persistent and less toxic to sensitive organisms than the PWG pyrethroids. If this is the case, then the non-PWG pyrethroids could provide an opportunity for risk mitigation, if one or more of them have environmental fate and aquatic toxicity profiles more conducive to decomposition by POTW treatment processes. The non-PWG pyrethroids should therefore be studied and potentially considered as replacements for higher risk pyrethroids.

Inclusion of Pet Treatments in Risk Assessment and Mitigation

EPA did not include pet spot-on treatments and pet collars in its POTW modeling because "it is expected (and advised on some pesticide labels) that shampooing soon after application of spot on treatments would reduce the efficacy of such treatments" and the expected slow release rate from collars. However, as explained above, recent research has demonstrated that pesticides from these products are washed both directly and indirectly into the sewer system, and can be a major source of pesticides to POTWs. NACWA asks that EPA consider the environmental fate and transport of all pyrethroids and pyrethrins and allow continued use of only the lowest risk pet flea control alternatives. The alternatives considered should include FDA-approved oral products.

Risk Mitigation for Pyrethroid Impregnated Fabrics

NACWA agrees with the PRA conclusion that washing pyrethroid-treated fabrics is a significant source of pyrethroids, particularly permethrin, to POTWs. NACWA asks that EPA consider research on effectiveness and wash-off rates of permethrin-treated clothing to determine appropriate application rates and minimize the amount of permethrin that is washed into the sewer system. These studies indicate that although the fabric's permethrin concentration decreases with each wash, effective mosquito control is maintained with less than 20% of the original permethrin application.[1,2] Determining optimal application amounts could significantly reduce pyrethroid wash-off into sewers. Pre-washing of fabrics at manufacturing facilities with on-site treatment for pyrethroids would also help, since the first wash generates the greatest pyrethroid discharge.

Risk Mitigation for Head Lice and Scabies Treatments

As mentioned above, EPA did not include lice shampoos for humans in its risk assessment, which limits the Agency's opportunities to develop effective mitigation measures. NACWA asks EPA to include these products,

[1] R.K. Gupta et al., "Effects of Weathering on Fabrics Treated with Permethrin for Protection Against Mosquitos," Journal of the American Mosquito Control Association, 1989, Vol. 5, No. 2.

[2] B. Most et al., "Long-lasting permethrin-impregnated clothing: protective efficacy against malaria in hyperendemic foci, and laundering, wearing, and weathering effects on residual bioactivity after worst-case use in the rain forests of French Guiana," Parasitol Research, 2017, 116:677-684.

since a lice outbreak in a school could result in observable toxicity to a POTW anywhere in the U.S. (not just in California, as suggested on p. 31 of the PRA). To develop a mitigation strategy, EPA could examine the impacts of lice treatment for an outbreak at a single school in a POTW's service area.

Evaluation of Bifenthrin-Specific Mitigation for All Indoor Uses

NACWA requests that EPA consider bifenthrin-containing products separately from other pyrethroids, since bifenthrin is classified as "very highly toxic" to aquatic invertebrates, is at least as toxic as most other pyrethroids to sensitive organisms, and is very persistent, with an anaerobic half-life of 650 days and an aerobic half-life of 466 days. EPA has previously recognized the need for bifenthrin-specific mitigation in outdoor uses, and the same should be done for indoor uses. EPA should consider eliminating all indoor uses with direct pathways to the sewer, such as pet flea shampoos.

Thank you for your consideration of these comments. Please contact me at 202-533-1836 or *cfinley@nacwa.org* if you have any questions.

Sincerely,

Cynthia A. Finley, Ph.D.
Director, Regulatory Affairs