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Office of Pesticide Programs (OPP)
Environmental Protection Agency Docket Center (EPA/DC; 28221T)
U.S. Environmental Protection Agency (EPA)

Subject: Etofenprox Proposed Interim Registration Review Decision (Docket ID No. EPA–HQ–OPP–2007–0804)

Dear DeMariah Koger:

On behalf of the Bay Area Clean Water Agencies (BACWA), we thank you for the opportunity to comment on the Proposed Interim Registration Review Decision (“PID”) for etofenprox.¹ BACWA’s members include 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.

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 detailed in our conversations with EPA and our prior correspondence, 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.² 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

¹ Etofenprox Proposed Interim Registration Review Decision, Case Number 7407, December 2022. Memorandum dated 12-15-2022. Docket ID # EPA–HQ–OPP–2007–0804

² 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.

issue – the Clean Water Act toxicity standards that drive our interest in pyrethroids affect POTWs across the entire nation.

BACWA Appreciates EPA’s Linkage of Indoor Uses with Aquatic Toxicity

BACWA appreciates EPA’s acknowledgement that indoor uses of pyrethroids result in potential risks to aquatic invertebrates and fish. The PID includes the following statement (emphasis added):

*“The residential indoor products containing pyrethroids are expected to result in ecological risks of concern **from the use of pet shampoos; pyrethroid-impregnated or treated textiles being laundered; and indoor household treatments (e.g., carpet, furniture, or bedding) to control bed bugs, fleas, and other pests with public health significance.** Under these use patterns, the wastewater that goes down-the-drain contains pyrethroid residues and is treated in wastewater treatment plants (WWTPs) or publicly-owned treatment works (POTWs) and then discharged to waterbodies. A portion of the pyrethroid residues remains in the water discharged to the outdoor waterbodies and **results in potential risks to aquatic invertebrates and fish ...**”*

BACWA appreciates that this reaffirms EPA’s finding that pyrethroids discharges to municipal wastewater systems pose ecological risks that should be mitigated.

BACWA Seeks Additional Mitigations That Address Indoor Uses

To mitigate for the impacts of indoor use (including foggers, sprays, and on-pet products), the PID suggests that sufficient mitigation will be label language to reduce rinsing of container residue down the drain:

“Mitigation to address risks from the indoor use of products containing these chemicals focuses on reducing the amount of residues being poured down-the-drain.”

While we greatly appreciate that EPA has proposed product label improvements toward preventing incidents like dumping unused products, we are disappointed that EPA continues a pattern of ignoring the main problem of indoor use – continuous discharges associated with ordinary use of foggers, sprays, pet topicals and pet shampoos. The PID states (without evidence or modeling) that the mitigation focused on container residue will be sufficient.

Therefore, BACWA recommends the following additional mitigation measures:

- **Recommendation: Add label language for on-pet topicals that reduces unintended wash-off.** As BACWA has previously shared, pet washing is likely to be a significant pathway by which pet topical applications enter the sewer system. Label statements such as “water proof” should be removed. All labels should dissuade owners from washing their pets for at least 2 weeks after treatment.

In a 2017 study conducted by the California Department of Pesticide Regulation (CDPR), dogs were washed at 2, 7, or 28 days after application of a fipronil-based topical flea

treatment.³ The rinse water was analyzed for fipronil and its degradates. The mass of fipronil and its degradates in the rinse water ranged up to 86% of the mass applied. Average percentage of fipronil and its degradates detected in rinsate generally decreased with increasing time from initial application: 21 ± 22 , 16 ± 13 , and $4 \pm 5\%$ respectively for 2, 7, and 28 days after application. Results confirm a direct pathway of pesticides to municipal wastewater through the use of spot-on products on dogs and subsequent bathing. While water solubilities differ between pesticides and even amongst the pyrethroids, shampoos almost always include surfactants that enhance the mobility of less soluble chemicals like pyrethroids.

- **Recommendation: Add additional label clarifications for pet shampoos.** To avoid overuse of pet shampoos, BACWA requests that EPA require the labels for all pyrethroids and pyrethrins pet shampoos provide specific application quantities and allowable frequencies of use. Most current shampoo labels do not specify application quantities, even though overuse could potentially harm a pet. Meanwhile, some labels require consumers to perform quantity calculations themselves (1/4 Tablespoon per pound of pet weight) (etofenprox product, EPA Reg. No.: 2724-806). Some product labels already contain this information in a table (for example see EPA Reg. No.: 2596-177). We suggest that EPA require all shampoos have a table indicating the correct shampoo volume for the pet body weight.
- **Recommendation: Conduct modeling to better understand fogger and spray mitigation.** While BACWA is interested in minimizing on-pet treatments of pyrethroids that persist through POTWs, we are concerned about the potential for consumers to replace on-pet treatments with indoor foggers and sprays, both from the POTW discharge perspective and out of concern for human health hazards that have been raised by other experts. In our past communications to EPA, we have summarized several studies that support the avoidance of such in-house treatments.^{4 5 6} In addition, in 2022 researchers at UC Riverside published a new study that quantified the transfer of pyrethroids from contaminated surfaces via physical contact and found that such transfer is increased with the use of detergent.⁷ An indoor modeling study could provide EPA with estimations of

