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Submitted electronically to Karen.Morrison@cdpr.ca.gov

Subject: Fipronil Risk Characterization and Risk Mitigation Process

Dear Ms. Morrison:

On behalf of the Bay Area Clean Water Agencies (BACWA), we thank you for the opportunity to provide input on the Fipronil risk characterization and risk mitigation process. 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. BACWA is especially interested in pesticides that are used in manners that have transport pathways to the sanitary sewer, as even the most sophisticated wastewater treatment plants cannot fully remove complex chemicals like pesticides.

Thank you for providing us with a copy of DPR's Draft Fipronil Risk Characterization Document (RCD). We appreciate that this document includes a detailed evaluation of the risks of the primary use of fipronil indoors – pet flea control. The RCD lists more than a dozen exposure scenarios associated with pet treatments that have margins of exposure considered to pose a potential health risk. Based on these findings, we anticipate that DPR will be examining risk mitigation options.

BACWA has a strong interest in fipronil and other pet flea control products due to its high aquatic toxicity and proven ability to pass through Publicly Owned Treatment Works (POTWs) and remain present in the effluent. We have no comments on the RCD. The purpose of this letter is to formally request that DPR integrate water quality considerations into its risk mitigation process for fipronil. We have briefly outlined the primary issues below.

Background
Every day, BACWA members' 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.

For many years, we have shared information and coordinated monitoring projects with DPR's Surface Water Protection Program. For example, our Regional Monitoring Program investigated the presence of the two most common pet flea control active ingredients – fipronil and imidacloprid – in municipal wastewater influent, effluent and biosolids. This landmark study identified the pass-through of concerning levels of these active ingredients and – together with studies conducted by DPR scientists – forms the basis for a strong link between the presence of these pesticides in wastewater and their use for pet flea control.[1] We have also been involved in other studies involving pet flea control active ingredients in wastewater, such as pyrethroids monitoring during DPR's re-evaluation,[2] and various monitoring projects conducted by DPR's Surface Water Protection Program that have addressed additional pet flea control active ingredients. These monitoring studies identified that at least three classes of pet flea control active ingredients with high aquatic toxicity (fipronil, neonicotinoids, and pyrethroids) pass through POTWs and appear in effluent.

Based on this information, we examined alternative pet flea control methods, conducted outreach to the public and to veterinarians about the water quality issues with these products, and started a dialog with veterinarians. Our work makes us optimistic that there are good options for pet flea control with lower water quality risk profiles.

Our experience clarifies:

> (1) that we need help from pesticides regulators, who have the expertise and authorities to address the water quality challenges posed by these products; and
> (2) that the risk management for pet flea control products needs to be addressed holistically to avoid regrettable substitutes.

Based on this experience, BACWA requests that DPR consider water quality – and specifically the following factors – during the upcoming fipronil risk mitigation process:

1) Risk of Alternatives
2) Clean Water Act Compliance Costs
3) Implications for Potable Reuse

1) Risk of Alternatives

BACWA requests that DPR conduct its risk mitigation evaluation for pet flea control products as a group (i.e., considering imidacloprid, pyrethroids, and others) and in the context of the broad

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[1] Sadaria, A.M. et al. 2017. Passage of Fiproles and Imidacloprid from Urban Pest Control Uses Through Wastewater Treatment Plants in Northern California. *Environmental Toxicology and Chemistry*. 36 (6), 1473-1482; Teerlink, J., et al. 2017. Fipronil washoff to municipal wastewater from dogs treated with spot-on products. *Sci Total Environ* 599-600: 960-966.

[2] Markle, J., et al. 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.

range of available non pesticide alternatives, including FDA-approved oral medications and physical controls (e.g., vacuuming, washing of pet bedding). Evaluating and managing alternatives as a group is necessary to avoid the situation that if one pesticide is limited or banned, that another pesticide—with regrettable consequences—may be substituted. One example of a regrettable substitution for fipronil are pet flea control products that contain imidacloprid. Changes in products that push consumers to use more imidacloprid products (in lieu of fipronil products) could be problematic for our member agencies and for receiving water bodies.

