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Subject: Sustainable Pest Management Roadmap, Discussion Draft

Dear Ms. Morrison:

On behalf of the Bay Area Clean Water Agencies (BACWA), we thank you for the opportunity to comment on the draft Sustainable Pest Management (SPM) Roadmap. BACWA's members include 55 publicly owned wastewater treatment facilities and collection system agencies serving 7.1 million San Francisco Bay Area residents. Every day, BACWA members' Publicly Owned Treatment Works (POTWs) treat millions of gallons of pesticide-containing wastewater that is then discharged to fresh or saltwater bodies, including local creeks and rivers, bays, and the Pacific Ocean. We take our responsibilities for safeguarding receiving waters seriously.

Background – Pesticide Discharges to the Sewer Can Be Costly

Pesticide discharges to the sewer system can prove costly for POTWs, due to the potential for pesticides to cause or contribute to wastewater treatment process interference, 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 (CWA).

In addition, when surface water bodies become impaired by pesticides, wastewater facilities may be subject to additional requirements established as part of Total Maximum Daily Loads (TMDLs) set for the water bodies by U.S. EPA and state water quality regulatory agencies. A number of pesticide-related TMDLs have been adopted or are in preparation in California. The cost to wastewater facilities and other dischargers to comply with TMDLs can be up to millions of dollars per water body per pollutant. This process will continue as long as pesticides are approved for uses that result in water quality impacts.

Summary of BACWA's Feedback on the SPM Roadmap

BACWA greatly appreciates DPR's 18-month effort to develop a Sustainable Pest Management Roadmap and the momentous inclusion of urban uses and concerns. Our feedback is meant to help support this renewed focus on urban uses and help make this redirection successful. Our comments, presented in the attached table, are organized in the requested format per the goal and

focus area. This table is attached in MS Word format to facilitate importation into the DPR survey feedback form.

Our comments focus on the following key points:

- **Urban pesticide goals, focus areas, and mitigations warrant high priority in the SPM Roadmap**. Roughly 80% of pesticide use in California is non-agricultural.[1] Meanwhile, the majority of DPR resources to date have focused on agricultural uses. BACWA requests that the SPM Roadmap as well as implementation resources be weighted towards urban pesticide concerns. With respect to the establishing a "State level multi-stakeholder working group," we disagree with the suggestion in the draft roadmap that PMAC would be the appropriate work group – particularly with regards to urban priorities. We strongly recommend that DPR develop separate urban and agricultural work groups that will have vastly different stakeholders to respond to vastly different priorities and research needs.
- **Implementation of DPR's goal of a 90% reduction in pesticide *residuals* be focused upstream of wastewater treatment plants, reducing uses and/or preventing transport to the sewer.** The alternative of advanced water treatment to subsequently remove pesticides would entail a substantial and impractical financial burden on municipalities that would be particularly acute in middle- and lower-income communities.
- **BACWA requests that improvements to California's pesticide registration and continuous evaluation include expediting evaluation of pesticides that have been scientifically linked to aquatic toxicity in wastewater effluent.** For example, monitoring projects conducted by DPR's Surface Water Protection Program have concluded 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. In addition to being a priority for urban aquatic toxicity, this is also a social justice issue. 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 communities.
- **BACWA supports enhancing data collection for urban pesticide use including addition of urban sales data and expanded pesticide monitoring.** It is vital that DPR expand data collection on how unlicensed users use pesticides in urban areas. In particular, the understanding of the quantity of pesticides used as well as the location of pesticides used in urban contexts should be expanded. In particular, BACWA supports ensuring sufficient continued funding to DPR scientists for <u>both</u> ongoing surveillance monitoring (i.e., statewide POTW network) and special studies, such as sewershed (collection system) studies (such as the DPR study of flea-control pesticides in a

[1] Moran, K., Anderson, B., Phillips, B., Luo, Y., Singhasemanon, N., Breuer, R. and Tadesse, D. (2020), Water Quality Impairments Due to Aquatic Life Pesticide Toxicity: Prevention and Mitigation in California, USA. Environ Toxicol Chem, 39: 953-966.)

municipal sewershed)[2] to help link influent data to specific pesticide uses and products. Such scientific studies greatly enhance understanding of upstream uses and inform stakeholders and DPR with regard to which products / uses need to be restricted in order to achieve the residuals reduction goal.

