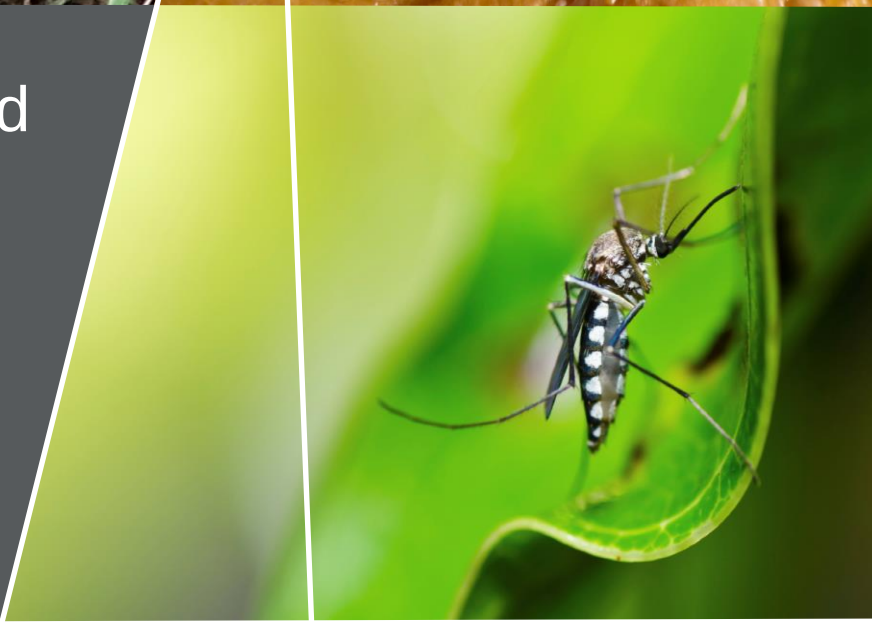
Integrated Mosquito and Vector Management Program

Alameda County Vector Control Services District

Final Programmatic EIR July 2016

Responses to Comments
Text Changes

State Clearinghouse No. 2012052036



Document Information

Prepared for	Alameda County Vector Control Services District
Project Name	Integrated Mosquito and Vector Management Program Programmatic Environmental Impact Report
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Prepared for:

Alameda County Vector Control Services District
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Acronyms

ACMAD	Alameda County Mosquito Abatement District
BMPs	best management practices
CEQA	California Environmental Quality Act
CRLS	California red-legged frog
District	Alameda County Vector Control Services District
IMVMP	Integrated Mosquito and Vector Management Program
IMVMP	Integrated Mosquito and Vector Management Program
IVM	integrated vector management
mg/L	milligrams per kilogram
MMP	Mitigation Monitoring and Program
MVCAC	Mosquito and Vector Control Association of California
PEIR	Programmatic Environmental Impact Report
USEPA	U.S. Environmental Protection Agency

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1 Introduction

This Responses to Comments document has been prepared to accompany the Draft Programmatic Environmental Impact Report (Draft PEIR) for the proposed Integrated Mosquito and Vector Management Program (IMVMP) by the Alameda County Vector Control Services District (District). The Draft PEIR identified the environmental consequences associated with a range of chemical and nonchemical treatment alternative methods/tools for its ongoing program of surveillance and control of mosquitoes and other vectors of human and animal disease and discomfort. It includes discussion of best management practices (BMPs) currently in effect to avoid and/or minimize potential impacts and then additional proposed mitigation measures to reduce a potentially significant impact to less than significant. The Responses to Comments document presents responses to public comments received on the Draft PEIR, and it makes revisions to the Draft PEIR text (and appendices), as necessary, in response to the comments. **Together with the Draft PEIR (November 2015), this Responses to Comments/Text Changes document constitutes the Final PEIR for the District's proposed IMVMP.**

The District is the lead agency under the California Environmental Quality Act (CEQA) with responsibility for preparing responses to public comments and the Final PEIR. The Final PEIR is an informational document that must be considered by the Chief, Environmental Health, as the District's decision maker before approving or denying the Proposed Program. CEQA Guidelines (§15132) require the following contents for the Final PEIR:

a. Draft PEIR or a revision of the draft

b. Comments and recommendations received on the Draft PEIR, either verbatim or in summary

c. A list of persons, organizations, and public agencies commenting on the Draft PEIR

d. Responses of the lead agency (District) to significant environmental points raised in the review and consultation process

e. Any other information added by the lead agency

1.1 Environmental Review Process

The District released the Integrated Mosquito and Vector Management Program Draft PEIR on November 4, 2015 for public review (State Clearinghouse No. 202052036). The CEQA 45-day public review and comment period began on November 5 and concluded on December 21, 2015; however, the District gave everyone until December 23, 2015 to respond. During this time, the District held a public hearing at the District office at 1131 Harbor Bay Parkway, Alameda, CA 94502, from 4:30 to 7:00 pm on December 4, 2015.

The State of California Governor's Office of Planning and Research State Clearinghouse and Planning Unit provided a letter dated December 22, 2015, that the District has complied with the State Clearinghouse review requirements for draft environmental documents pursuant to the California Environmental Quality Act. This letter is provided herein at the end of this chapter. No agencies provided responses through the State Clearinghouse

This Responses to Comments document of the Final PEIR is being made available to the public for a 10-day final review. Section 21092.5 of the Public Resources Code requires that the lead agency provide the "written proposed response" to a public agency on comments made by that public agency on the EIR at least 10 days before the lead agency certifies the document. See also State CEQA Guidelines §15088(b). The written response describes the disposition of significant environmental issues raised (e.g., revisions to the proposed project to mitigate anticipated impacts or objections).

Following this review and receipt of any further comments, the District's Chief of Environmental Health will consider all comments and any additional responses from staff prior to certification of the Final PEIR. Certification is a finding that the PEIR complies with the requirements of CEQA. Following PEIR certification and prior to approval of alternatives to comprise the IMVMP, the Chief shall make Findings for each significant environmental impact that are supported by substantial evidence in the record and shall adopt the Mitigation Monitoring and Program (MMP).

Based upon material contained in the responses to comments and minor revisions of the Draft PEIR provided in the Final PEIR, recirculation of the PEIR is not required under the CEQA Guidelines §15088.5 because no new significant information is added to the PEIR, and under subsection (b) recirculation is not required where the new information added merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

1.2 Report Organization

This Responses to Comments document and Final PEIR contains the following chapters with a brief explanation of chapter contents.

> **Chapter 2. Public Agency Comments and Responses:** Comments were received from 2 public agencies: a regional agency (East Bay Municipal Utility District in Alameda and Contra Costa counties) and a local agency (Alameda County Water District in Alameda County). Each is provided with District responses following their letter. These responses help to clarify Program information and technical analyses, and they include new/additional references not included in the Draft PEIR.

> **Chapter 3. Revisions to Draft PEIR:** This chapter presents minor revisions to text based on comments received or errors/errata discovered by the Draft PEIR preparers. None of these text changes results in any changes to the conclusions and determinations of significant impact. In other words, no "less than significant" impacts were changed to "potentially significant" or "significant and unavoidable" impacts. No changes were needed to any of the appendices.

On December 4, 2015, the District held a public hearing on the Draft PEIR. The hearing did not have anyone provide comments. Consequently, there is no transcript for the hearing included herein.

