The cover page features a white background with several geometric elements. A dark grey horizontal band is positioned in the upper left, containing the main title and subtitle in white text. To the right of this band is a large, light brown trapezoidal shape. A dark blue triangle is located at the bottom right corner of the page. Two thin, light brown lines intersect diagonally across the page, one running from the top left towards the bottom right, and another running from the top right towards the bottom left.

Responses to Comments Revisions to Draft PEIR for the Contra Costa Mosquito & Vector Control District

Integrated Mosquito Management
Program Final PEIR

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Acronyms

°C	degrees Celsius
°F	degrees Fahrenheit
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
µg/m ³	microgram(s) per cubic meter
2,4-D	2,4-dichlorophenoxyacetic acid
AB	Assembly Bill
AMM	Avoidance and minimization measure
APAP	Aquatic Pesticide Application Plan
APEs	alkylphenol ethoxylates
ATCM	Airborne Toxics Control Measure
ATSB	Attractive Toxic Sugar Bait
ATV	all-terrain vehicle
BAAQMD	Bay Area Air Quality Management District
Basin Plan	Water Quality Control Plan
BASMAA	Bay Area Stormwater Management Agencies Association
BCDC	San Francisco Bay Conservation and Development Commission
BDCP	Bay Delta Conservation Plan
BMP	best management practice
BP	boiling point
Bs	Bacillus sphaericus
BTEX	benzene, toluene, ethylbenzene, and xylenes
Bti	Bacillus thuringiensis israelensis
CAA	Clean Air Act of 1970
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal-EPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCD	colony collapse disorder
CCR	California Code of Regulations
CDC	Centers for Disease Control and Prevention
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife (formerly Fish and Game [CDFG])

CDPH	California Department of Public Health (formerly Health Services [CDHS])
CDPR	California Department of Pesticide Regulation
CDR	Chemical Data Reporting
CEC	California Energy Commission
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH4	methane
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO2	carbon dioxide
CO2e	carbon dioxide equivalent(s)
CTS	California tiger salamander
CWA	Clean Water Act
dB	decibel(s)
dBA	A-weighted sound level/decibel(s)
Delta	Sacramento-San Joaquin River Delta
District	Contra Costa Mosquito & Vector Control District
DPM	diesel particulate matter
DPS	Distinct Population Segment
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FHSZ	Fire Hazard Severity Zone
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
GHG	greenhouse gas
GPS	global positioning system
GWP	global warming potential
HCP	Habitat Conservation Plan
HPS	Hantavirus Pulmonary Syndrome
IGR	Insect growth regulator
IMVMP	Integrated Mosquito and Vector Management Program
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management

IVM	Integrated Vector Management
IVMP	Integrated Vector Management Program
LC50	50 percent lethal concentration
LD50	50 percent lethal dose
Ldn	day/night average sound level
Leq	energy-equivalent sound/noise descriptor
LOAEL	lowest observed adverse effect level
LS	less than significant
MBTA	Migratory Bird Treaty Act
MCLs	Maximum Contaminant Levels
MEI	Maximally Exposed Individual
mg/kg	milligram(s) per kilogram
mg/L	milligram(s) per liter
MMT	million metric tonne(s)
MSDS	material safety data sheet
MT	metric tonne(s)
N	no impact
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCPP	Natural Community Conservation Plan
ng/L	nanogram(s) per liter
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO2	nitrogen dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOAEL	no observed adverse effect level
NOP	Notice of Preparation
NOX	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NWR	National Wildlife Refuge
O3	ozone
OP	organophosphate
PAHs	polycyclic aromatic hydrocarbons
PAP	Pesticide Application Plan (NPDES)

Pb	lead
PBO	piperonyl butoxide
PCBs	polychlorinated biphenyls
PEIR	Programmatic Environmental Impact Report
PERP	Portable Equipment Registration Program
PHG	Public Health Goal
PM10	respirable particulate matter
PM2.5	fine particulate matter
POD	pelagic organism decline
POM	particulate organic matter
ppb	part(s) per billion
ppm	part(s) per million
ppmv	part(s) per million by volume
ppt	part(s) per trillion
RHA	Rivers and Harbors Act
ROC	reactive organic compound
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCP	Scientific Collecting Permit
SF6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SIP	State Implementation Plan
SLE	Saint Louis encephalitis
SM	potentially significant but mitigable
SO2	sulfur dioxide
SU	significant and unavoidable
SVOC	semivolatile organic compound
SWRCB	California State Water Resources Control Board
TMDL	total maximum daily load
ULV	ultralow volume
USACE	US Army Corps of Engineers
USC	United States Code
USEPA	US Environmental Protection Agency
USFS	US Forest Service

USFWS	US Fish and Wildlife Service
VCAPCD	Ventura County Air Pollution Control District
VOC	volatile organic compound
VVOC	very volatile organic compound
WEE	western equine encephalomyelitis
WNV	West Nile virus

1 Introduction

This Responses to Comments/Revisions to Draft PEIR document has been prepared subsequent to the Draft Programmatic Environmental Impact Report (Draft PEIR) dated August 2015 for the proposed Integrated Mosquito and Vector Management Program (IMVMP or Program) by the Contra Costa Mosquito & Vector Control District (District or CCMVCD). The Draft PEIR (State Clearinghouse No. 2012052055) 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 included discussion of best management practices (BMPs) to avoid and/or minimize potential impacts and additional proposed mitigation measures to reduce a potentially significant impact to less than significant. The Responses to Comments/Revisions to Draft PEIR document presents responses to public comments received on the Draft PEIR, and it explains revisions to the Draft PEIR text and appendices, as necessary, in response to the comments or for clarification of technical information. The revisions to the Draft PEIR have been incorporated into a revised Final PEIR. Together with the Final PEIR (January 2016), this Response to Comments/Revisions to Draft PEIR document constitutes the entire 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 District's Board of Trustees 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 (CDFA) 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 its Notice of Availability (NOA) of a Draft PEIR on September 4, 2015, to 72 agencies and organizations. The Draft PEIR was posted on the District's website. The public review and comment period began on September 4, 2015 and concluded on October 23, 2015. During this time, the District held a public hearing on October 14, 2015 at 6:00 pm, at the Contra Costa Mosquito & Vector Control District Office, 155 Mason Circle, Concord, CA 94520. One person was in attendance and there were no oral or written comments at the public hearing meeting.

The State of California Governor's Office of Planning and Research State Clearinghouse and Planning Unit provided a letter dated October 20, 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. The Clearinghouse's agency review period concluded on October 19, 2015. The State Clearinghouse reported they received one comment letter from the Central Valley Regional Water Quality Control Board..