On the positive side, there are many pet flea control alternatives that look to be good substitutes for fipronil (and imidacloprid) spot-on pet treatments. There are several oral pet treatments that look promising. BACWA has developed a comprehensive list of pet flea control alternatives (both pesticide and non-pesticide) that we have shared with DPR's Surface Water Protection Program. When DPR is ready, we can share the latest list with you.

BACWA members are wastewater experts, but not experts in pet care. To bring pet care expertise into our efforts to address pet flea control-related water quality challenges, we have initiated conversations with veterinarians, including local county Veterinary Medical Associations in the San Francisco Bay Area and the American Veterinary Medical Association (AVMA), the national association for veterinarians.

Since November 2020, a BACWA representative has been communicating regularly with a member of the AVMA's Committee on Environmental Issues. Via this relationship, BACWA is gaining valuable insights on the complexity of pet parasite control. For instance, since fipronil is effective for both fleas and ticks, it was recommended that we expand the focus of our outreach efforts (which has been on physical flea controls such as vacuuming homes and washing pet bedding) to include physical tick control (e.g., shorter leash and trimmed dog hair during tick season).

The AVMA Committee on Environmental Issues has begun to assess the relationship between topical pet parasite control, the environment and public health. We recommend that DPR engage with veterinarians, perhaps starting with the AVMA Committee on Environmental Issues, in order to develop a holistic understanding of fipronil and its pet parasite control alternatives. BACWA would be pleased to help make this connection and can provide contact information to DPR.

2) Clean Water Act Compliance Costs

Pesticide discharges to sewer systems can prove costly for POTWs, due to the potential for pesticides to cause or contribute to wastewater treatment process interference, National Pollutant Discharge Elimination System (NPDES) Permit compliance issues, impacts to receiving waters, recycled water quality and/or biosolids reuse, in addition to exposing POTWs to the potential for third party lawsuits under the Clean Water Act.

One particular concern is the ability of a specific pesticide to cause effluent toxicity limit exceedances. The Federal Clean Water Act states that surface waters cannot be toxic to aquatic life. NPDES permits require POTWs to demonstrate that they meet this standard by evaluating toxicity using USEPA standard methods set forth in 40 Code of Federal Regulations, Part 136. California recently adopted a set of Toxicity Provisions that may have additional implications for

pesticides. If a POTW's effluent is toxic because of a pesticide, a POTW may not have any practical means to comply with Clean Water Act-mandated toxicity permit limits because state law prevents local regulation of pesticide sales and use.

Once identified, the cost to treat or remove the toxicity causing compound(s) can vary dramatically. Often, there are few ways for a discharger to mitigate the problem other than extremely costly treatment plant upgrades, which are often ineffective for organic chemicals like pesticides that appear at sub-microgram per liter concentrations, largely because sewage is a complex mixture of natural organic compounds. Regardless, dischargers must comply with Clean Water Act permit limits. If a discharger violates a toxicity limit, it can be subject to significant penalties (in California up to $10/gallon or $10,000 per day).

3) Implications for Potable Reuse

In light of expected future potable water supply challenges, the state of California has a goal of expanding supply by accessing highly purified effluents from municipal wastewater treatment plants. Discharges of fipronil, imidacloprid, and other pet flea-control products have implications for the feasibility of potable reuse of municipal wastewater effluent. These pesticides, which are already present in the undiluted discharge of wastewater treatment plants at concentrations above USEPA aquatic life benchmarks, become more concentrated in the waste generated by the advance water purification process to prepare wastewater for potable reuse (reverse-osmosis [RO] concentrate). The costly challenges caused by pet flea control pesticides in RO concentrate disposal may potentially be so great as to make water reuse infeasible for some agencies.

Next Steps

When DPR starts evaluating its approach to risk mitigation, we would appreciate the opportunity to meet with you and your team. We stand ready to provide more detailed information on the above topics. To set up a meeting – or if you have any questions, please contact BACWA's Project Managers:

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Thank you for your consideration of our comments. We appreciate your willingness to consider these water quality and compliance issues during your fipronil risk management process.

Respectfully Submitted,

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Executive Director
Bay Area Clean Water Agencies

cc: Shelley DuTeaux, California Department of Pesticide Regulation

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