



July 6, 2020

Ana Pinto  
Office of Pesticide Programs (OPP)  
c/o Regulatory Public Docket Center (28221T),  
U.S. Environmental Protection Agency (EPA)  
1200 Pennsylvania Ave. NW.  
Washington, DC 20460-0001

**Subject: Permethrin Registration Review Proposed Interim Decision  
(Docket ID No. EPA-HQ-OPP-2011-0039)**

Dear Ms. Pinto:

On behalf of the Bay Area Clean Water Agencies (BACWA), we thank you for the opportunity to comment on the Registration Review Proposed Interim Decision for permethrin. BACWA's members include 55 publicly owned wastewater treatment facilities and collection system agencies serving 7.1 million San Francisco Bay Area residents. We take our responsibilities for safeguarding receiving waters seriously.

As detailed below and in the attachments, available data indicate that all pyrethroids and pyrethrins do not have equivalent aquatic risks. Due to its high aquatic risk (based on EPA "level of concern" exceedances), special mitigation measures are warranted for permethrin. The additional mitigation should address the primary source of permethrin in municipal wastewater – pet flea treatments. BACWA requests that EPA and registrants take action to terminate all sales and use of permethrin pet flea shampoos because they pose high ecological risks as compared to alternatives and have little societal benefit.

**Background**

Every day, BACWA members' Publicly Owned Treatment Works (POTWs) treat millions of gallons of pesticide-containing wastewater that is then discharged to fresh or salt water bodies, including local creeks and rivers, bays, and the Pacific Ocean. These waterways provide crucial habitat to a wide array of aquatic species and waterfowl, including several endangered species. In some cases, waters receiving POTW discharges ("receiving waters") may be effluent-dominated in that there is little to no dilution, either because the receiving water is small or there is a lack of mixing at certain times due to thermal or saline stratification.

As discussed in our much-appreciated conversations with EPA and our prior correspondence (including our July 2017 and February 2020 letters, enclosed), BACWA is especially interested

in pyrethroid insecticides due to their high aquatic toxicity and ability to pass through POTWs and appear in our effluent and biosolids. Even the most sophisticated wastewater treatment plants cannot fully remove pyrethroid insecticides.<sup>1</sup> Available scientific data (see EPA’s Pyrethroids and Pyrethrins Ecological Risk Assessment<sup>2</sup> and BACWA’s 2017 letter, enclosed) support EPA’s finding that pyrethroids discharges to municipal wastewater systems pose ecological risks. In almost every US state – including California – state law precludes any local regulation of pesticide sales or use. As municipal wastewater treatment facilities have no local option to control use of pesticides consumer products, it is essential to us that EPA implement mitigation measures ensuring that impacts to the beneficial uses of the receiving water are prevented. This is not just a California issue – the Clean Water Act toxicity standards that drive our interest in pyrethroids affect POTWs across the entire nation.

### **Pyrethroids and Pyrethrins Have Differing Ecological Risks – Some, Including Permethrin, Warrant Additional Mitigation Measures**

EPA’s Pyrethroids and Pyrethrins Ecological Risk Assessment identified very different risks from POTW discharges of individual pyrethroids and pyrethrins.<sup>3</sup> Despite finding substantial (orders of magnitude) differences in aquatic risks among the pyrethroids and pyrethrins, EPA issued a single risk mitigation proposal with only one set of measures covering all 23 pyrethroids and pyrethrins.<sup>4</sup> BACWA appreciates that EPA’s ecological risk mitigation proposal reaffirmed EPA’s finding that pyrethroids discharges to municipal wastewater systems pose ecological risks that should be mitigated. While we were pleased that EPA has proposed product label improvements toward preventing incidents like dumping unused products, we are disappointed that EPA did not lay out a specific plan to address the main problem – continuous discharges associated with ordinary use of pyrethroids. Due to this gap, EPA’s ecological risk mitigation proposal does not include measures that we anticipate will reduce daily discharges or provide measurable reduction in typical POTW discharge risks.