Written comments were received directly from the California Department of Parks and Recreation, Bay Area District; Contra Costa County Flood Control; and the Central Valley Regional Water Quality Control Board. Responses to written comments are contained in this document (see Chapter 2). These responses to comments were distributed to the commenting agency on February 17, 2016. 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.

Following this review and receipt of any further comments, the District Board of Trustees 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 the proposed IMVMP, the Board shall make findings for each significant environmental impact that are supported by substantial evidence in the record and shall adopt the Mitigation Monitoring Program (MMP).

Based upon material contained in the responses to comments from CDFW 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/Revisions to Draft PEIR document contains the following chapters with a brief explanation of chapter contents.

- > **Chapter 1. Introduction:** Introductory material on the CEQA process and public review of the Draft PEIR is provided along with a description of document contents. The State Clearinghouse letter is located at the end of this chapter.
- > **Chapter 2. Public Agency Comments and Responses:** Comments received from one state agency(S), the California Department of Fish and Wildlife (CDFW), Bay Delta Region, are provided with District responses following each numbered comment.
- > **Chapter 3. Revisions to Draft PEIR:** This chapter presents minor revisions to text and appendices based on comments received, clarifications to technical material, or errors/errata discovered by the Draft PEIR preparers. None of these text changes results in substantial 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.



Edmund G. Brown, Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Ken Alex
Director

October 20, 2015

Craig Downs
Contra Costa Mosquito and Vector Control District
155 Mason Circle
Concord, CA 94520

Subject: Integrated Mosquito and Vector Management Program PEIR
SCH#: 2012052055

Dear Craig Downs:

The State Clearinghouse submitted the above named Draft PEIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on October 19, 2015, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

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 contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Sara Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 PENNITT STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 923-8018 www.opwr.ca.gov

**Document Details Report
State Clearinghouse Data Base**

SCM# 2012022026
Project Title Integrated Mosquito and Vector Management Program PEIR
Lead Agency Contra Costa Mosquito and Vector Control District
Type EIR Draft EIR
Description The Contra Costa Mosquito & Vector Control District (District/Project Sponsor) undertakes activities through its Integrated Vector Management Program to manage the following vectors of disease and/or discomfort in the Service Area: mosquitoes, rats, yellow jackets, Africanized honey bees, ticks, chronic and rodent waste. The District is preparing a PEIR to evaluate the effects of the continued implementation of the control strategies and methods prescribed in its Integrated Mosquito and Vector Management Program (Control Program/Project).

Lead Agency Contact

Name Craig Downs
Agency Contra Costa Mosquito and Vector Control District
Phone 925 771 9182 **Fax**
email
Address 155 Mason Circle
City Concord **State** CA **Zip** 94520

Project Location

County Contra Costa
City
Region
Lot / Long
Cross Streets
Parcel No.
Township

Range **Section** **Block**

Proximity to:

Highways
Airports
Post Offices
Schools
Land Use

Project Issues Biological Resources; Toxic/Hazardous; Water Quality; Water Supply; Wetland/Riparian

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 5; Delta Protection Commission; Department of Parks and Recreation; San Francisco Bay Conservation and Development Commission; Department of Water Resources; Caltrans, District 4; Air Resources Board; Regional Water Quality Control Board, Region 5; Regional Water Quality Control Bd., Region 5 (Sacramento); Native American Heritage Commission; Department of Pesticide Regulation; Delta Stewardship Council

Date Received 09/04/2015 **Start of Review** 09/04/2015 **End of Review** 10/15/2015

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

2 Public Agency Comments and Responses

Comments received from one state agency (S), the California Department of Fish and Wildlife (CDFW), Bay Delta Region, are provided with District responses following each numbered comment.



State of California - Natural Resources Agency

Edmund G. Brown Jr., Governor

DEPARTMENT OF PARKS AND RECREATION
Bay Area District
845 Casa Grande Road
Petaluma, CA 94954

Lisa Ann L. Mangat, Director

October 12, 2015

Craig Downs, CEQA Project Manager
Contra Costa Mosquito & Vector Control District
155 Mason Circle,
Concord, CA 94520

Subject: Draft Environmental Impact Report, SCH #2012052055

Dear Mr. Downs,

California State Parks, Bay Area District, is providing the following comments to the draft EIR referenced above.

1

1. State Parks supports any surveillance work performed by Vector Control District within California State Park jurisdictions. Currently, scientific collection permits are issued for other Vector Control Districts to enter State Park lands for these activities. The permits allow us to obtain the data collected during their surveys while requiring review of their methodologies and notification of request for access. Obtaining a scientific collection permit prior to continuing surveillance program within any State Park jurisdiction is required.

2

2. State Park policy strictly dictates pest, animal, and insect control, as well as vegetation management within State Parks. In addition, terrestrial and aquatic habitat contain native, rare, State and federal endangered invertebrates, amphibian, and reptile species whose protection is codified by Operations Policy, Mission, as well as State and federal laws. It should be made clear that any pesticide use for vector control, herbicide use for vegetation management, or use of biological control agents, as well as their authority to enter State Park jurisdictions for such purposes, shall be reviewed and approved by State Parks. State Parks will strive to work with Vector Control Districts to provide programmatic approval for maintenance activities. Factors which will be weighed during approval evaluation include level of risk from the mosquito/other pest, species and habitats in the area, public interface, and current scientific data.

If you have any questions or comments, please contact Christina Freeman, Environmental Scientist, at 707-769-5652 x209.

Sincerely,

Roy McNamee, Environmental Coordinator (Acting)
Bay Area District

RESPONSE

CDPR

Department of Parks and Recreation
October 12, 2015

Roy McNamee, Environmental Coordinator (Acting)

1

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 that is not routine surveillance and control activities and includes take of animals or plants (CDFW 2015, attached). CCMVCD has a Cooperative Agreement with CDPH that is described in Section 1.1.3 of the Draft PEIR.

CCMVCD would apply for a scientific collecting permit for activities that are not routine surveillance and control activities and includes take of plants or animals.

None of the above is to infer that coordination by CCMVCD with California State Parks is not necessary. CCMVCD will coordinate access and actions with CSP to avoid unnecessary conflicts with operations.

2

The California Health and Safety Code (HSC) evidences clear legislative intent to provide broad authority to Mosquito and Vector Control Districts conducting surveillance, prevention and control of mosquitoes and other vectors to protect public health (e.g. HSC §§ 2001©, 2040, 2041, 2047 and 2055). Ultimately the responsibility to control vectors is the land owner/managers, albeit, CCMVCD has a long history of communicating routine surveillance and control activities with the following California State Parks in Contra Costa County (including chemical control, biological control and access):

- [Mount Diablo State Park](#)



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Director's Office
1416 Ninth Street, 12th Floor
Sacramento, CA 95814
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



April 14, 2015

Karen L. Smith, MD, MPH
Director and State Health Officer
California Department of Public Health
P.O. Box 997377
Mail Stop 0500
Sacramento, CA 95899-7377

Attn: Vicki Kramer, Chief
Vector Borne Disease Section
P.O. Box 997377, MS 7307
Sacramento, CA 95899-7377

Dear Dr. Smith:

Re: Department of Fish and Wildlife (CDFW) scientific collecting permits (SCPs) and other authorities pertaining to vector and vector-borne disease surveillance and control.

