BACWA
BAY AREA
CLEAN WATER
AGENCIES

June 6, 2014

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor [95814]
P.O. Box 100
Sacramento, CA 95812-0100

Via E-mail: commentletters@waterboards.ca.gov

SUBJECT: **Comment Letter – Proposed amendments to Water Quality Order 2011-0002-DWQ Statewide General Vector Control Permit for Residual Adulticide and Larvicide Pesticide Discharges (Vector Control Permit)**

Dear Ms. Townsend:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on the State Water Resource Control Board's (State Water Board's) May 9, 2014 proposed amendments to the Vector Control Permit (Water Quality Order 2011-0002-DWQ). BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide sanitary services to over 6.5 million people in the nine county San Francisco Bay Area. BACWA members are public agencies, governed by elected officials and managed by professionals charged with protecting the environment and public health.

BACWA understands that vector control, like wastewater treatment, is an invaluable public health service. In providing these respective public services, each jurisdiction should be aware of and understand the regulatory and public health realms of the other. In recent months, it appears the effectiveness of the NPDES permit used to control the water quality impacts from aquatic applications administered by vector control agencies is being adversely affected. Specifically, BACWA believes the elimination of water quality monitoring requirements in the March 12, 2014 amendment (2014-0038-EXEC) and removal of effective NPDES regulatory limits on the choices of pesticides available in both past amendments and the current proposed amendments could have detrimental consequences on water quality or significantly shift the burden of protecting water quality impacts from vector control applications to other dischargers (e.g. wastewater treatment plants). Therefore, we recommend that the State Water Board proceed cautiously and consider alternative amendments to this permit to help ensure water quality is protected during the conduct of this important public health activity.

BACWA has five areas of concern regarding the proposed amendments:

1. Modifications Proposed Without Scientific Justification
2. Cumulative Impact of Pesticide Mixtures
3. Statewide General Permit Amendments Include Pesticides that are 303(d) Pollutants
4. Relevance of Numeric Triggers is Negated Without Water Quality Monitoring
5. Proposal to Reopen the Permit When DPR Registers New Active Ingredients

BACWA's concerns and comments regarding the proposed amendment to the Vector Control Permit are presented below.

1. Modifications Proposed Without Scientific Justification

There was no Staff Report accompanying the proposed permit amendments and no scientific justification for these substantial modifications. The pairing of the recently adopted 2014-0038-EXEC amendment with these follow-up proposed amendments result in sweeping and significant changes to a statewide general permit that appear to limit the permit's effectiveness in protecting water quality. There should be scientific studies to support the findings that relaxing the standards of the Vector Control Permit would not result in an impact to water quality. If the State Board's regulatory management decision is to relax the standards of this permit without supporting scientific studies, there should at least be a staff report available to demonstrate the justification for such decisions.

BACWA members, and other wastewater dischargers throughout the state, convey wastewater containing some pollutants which are subject to strict effluent limitations and stringent Monitoring and Reporting Programs. The State Board is developing a Toxicity Plan to regulate wastewater discharges statewide. Based on past versions of the proposed Toxicity Plan, stringent standards are being proposed for wastewater dischargers that are incongruous with the changes to the proposed amendments to the Vector Control Permit. Vector control providers apply full strength pesticides directly to water bodies and yet the permit to regulate their water quality impacts excludes water quality monitoring and instead relies on numeric triggers in the receiving water that will never be demonstrated since there's no required monitoring (see discussion below). The amendment to authorize a broader list of pesticide alternatives is being proposed without a commensurate level of regulation to monitor and manage the impacts from these pesticide applications. Water quality protection is a public health and environmental issue and amendments to the Vector Control Permit need to strike an appropriate balance.

In 2010, MVCAC was awarded an IPM Innovator Award for promoting IPM principles and for "a switch from broad-spectrum pesticides targeted at adult mosquitoes to less-toxic pest-specific larvicides such as insect growth regulators and biopesticides."[1] Since they are IPM Innovators, MVCAC and its members surely understand that broad-spectrum pesticides are a last resort, particularly those that are already on 303(d) lists throughout the state. The Vector Control Permit should establish standards that are consistent with this control strategy hierarchy. The proposed permit changes seem incongruous with IPM methodology.

BACWA Comment: *The State Water Board should identify the scientific studies or produce a staff report that documents how the amendments will not impair water quality. The State Water Board should develop relatively consistent standards in statewide permits used to regulate potential water quality impacts related to toxicity for different categories of dischargers.*

2. Cumulative Impact of Pesticide Mixtures

The current permit includes Attachments E and F which list product-by-product formulations that may be used as adulticides and larvicides, respectively. To develop such a list, State Water Board staff reviewed proprietary pesticide formulations, including active ingredients and "inerts" to identify which formulations would be least likely to impact water quality. These lists were developed with a reasonable science-based approach. Unfortunately, these Attachments were

[1] http://www.cdpr.ca.gov/docs/pestmgt/ipminov/awards/10awards.htm#mosquitovca

both deleted in the proposed amendments and replaced with a broad list of active-ingredient pesticides, rather than formulations. Although pesticide ingredient lists are not public, we know that allowable pesticide "inert" ingredients include numerous water pollutants, such as chlorinated solvents and other Clean Water Act Priority Pollutants. Many end-use products also contain synergists (e.g. piperonyl (PBO), MGK-264) that cause the product to be more toxic to aquatic organisms than the active ingredient alone. No evidence was presented with the proposed amendments to assess if the replacement of Attachments E and F with a list of registered pesticide active ingredients—instead of a list of pesticide products for which the entire formulation has been scientifically evaluated for its water quality impacts—will adversely impact water quality. BACWA supports the approach in the current permit to evaluate the environmental risks associated with exposure of the water bodies to specific formulations.