BACWA is encouraged and enthusiastic about DPR's addition of urban uses in the scope of this roadmap. BACWA would appreciate the opportunity to meet with DPR to discuss further and assist with implementation.

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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cc: Aimee Norman, Chief, Integrated Pest Management Branch, DPR
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Kelly Moran, SPM Workgroup Advisor
BACWA Executive Board
BACWA Pesticides Workgroup

[2] Teerlink J, Hernandez J, Budd R. Fipronil washoff to municipal wastewater from dogs treated with spot-on products. Sci Total Environ. 2017 Dec 1;599-600:960-966. doi: 10.1016/j.scitotenv.2017.04.219. Epub 2017 May 11. PMID: 28505888.

Feedback for the Discussion Draft, Sustainable Pest Management Roadmap for California
Prepared by the Bay Area Clean Water Agencies (BACWA)

Notes to reviewers:

1) This table will be submitted to DPR in both MS Word Format and via DPR's online survey comment site.
2) The decision to begin each comment with "BACWA:" is due to the format of the consolidated feedback. All surveys are expected to be tabulated into an Excel (or similar) file with all feedback consolidated within each comment area. Therefore we are seeking to ensure clarity as to which comments are attributable to BACWA.
3) There is some repetitiveness from row to row. This was purposeful because we expect each committee member to focus on responses to different survey questions.

Goal/Focus Area	Agree or saw value with goal/focus area	Concerns with this goal/focus area or what was missing with this goal/focus area	Specific ideas to improve or build on this goal/focus area
Goal: 90% reduction in pesticide residuals in offsite water, land, and air (pg.15)	BACWA: BACWA supports an ambitious reduction goal for pesticide residuals in the water, land and air.	BACWA: (1) Rather than focusing on a 90% overall reduction of all pesticide residuals, it may be more effective to focus on problematic pesticides. (2) It is unclear whether this ambitious goal is the expectation for both urban and agricultural / rural areas. Given that urban waterways are interconnected to critical habitats, we ask that the document recognize the importance of ambitious goals in urban as well as rural locations.	BACWA: (1) With regards to residuals in treated wastewater, the only practical way to reduce such residuals from wastewater is through source control, which means reducing usage or preventing transport to the sewer. It is impractical and financially burdensome to subsequently remove pesticides from wastewater using advanced wastewater treatment technologies. (2) BACWA asks that any reduction goal in wastewater effluent focus on high-priority pesticides such as those that have monitoring results that exceed aquatic benchmarks, pesticides linked to toxicity in surface waters, and pesticides with urban 303(d) listings. BACWA has a Watch List (https://bacwa.org/wp-content/uploads/2022/08/BACWA-Pesticides-Watch-List-Mar-2021.pdf) that is updated annually that, while only including dozens of pesticides, might be one of numerous prioritization starting points for DPR staff.
Goal: 90% reduction in the use of a yet-to-be-defined group of pesticides (pg. 15; pg. 16 for discussion of committee perspectives)	BACWA: BACWA supports the goal of reduced pesticide use.	BACWA: On page 16, the Roadmap presents several ways that the SPM Work Group members are seeking to define this goal. Most descriptors appear to be exclusively based on human harm (e.g., groundwater contaminants) and human endpoints (e.g., cancer). The end of the second paragraph mentions ecosystem biodiversity and pollinators. Meanwhile, pesticide discharges to the sewer system can prove costly for POTWs, due to the potential for pesticides to cause or contribute to wastewater treatment process interference, NPDES Permit compliance issues, impacts to receiving waters, recycled water quality and/or	BACWA: We concur with the SPM Work Group members that are seeking ecosystem endpoints for this goal. In order to apply SPM in an "environmentally sound" (pg. 10) manner, the pesticides eventually incorporated in this goal must reach beyond human endpoints to ones with ecosystem indicators, including but not limited to those with very low aquatic toxicity benchmarks and those already linked to toxicity in surface waters, and pesticides with urban 303(d) listings.