Recently representatives of California Department of Public Health (CDPH) and entities responsible for monitoring and protecting the public from human health risks posed by mosquitoes, ticks, fleas and other vectors met with Senior Policy Advisor Mark Stopher to discuss various sections of the Fish and Game Code (FGC) and their relationship to your work. It is our understanding that recently, when (CDPH) attempted to renew a state park permit for tick collecting, California Department of Parks & Recreation staff stated they now require permit applicants to provide evidence of SCP for terrestrial invertebrates or alternatively, documentation indicating that such a CDFW permit or approval is not needed for the collections/methods in question. This letter is to clarify CDFW's understanding of statutory authorities for vector surveillance and control, as well as interpretation of the Fish and Game Code, including any requirement for a SCP, in the vector surveillance and control context.

The Health and Safety Code (HSC) evidences clear legislative intent to provide broad authority to entities conducting surveillance, prevention and control of mosquitoes and other vectors (e.g., HSC §§ 2001 (c), 2040, 2041, 2047 and 2055). Surveillance and control activities typically involve animals described as "vectors" in the HSC § 2002(k). Mammals that are vectors or reservoirs of vector-borne diseases that are commonly subject to surveillance or control activities are typically "non-game mammals" (F&GC § 4150).

The recent increase in West Nile virus activity, and expanding distribution of invasive mosquito species such as *Aedes aegypti*, emphasize the necessity of on-going surveillance to monitor vectors and disease trends to protect public health. These

Conserving California's Wildlife Since 1870

Karen L. Smith, MD, MPH
Director and State Health Officer
California Department of Public Health
April 14, 2015
Page 2

activities are usually, though not always, located in proximity to human populations or developments.

We have also reviewed several examples of Cooperative Agreements developed by CDPH, in partnership with the Department of Pesticide Regulation and Agricultural Commissioners, and signed by local vector control agencies. These demonstrate that CDPH maintains a close relationship with local vector control agencies throughout California for the purpose of maintaining a statewide surveillance and control program (HSC § 116113). The relationship includes consultation, technical assistance, and the certification of vector control facilities. The testing and certification requirements are achieved through the Cooperative Agreements that CDPH and local agencies review annually, under the terms and conditions prescribed by CDPH (HSC § 116180(a)). CDPH conducts regular on-site reviews at local agencies for adherence to the terms of the agreements.

FGC § 1002 sets forth CDFW's authority to issue SCPs. In doing so, the section provides that CDFW may issue permits for the take of animals and plants, for scientific, educational or propagation purposes. FGC § 4005(e) and § 4011 exempt the taking of mammals in certain circumstances relating to control of vectors from the prohibition of FGC § 2009.

In consideration of the above, CDFW has determined that CDPH, and entities which are operating under a valid current Cooperative Agreement with CDPH to conduct surveillance, prevention or control of vectors and vector borne disease:

- Are not conducting science, educational or propagation activities within the scope of FGC § 1002, and a SCP is not required.
- Are exempt from the requirement for a license to bag the taking of nongame mammals pursuant to FGC § 4005(e) and § 4011.
- Do not require a SCP when taking blood samples from birds when those birds are collected for other purposes by individuals who already have a SCP or bird banding permit for that work.
- Do not require any permit from CDFW when collecting or examining vectors (e.g., fleas or ticks) taken from wildlife which were lawfully collected by another entity including, but not limited to, U.S.D.A. Wildlife Services.

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.

Karen L. Smith, MD, MPH
Assistant Secretary for Public Health
California Department of Public Health

April 14, 2015

Page 3

None of the above is to infer that coordination by vector control agencies with landowners, including CDFW is not necessary. For CDFW lands, it is important for local vector control agencies to coordinate access and actions closely with CDFW to avoid unnecessary conflicts with our operations.

If you have questions, or further coordination on this issue becomes necessary, please contact Senior Policy Advisor Mark Stopher, at 530.225.2275 or at Mark.Stopher@wildlife.ca.gov.

Sincerely,



Charlton H. Bonham
Director

cc: Lisa Mangini, Acting Director
California Department of Parks and Recreation
1414 Ninth Street
Sacramento, CA 95814

cc: California Department of Fish and Wildlife

Dan Yparraquiere, Deputy Director
Wildlife and Fisheries Division
Dan.yparraquiere@wildlife.ca.gov

Sandy Morey, Deputy Director
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Karen L. Smith, MD, MPH
Director and State Health Officer
California Department of Public Health
April 14, 2015
Page 4

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Craig.martz@wildlife.ca.gov



Julia R. Burton,
in Office Chief Engineer
Steve Kowalewski,
Deputy Chief Engineer

October 13, 2015

Craig Downs
CEQA Project Manager for District
Contra Costa Mosquito & Vector Control
155 Manson Circle
Concord, CA 94520

RE: Notice of Availability (NOA), SCH#2012052055
Our File: Countywide Drainage

Dear Mr. Downs:

We received the Notice of Availability (NOA) of a Draft Programmatic Environmental Impact Report for the Contra Costa Mosquito and Vector Control District (CCMVCD) on September 8, 2015. The "Project Area" or program area includes all the lands located within Contra Costa County, and the project consists of vegetation management, surveillance, physical control, biological control, chemical controls, nonchemical control/trapping, and public education for mosquito and vector control.

The following is some background information about the Contra Costa County Flood Control and Water Conservation District (FC District) to clarify our responsibilities as both of our activities may overlap. The FC District was formed in 1951 to provide for the control and conservation of flood and stormwaters. In 1973, the FC District merged with the County Public Works Department. As a result of this merger, the Public Works Department staff shares the various functions of the FC District, including the planning, engineering, construction, and maintenance of drainage facilities.

FC District boundaries cover the entire County of Contra Costa, and the FC District holds in trust for the public right-of-ways and parcels for the purpose of maintaining flood control and drainage facilities. The FC District provides a wide variety of services related to our primary mission of working to provide flood protection for citizens of Contra Costa County. We provide flood protection facilities, technical resources, information, and educational services, while protecting environmental resources and reducing stormwater pollutants for the residents of Contra Costa County.