Because 100% of POTWs must comply with the Federal Clean Water Act 100% of the time, based on both EPA modeling and available monitoring, additional risk mitigation for pyrethroids is imperative. To address this need, we request that EPA implement additional, individual ecological risk mitigation for the highest risk pyrethroids, which include permethrin.

The additional mitigation should address the primary source of permethrin in municipal wastewater – pet flea treatments. We request that EPA and registrants eliminate permethrin use in pet shampoos due to its high ecological risk and low benefit (as indicated by limited market presence and the plethora of more popular, lower risk alternatives). We detail below the strong evidence supporting this request.

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<sup>1</sup> Markle, J., van Buuren, B., Moran, K., & Barefoot, A. (2014). Pyrethroid Pesticides in Municipal Wastewater: A Baseline Survey of Publicly Owned Treatment Works Facilities in California in 2013. In *Describing the Behavior and Effects of Pesticides in Urban and Agricultural Settings* (Vol. 1168, pp. 177-194): American Chemical Society.

<sup>2</sup> US EPA 2016. Preliminary Comparative Environmental Fate and Ecological Risk Assessment for the Registration Review of Eight Synthetic Pyrethroids and the Pyrethrins.

<sup>3</sup> Ibid.

<sup>4</sup> US EPA 2019. Pyrethroids Ecological Risk Mitigation Proposal. Docket ID # EPA-HQ-OPP-2008-0331-0096.

### **EPA’s Sweeping Risk/Benefit Finding Should Be Revised to Differentiate Among the 23 Pyrethroids and Pyrethrins and Among the Various Indoor Uses of the 23 Chemicals**

While we agree that there are societal benefits from some pesticide uses like public health pest control, the Ecological Risk Mitigation Proposal treats all indoor uses and all 23 chemicals as having equal costs and benefits. This is untrue. All indoor pyrethroids and pyrethrins uses are not equal in their societal benefits. Because the pyrethroids and pyrethrins do not have equal ecological risks, they do not have equal impacts on POTWs.

A more nuanced approach to completing EPA’s statutory obligation to weigh the societal costs and benefits of the 23 pyrethroids and pyrethrins would better serve our nation. Ideally, EPA would evaluate the balance between costs and benefits for each of the 23 chemicals and each use of each chemical, considering the full range of available pest control alternatives for each use. We realize that such a complex evaluation would be impractical. However, a focused evaluation of some individual uses – uses that are most closely linked to the external (non-user) costs of pyrethroids use – is practical and is necessary to support EPA’s decision.

We request an individual evaluation for only one major source of permethrin discharges to POTWs, pet shampoos. Our evaluation (below) demonstrates that the benefit of maintaining market availability of just nine permethrin pet shampoo products is vastly outweighed by the costs to POTWs.

### **BACWA Requests that EPA End Use of Permethrin in Pet Shampoos**

Among pet shampoos, the least toxic member of the 23 chemicals – pyrethrins – dominate the market. Pyrethrins are the active ingredient in 51 of the 71 California-registered shampoo products.<sup>5</sup> Only four pyrethroids appear in shampoos – and all have relatively minor market presence based on number of products and observations at retail stores: permethrin (nine products), phenothrin (four products), bifenthrin (three products), and etofenprox (two “master labels” for products, neither of which is a label that currently allows sale of the product California).

There are many other pet flea control alternatives. There are a few registered non-pyrethroids/pyrethrins shampoos – California has four registered pet shampoos that do not contain either pyrethrins or pyrethroids. Additionally, as noted in the Ecological Risk Mitigation Proposal, unregistered FIFRA-exempt shampoos are widely used to address pet flea infestations. Ordinary shampoos may also be used, as recognized by EPA’s FIFRA Science Advisory Panel, which noted, “even non-pesticidal soaps may have a mortality factor against fleas and ticks.”<sup>6</sup>

As the Ecological Risk Mitigation Proposal states, shampoos are far from the only means to address pet pests; in addition to the spot-ons, sprays, and collars that EPA discussed (see page 33 of the Ecological Risk Mitigation Proposal), popular alternatives include pet orals and non-

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<sup>5</sup> California Department of Pesticide Regulation (2020). California Product/ Label Database. <https://apps.cdpr.ca.gov/docs/label/labelque.cfm>

<sup>6</sup> FIFRA Scientific Advisory Panel Meeting Minutes and Final Report No. 2019-02. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2019-0161-0037> Page 17.

pesticide controls (please see the companion animal flea control alternatives discussion, Appendix 1 of the enclosed July 2017 BACWA letter for details).