The following is a list of all public agencies who submitted written comments on the Draft PEIR during the comment period. Each letter is assigned a code that includes four or five letters for the agency name.

Public Agencies

R-EBMUD	East Bay Municipal Utility District
L-ACWD	Alameda County Water District

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

December 22, 2015

Lucia Hui
Alameda County Vector Control Services District
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Integrated Mosquito & Vector Control Management Program
SCH#: 2012052036

Dear Lucia Hui:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on December 21, 2015, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2012052036
Project Title Integrated Mosquito & Vector Control Management Program
Lead Agency Alameda County Vector Control Services District

Type EIR Draft EIR

Description The Alameda County VCSD (District/Project Sponsor) undertakes activities through its integrated Mosquito and Vector Management Program to manage the following vectors of disease and/or discomfort in the Service Area: mosquitoes, rats, mice, skunks, raccoons, bats, yellowjackets, ticks, and bed bugs. The District has prepared a Programmatic EIR to evaluate the effects of the continued implementation of the control strategies and methods prescribed in its integrated Mosquito and Vector Management Program (Program/Project).

Lead Agency Contact

Name Lucia Hui
Agency Alameda County Vector Control Services District
Phone 510-567-6805 **Fax**
email
Address 1131 Harbor Bay Parkway
City Alameda **State** CA **Zip** 94502

Project Location

County Alameda
City
Region
Lat / Long
Cross Streets
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues Air Quality; Biological Resources; Noise; Public Services; Recreation/Parks; Toxic/Hazardous; Vegetation; Water Quality; Wetland/Riparian; Cumulative Effects; Other Issues

Reviewing Agencies Regional Water Quality Control Board, Region 1; Department of Fish and Wildlife, Headquarters; Office of Historic Preservation; Department of Parks and Recreation; San Francisco Bay Conservation and Development Commission; Department of Water Resources; Caltrans, Division of Transportation Planning; Department of Food and Agriculture; Air Resources Board; State Water Resources Control Board, Division of Water Quality; Regional Water Quality Control Board, Region 2; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission; Department of Pesticide Regulation

Date Received 11/05/2015 **Start of Review** 11/05/2015 **End of Review** 12/21/2015

Note: Blanks in data fields result from insufficient information provided by lead agency.

2 Public Agency Comments and Responses

R-EBMUD

EAST BAY
MUNICIPAL UTILITY DISTRICT

December 18, 2015

Lucia Hui, CEQA Project Manager
Alameda County Department of Environmental Health
Vector Control Services District
1131 Harbor Bay Parkway, Suite 166
Alameda, CA 94502

Re: Notice of Availability of a Draft Programmatic Environmental Impact Report – Alameda County Vector Control Services District's Integrated Mosquito and Vector Management Program

Dear Ms. Hui:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Draft Programmatic Environmental Impact Report (PEIR) for the Alameda County Vector Control Services District's Integrated Mosquito and Vector Management Program (Program) which generally includes all lands within Alameda County and the four adjacent counties of Contra Costa, San Joaquin, Stanislaus, and Santa Clara (County). EBMUD has the following comments.

HABITAT CONSERVATION PROGRAM

The Program Draft PEIR covers unincorporated, urban and rural areas in Alameda County, and the Program area extends into adjacent counties including Contra Costa. The Program will apply to EBMUD watershed lands as well as watercourses that flow to watershed lands. The Program may conflict with the tenants of the EBMUD East Bay Low Effect Habitat Conservation Plan (HCP), which went into effect in June 2008. The HCP covers seven species on approximately 28,000 acres of EBMUD watershed lands surrounding five terminal drinking water reservoirs in Contra Costa and Alameda Counties. Vector control is not an activity that is covered or discussed under the HCP; however, the practices described in the Program may impact species populations or habitats protected under the HCP. Identified impacts of the Program that are potentially significant without mitigation and should be evaluated in the Draft PEIR are as follows. 1

Chemical Control

Alameda County is claiming an exemption, as a public entity, from the injunction on chemical applications in California red-legged frog (*Rana draytonii*) habitats that was instated by the United States District Court for Northern California in October 2006. Application of pesticides or herbicides in or near aquatic features may harm 2

375 ELEVENTH STREET . OAKLAND . CA 94607-4240 . TOLL FREE 1-866-40-EBMUD

R-EBMUD

HCP-covered species including California red-legged frogs and rainbow trout (*Oncorhynchus mykiss*). Chemical applications have the potential to cause morphological changes in amphibian tadpoles. Pesticides and surfactants used in herbicides may also cause mortality to juvenile trout. Pesticide application may reduce the food base for both species. The provided avoidance and minimization measures described in the Program are not sufficient to reduce impacts to these species from chemical control to less than significant levels. Aerial or truck applications of pesticides or herbicides are not permitted on EBMUD watershed lands. Hand treatment of native riparian or aquatic vegetation with herbicides is also not permitted. Limited spot treatments of pesticide use may be approved with written consent from EBMUD for each location where pesticides will be applied. 2

Biological Control

Introduction of non-native mosquitofish (*Gambusia affinis*) may negatively impact rainbow trout and California red-legged frogs. Mosquitofish may predate egg masses, tadpoles and trout hatchlings. Mosquitofish have been found in locations on EBMUD watershed lands (including ponds, creeks, reservoirs and spillways) known to harbor California red-legged frogs and trout despite Alameda County's mosquitofish stocking policy, which limits their use to artificial and container ponds. EBMUD requests that mosquitofish are not stocked in aquatic habitats on EBMUD watershed lands without expressed consent for each location where stocking will occur. 3

Vegetation Management

Vegetation management in riparian areas, spillways, ponds or creeks may adversely impact California red-legged frog, western pond turtle and rainbow trout habitats. Vegetation thinning may remove cover elements used by all three species. Vegetation removal will decrease canopy cover, which may increase water temperatures in trout holding and rearing pools. Vegetation removal may also destabilize banks, which can cause bank failure or erosion that may subsequently lead to sedimentation of spawning gravel and a reduction in creek pool depths. Vegetation removal in off-channel habitats is described in the Program; these areas often provide important rearing habitats for trout. 4

Removal of off-channel, shoreline and spillway vegetation has the potential to dislodge California red-legged frog egg masses if conducted during the breeding season. Vegetation management may take aestivating western pond turtles (*Emys marmorata*) or their eggs when conducted in riparian areas or adjacent uplands. Truck spraying of herbicides to thin vegetation may take Alameda whipsnake (*Masticophis lateralis euryxanthus*) core habitats. Core habitat areas for the whipsnake are protected under the HCP with a mandate of no more than one percent loss in core habitats over the 30-year HCP term. 5

R-EBMUD

Sensitive species not covered under the HCP may also be affected by vegetation management activities described within the Program. Impacts to rare plants, nesting birds, San Francisco dusky-footed woodrat and Central Coast steelhead habitats may also occur from herbicide or pesticide spraying and vegetation thinning. All aquatic and riparian resources within the HCP-covered landscape have a high potential for special status species. Without the presence of a biological monitor with working knowledge of the EBMUD landscape, impacts to the HCP and other special status species may be significant. EBMUD considers activities described under the Program to conflict with the existing goals described in the HCP. HCP impacts are considered significant and requires mitigation. 6

If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.