Regarding private drainage facilities or facilities in incorporated areas, private drainage facilities, including ditches and private creeks, are maintained by the property owner. Drainage facilities in incorporated areas, not inside the FC District right-of-way, are maintained by the local city. Road drainage, such as side ditches or culverts underneath County roads in unincorporated County areas, are maintained by the Contra Costa County Maintenance Division.

Following the provided background information, we have the following comments:

Accredited by the American Public Works Association®
255 Gader Drive • Martinez, CA 94553-4825
TEL: (925) 313-2020 • FAX: (925) 313-2333
www.cccpublicworks.org

Craig Downs
October 13, 2015
Page 2 of 2

1. The proposed Environmental Impact Report should provide information on the authority CCMVCD has to conduct its activities throughout the County, so the FC District can determine which activities would require a permit.
2. The CCMVCD proposed program includes "physical control" methods to remove the habitat of mosquitos, such as the removal of sediments from existing water circulation ditches, repair of existing water control structures, removal of debris, weeds and emergent vegetation in natural channels, clearance, trimming, and removal of brush for access to streams tributary to wetland areas, and filling of existing, nonfunctional water circulation ditches to achieve required water circulation dynamics and restore ditched wetlands. The proposed environmental document should state that any "physical control" activity conducted inside the FC District's right-of-way will require coordination with the FC District.
3. The document should state that any grading activities, such as the removal of sediments from a ditch, placing fill on a ditch, etc., in areas located in unincorporated Contra Costa County, will require coordination with the FC District and the Contra Costa County Maintenance Division.
4. Section 2.8.1.4 of the document should clarify that in addition to the required environmental permits, coordination with the FC District and the Contra Costa County Maintenance Division is required.
5. We recommend that the CCMVCD provides its yearly schedule of activities throughout Contra Costa County to the FC District to determine which activities would require a permit and to coordinate with the FC District's future projects and maintenance activities. There is a concern that some of the proposed "physical control" activities proposed by CCMVCD would have a negative impact on our flood control facilities.

We appreciate the opportunity to comment on this project in regards to drainage matters. If you have any further questions, you may contact me at (925) 313-2308 or by e-mail at rene.urbina@pw.cccounty.us.

Sincerely,



Rene Urbina, P.E.
Civil Engineer
Contra Costa County Flood Control
& Water Conservation District

RU:cw
G:\fdct\CurDev\CITIES\Countywide Drainage\Comments to Mosquito Vector Draft Problematic EIR.docx

c: Mike Carlson, Flood Control
Tim Jensen, Flood Control
Teri E. Rie, Flood Control

RESPONSE

CCCFC

**Contra Costa County Flood Control
October 13, 2015**

Rene Urbina, Civil Engineer

1

Section 1.1.3 Legislative and Regulatory Actions gives an overview of the Districts enabling legislation and information on its authorities.

1.1.3 Legislative and Regulatory Actions

A number of legislative and regulatory actions form the basis for the District's authority to engage in vector control. The District is a regulatory agency formed pursuant to the Mosquito and Vector Control District Law (California Health and Safety Code Section 2000 et seq.). In enacting that law the California Legislature recognized the importance to public health and the economy of proactive management of pests. The Legislature thus found and declared Health and Safety Code, Section 2001:

1. California's climate and topography support a wide diversity of biological organisms.
2. Most of these organisms are beneficial, but some are vectors of human disease pathogens or directly cause other human diseases such as hypersensitivity, envenomization, and secondary infections.
3. Some of these diseases, such as mosquito-borne viral encephalitis, can be fatal, especially in children and older individuals.
4. California's connections to the wider national and international economies increase the transport of vectors and pathogens.

The Legislature granted the District broad powers to address the threat to public health and the economy posed by vectors and specified its duties as follows: State law charges the District with the authority and responsibility to take all necessary or proper steps for the control of mosquitoes and other vectors in the District Program Area.

Pursuant to Sections 2040-2045, the District may conduct all of the following activities:

- (a) Conduct surveillance programs and other appropriate studies of vectors and vector-borne diseases.
- (b) Take any and all necessary or proper actions to prevent the occurrence of vectors and vector-borne diseases.
- (c) Take any and all necessary or proper actions to abate or control vectors and vector-borne diseases.
- (d) Purchase the supplies and materials, employ the personnel, and contract for the services that may be necessary or proper to carry out the purposes and intent of this chapter.
- (e) Build, repair, and maintain on any land the dikes, levees, cuts, canals, or ditches that may be necessary or proper to carry out the purpose and intent of this chapter.
- (f) Engage necessary personnel, to define their qualifications and duties, and to provide a schedule of compensation for the performance of their duties.
- (g) Participate in, review, comment, and make recommendations regarding local, state, or federal land use planning and environmental quality processes, documents, permits, licenses, and entitlements for projects and their potential effects on the purposes and intent of this chapter.

- (h) Contract with other public agencies and federal agencies to provide any service, project, or program authorized by this chapter within the district's boundaries. A district may contract with other public agencies to provide any service, project, or program authorized by this chapter within the boundaries of the other public agencies and federal agencies.

In accordance with California Health and Safety Code Section 2053:

- (a) A district may request an inspection and abatement warrant pursuant to Title 13 (commencing with Section 1822.50) of Part 3 of the Code of Civil Procedure. A warrant issued pursuant to this section shall apply only to the exterior of places, dwellings, structures, and premises. The warrant shall state the geographic area which it covers and shall state its purposes. A warrant may authorize district employees to enter property only to do the following:
 1. Inspect to determine the presence of vectors or public nuisances.
 2. Abate public nuisances, either directly or by giving notice to the property owner to abate the public nuisance.
 3. Determine if a notice to abate a public nuisance has been complied with.
 4. Control vectors and treat property with appropriate physical, chemical, or biological control measures.
- (b) Subject to the limitations of the United States Constitution and the California Constitution, employees of a district may enter any property, either within the district or property that is located outside the district from which vectors may enter the district, without hindrance or notice for any of the following purposes:
 1. Inspect the property to determine the presence of vectors or public nuisances.
 2. Abate public nuisances pursuant to this chapter, either directly or by giving notice to the property owner to abate the public nuisance.
 3. Determine if a notice to abate public nuisance has been complied with.
 4. Control vectors and treat property with appropriate physical, chemical, or biological control measures.

On September 20, 2014, Fish and Game Code Section 1506, relating to wildlife management, was approved (known as AB 896, Eggman). It clarifies the intent of the Legislature to control mosquito production on managed wetland habitat that California Department of Fish and Wildlife (CDFW) owns or manages and to increase coordination and communication among CDFW, local mosquito abatement and vector control districts, and CDPH.