Pyrethrins pose substantially less aquatic risk – and therefore less cost to POTWs as compared to permethrin. EPA’s summary of risks associated with POTW discharges (Table 3 of the Ecological Risk Mitigation Proposal) shows that pyrethrins consistently had the lowest risk quotients (RQs) among all of the 23 chemicals addressed and only in one case (predicted chronic freshwater concentrations) did the pyrethrins concentration exceed the “level of concern”). To our knowledge, pyrethrins have never been detected in municipal wastewater effluents, though testing is admittedly limited.

In contrast, acute aquatic RQs for permethrin discharged to sewers were more than 10 times the acute RQs for pyrethrins. Permethrin occurs at substantially higher concentrations in POTW effluents than any other pyrethroid.<sup>7</sup> These differences between high-risk permethrin and low-risk pyrethrins translate into real world differences in societal costs.

EPA’s benefits assessment for pet shampoos (on page 33 of the Ecological Risk Mitigation Proposal) did not provide any compelling evidence for retaining pet shampoos as a product class. Notably, it did not differentiate between the market-leading, less toxic pyrethrins and the low market share pyrethroids shampoos that pose significantly more risks for POTWs. Given that there are dozens of other shampoo products with the same mode of action, a plethora of non-shampoo options for pet flea control – including the easy and popular orals – and given that the cost of pyrethroids discharges to POTWs, the permethrin shampoos do not appear to have benefits that outweigh their costs to POTWs – costs that are ultimately borne by the general public (the ratepayers for POTW operations).

Another consideration for EPA in evaluating the risk/benefit decision on permethrin pet products may be exposures to very young children. EPA recently released information indicating that it intends to revise its assumptions about household exposures, particularly for children, based partly on a new assumption that “exposures to children below 6 months of age are expected to be negligible.”<sup>8</sup> We are aware that very young children contact pets that may be treated with permethrin pet flea shampoos and pet spot-on treatments. Our own outreach materials include a stock photo of a baby with a pet (see excerpt at right).



**GIVE YOUR PUP FLEA AND TICK CHEWABLES!**  
BACWA Educational Outreach Image (based on stock photo)

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<sup>7</sup> Markle, J., van Buuren, B., Moran, K., & Barefoot, A. (2014). Pyrethroid Pesticides in Municipal Wastewater: A Baseline Survey of Publicly Owned Treatment Works Facilities in California in 2013. In *Describing the Behavior and Effects of Pesticides in Urban and Agricultural Settings* (Vol. 1168, pp. 177-194): American Chemical Society.; and Sutton, R., Xie, Y., Moran, K., & Teerlink, J. (2019). *Occurrence and Sources of Pesticides to Urban Wastewater and the Environment*. In K. Goh (Ed.), *Pesticides in Surface Water: Monitoring, Modeling, Risk Assessment, and Management* (pp. 63-88). Washington, DC: American Chemical Society.

<sup>8</sup> US EPA OPP (2019). USEPA Office of Pesticide Programs’ Re-Evaluation of the FQPA Safety Factor for Pyrethroids: Updated Literature and CAPHRA Program Data Review. Page 6.

Thank you for your consideration of our comments. If you have any questions, please contact BACWA's Project Managers:

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Respectfully Submitted,



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Enclosures:

1. BACWA's February 12, 2020 Letter to US EPA on the Pyrethroids and Pyrethrins Ecological Risk Mitigation Proposal for 23 Chemicals (Docket ID No. EPA-HQ-OPP-2008-0331)
2. BACWA's July 7, 2017 Letter to US EPA on the Preliminary Ecological Risk Assessment for the Pyrethroid Insecticides (Docket ID No. EPA-HQ-OPP-2010-0384)

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