Sincerely,

David J. Rehnstrom
Manager of Water Distribution Planning

DJR:AMM:dks
sb15_209

Comment Letter R-EBMUD East Bay Municipal Utility District

Response 1

The EBMUD East Bay Low Effect HCP was summarized in Section 4.1.4.3 of the PEIR (page 4-29). The EBMUD HCP was developed to enhance and protect approximately 28,200 acres of watershed lands owned and operated by EBMUD in both Alameda and Contra Costa counties. The plan identifies existing and prospective maintenance and operation activities that may result in incidental take of seven endangered, threatened, or candidate species for the duration of the 30 year permit. To clarify, the Alameda County Mosquito and Vector Control District is primarily responsible for vector control (with an emphasis on rodents, yellow jacket wasps, and ticks) throughout the county and for mosquito control only in the city of Albany (which includes Golden Gate Fields). The District will work cooperatively with the Alameda County Mosquito Abatement District (ACMAD) in the event of a large mosquito problem where assistance would be provided upon request.

Although the District is not a signatory to the EBMUD HCP and, therefore, may conduct vector surveillance and control activities not considered specifically under the HCP, the potential for vector control activities within the HCP Covered Area that could be in conflict with HCP covered species is very low. Most of the activity involved is surveillance, a monitoring activity rather than an actual control activity. The specific tools District staff use vary in response to numerous factors, which include landowner policies or concerns, proximity to special-status species, and applicability of Endangered Species Recovery Plans and HCPs. The District has implemented a number of procedures and best management practices (BMPs) to avoid, minimize, eliminate, rectify, or compensate for potential adverse effects on biological and physical environments that include working in sensitive natural habitat areas. The District engages in educational outreach to landowners and land managers; the recommendations most often represent source control measures to control mosquito and vector problems that can be used by public and private property owners within the District's Service Area. When the District recommends control measures to landowners and land managers of large areas such as EBMUD watershed lands, they would be directed to contact and coordinate with resource agencies to address potential special-status species and sensitive habitat concerns, as well as what permits may be needed prior to implementation of recommended vector control work. The District would operate under the auspices of any individual county's mosquito and vector control district (including the Alameda Mosquito Abatement District and Contra Costa County Mosquito and Vector Control District) and in compliance with their practices and permits, including compliance with all active HCPs.

The District has signed a cooperative agreement with CDPH. Section 3CCR 6620 Vector Control Exemption exempts cooperating agencies from 3CCR 6614 (b)(1) (Protection of Persons, Animals, and Property), 6616 (Consent to Apply), and 6618 (Notice). Therefore, cooperating agencies may apply pesticides registered for the purpose of vector control in residential and other areas even though there may be a reasonable possibility for contamination of nontarget persons or property. In addition, cooperating agencies are not required to get property owner consent or provide notification to a property operator prior to a pesticide application. These exemptions are a most important benefit provided to vector control agencies that are bound by the cooperative agreement. They reflect the general understanding that vector control operations protect public health and that **rapid control or suppression of vectors over wide geographic areas is essential to achieve this protection**. Cooperating agencies have neither the time nor the resources to provide notice or acquire consent prior to the application of a public health pesticide except for the District's public notification decision on noise generating applications affecting residential areas, as provided in BMP A12, which are potentially aerial applications (which the District has not done since 1984). This type of application has not occurred historically in EBMUD watershed lands for vector control.

However, to further integrated vector management (IVM) principles and use of nonchemical methods first, the District recommends a meeting with EBMUD staff to review the district's policies, control measures, and potential problem areas within EBMUD watershed lands and discuss source control measures and the other nonchemical alternatives under the IMVMP. The District is ready to inform a designated staff person of the types of vector habitat problems that require proactive nonchemical treatment. For areas that may require chemical treatment (if any vector breeding areas or infestations are determined to be present), the District will advise EBMUD about what products are determined appropriate for use based on the tick or mosquito's stage of development and sensitive biological resources potentially present in the treatment area.

The District has considered all of EBMUD's suggestions on specific impacts in the responses provided below.

Response 2

EBMUD's concern is with the potential for use of pesticides, herbicides, and adjuvants to impact sensitive biological resources because the commenter believes that BMPs described in the PEIR (e.g., following product label requirements and applicable state and federal requirements) are not sufficient to protect specific biological resources from possible contamination from vector control activities.

District chemical application for mosquito control is only in the City of Albany, while applications for mosquitoes in other areas are only upon request of another agency such as ACMAD. The District is aware of the prohibition of some types of chemical use in California red-legged frog habitat (discussed in Section 4.1.3.1.6 of the PEIR), and that aerial and truck application of pesticides or herbicides on EBMUD watershed lands is "not permitted by EBMUD." The District has historically not used chemical treatment options on EBMUD watershed lands. Treatment of EBMUD watershed lands would not occur unless there was an imminent threat to public health from vector-borne disease. If such a situation occurred, EBMUD would be notified immediately of the problem.

The District has, since its inception, taken an integrated systems approach to mosquito and vector control, utilizing a suite of tools that consists of public education, surveillance, and physical (e.g., source reduction, vegetation management, and water management), biological , nonchemical and chemical controls (page 2-5). As stated in PEIR Section 2.3 (with one new revision shown underlined below), three core tenets are essential to the success of a sound Integrated Mosquito and Vector Management Program (IMVMP) (page 2-6):

> "First, a proactive approach is necessary to minimize impacts and maximize successful vector management. Elements such as thorough surveillance and a strong public education program make all the difference in reducing potential human vector interactions.

> "Second, long-term environmentally based solutions (e.g., water management, reduction of harborage and food resources, exclusion, and enhancement of predators and parasites) are optimal as they reduce the potential pesticide load in the environment as well as other potential long- and short-term impacts.

> "Lastly, utilizing the full array of options and tools (public education, surveillance, physical control, biological control, nonchemical control, and when necessary chemical control) in an informed and coordinated approach supports the overall goal of an environmentally sensitive vector management program."

The District's Proposed Program is an IMVMP. District policy is to identify those species that are currently vectors, to recommend techniques for their prevention and control, and to anticipate and minimize any new interactions between vectors and humans and domestic animals. The District's IMVMP employs integrated pest management (IPM) principles by first determining the species and abundance of mosquitoes/vectors through evaluation of public service requests and field surveys of immature and adult

mosquito/vector populations and, then, if the populations exceed treatment criteria, using the most efficient, effective, and environmentally sensitive means of control. This approach minimizes the potential for chemical use.

The District has gone beyond the product label requirements to minimize and avoid possible impacts on ecological health by using best management practices (BMPs) developed from permit requirements and the experience of other vector control districts. The District is using several BMPs as control measures to avoid and minimize impacts from chemical applications on biological resources. For example, BMP F2 states: "The District will avoid use of surfactants when possible in sites with aquatic nontargets or natural enemies of mosquitoes present such as nymphal damselflies and dragonflies, dytiscids, hydrophilids, corixids, notonectids, and ephydrids. Surfactants are the only tool that can be used with pupae to prevent adult mosquito emergence. The District will use a microbial larvicide (e.g., Bti, Bs), insect growth regulator (e.g., methoprene) instead, or another alternative when possible."