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		biosolids reuse, in addition to exposing POTWs to the potential for third party lawsuits under the Clean Water Act (CWA).	
Goal: A significantly expanded health and environmental monitoring infrastructure that enables accurate metrics for all of the above (pg.15)	BACWA: BACWA supports an expanded state-wide environmental monitoring infrastructure, including urban areas.	-	BACWA: We suggest linkage with DPR's ongoing POTW monitoring to the various programs, ensuring sufficient continued funding to do both ongoing surveillance monitoring (i.e., statewide POTW network) and special studies, such as sewershed (collection system) studies to help link influent data to specific pesticide uses and products. This data would support subsequent targeted public outreach and strategic pesticide and / or use restrictions. Additional feedback regarding implementation is described under Focus Area: Strengthen Coordinated SPM Leadership Structures (pgs. 24-27).
Goal: All California residents have equitable access to information and resources necessary to understand and effectively implement SPM (pg.15)	BACWA: BACWA supports efforts towards equitable access, including in urban areas.	BACWA: (1) As the draft roadmap stated on pg.11, non-professional pesticide users frequently do not read pesticide labels. To this extent, "equitable access to information" needs to go beyond language translation on pesticide labels. (2) It is unclear how the goal of "equitable access to resources" would be attained for urban uses such as flea, ant, and cockroach control. Sustainable pest management needs to be cost-effective and available to all communities. Case in point – flea control. Scientific studies have shown that pet flea control products contribute to POTW influent pesticides loads. Pet flea control chemicals are transported from pet flea control products to the sewer system, both directly (through dog washing) and indirectly (such as after transfer onto human hands or socks that are subsequently washed). In addition, Oral medications are now available however these products require veterinary visits. Perhaps	BACWA: Additional feedback in regard to implementation may be found in our comments on Focus Area: Advance Research and Outreach on Urban Pest Management Issue (pg. 43) and Focus Area: Make SPM the Preferred Choice for Both Licensed and Unlicensed Users (pg. 44-47).

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		there could be changes to the distribution system to reduce this cost barrier. Further, some spot-ons exhibit less human and aquatic toxicity than others so perhaps DPR could send a signal to consumers or use regulatory action to remove the more toxic flea treatments. . We welcome the opportunity to further discuss how to balance affordable flea control with less-toxic flea control.	
Focus area: Improve California's Pesticide Registration and Continuous Evaluation (pgs. 22-23)	BACWA: BACWA strongly supports the intention to improve the registration and re-evaluation processes.	BACWA: The concept of expediting reviews of pesticides categorized as "softer chemistries and biologics" is well-intended, provided that the expedited review considers urban use patterns and transport pathways (i.e., wastewater and stormwater) that could lead to inadvertent impacts to human or environmental health.	BACWA: (1) BACWA asks that DPR consider expediting evaluation and re-evaluation of pesticides that have been scientifically linked to aquatic toxicity in wastewater effluent. For example, monitoring projects conducted by DPR's Surface Water Protection Program have concluded 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. The primary source of fipronil and imidacloprid in municipal wastewater are topically applied pet treatments (pet "spot-ons" and sprays). BACWA has 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. (2) In addition to being a priority for urban aquatic toxicity, improving California's pesticide registration/evaluation process also affects social equity. In light of expected future water supply challenges, the state of California has a goal of expanding the use of recycled water. In some areas, this may include potable reuse of highly purified effluents from