2

Comment noted and considered. The following text was added to section 2.8.2 Agency Coordination, Additionally, any physical control activity conducted inside the Contra Costa Flood Control District's (FC District) right-of-way will be coordinated with the FC District. Likewise, any grading activities in unincorporated Contra Costa County, will be coordinated with the FC District and the Contra Costa County Maintenance Division.

3

See response to comment 2 above.

4

See response to comment 2 above and comment 5 below. Section 2.8.1.4 relates to the USACE permit only.

5

Historically, CCMVCD has communicated with the FC District on physical control projects, either conducted by CCMVCD or requested of the FC District. In recent years the District has not performed any physical control projects but leaves this option open for the future. In the event CCMVCD initiates projects in the future, CCMVCD will provide the FC District with a schedule of projects.



Central Valley Regional Water Quality Control Board

13 October 2015

Craig Downs
Contra Costa Mosquito & Vector Control District
155 Mason Circle
Concord, CA 94520

CERTIFIED MAIL
91 7199 9991 7035 8420 5440

COMMENTS TO REQUEST FOR REVIEW FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, CONTRA COSTA MOSQUITO & VECTOR CONTROL DISTRICT INTEGRATED MOSQUITO & VECTOR MANAGEMENT PROGRAM PEIR PROJECT, SCH# 2012052055, CONTRA COSTA COUNTY

Pursuant to the State Clearinghouse's 4 September 2015 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Draft Environment Impact Report* for the Contra Costa Mosquito & Vector Control District Integrated Mosquito & Vector Management Program (PEIR) Project, located in Contra Costa County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan

KARL E. LONGLEY ScD, P.E., CHAIR | PAMELA C. CREEDON P.E., BCEE, EXECUTIVE OFFICER

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amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments
USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plan/.

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plan/sacsjr.pdf

in part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2008-008-CWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to

restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/consipermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits¹

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWG.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by

¹ Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional small MS4s, which include military bases, public campuses, prisons and hospitals.

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the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on associated fish habitat requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 837-8250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

Waste Discharge Requirements – Discharges to Waters of the State

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agriculture, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_land/app_spr

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oval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

-
2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order 09-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fee for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters (Low Threat General Order)* or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water (Limited Threat General Order)*. A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_ord_09r15-2013-0074.pdf

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For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_ord_09r15-2013-0073.pdf


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If you have questions regarding these comments, please contact me at (916) 464-4684 or
tcleak@waterboards.ca.gov.



Trevor Cleak^{for}
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

RESPONSE

CVRWQCB

Central Valley Regional Water Quality Control Board
Scientist
October 13, 2015

Trevor Cleak, Environmental

1

The comment letter received was general in nature and not specific to any program described in the PEIR.

Section 1.1.3 Legislative and Regulatory Actions gives an overview of the Districts enabling legislation and information on its authorities.

1.1.3 Legislative and Regulatory Actions

A number of legislative and regulatory actions form the basis for the District's authority to engage in vector control. The District is a regulatory agency formed pursuant to the Mosquito and Vector Control District Law (California Health and Safety Code Section 2000 et seq.). In enacting that law the California Legislature recognized the importance to public health and the economy of proactive management of pests. The Legislature thus found and declared Health and Safety Code, Section 2001:

5. California's climate and topography support a wide diversity of biological organisms.
6. Most of these organisms are beneficial, but some are vectors of human disease pathogens or directly cause other human diseases such as hypersensitivity, envenomization, and secondary infections.
7. Some of these diseases, such as mosquito-borne viral encephalitis, can be fatal, especially in children and older individuals.
8. California's connections to the wider national and international economies increase the transport of vectors and pathogens.

The Legislature granted the District broad powers to address the threat to public health and the economy posed by vectors and specified its duties as follows: State law charges the District with the authority and responsibility to take all necessary or proper steps for the control of mosquitoes and other vectors in the District Program Area.

Pursuant to Sections 2040-2045, the District may conduct all of the following activities:

- (i) Conduct surveillance programs and other appropriate studies of vectors and vector-borne diseases.
- (j) Take any and all necessary or proper actions to prevent the occurrence of vectors and vector-borne diseases.
- (k) Take any and all necessary or proper actions to abate or control vectors and vector-borne diseases.
- (l) Purchase the supplies and materials, employ the personnel, and contract for the services that may be necessary or proper to carry out the purposes and intent of this chapter.
- (m) Build, repair, and maintain on any land the dikes, levees, cuts, canals, or ditches that may be necessary or proper to carry out the purpose and intent of this chapter.
- (n) Engage necessary personnel, to define their qualifications and duties, and to provide a schedule of compensation for the performance of their duties.

- (o) Participate in, review, comment, and make recommendations regarding local, state, or federal land use planning and environmental quality processes, documents, permits, licenses, and entitlements for projects and their potential effects on the purposes and intent of this chapter.
- (p) Contract with other public agencies and federal agencies to provide any service, project, or program authorized by this chapter within the district's boundaries. A district may contract with other public agencies to provide any service, project, or program authorized by this chapter within the boundaries of the other public agencies and federal agencies.

In accordance with California Health and Safety Code Section 2053:

- (c) A district may request an inspection and abatement warrant pursuant to Title 13 (commencing with Section 1822.50) of Part 3 of the Code of Civil Procedure. A warrant issued pursuant to this section shall apply only to the exterior of places, dwellings, structures, and premises. The warrant shall state the geographic area which it covers and shall state its purposes. A warrant may authorize district employees to enter property only to do the following:
 - 5. Inspect to determine the presence of vectors or public nuisances.
 - 6. Abate public nuisances, either directly or by giving notice to the property owner to abate the public nuisance.
 - 7. Determine if a notice to abate a public nuisance has been complied with.
 - 8. Control vectors and treat property with appropriate physical, chemical, or biological control measures.
- (d) Subject to the limitations of the United States Constitution and the California Constitution, employees of a district may enter any property, either within the district or property that is located outside the district from which vectors may enter the district, without hindrance or notice for any of the following purposes:
 - 5. Inspect the property to determine the presence of vectors or public nuisances.
 - 6. Abate public nuisances pursuant to this chapter, either directly or by giving notice to the property owner to abate the public nuisance.
 - 7. Determine if a notice to abate public nuisance has been complied with.
 - 8. Control vectors and treat property with appropriate physical, chemical, or biological control measures.

On September 20, 2014, Fish and Game Code Section 1506, relating to wildlife management, was approved (known as AB 896, Eggman). It clarifies the intent of the Legislature to control mosquito production on managed wetland habitat that California Department of Fish and Wildlife (CDFW) owns or manages and to increase coordination and communication among CDFW, local mosquito abatement and vector control districts, and CDPH.

The following sections of the PEIR discuss specific permits required by the SWRQB for District programs. CCMVCD has been and will continue to be in compliance with these SWRQB permits.