Surfactants are nontoxic to most organisms at label application rates, but may have short term impacts on other surface-breathing aquatic insects. These short-term impacts on a small portion of the food chain are unlikely to result in substantive impacts on nontarget species in the aquatic environment. Bti and Bs are naturally occurring soil bacteria that produce chemicals that bind to receptor cells present in insects, but not mammals. The USEPA has determined that these microbial pesticides are essentially nontoxic to humans and do not pose risks to wildlife, nontarget species, or the environment when they are used according to label directions (SWRCB 2014). Methoprene can be toxic to fish, but the lowest 50 percent lethal dose (LD50 4.62 milligrams per kilogram [mg/L]) is several orders of magnitude greater than the dose used by the District to control mosquitoes. Pyrethrins and pyrethroids are typically applied by vector control agencies in ULV applications by truck, ATV, or handheld foggers include pyrethrins, phenothrin, and permethrin. While the District may need to conduct such applications in the future, the focus of our present chemical control has been the use of pyrethrins by hand (from a can or as a dust formulation) for ground-nesting yellow jackets in residential areas. Numerous studies have found that these ULV applications for mosquitoes result in concentrations in the aquatic environment of 0.23 to 3.77 µg/L and had little to no effect on fish or nontarget aquatic invertebrates.

California has designated more than 1.7 million acres as critical habitat for California red-legged frog (CRLF). The District has a commitment to consider mosquito surveillance and control cautiously within CRLF critical habitat (as an effort to avoid impacts to special-status species) and to monitor and avoid/minimize chemical applications in areas that might impact them. The District's policy is to apply all pesticides according to label requirements. Although there is a potential for the applications of permethrin (or any other adulticide used), in the vicinity of unlined storm drains or as a ULV fog over wetlands, to infringe on an area of CRLF habitat, the basic issue in all cases is not what the potential toxicity may be, as most of those data are developed in studies that purposely provide extreme levels of exposure to the chemical of interest, but whether toxicity is reasonably foreseeable under the circumstances of the proposed application. Typical methods of testing for toxicity in the laboratory are most often not representative of the potential for exposure in the field, or thus of the potential for real world impacts. The USEPA designations of toxicity are based, for the most part, on the results of these highly unrealistic laboratory exposures and serve only as guidance for use patterns and labeling to address the safety measures needed to minimize chemical exposure to nontarget species such as the CRLF. Also, permethrin use would be limited to adult insects (adulticiding), either mosquitoes or wasps/ticks. The potential for the product to actually contact CRLF is remote. The District's chemical treatments to mosquito larvae and pupae are using highly targeted (rather than broad spectrum) products.

Any chemical can become toxic if the exposure (dose) is high enough to exceed the receptor's threshold sensitivity to that chemical. For many chemicals, the threshold to exhibit toxic effects is very high; for others, the threshold may be low. Since these characteristics are species and chemical specific, USEPA provides the relative toxicity data for thousands of chemical products. Tests with permethrin at high levels in the laboratory suggest that it can, at high doses, adversely affect the aquatic and terrestrial phases of the CRLF.

However, the concern about this pesticide should be compared to the potential for exposure in the actual field conditions and habitat and identification of the confounding factors that can contribute to the adverse effects in the CRLF. Furthermore, the District rarely performs chemical control in urban creeks.

Peer reviewed and published reports that suggest a link between permethrin applications and CRLF survival or impacts include confounding factors that cannot be ruled out as part of any observed effects (Kiesecker et al. 2001). Rather, the concerns for this endangered amphibian are linked to indirect relationships that are subject to numerous confounding factors (Kiesecker et al. 2001) that also may contribute to adverse effects to the species at early life stages (Johanssen et al. 2006). Clearly, water quality issues and other environmental conditions provide a substantial number of other factors that may impact the CRLF populations (Adams et al. 2013). Amphibian populations are known to be adversely impacted by viral infections and parasites as illustrated by studies of amphibians in pristine, elevated regions far from the potential impact of these chemicals.

The mobility and environmental fate of a particular pesticide is influenced by its chemical properties and by the environmental conditions in which it is applied, and these factors influence potential exposure in the field to nontarget organisms. The PEIR's Appendix B, Ecological and Human Health Assessment Report, provides a detailed description of the fate and transport in air, water, and soil for each of the active ingredients in products applied by the District (as well as some others not used by the District). Many second- and third-generation insecticides are formulated to act quickly and then dissipate quickly in the environment, often within hours or days. Others bind to soils and sediments where they are degraded abiotically or by soil organisms. These effects, the application methods used for vector control, and the potential for mobilization after pesticide application, are considered in the discussion of the Vegetation Management and Chemical Control Alternatives, which conclude that all of the active ingredients included in the Proposed Program would not significantly impact surface water or groundwater (see Sections 9.2.5 and 9.2.7 of the PEIR), or aquatic species (Sections 4.2.5 and 4.2.7 of the PEIR). For each of the pesticides used by the District there is minimal movement of pesticides in sediments or soils into water bodies due to the binding and half-life characteristics of the chemical used.

Response 3

District policy is to limit the use of mosquitofish to artificial, man-made habitats (ornamental fish ponds, water troughs, water gardens, fountains, and unmaintained swimming pools) that do not connect to natural water bodies and, therefore, do not pose a threat to natural environments or native fish and amphibians. Mosquitofish would not be introduced into any of the other habitat types. Biological control would not be implemented on private property, such as EBMUD lands, without approval from EBMUD.

Response 4

Except for limited work in urban backyards and adjacent areas, all vegetation management work is done in coordination with the responsible landowner or land manager and the resource agencies. Most of the work is for control of nuisance wildlife in residential areas and for mosquito control at Golden Gate Fields racetrack. Permits are generally required for major vegetation removal activity, and this work would only be initiated after all necessary permits are obtained. All natural habitat areas are pre-screened (based on the CNDDB and other online sources) to determine the potential presence of special-status species and to develop appropriate measures to avoid or minimize effects on these species.

Very little vegetation management work would be conducted in creek or river riparian habitats or other sensitive natural communities. Currently, vegetation management is not conducted on EBMUD watershed lands. The vast majority of vegetation management work is conducted manually and encompasses only a small area in the City of Albany, outside EBMUD property. The District has not had to perform major vegetation management in the few creeks meandering through the neighborhoods of the City of Albany. The vast majority of our vegetation management is for controlling or managing vertebrate populations (raccoons,

skunks, foxes, feral pigs, turkeys, coyotes, opossums) in urban areas in close proximity to people. District staff work with homeowners to remove vegetation that provides shelter for these nuisance wildlife.

Throughout the other cities and county lands, the freshwater habitats that could be treated by the District if requested by another agency in the future include the margin of reservoirs and man-made ponds. Where necessary, vegetation management activities would be implemented in stagnant areas along the edges of these habitats where mosquito eggs and larvae occur. Special-status fish species would not be impacted in reservoirs, ponds, and ditches, either through vegetation removal or resultant higher water temperatures, as these species do not occur in these habitats. Vegetation management could reduce cover for amphibians and western pond turtles and increase their vulnerability to predation, but substantial areas of similar habitat would remain; the District attempts to thin or remove emergent vegetation to provide a maximum of 30 percent cover. Removal of vegetation at wastewater ponds would not affect special-status species. The potential for effects would be also be avoided and minimized by the BMPs relating to agency communication, environmental training, and pre-treatment screening. Vegetation and species-specific management BMPs would be applied, making the effects of this action on wildlife cover less than significant.