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			municipal wastewater treatment plants . Discharges of fipronil, imidacloprid, and other pet flea-control products may affect 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 near or above USEPA aquatic life benchmarks, become more concentrated in the waste generated by the advanced 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 potable reuse infeasible for some communities.
Focus area: Strengthen Coordinated SPM Leadership Structures (pgs. 24-27)	BACWA: BACWA supports improving communication, coordination, and collaboration across relevant State agencies and departments, including fully funding this effort.	BACWA: (1) The leadership structure suggests a single stakeholder work group that would assess both urban and agricultural uses. This structure could undermine the ability of urban stakeholders and their unique needs to be independently assessed. Urban stakeholders (e.g., public housing residents/managers, veterinarians, pet owners, building managers, urban wastewater agencies) will be needed to coordinate prioritization of urban issues (item 1.A.i, pg. 25) as well as expand urban research (item I.A.ii, pg. 25). (2) The State and Regional Level Collaboration (pg. 25-27) is primarily focused on agricultural topics. For instance, the "Regional pest management collaborative" (item B, pg. 26) and "collaboration, demonstrations, and peer-to-peer learning" (item A, pg. 27) are strictly agricultural. (3) BACWA suggests that the State and Regional Water Boards be included in the list of agencies shown in Design Guidance 3(a) (pg. 52) and Design Guidance 4(d). The Water	BACWA: (1) With respect to the goal of "adequate resources to advance SPM" (pg. 24) BACWA asks that these resources be weighted towards urban uses. Roughly 80% of pesticide use in California is non-agricultural. (Ref: Environ Toxicol Chem, 39: 953-966 (2020)). Meanwhile, the majority of DPR resources to date have focused on agricultural uses. (2) With respect to the establishing a "State level multi-stakeholder working group" (pg. 25), we disagree with the suggestion in the draft roadmap that PMAC would be the appropriate work group – particularly with regards to urban priorities. We strongly recommend separate urban and agricultural work groups that will have vastly different stakeholders to respond to vastly different priorities and research needs. Urban stakeholder priorities are so varied as to necessitate their own focused work group. One way to begin to address this in the roadmap might be to restructure Design Guidance 6 (pg. 54) into two separate lists – one urban and one agricultural. Within the urban group, there may

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		Boards play an important role in evaluating the effects of pesticides in surface waters.	be value in having subgroups to tackle outdoor vs indoor uses (due to vastly different transport mechanisms to the environment). (3) We encourage the inclusion of concepts of "Regional pest management collaborative" (item B, pg. 26) and "collaboration, demonstrations, and peer-to-peer learning" (item A, pg. 27), separately in an urban context.
Focus area: Enhance Data Collection for Urban Pesticide Use (pg. 42)	BACWA: BACWA appreciates the proposed expansion of data collection for urban pesticide use. Non-agricultural pesticide use represents about 80% of all use in the state, yet little is understood about unlicensed urban use. (Ref: Environ Toxicol Chem, 39: 953-966 (2020)). Such data are key for mitigating ecotoxicity, so that the most impactful specific uses and chemicals are targeted. It is vital that DPR expand data collection on how unlicensed users use pesticides in urban areas. In particular, the understanding of the quantity of pesticides used as well as the location of pesticides used in urban contexts should be expanded. BACWA supports that expansion of data and subsets in DPR's PUR database. (Priority Action B, pg. 42) Sales data is an essential component of this and BACWA appreciates that this is included in Priority Action C. (pg. 42) BACWA supports the expansion of DPR's pesticide sales databases, including the steps outlined in Design Guidance 20 (pg. 63)	BACWA: (1) The data collection in Design Guidance 18 includes significant reliance on surveys. This survey language could be expanded to include existing data from wastewater collection systems. (2) In recent years there have been increased reliance on internet sales and online subscriptions for indoor pest control (such as Pestie.com). These products are typically marketed to unlicensed users, particularly residents, and can include concentrated formulations that require dilutions. We request that the proposed enhancements to data collection include online sales to consumers.	BACWA: (1) Roughly 80% of pesticide use in California is non-agricultural. (Ref: Environ Toxicol Chem, 39: 953-966.) Meanwhile, the majority of DPR resources to date have focused on agricultural uses. BACWA requests that urban data collection consider specific urban uses, locations, and transport pathways that lead to aquatic toxicity. As noted in Appendix 5 (E and F) (pg. 74), there is an array of key data gaps in urban uses that need immediate attention. There is a need for research that can link current 303(d) listings in urban areas with specific formulations or uses. (2) We suggest linkage with DPR's ongoing POTW monitoring to the various programs, ensuring sufficient continued funding to do <u>both</u> ongoing surveillance monitoring (i.e., statewide POTW network) and special studies, such as sewershed (collection system) studies to help link influent data to specific pesticide uses and products. Such scientific studies would greatly enhance understanding of urban uses and would inform stakeholders and DPR with regard to which products / uses need to be restricted in order to achieve the residuals reduction goal. This addition could be incorporated into Design Guidance 18. (3) We recommend that this focus area and either Design Guidance 18 or 20 acknowledge