2.1.1.1 *Statewide General NPDES Permit for Vector Control*

The application of pesticides at, near, or over waters of the US that results in discharges of pollutants requires coverage under a NPDES permit. In response to the Sixth Circuit Court's decisions and previous decisions by other courts on pesticide regulation, the State Water Resources Control Board (SWRCB) has adopted four Pesticide Permits. Water Quality Order No. 2011-0002-DWQ (General Permit No. CAG 990004) is the Permit for Biological and Residual Pesticide Discharges to waters of the US from vector control applications. The District completed application requirements, including preparation of a Pesticide

Application Plan (PAP) and public notice requirements, and received permit approval on October 31, 2011

This General Permit covers the point source discharge of biological and residual pesticides resulting from direct and spray applications for vector control using: 1) larvicides containing monomolecular films, methoprene, *Bacillus thuringiensis* subspecies *isralensis* (or Bti), *Bacillus sphaericus* (or B. Sphaericus), temephos, petroleum distillates, or spinosad; and 2) adulticides containing malathion, naled, pyrethrin, deltamethrin, etofenprox, lambda-cyhalothrin, permethrin, prallethrin, resmethrin, sumithrin, piperonyl butoxide (PBO), or N-octyl bicycloheptene dicarboximide (or MGK-264). Users of products containing these active ingredients are required to obtain coverage under this General Permit prior to application to waters of the US. This General Permit only covers the discharge of larvicides and adulticides that are currently registered in California..

Pursuant to California Water Code Section 13389, SWRCB and Regional Water Resources Control Boards (RWQCBs) are exempt from the requirement to comply with Public Resources Code, Chapter 3, Division 13 when adopting NPDES permits (SWRCB 2011a).

2.1.1.2 Statewide General NPDES Permit for Algae and Aquatic Weed Control

This General Permit regulates the discharge of aquatic pesticides (algaecides and aquatic herbicides) used for algae and aquatic weed control to waters of the United States. These are algaecides and aquatic herbicides with registration labels that explicitly allow direct application to water bodies. This General Permit becomes effective on December 1, 2013.

Except for discharges on tribal lands that are regulated by a federal permit, this General Permit covers the point source discharge to waters of the United States of residues resulting from pesticide applications using products containing 2,4-D, acrolein, copper, diquat, endothall, fluridone, glyphosate, imazamox, imazapyr, penoxsulam, sodium carbonate peroxyhydrate, and triclopyr-based algaecides and aquatic herbicides, and adjuvants containing ingredients represented by the surrogate nonylphenol. This General Permit covers only discharges of algaecides, and aquatic herbicides that are currently registered for use in California, or that become registered for use and contain the above-listed active ingredients and ingredients represented by the surrogate of nonylphenol.

A Discharger under this General Permit includes any entity involved in the application of algaecides and aquatic herbicides that results in a discharge of algaecides and aquatic herbicides and their residues and degradation byproducts to waters of the United States, and meets either or both of the following two criteria:

The entity has control over the financing for or the decision to perform algaecide and aquatic herbicide applications that result in discharges, including the ability to modify those decisions; or

The entity has day-to-day control of algaecide and aquatic herbicide applications or performs activities that are necessary to ensure compliance with this General Permit. For example, the entity is authorized to direct workers to carry out activities required by this General Permit or perform such activities themselves.

3 Revisions to Draft PEIR

3.1 Introduction

This chapter presents revisions to text and appendices based on comments received, minor errors/errata discovered by the Draft PEIR preparers and/or District staff, clarification of technical material, and reorganization of selected biological material for clarification and to enhance readability. Additional information was added to Appendix B, especially to data in Table 6-1. **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 Integrated Mosquito and Vector Management Program, Draft Programmatic EIR on November 14, 2014. All page numbers refer to the PDF submittal in November 2014. Material added is underlined; material deleted is shown with strikethrough font.

3.2.1 Summary

Revisions are made as indicated below.

First paragraph page S-1 the last sentence is modified to read as follows:

The District, as Lead Agency under the California Environmental Quality Act (CEQA), has prepared this PEIR for their ongoing program of surveillance and control of mosquitoes and other vectors of human and animal disease and discomfort.

In Section S.1 Background, page S-1, the paragraph is modified to read as follows:

The District was established in 1927 to reduce the risk of vector-borne disease and discomfort to the residents of its Service Area. The District engages in activities and management practices to control mosquitoes and other vectors and to address the specific situations within its Service Area. These management practices emphasize the fundamentals of integrated pest management (IPM) wherein source reduction, habitat modification, and biological control are used when appropriate before using pesticides. When pesticides are used, they are applied in a manner that minimizes risk to human ~~health~~ and ecological health. To avoid or manage the risk to human and animal health requires effective, proactive vector-borne disease surveillance and control strategies that may fluctuate temporally and regionally. Factors that influence the selected strategies include mosquito and pathogen biology, environmental factors, land use patterns, and resource availability to support production of the vectors in quantities that threaten human and animal health.

In Section S.1.1 Vector-Borne Diseases in Program Area, page S-1 language is added to the third bullet which now reads as follows:

> Rodent/rat-transmitted illnesses: leptospirosis, hantavirus pulmonary syndrome (HPS), tularemia, plague

In Section S.3 Public Involvement Summary on page S-3, the last bullet is modified to read as follows:

> San Francisco Bay Regional Water Quality Control Board, Region 5

In Section S.3 Public Involvement Summary on page S-3, a bullet is added to the end and reads as follows:

> San Francisco Bay Conservation and Development Commission

In Section S.3 Public Involvement Summary, on page S-3, the following language was added as the last paragraph to update the Summary for the Final PEIR and not as a correction to the Draft PEIR:

The District released its Notice of Availability (NOA) of a Draft PEIR on September 4, 2015, to 72 agencies and organizations. A public hearing was held to receive agency and public oral comments on the Draft PEIR content on October 14, 2015, at 6:00 pm, at the CCMVCD office, 155 Mason Circle, Concord, CA 94520. One person appeared but did not provide oral or written comment. The public comment period closed on October 23, 2015. Written comments were received directly from the California State Parks, Bay Area District and the Contra Costa Flood Control District. The State Clearinghouse reported that submitted comments were received from the Central Valley Regional Water Quality Control Board. Responses to written comments from these agencies are contained in a separate Responses to Comments document.