Vegetation removal is unlikely to result in increased bank destabilization and erosional sediment input into freshwater systems. Trimming or mowing of riparian vegetation leaves the roots and a portion of the stems intact which would limit erosion and not result in bank destabilization. Removal of emergent vegetation will not result in increased erosion or bank destabilization, since the plant is immersed in water.

Response 5

Removal of off-channel, shoreline, and spillway vegetation would have the potential to dislodge California red-legged frog egg masses if conducted during the California red-legged frog breeding season. However, vegetation removal and maintenance actions in sensitive habitats and/or where sensitive species concerns exist, would be restricted to those months or times of the year that minimize disturbance/impacts (e.g., outside the California red-legged frog breeding period), in accordance with required permits for this type of work.

Similarly, vegetation management will avoid take of aestivating western pond turtles or their nests through acquisition of necessary permits and implementation of protective measures therein in addition to standard vector control BMPs. Vegetation removal and maintenance actions would be restricted to those months or times of the year that minimize disturbance/impacts (e.g., outside western pond turtle aestivating or nesting periods), or would avoid areas identified as suitable habitat for turtle aestivation or nesting.

Truck spraying of herbicides to thin vegetation is unlikely to take Alameda whipsnake core habitat. The District preferentially uses physical control with hand tools for vegetation management and has not yet used herbicides for vegetation management in natural environments. The option is included in the IMVMP if assistance is needed upon request of the affected landowner. The District applies BMPs to reduce impacts on sensitive habitats, including the identification of sensitive species in treatment areas, communication with resource agencies, and acquisition of permits, prior to commencing any vegetation removal actions.

Response 6

Regarding the Program's vegetation management activities conflicting with the HCP or adversely affecting covered species, no significant impact would occur because the Program requires outreach to landowners and land managers prior to vegetation management. When the District recommends control measures to landowners and land managers such as EBMUD and EBRPD, they are directed to contact and coordinate with resource agencies to address potential special-status species and sensitive habitat concerns, as well as permits that may be needed prior to implementation of recommended vector control

work. The District would operate in compliance with their practices and permits, including compliance with the EBMUD East Bay Low Effect HCP.

Additional References

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L-ACWD

ALAMEDA COUNTY WATER DISTRICT

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December 16, 2015

Lucia Hui, CEQA Project Manager
Alameda County Department of Environmental Health
Vector Control Services District
1131 Harbor Bay Parkway, Suite 166
Alameda, CA 94502

Dear Ms. Hui:

Subject: Comments on the Draft Programmatic Environmental Impact Report for the Alameda County Vector Control Services District's Integrated Mosquito and Vector Management Program

Thank you for the opportunity to provide comments on the Draft Programmatic Environmental Impact Report (PEIR) for the Alameda County Vector Control Services District's (ACVCSD) Integrated Mosquito and Vector Management Program (Program). The Alameda County Water District (ACWD) acknowledges the importance of the Program to manage the human health impacts of mosquitoes and other vectors in Alameda County. ACWD is supportive of the Program described in the Draft PEIR, however, we would like to take this opportunity to provide comments on the Program operations within the Alameda Creek Watershed and within our agency's service area. The comments below are made with the understanding that ACVCSD may in the future provide mosquito abatement services in ACWD's service area or Alameda Creek Watershed, though currently only provides these services to the City of Albany.

Background

ACWD provides drinking water to a population of over 344,000 in the cities of Fremont, Newark, and Union City. ACWD uses run-off in Alameda Creek to recharge the Niles Cone Groundwater Basin, which provides a major portion of the drinking water supply for ACWD's customers. ACWD manages the recharge of the groundwater basin by operating a series of Groundwater Recharge Facilities in and adjacent to Alameda Creek in Fremont. Additionally, ACWD is participating in the ongoing steelhead restoration efforts to restore fish passage within the Alameda Creek Watershed. Protection of the water quality in Alameda Creek, its tributaries,

L-ACWD

Alameda County Department of Environmental Health
Page 2
December 16, 2015

ACWD's Groundwater Recharge Facilities, and the Niles Cone Groundwater Basin is critically important to ACWD and the people and businesses we serve.

Comments

1. The Draft PEIR describes an integrated systems approach to mosquito and vector control in which chemical control methods would be a last resort. ACWD appreciates an approach that avoids chemical controls unless absolutely necessary. Fundamentally, no chemicals should be used that are not approved for use in California by the Department of Pesticide Regulation for drinking water resource areas. ACWD strongly supports ACVCSD's use of best management practices, strict adherence to product label instructions, and the adherence to the application criteria described in the Draft PEIR. 1

2. Pesticides and herbicides applied to properties in the extensive Alameda Creek Watershed could be transported downstream via rainfall run-off into Alameda Creek and then into ACWD's service area. Any chemical constituent present in the surface water of Alameda Creek or ACWD's recharge ponds has a significant likelihood of being percolated into the groundwater basin. Additionally, ACWD is involved in the ongoing steelhead restoration efforts within the Alameda Creek Watershed. Although the chemical products that may be applied by the ACVCSD as part of the Program are approved by various agencies, ACWD suggests minimizing their use as much as possible, in order to avoid any possible impacts to the many beneficial uses of Alameda Creek. If chemical control is absolutely essential, the use of products that break down quickly into inert components is preferred to lessen the potential threat to the environment and human health. Some products warn against specific applications in sensitive riparian areas important for municipal water supply; these applications must be avoided and alternative strategies employed. 2

3. Please note that transporting of hazardous materials along Highway 84 through Niles Canyon is prohibited by Caltrans. 3

4. ACWD should be immediately notified of any significant spills of pesticides, herbicides, or hazardous materials in Alameda Creek Watershed so that appropriate actions can be taken to secure facilities and minimize the threat to water quality. Notification should be made to Evan Buckland, Water Supply Supervisor, at (510) 668-6539 or at (510) 304-8046 (incident notification only). 4

5. The Draft PEIR states that naled (organophosphate pesticide) may be used in the future if needed. ACWD strongly urges ACVCSD to avoid, if not completely eliminate the use of naled, which degrades into the highly toxic compound dichlorvos. Additionally, ACWD requests that ACVCSD provide notification to ACWD at least 48 hours in advance of any application of naled within the Niles Canyon watershed or within ACWD's service area. 5

L-ACWD

Thank you again for the opportunity to provide comments on the Draft PEIR. Should you have any questions about these comments or about ACWD's water supply and groundwater recharge operations, please contact Douglas Chun, Water Supply Manager, at (510) 668-6510 or by email at Doug.Chun@acwd.com.

Sincerely,

Steven D. Inn
Manager of Water Resources

jg/mh
By Email

Comment Letter L-ACWD Alameda County Water District

Response 1

Comment noted. Be assured that if chemical treatment is necessary, only materials with CDPR approval for use in drinking water resource areas would be used. When choosing a chemical treatment material, the product that has the least impact and can effectively control the target vector population is preferred and used when appropriate for local site conditions including proximity to habitat that could support special-status species and structures for human occupancy.