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			the need to incorporate online purchasing and subscriptions into a successful data system and indicate how or whether this will be incorporated into the data collection. (4) We recommend that surveying target specific groups, like building managers, restaurant owners, etc. instead of the general public, as so much of unknown pesticide use is by these groups.
Focus area: Advance Research and Outreach on Urban Pest Management Issue (pg. 43)	BACWA: BACWA strongly concurs with the introductory paragraph: *"Currently, research funding for pest management is heavily focused on applications in production agriculture, resulting in relatively poor investment in research and outreach on urban pest challenges. Particularly given the high proportion of pesticide use in urban contexts, California's efforts to implement SPM statewide would be greatly enabled by an increase in research, outreach and technical assistance for urban uses."* (pg. 43) BACWA fully supports advancing research and outreach for urban pest management, including increased funding to the UC IPM to expand the focus on urban pesticides. (Design Guidance 21, pg. 63)	BACWA: This section appears to be missing any reference to Appendices 4 and 5 which provide an important backdrop as to the urban users and the research data gaps. The non-agricultural pesticides uses (within Appendix 3) should also be referred to in this section.	BACWA: With respect to outreach, there is a profound need to reach diverse communities and cultures in urban areas and (per Appendix 5, pg. 73) these communities may have different tolerances and attitudes. Additional public outreach feedback is provided in the subsequent focus area of making SPM the preferred choice.
Focus area: Make SPM the Preferred Choice for Both Licensed and Unlicensed Users (pg. 44-47)	BACWA: BACWA supports efforts to make SPM the preferred choice for both licensed and unlicensed users, including advancing SPM at school sites, conducting urban SPM outreach, implementing pesticide education requirements at the retail sector, and other measures.	BACWA: (1) This section appears to be missing any reference to Appendices 3 and 4 which provide key insights into the array of urban users. To make SPM a preferred choice, one must acknowledge that there are differences even between trained professionals. For instance, veterinarians are trained to administer or prescribe pesticidal treatments but do not understand the links to water quality or ecotoxicity. This differs from a water treatment operator who is specifically trained on the use of antimicrobials. (2) This	BACWA: (1) In order for this focus area to be effective in urban areas, IPM and alternatives to pesticides need to be the primary focus of outreach messages. While this may seem obvious, it is our observation that past statewide pesticide outreach has focused on proper disposal and/or proper use of pesticides, rather than alternatives and prevention to avoid pesticides. (2) We recommend that regulatory action be paired with the outreach efforts in order to

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		section is also missing any reference to Appendix 5 which provides an important backdrop as to the urban users, public perception, awareness and public mindsets with regards to pest tolerances.	remove the most dangerous and toxic pesticides from retail shelves. (3) With respect to "Priority Action D: Initiate a public awareness campaign" (pg. 45) BACWA has significant experience with public outreach campaigns to reduce pollutants. (2.1) Our experience has shown that broad campaigns are not effective as focused campaigns. We have found that messages are more effective at the point-of-purchase, particularly when store staff are well trained. (2.2) Online campaigns are much more effective at engaging the public if they address a specific consumer problem or nuisance (e.g, termites) that garners "click-throughs" that lead them to science-based information. Online campaigns might be particularly effective at reaching consumers when they are seeking to purchase pesticides (parallel to the brick-and-mortar point of purchase campaigns).
Final Overall Feedback: BACWA greatly appreciates this effort to bring the state towards sustainable pest management and the inclusion of urban uses and concerns. BACWA would appreciate the opportunity to meet with DPR staff to discuss further and assist with implementation.			