BAWCA Comment: *The State Board should either continue their previous methodology of considering the cumulative impacts of pesticide formulations and mixtures or provide scientific support and justification that the proposed updated approach, particularly in the absence of water quality monitoring, will adequately protect water quality.*

3. Permit Amendments Include Pesticides that are 303(d) Pollutants

When surface water bodies become impaired by pesticides, wastewater agencies, including BACWA members, may be subject to additional requirements established as part of Total Maximum Daily Loads (TMDLs) set for the water bodies. In fact, a number of TMDLs have been adopted or are being prepared to address pesticide-caused water quality impairments in California. The cost to wastewater facilities and other dischargers to comply with TMDLs can be up to tens of millions of dollars per impaired water body listed. Such a scenario could become more prevalent if pesticides are approved for uses that result in water quality impacts. It is imperative that the State Water Board exercise its regulatory authority to fully assess and manage how best to achieve the dual goals of mosquito abatement and water quality protection and not allow activities in one area while ignoring impacts in the other.

There are watersheds throughout the state that are 303(d) listed as impaired due to the same pesticides included in these amendments:

- Chlorpyrifos
- Malathion
- Pyrethroids
- Bifenthrin (a pyrethroid that is individually identified on the 303(d) list)

BACWA is concerned with how the State Water Board and Regional Boards will implement TMDLs throughout the state for the DPR-approved pesticides that are on the 303(d) lists as impairing receiving waters. We are concerned that the burden will shift to wastewater agencies as TMDL implementation moves forward for these pollutants. This shift could result in wastewater agencies being required to conduct source control or pretreatment activities when the pesticides passing through our systems will likely pale in comparison to the direct discharges from vector control activities.

BACWA Comment: *The State Water Board should prohibit the use of 303(d) pollutants in the Vector Control Permit within watersheds that currently have one or more water bodies that are listed as impaired by these pollutants, with possible exceptions for public health emergencies or situations in which less toxic controls are ineffective or temporarily unavailable. Alternatively, the*

State Water Board should prepare a staff report that demonstrates how the proposed permit amendments allowing direct application of pesticides to water bodies will align with future TMDL processes for these pollutants.

4. Relevance of Numeric Triggers is Negated without Water Quality Monitoring

In Section III. Findings, Subsection A. Amendment of the proposed amendments, the text is amended to acknowledge that (highlight added):

> *"Some of the newly added larvicides and adulticides contain active ingredients that may potentially cause or contribute to an exceedance of a water quality objective, or impact beneficial uses of a receiving water body. Thus, this amendment also includes* ***additional corresponding receiving water limitations and receiving water monitoring triggers*** *for the new active ingredients in Tables 3 and 4."*

The updated text in the Vector Control Permit Factsheet further states:

> *"This General Permit may be re-opened to add receiving water limitations if the monitoring result for diflubenzuron, temephos, naled, pyrethrin, bifenthrin, cyfluthrin, deltamethrin, etofenprox, lambda-cyhalothrin, permethrin, prallethrin, resmethrin, sumithrin, PBO, and MGK-264 exceed the associated monitoring trigger."*

Prior to March 12, 2014, the Monitoring and Reporting Program included water quality sampling within 24 hours of an application event followed by a second sampling event within one week of project completion. However, the Monitoring and Reporting Program (Attachment C) was updated less than 3 months ago (2014-0038-EXEC, effective March 12, 2014) to eliminate all pesticide chemical monitoring of the receiving water. This action ensures that the triggers will never be exceeded because monitoring pesticide concentrations in the water body is not required. If there is no data, how will it be determined that the triggers have been exceeded?

The proposed amendments ignore a recent UC Davis study sponsored by the State Water Board regarding the toxicity of mosquito abatement pesticides and breakdown products. If and when the numeric "triggers" become meaningful once again, the list only includes the pesticides themselves, without a consideration for breakdown products. The State Board sponsored UC Davis study indicates that the toxicity for naled (an organophosphate insecticide included as one of approved adulticides) is underestimated when the toxicity of its breakdown product is not evaluated (highlight added):

"In the case of naled in water, analysis of only the active ingredient underestimated potential impacts to the receiving system because toxicity was attributed to the breakdown product, dichlorvos. Toxicity testing can provide useful risk information about unidentified, unmeasured toxicants, or mixtures of toxicants. In this case, toxicity testing provided information that **could lead to the inclusion of dichlorvos monitoring as a permit requirement.**"[2]

Meanwhile, in MCVAC's Monitoring Plan from March 2011 it is noted that (highlights added):

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[2] Phillips, B., Anderson, B., Voorhees, J., Siegler, K.., Denton, D., TenBrook, P., Larsen, K., Isorena, P., and Tjeerdema,R.S. (2014, in press) "Monitoring the Aquatic Toxicity of Mosquito Vector Control Spray Pesticides to Freshwater Receiving Waters." Integrated Environmental Assessment and Management.