Response 2

The concern about pesticides reaching Alameda Creek or ACWD's recharge ponds is understood. We agree that the use of the least persistent products is preferable. The responses below provide clarification on how pesticide runoff into surface waters would be avoided and therefore, impacts to steelhead would be avoided. The emphasis for the District is on the use of chemicals that do not persist long enough in the environment to contribute either directly to surface water quality because they are applied to water or indirectly to surface water due to runoff from an application area into a water body. When pesticides are applied, the District implements the label requirements for that type of use and additional District BMPs to reduce adverse effects to surface water and groundwater resources during and following pesticide applications.

The persistence of all chemicals registered by the USEPA for use in vector control is documented and included in the guidance and label instructions, both of which are summarized in the chemical MSDS (now SDS) documents. For instance, the persistence of glyphosate in soil and sediment has been studied since its development in the early 1970s. The characteristics of glyphosate have been studied and validated over decades. Every organic chemical has a physical/chemical degradation characteristic termed "half-life" (a metric used to describe the elapsed time for a chemical to reach half of its initial concentration). Each organic chemical, whether toxic or not, decays in both activity and toxicity over time. For some chemicals, the half-life can be hours, days, or weeks and few chemicals used as pesticides have half-lives normally greater than a week due to degradation by environmental conditions. When pesticides get into soil, or water, or are taken up by plants and animals, the half-life characteristics are altered. The environmental fate of pesticides depends on the physical and chemical properties of the pesticide, particularly the pH of the medium, modifying how likely it is to travel through soil (soil mobility), how well it dissolves in water (water solubility), and how likely it is to become airborne (volatility) (USEPA 1993).

Once a pesticide has been released into the environment, it is broken down by exposure to sunlight, (photolysis), exposure to water (hydrolysis), exposure to other chemicals (oxidation and reduction), microbial activity (bacteria, fungi, and other microorganisms), and other plants or animals (metabolism). Pesticide labels set out safety and use guidelines that usually focus on three aspects: rates of application (single and cumulative) for registered crops and pests, timing of application, and restrictions on areas of application (including required buffer zones).

The environmental fate of pesticides used by the District for vector control is influenced by their chemical properties and by the environmental conditions in which they are applied. The PEIR's Appendix B, Ecological and Human Health Assessment Report, provides a detailed description of the fate and transport in air, water, and soil for each of the active ingredients applied by the District.

Some of the chemicals used for vector control include the pyrethroid insecticides such as permethrin, deltamethrin, and etofenprox that are used for adult insect control by the District. While these chemicals are not very toxic to terrestrial species of mammals and birds (they are below the EPA level of concern for most uses) they can be toxic to aquatic species at high concentrations. The toxicity of these pesticides is species specific, and the thresholds provided by the U.S. Environmental Protection Agency (USEPA)

guidance indicate that it should not be introduced to aquatic systems. As with all chemicals, the exposure (dose) is the primary factor resulting in potential toxicity, and care is taken by the District to reduce or minimize the possible introduction into water bodies. The discussion below is provided on page 9-37:

> "Several studies have shown that pyrethrins applied using ULV techniques do not accumulate in water or sediment following repeated applications. These studies also determined that no toxicity is associated when exposure is limited to the amounts used when following ULV protocols for mosquito control (Lawler et al. 2008; Amweg et al. 2006). Pyrethrins would have a less-than-significant impact on surface water or groundwater when applied following District BMPs and using ULV techniques, and when used in accordance with label requirements and the District's PAP."

The characteristics of these chemicals reduce the likelihood of exposure to nontarget species because they bind to soil, making them less likely to be available. Because they are known to be toxic to some of the aquatic species, applications for mosquitoes are conducted using ULV techniques and with strict adherence to the product labels (for all vectors) as determined by the USEPA guidance (USEPA 2009a). Special precautions and BMPs are used to ensure that they are not introduced into the aquatic environment in amounts that would impact nontarget species, including benthic invertebrates.

Further support, for the PEIR conclusions of less-than-significant impacts to water quality from adulticides and larvicides applied by the District, is provided in a 2-year monitoring study conducted for the State Water Resources Control Board by the Mosquito and Vector Control Association of California (MVCAC) monitoring coalition to determine whether vector control activities were contributing contaminants to state waters. The MVCAC monitoring coalition conducted chemical monitoring for adulticides at 61 locations during 19 application events in 2011 to 2012 and coordinated physical monitoring for 136 larvicide application events in 2012. Samples were collected from agricultural, urban, and wetland environmental settings in both northern and southern California. Adulticides evaluated included pyrethrin, permethrin, sumithrin, prallethrin, etofenprox, naled, malathion, and the synergist piperonyl butoxide. The monitoring study (MVCAC 2013) was conducted in accordance with the Statewide NPDES Vector Control Permit (SWRCB 2011) and had the following results:

- 1 out of 136 visual observations showed a difference between background and post-event samples;
- 108 physical monitoring samples showed no difference between background and post-event samples; and
- 6 out of 112 samples exceeded the receiving water monitoring limitation or triggers.

The report concluded that there was no significant impact to beneficial uses of receiving waters due to application of vector control pesticides in accordance with approved application rates. This is consistent with the primary mandate for vector control districts of protecting public health by reducing vector-borne diseases from mosquitoes and other vectors.

The State Water Resources Control Board evaluated the results of this study (MVCAC 2013) and a concurrent toxicity study conducted by researchers from UC Davis (Phillips et al. 2013) and concluded that, based on the monitoring data, the application of pesticides in accordance with approved application rates does not impact beneficial uses of receiving waters (SWRCB 2014). Therefore, the monitoring and reporting program for the Vector Control Permit was amended in March 2014 to limit the required monitoring to visual observations, monitoring and reporting of pesticide application rates, and reporting of noncompliant applications.

Furthermore, the only applications of pyrethroid insecticides in the Fremont, Union City, and Newark areas are for ground-nesting yellow jackets, where the property owner or resident has requested the District Vector Control Biologist to target the insecticides directly into the hole of the ground-nesting yellow jackets.

Response 3

The District does not anticipate transporting large quantities of pesticide (i.e., greater than 5 gallons mixed) through Niles Canyon. If a chemical material is needed at a property accessible from Hwy 84, the quantity of material would be taken by pickup truck in a sealed container to the site. All chemicals are purchased ready-for-use requiring no mixing with water.

Response 4

District technicians would carry no more than 5 gallons of various insecticides or herbicide or forty snap or cage traps for rodents and nuisance wildlife at any one time on a District vehicle. The District has prepared a hazardous spill plan (see BMP G5) that includes the policies described below.

The District has a District Policy 2015 for Mitigation Procedures for Dry Material Spills or Releases. The policy includes general provisions for isolating a spill and cleanup operations. In addition, the dried and solid materials currently used by the District are listed. In addition the District also has a District Policy 2015 for Mitigation Procedures for Wet Material Spills and Releases. All District vehicles carry this policy and the staff are trained annual on the implementation of these policies.

The ACWD contact information will be added to that plan which is included in each District vehicle carrying any pesticide material.

Response 5

The District does not anticipate using naled. It was not included in the Program Description in Chapter 2.