In Section S.4 on page S-4 the header of this section is modified to read as follows:

Areas of Known Public ~~Environmental~~ Concerns

In Section S.5 Proposed Program Alternatives, on page S-4, the following paragraphs are modified to read as follows:

The District's Program is an ongoing series of related actions for the proactive management of mosquito, yellow jacket, rodent, and other vector populations to minimize human/vector interactions and the associated risks of disease and discomfort. The District's activities involve the identification of vector problems; responsive actions to control existing populations of vectors, prevent new sources of vectors from developing, and manage habitat to minimize vector production; education of landowners and others on measures to minimize vector production or interaction with vectors; and provision and administration of funding and institutional support necessary to accomplish District objectives.

The District has, since its inception, taken a proactive integrated systems approach to mosquito and vector control, utilizing a suite of tools that consist of public education, surveillance, and physical (e.g., source reduction, vegetation management, water management), biological, and chemical control. These Program "tools" or components are described in the subsequent subsection as "Program alternatives" for the CEQA process (except for public education, which is exempt from CEQA). Program implementation is weighted heavily towards physical and biological control, in part, to reduce the need for chemical control. To realize effective and environmentally sound vector management, vector control must be proactive and based on several factors:

In Section S.5 Proposed Program Alternatives on page S-4, the following bullet is modified to read as follows:

> Carefully monitoring and surveying for vector-borne diseases and their antecedent factors that initiate and/or amplify disease

In Section S.5 Proposed Program Alternatives on page S-5, the following paragraph is modified to read as follows:

The District has implemented a number of procedures and practices under current Program activities that would continue into the future for the Proposed Program. These BMPs represent measures to avoid, minimize, eliminate, rectify, or compensate for potential adverse effects on the human, biological, and physical environments and District Staff. Additional BMPs are part of the District's public education program and outreach to landowners and land managers; these represent measures to control mosquito and vector control used by public and private property owners within the District's Service Area. When the District recommends control measures to landowners and land managers, they are directed to contact and coordinate with resource agencies to address potential special status species concerns, sensitive habitats and potential permits prior to implementation of recommended vector control work. While similar to mitigation measures under CEQA, these District BMPs are already in use and would continue as part of the Proposed Program. Subsequent environmental impact assessments in this PEIR reflect the continued use of these measures, which are organized under the following categories:

In Section S.5 Proposed Program Alternatives on page S-6, the following paragraph is modified to read as follows:

The District will observe all state and federal regulations. The Districts will follow all appropriate laws and regulations pertaining to the use of pesticides and herbicides and safety standards for employees and the public, as governed by the USEPA, CDPR, and local jurisdictions (with some exceptions and where applicable). Although the products the District uses are all tested, registered, and approved for use by the USEPA and/or CDPR, the District provides additional margins of safety with the adherence to additional internal guidance based on their BMPs and the principles embodied in District IMVMP policies, where applicable.

In Section S.5.1.1 Surveillance on page S-6, the language is modified to read as follows:

Vector surveillance, which is an integral part of the District's responsibility to protect public health and welfare, involves monitoring vector populations and habitat, their disease pathogens, and human/vector interactions. Vector surveillance provides the District with valuable information on what vector species are present or likely to occur, when they occur, where they occur, how many they are, and if they are carrying disease or otherwise affecting humans. Vector surveillance is critical to the IMVMP because the information it provides is evaluated against treatment criteria to decide when and where to institute vector control measures. Information gained is used to help form action plans that can also assist in reducing the risk of contracting vector-borne disease. Equally important is the use of vector surveillance in evaluating the efficacy, cost effectiveness, and environmental impacts of specific vector control actions. Examples include field counting/sampling and trapping, arbovirus surveillance, field inspection of known or suspected habitats, maintenance of paths and clearings for access, and documenting public service requests, and surveys

In Section S.5.1.3 Vegetation Management on page S-7, the language is modified to read as follows:

The species composition and density of vegetation are basic elements of the habitat value of any area for mosquitoes and other vectors, for predators of these vectors, and for protected flora and fauna. District staff periodically undertake vegetation management activities as a tool to reduce the habitat value of sites for mosquitoes and other vectors or to aid production or dispersal of vector predators, as well as to allow District staff's access to vector habitat for surveillance and other control activities. District staff's direct vegetation management generally consists of activities to reduce the vector habitat value of sites by improving water circulation or access by fish and other predators, reduce harborage, or to allow District staff's access for inspections and treatment.

For vegetation management, the District uses hand tools or may potentially use other mechanical means (i.e., heavy equipment) for vegetation removal or thinning and could apply herbicides (chemical pesticides with specific toxicity to plants) to improve surveillance or reduce vector habitats. Vegetation removal or thinning primarily occurs in aquatic habitats to assist with the control of mosquitoes and in terrestrial habitats to help with the control of other vectors. Vegetation management, when applicable to vector habitat management, may also be performed to assist other agencies and landowners with the management of invasive/nonnative weeds (e.g., spartina, pepperweed, arundo, tamarix, and ailanthus). These actions are typically performed under the direction of the concerned agency, which also maintains any required permits.

In Section S.5.1.4 Biological Control on page S-7, the following language is added at the beginning of this section:

Biological control of mosquitoes and other vectors involves the intentional use of vector pathogens (diseases), parasites, and/or predators to reduce the population size of target vectors.

In Section S.5.1.4 Biological Control on page S-8, the following section is added after the section on Pathogens to read as follows:

Parasites

The life cycles of mosquito parasites are biologically more complex than those of mosquito pathogens and involve intermediate hosts, organisms other than mosquitoes. Mosquito parasites are ingested by the feeding larva or actively penetrate the larval cuticle to gain access to the host interior. Once inside the host, parasites consume the internal organs and food reserves until the parasite's developmental process is complete. The host is killed when the parasite reaches maturity and leaves the host (Romanomermis culicivorax) or reproduces (Lagenidium giganteum). Once free of the host, the parasite can remain dormant in the environment until it can begin its developmental cycle in another host. Examples of mosquito parasites are the fungi Coelomomyces spp., Lagenidium giganteum, Culicinomyces clavosporus, and Metarhizium anisopliae; the protozoa Nosema algerae, Hazardia milleh, Vavraia culicis, Helicosporidium spp., Amblyospora californica, Lambornella clarki, and Tetrahymena spp.; and the nematode Romanomermis culicivorax. These parasites are not generally available commercially for mosquito control at present.