"**Naled** and **malathion** are organophosphate insecticides, and are used in rotation with **pyrethrins** or **pyrethroids** to avoid the development of resistance. **Naled is the most commonly used material for this purpose**. Because **application rates are high** relative to other adulticides, naled accounts for a large **proportion of adulticide use by mass (66.8 percent)**, but a much smaller **proportion by acreage (6.1 percent)**."[3]

This assessment suggests that some water bodies may be targeted with a high mass of naled, which could result in a high concentration of dichlorvos. Therefore, it appears that naled and dichlorvos, rather than being exempt from monitoring, actually warrant additional water quality monitoring at this time.

BACWA Comment: *The State Water Board should amend the permit to require receiving water monitoring, with an option allowing vector control agencies to participate in regional monitoring programs to assess the potential water quality impacts from their pesticide applications. At a minimum, receiving water monitoring should be required for the newly added pesticides as well as dichlorvos, the naled breakdown product. Alternatively, the State Water Board should prepare a staff report that explains how these numeric triggers will be effectively implemented in the absence of water quality monitoring.*

5. Proposal to Reopen the Permit When DPR Registers New Active Ingredients

One of the proposed amendments states:

> *"The State Water Board may reopen this General Permit to add new active ingredients that DPR registers for use in larvicides and adulticides for vector control."*

This blanket statement is inappropriate particularly in light of the proposal to delete Tables E and F (specific formulations) and replace them with a sweeping list of DPR-registered pesticides. Clearly these pesticides have not been vetted by Water Board staff with respect to water quality, as should be keenly evident by the inclusion of 303(d) listed pollutants amongst the pesticides registered for mosquito abatement.

To agree to consider listing any new ingredient registered by DPR for vector control is to presume that there is clear communication and an agreed-upon methodology between the Water Boards and U.S. EPA Office of Pesticide Programs (OPP) and DPR when it comes to water quality impacts prior to registering a pesticide for a particular use. While the communication process and methodologies are evolving, the current procedures are not yet adequate to ensure protection of water quality. In our collective experience, BACWA has observed incomplete analyses of water quality impacts, on the part of both U.S. EPA OPP and DPR, during pesticide registrations.

While we appreciate that there has been an enhanced dialogue with DPR in recent years, the fact remains that water quality protection is not their focus when evaluating a pesticide for registration—and incongruence between pesticide and water quality laws sometimes necessitate decisions under pesticide law that are inconsistent with the Clean Water Act and Porter-Cologne. Thus, the State Water Board needs to continue independently evaluating the appropriateness of direct pesticide application to water bodies in order to protect water quality objectives and safeguard beneficial uses.

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[3] http://sgvmosquito.org/downloads/NPDES/MVCAC%20Monitoring%20Plan.pdf

BACWA Comment: *The State Water Board should delete the proposed amendment "The State Water Board may reopen this General Permit to add new active ingredients that DPR registers for use in larvicides and adulticides for vector control", or modify the statement to incorporate how the State Water Board will review and evaluate pesticides registered by DPR.*

Conclusion

BACWA recognizes that mosquito abatement is an important public health service. We further appreciate that vector control agencies have voiced concerns regarding both water quality monitoring and the current limits to pesticide "tools" in their toolbox. However, we feel the proposed amendments address the vector control agencies concerns but largely ignore the need to adequately assess impacts to water quality. If it is concluded that every DPR-registered pesticide is needed in the vector control toolbox, then the appliers of the pesticides should bear the responsibility to monitor potential impacts to demonstrate that such use is neither exceeding triggers nor causing toxicity to state water bodies. On the other hand, if such monitoring is deemed to be too onerous then there should be limits placed on the chemical tools in the toolbox. To remove both the water quality monitoring and any limits as to chemical compositions of pesticides to be applied seems to be unprecedented with regards to ensuring water quality is protected.

For the reasons outlined above, BACWA respectfully requests that the State Board carefully re-evaluate the proposed language modifications. BACWA appreciates the State Water Board's attention to the comments made herein. Representatives of BACWA would be more than happy to discuss our comments and concerns with you in more detail.

Respectfully Submitted,

David R. Williams

David R. Williams
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Bay Area Clean Water Agencies

Enclosure: Phillips, B., Anderson, B., Voorhees, J., Siegler, K.., Denton, D., TenBrook, P., Larsen, K., Isorena, P., and Tjeerdema, R.S. (2014, in press) "Monitoring the Aquatic Toxicity of Mosquito Vector Control Spray Pesticides to Freshwater Receiving Waters." *Integrated Environmental Assessment and Management*.

cc: BACWA Executive Board
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