Additional References

California State Water Resources Control Board (SWRCB). 2014. State Water Resources Control Board Order WQ 2014-0106-DWQ Amending State Water Resources Control Board Water Quality Order 2011-0002-DWQ (as Amended By Orders 2012-0003-DWQ and 2014-0038-EXEC), General Permit No. Cag 990004, Statewide National Pollutant Discharge Elimination System (NPDES) Permit For Biological And Residual Pesticide Discharges To Waters Of The United States From Vector Control Applications. July 2. Available online at http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0106_dwq_redline.pdf.

Mosquito and Vector Control Association of California NPDES Permit Coalition. 2013. MVCAC NPDES Permit Coalition 2011/2012 Annual Report, NPDES Vector Control Permit (Order No. 2012-0003-DWQ). February 22. Available online at http://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/docs/vectorcontrol/mvcac_2012.pdf.

Phillips, B.M, B.S. Anderson, J.P. Voorhees, K. Siegler, L. Jennings, M. Peterson, R.S. Tjeerdema, D. Denton, P. TenBrook, K. Larsen, and P. Isorena. 2013. General Pesticide Permit Toxicity Study: Monitoring Aquatic Toxicity of Spray Pesticides to Freshwater Organisms. Draft Final Report. Prepared by University of California, Davis, Department of Environmental Toxicology, United States Environmental Protection Agency, and California State Water Resources Control Board for California State Water Resources Control Board, Agreement Number 10-102-270. July. Available online at .http://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/docs/vectorcontrol/vcp_tox_study_draft_final_july2013.pdf.

3 Revisions to Draft PEIR

3.1 Introduction

This chapter presents minor revisions to text based on comments received or errors/errata discovered by the Draft PEIR preparers and/or District staff. None of these text changes or additions result in any changes to the conclusions and determinations of significant impact. In other words, no "less than significant" impacts were changed to "potentially significant" or "significant and unavoidable" impacts.

3.2 Text Revisions in Response to Draft PEIR Comments or District Identified Errors and Omissions/Clarifications

The sections below explain both content clarifications and typographical and transcriptional errors that were identified since the public release of the District's Integrated Mosquito and Vector Management Program, Programmatic EIR. All page numbers refer to the PDF submittal. Material to be added is underlined; material to be deleted is shown with ~~strikethrough font~~.

3.2.1 Summary

In Section S.5.1.5 Chemical Control, the following sentence in the fourth paragraph on page S-9 is revised as indicated below.

> The District's Vector C~~c~~ontrol Biologists in 2014 ~~committed~~ completed more than 9,900 service support visits to residential or commercial properties, totaling more than 5,500 hours for rodent suppression support (District 2014 Annual Report).

In Section S.3 Public Involvement Summary, on page S-3, the following change has been made:

> The District distributed a Notice of Preparation (NOP) of a Draft PEIR for their IMVMP pursuant to the CEQA Guidelines (Section 15082) on ~~June 6~~May 11, 2012. The NOP was sent to 22 agencies, organizations, and individuals, including the following:

3.2.2 Chapter 1. Introduction

The footer for each odd-numbered page should state Alameda County VCSD, not Alameda Vector VCSD.

In Section 1.1.3 near the top of page 1-9, the following revision is made.

> Pursuant to Sections 2040-2045 and Section~~s~~ 25210-25217, the District may conduct all of the following activities:

In Section 1.1.3.1.1 on page 1-10, the following paragraph is added at the end.

> In 2015, CDFW determined that CDPH, and the districts operating under a valid Cooperative Agreement with CDPH to conduct surveillance, prevention, or control of vectors and vector-borne diseases, are not required to obtain a scientific collecting permit (SCP) under Fish and Game Codes Sections 1002, 4005(e), and 4011. A SCP is required for any scientific study conducted by or in collaboration with CDPH or local agencies, which is not routine surveillance and control activities and includes take of animals or plants. (CDFW 2015)

In Section 1.3 Alternatives Considered in this Programmatic Environmental Impact Report, the second and third full paragraphs from the top of page 1-14 are revised as follows:

> The District's IMVMP, like any IPM program, seeks by definition to use procedures that will minimize potential environmental impacts. The District's IMVMP employs IPM principles by first identifying the species and abundance of mosquitoes/vectors (arthropods, rodents, nuisance

wildlife) through evaluation of public service requests and field surveys of immature and adult mosquito/vector populations and, then, if the populations exceed treatment criteria, using the most efficient, effective, and environmentally sensitive means of control. For all vector species (arthropods, rodents, nuisance wildlife), public education is an important control strategy. The District also uses biological control such as the planting of mosquitofish in some settings: ornamental fish ponds, water troughs, water gardens, fountains, and ~~unmanned~~ unmaintained swimming pools. When these approaches are not effective, or are otherwise deemed inappropriate, then pesticides are used to treat specific pest-producing or pest-harboring areas.

Three core tenets are essential to the success of a sound IMVMP.

> *First*, a proactive approach is necessary to minimize impacts and maximize successful vector management. Elements such as thorough surveillance and a strong public education program make all the difference in reducing potential human vector interactions.

> *Second*, long-term environmentally based solutions (e.g., water management, reduction of harborage and food resources, exclusion, and enhancement of predators and parasites) are optimal as they reduce the potential pesticide load in the environment as well as other potential long- and short-term impacts.

> *Lastly*, utilizing the full array of options and tools (public education, surveillance, physical control, biological control, nonchemical control, and when necessary chemical control) in an informed and coordinated approach supports the overall goal of an environmentally sensitive vector management program.

In Section 1.4.1 CEQA Public Scoping, on the bottom of page 1-14, the following change has been made:

The Alameda County Vector Control Services District distributed a Notice of Preparation (NOP) of a Draft PEIR for the Integrated Mosquito and Vector Management Program (Program) pursuant to CEQA Guidelines (Section 15082) on ~~June 6~~May 11, 2012. The NOP was sent to 22 agencies, organizations, and individuals including the following California responsible agencies and other local/regional agencies:

3.2.3 Chapter 2. Program Description

Under Section 2.1 Program Area and Vicinity, the text below (page 2-1) has been modified to provide clarification on the District's activities and its relationship with Alameda County Mosquito Abatement District who provides mosquito abatement services within Alameda County except for the City of Albany.

Alameda County Vector Control Services District (Lead Agency and Program Sponsor, District) is preparing this PEIR to evaluate the effects of the continued implementation of a suite of control strategies and methods prescribed in its Integrated Mosquito and Vector Management Program (IMVMP or Program). The District implements its Program primarily within a jurisdiction or Service Area of 825 square miles with 1,554,000 residents. The activities described herein are conducted throughout Alameda County. Service areas include the cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City, and all unincorporated areas of Alameda County. The District provides vector services countywide and mosquito services only for the City of Albany and may be requested in the future (by Alameda County Mosquito Abatement District or other local agency) to provide additional mosquito services within the District Service Area that may include one or more of the incorporated areas and unincorporated areas of Alameda County.