³ Teerlink, J., J Hernandez, R Budd. 2017. Fipronil washoff to municipal wastewater from dogs treated with spot-on products. *Sci Total Environ* 599-600: 960-966.

⁴ Keenan, James J., John H. Ross, Vincent Sell, Helen M. Vega, Robert I. Krieger, "Deposition and spatial distribution of insecticides following fogger, perimeter sprays, spot sprays, and crack-and-crevice applications for treatment and control of indoor pests," *Regulatory Toxicology and Pharmacology* 58 (2010) 189–195.

⁵ Ross, J., T. Thongsinthusak, H.R. Fong, S. Margetich, R. Krieger, California Department of Food and Agriculture, "Measuring Potential Dermal Transfer of Surface Pesticide Residue Generated from Indoor Fogger Use: An Interim Report," *Chemosphere*, Vol.20, Nos.3/4, pp 349-360, 1990.

⁶ McKelvey, Wendy, J. Bryan Jacobson, Daniel Kass, Dana Boyd Barr, Mark Davis, Antonia M. Calafat, and Kenneth M. Aldous, "Population-Based Biomonitoring of Exposure to Organophosphate and Pyrethroid Pesticides in New York City," *Environmental Health Perspectives*, Volume 121, Number 11-12, November-December 2013, <http://dx.doi.org/10.1289/ehp.1206015>.

⁷ Dery, M., Dinh, B., Budd, R., Choe, D.-H., 2022. Wash-off potential of pyrethroids after use of total release fogger product. *Science of the Total Environment* 847 (2022) 157340. <https://doi.org/10.1016/j.scitotenv.2022.157340>

transport from indoor surfaces to POTWs. This coupled with down-the-drain modeling could determine which active ingredients should be banned from foggers and indoor sprays.

- **Recommendation: Add limits to indoor spot treatments.** The proposed label changes include a Spot Treatment Guidance Statement that limits spot treatments to two square feet in size. It is unclear from the proposed language if the Spot Guidance Treatment includes both outdoor and indoor uses. BACWA asks that EPA clarify this language. The current labeled uses for etofenprox include very expansive indoor spraying areas, which could incorporate an entire indoor household:

“...apply a light uniform spray to all surfaces of furniture, rugs, carpets, drapes, and on and around all pet resting areas. Apply to infested areas such as pet beds and pet resting quarters, nearby cracks and crevices, under the edges of rugs and floor coverings, between and under cushions of upholstered furniture and other areas where fleas may be present.” (EPA Reg. No.: 89459-12)

BACWA asks EPA to consider altering the current label language to limit indoor treatment to a specific square foot area. For outdoor perimeter and spot treatments of pyrethroids, EPA worked with registrants to limit application to the specific area needed for treatment. BACWA suggests that EPA and the etofenprox registrants develop similar limits for indoor treatments of etofenprox to mitigate for the transport to the POTW and subsequently to the aquatic environment.

- **Recommendation: Incorporate integrated pest management and advancement in oral medications in pet-related pest control when evaluating mitigation alternatives.** EPA stated that etofenprox is one of only two pyrethroids for cats, suggesting that the tool box for cat owners is limited. Meanwhile, there are numerous additional non-pyrethroid products for cats, including spinosad, lufenuron, selamectin, and sarolaner, some of which also protect for other pests including heartworm and roundworm. In addition, there are mechanical mitigations, such as vacuuming and flea combs that would protect the cat and household. Further, while the PID extensively describes the public health importance of controlling fleas and ticks, there is little acknowledgement of the advances in oral flea/tick medications nor any acknowledgment of holistic IPM approaches that include prevention and mechanical controls to reduce impacts of fleas and ticks. Some studies indicate that oral medications may be more effective than topical spot treatments possibly because there is less reliance on proper application by the owner.⁸ BACWA suggests that EPA--in particular EPA's Biological and Economic Analysis Division (BEAD)—consider these flea/tick alternatives in their analysis.

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

⁸ "Flea blood feeding patterns in cats treated with oral nitenpyram and the topical insecticides imidacloprid, fipronil and selamectin," McCoy, c., et al., *Veterinary Parasitology*, Vol. 156, pp 293-301, 2008.

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Respectfully Submitted,



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