The environmental impact analysis of the Program will focus on the potential for impacts within Alameda County from the District's Proposed Program and identify the potential for control activities within the Service Area to affect any adjacent jurisdictions. Under California law, the District also can take direct but limited action in adjacent areas bordering its Service Area (Contra Costa, San

Joaquin, Stanislaus, and Santa Clara counties), if needed to provide control of mosquitoes and other vectors originating in adjacent areas for the health and safety of residents of the immediate Service Area [California Health and Safety Code Section 2040]. Control activities may also be provided in adjacent areas upon request of the adjacent jurisdictions to protect the health and safety of residents in adjacent jurisdictions. Actions that would be taken outside of the Service Area are the same types of actions undertaken within the Service Area and in similar types of habitats or sites. In summary, the Program occurs in an area that is somewhat larger than the District's Service Area; this larger area is called the Program Area, the area in which potential impacts could occur. The Program Area and its location within the State of California are shown on Figure 2-1, Alameda County Vector Control Services District Program Area.

In PEIR Section 2.3, three core tenets essential to the success of a sound Integrated Mosquito and Vector Management Program (IMVMP) are listed and one edit is made (page 2-6):

> First, a proactive approach is necessary to minimize impacts and maximize successful vector management. Elements such as thorough surveillance and a strong public education program make all the difference in reducing potential human vector interactions.

> Second, long-term environmentally based solutions (e.g., water management, reduction of harborage and food resources, exclusion, and enhancement of predators and parasites) are optimal as they reduce the potential pesticide load in the environment as well as other potential long- and short-term impacts.

> Lastly, utilizing the full array of options and tools (public education, surveillance, physical control, biological control, nonchemical control, and when necessary chemical control) in an informed and coordinated approach supports the overall goal of an environmentally sensitive vector management program.

In Section 2.4 Education, the PEIR text has been modified on page 2-40 to clarify the applicable exemptions (shown below).

Public education is a key component of the District's IMVMP that is used to encourage and assist reduction and prevention of vector habitats on private and public property. This component includes educational or training programs that involve no physical alteration in the area affected. While this component is a critical element of the District's Program, public education activities are categorically exempt from CEQA review (CEQA Guidelines Section 15322) based on a finding by the State Secretary of Resources that these activities do not have a significant effect on the environment. ~~Therefore, these educational activities will not be further reviewed in this document.~~ Under Article 19, Categorical Exemptions, maintenance of existing landscaping and minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use is covered in Section 15301, Existing Facilities. A discussion of exempt and nonexempt educational activities is provided in the following paragraphs.

3.2.4 Chapter 7. Human Health

Section 7.2.5.1.1 Glyphosate has been modified on page 7-15 to include additional information after the second paragraph.

Although no scientific evidence had indicated that glyphosate is carcinogenic or mutagenic (USEPA 1993), a recent report by the World Health Organization (WHO 2015) suggests that it "*may probably be carcinogenic*" although these researchers fail to report a statistically significant finding. Use of the term "probably" generally indicates the linkage is not statistically defensible.

The WHO report is a summary of a panel review convened specifically to update information on several chemicals, including the herbicides tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate, in order to evaluate the existing information about the potential for adverse effects.

The lack of a definitive, or more positive statement about linkage of glyphosate to cancer by the WHO panel (2015) is due, in part, because the information and data provided in the updated reports contain numerous confounding factors (such as interactions with personal care products, medications with estrogenic activity, and even the estrogenic activity in some foods and vegetables) that could contribute to the reported results. Because the WHO publication has received so much attention, this claim should be considered, but it is clearly not supported by the work of several other researchers (Rhomberg et al. 2012; Mink et al. 2012) who do not attribute any carcinogenic effects to humans from potential exposure to glyphosate.

3.2.5 Chapter 15. Alternatives

Under Section 15.3 No Program, on pages 15-3 and 15-4, the following material is added after the third bullet at the bottom of page 15-3:

…The no project/no program condition assumes that the current activities would cease and result in a "Do Nothing" alternative going forward. Key assumptions for the future No Program Alternative are:

> Current regulatory controls would continue and expand as needed; however, the District would not engage in implementing any of these regulations concerning public health and management of vectors carrying potential diseases. For all practical purposes, the District's office would close. Public education and other outreach activities would cease along with the control activities.

> Private landowners would manage mosquito and/.or vector problems on private land without any state or federal oversight with pesticides approved for use. Households would use pesticides commonly available from retail outlets where permethrin and pyrethroids are common ingredients.

> In the absence of the District's IMVMP, the responsibility for vector management could fall on CDPH (or some other agency), who would not provide mosquito and vector control support or "oversight" to local jurisdictions (from Sacramento) given lack of personnel, equipment, or funding. Management at the state level would likely be only reactive rather than proactive.

A study of residential pesticide use in California, including the San Francisco Bay Area, was conducted to understand consumer behavior and sources of pesticides in urban waterways (Flint 2003). The UC Statewide IPM Program sponsored a telephone survey and a shelf survey of pesticide products to collect information about outdoor pesticide use, pest control practices, and attitudes of residents in 2002-2003. It includes the following findings (from the Chapter 1 Summary) that are most relevant to the analysis herein:

> Insects were considered by far the greatest outdoor pest problem in all northern California areas. Ants were the most common pest treated by residents themselves or by professional applicators hired by the homeowner.

> More respondents in the Bay Area (40.6 percent) reported no outdoor use of pesticides than in any other area.

> The largest share of the respondents who had applied pesticides in the past 6 months stated that they normally applied pesticides between 1 and 3 times a year. About one third applied pesticides more than 3 times a year, and 3.4 percent of the Bay Area respondents applied pesticides more than 12 times a year.

> Only a minority of residents hire pest control professionals to manage outdoor problems.

- Almost half of respondents in the three northern California watersheds disposed of pesticides improperly. Many of these threw pesticide containers containing pesticides into the trash, but 5-15 percent in each area admitted to pouring mixed pesticides into inside or outside drains or the street gutter.
- Substantial numbers (44-62 percent in all areas) "estimate" rather than follow label directions precisely when measuring and mixing pesticides. About half of the products used by residents were ready-to-use products requiring no mixing or dilution.
- Large home supply stores accounted for 42 to 52 percent of all pesticide sales to residential users in northern California.
- The store shelf survey found that certain active ingredients were very dominant in the market, including 78 different products containing the insecticide permethrin. Another pyrethroid used primarily for indoor pests, tralomethrin, was found in 32 products. Other common active ingredients were the herbicide dicamba (28 products), the insecticide pyrethrin (26 products), and the herbicide glyphosate (25 products).
- Retail shelves contained unregistered pesticides. Pesticides that are no longer registered for use in California were found on shelves of many of the stores surveyed.

…As a result of the No Program assumptions, the vectors of human and animal disease and discomfort would be more numerous than under existing conditions, and proliferate such that outbreaks of disease and illness would occur more frequently….

3.2.6 Chapter 17. References

The following references are added due to the additions to PEIR text shown in the sections above:

California Department of Fish and Wildlife (CDFW). 2015. Letter from Charles H. Bonham, Director, to Karen L. Smith, Director and State Health Officer, CDPH, Re: CDFW scientific collecting permits (SCPs) and other authorities pertaining to vector and vector-borne disease surveillance and control, April 14.

Flint, M.L. 2003. Residential Pesticide Use in California: A Report of Surveys taken in the Sacramento (Arcade Creek), Stockton (Five-Mile Slough), and San Francisco Bay Areas with Comparisons to the San Diego Creek Watershed of Orange County, California. Prepared for the CDPH. Director, IPM Education and Publications and Extension entomologist, University of California Statewide IPM Program, University of California Davis. March 15.

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