In Section S.5.1.4 Biological on page S-8, the language is modified to read as follows:

Predators

Mosquito predators are represented by highly complex organisms, such as insects, fish, birds, and bats that consume larval or adult mosquitoes as prey. Predators are opportunistic in their feeding habits and typically forage on a variety of prey types, which allows them to build and maintain populations at levels sufficient to control mosquitoes, even when mosquitoes are scarce. Examples of mosquito predators include representatives from a wide variety of taxa: coelenterates, Hydra spp.; platyhelminths, *Dugesia dorotocephala*, *Mesostoma lingua*, and *Planaria* spp.; insects, *Anisoptera*, *Zygoptera*, *Belostomidae*, *Geridae*, *Notonectidae*, *Veliidae*, *Dytiscidae*, and *Hydrophilidae*; arachnids, *Pardosa* spp.; mosquito-eating fish *Gambusia affinis*, *Gasterosteus aculeatus*; some species of bats; and birds, *anseriformes*, *apodiformes*, *charadriiformes*, and *passeriformes*. Only mosquitofish (*Gambusia affinis*) are commercially available to use at present, while the District supports the presence of the other species as practical. The District's rearing and stocking of mosquitofish in mosquito habitat is the most commonly used biological control agent for mosquitoes in the world.

In Section S.5.1.5 Chemical Control on page S-8, the first paragraph is modified to read as follows:

Chemical control is a Program tool that consists of the application of nonpersistent (i.e., breaking down in less than a few days to a week) insecticides (and potentially herbicides ~~noted in Section 2.3.3 above~~) to directly reduce populations of larval or adult mosquitoes and other invertebrate threats to public health (e.g., yellow jackets) and the use of rodenticides to control rats and mice. If and when inspections reveal that mosquitoes or other vector populations are present at levels that trigger the District's criteria for chemical control – based on the vector's abundance, density, species composition, proximity to human settlements, water temperature, presence of predators and other factors – District staff will apply pesticides to the site in strict accordance with the pesticide label instructions. All of the chemical tools the District uses are evaluated in Appendix B, Ecological and Human Health ~~Risk~~ Assessment Report.

In Section S.5.2. Alternatives Eliminated From Further Consideration on page S-10, the second bullet is modified to read as follows:

>Inundative Releases, of either sterilized or genetically altered vectors, is not considered by the District to be a practical or a currently feasible method of controlling vector populations. Genetically modified vectors are still experimental. They are also not commercially available at this time. The use of any genetically altered organisms, even mosquitoes, may also not be acceptable to the public.

In Section S.5.3. Environmentally Superior Alternative on page S-10 is modified to read as follows:

Table S-1 presents a summary of all the impacts associated with each Program alternative and, therefore, the overall Program of all of the alternatives combined. It is based on Table 15-1 which presents a summary of all the statements of impact with significance determinations. For Surveillance, Physical Control, Vegetation Management, Chemical Control, and Nonchemical Control/Trapping Alternatives, the impacts are either "less than significant" (LS) or "no impact" (N) with two exceptions.

There are two potentially significant impacts. The Chemical Control Alternative could subject people to objectionable odors. Impacts even with BMPs implemented could be potentially significant but mitigable. Certain VOCs, sulfur compounds, and chlorine compounds found in some pesticides emit characteristic odors when they evaporate (volatilize) into air, even at very low concentrations well within safety limits. Pesticides currently used or proposed for future emit phenols (e.g., etofenprox, permethrin, or resmethrin). Materials such as Bti liquid and the adulticides pyrethrin and permethrin have an odor. Due to limited applicability, small quantities of these types of substances are typically used. The human sense of smell (olfactory system) is sensitive to these types of compounds as a warning mechanism, and some individuals are more sensitive than others. The Chemical Control Alternative would apply certain types of odorous treatments using hydraulic spraying and atomizing (fogging), which could result in drift of small droplets and gaseous vapors. Depending on atmospheric conditions (i.e., wind direction, wind speed, stability class), this drift could temporarily subject people to objectionable odors near a treatment area. The materials have been used in the current Program, and people have not complained about odors. However, it is possible that complaints could occur in the future despite public notification procedures about large-scale treatments. This impact can be mitigated to less than significant.

The second potentially significant and unavoidable impact is associated with the Chemical Control Alternative related to the use of naled for control of adult mosquitoes. Impact WR-16 states that due to the toxicity of its breakdown product but its importance in the District's IMVMP, the application of naled is considered a potentially significant and unavoidable impact to surface and groundwater resources. Naled is an organophosphate insecticide and may be used in rotation with pyrethrins or pyrethroids to avoid the development of pesticide resistance. Naled is the most commonly used material for this purpose, but it is not currently in use by the District and

future use is reserved for situations where significant levels of resistance to other materials is detected. Naled has low water solubility but is mobile in soils with low organic matter content. It is moderately toxic to mammals, fish, and aquatic invertebrates but degrades readily in water, under sunlight, in soil under aerobic and anaerobic conditions, in air, and on plants. Dichlorvos, a breakdown product of naled, and itself a registered pesticide, may be present in toxic concentrations after naled is no longer detectable. However, naled and other organophosphates are important chemicals that help prevent or control resistance to alternative products such as pyrethrins and pyrethroids by providing an alternative chemistry/mode of action.

In Table S-1, Contra Costa Mosquito & Vector Control District Summary Comparison of Impacts of Alternatives, the following biological resources impacts for both aquatic and terrestrial are changed from N (no impact) to LS (less-than-significant impact):

- > Movement of species or impacts to wildlife corridors or nursery sites for Surveillance, Physical Control, Vegetation Management, Biological Control, Chemical Control and Nonchemical/Trapping Alternatives.
- > Conflict with HCPs or NCCPs for Physical Control and Vegetation Management Alternatives.

In Section S.6, Summary of Environmental Impacts and Mitigation Measures on page S-11, text was added to the second paragraph and a new Table S-3 was added to assist in clarification of the CEQA Program Alternatives as follows:

Table S-2 presents only the potentially significant but mitigable impact for the Program alternatives, the mitigation required, and the significance following mitigation implementation.

Table S-3 presents a comparison of the Reduced Chemical Control Program and the No Chemical Control Program with the Proposed Program.

Table S-3 Comparison of Reduced Program Alternatives to Proposed Program			
	Proposed Program	Reduced Chemical Control Program	No Chemical Control Program
Alternative Component			
Surveillance	Included	Included	Included
Physical Control	Included	Included	Included
Vegetation Management ➤ Physical Methods ➤ Herbicides/Adjuvants	All physical methods and chemical options included	All physical methods and chemical options included	Includes physical methods Only. ➤ Excludes all herbicides And adjuvants ➤ Less effective with greater reliance on physical and mosquitofish options
Biological Control	Mosquitofish	Mosquitofish	Mosquitofish
Chemical Control	Use any or all pesticides And adjuvants, surfactants, And synergists in Chapter 2	Use less of or eliminate One or more of the Following: ➤ Naled ➤ Deltamethrin ➤ Etofenprox ➤ Permethrin ➤ Resmethrin ➤ Pyrethrin ➤ Bti liquid ➤ Bromadiolone ➤ Diphacinone	Use none of the pesticides Adjuvants, surfactants and synergists listed in Chapter 2
Nonchemical Control/Trapping	Included	Included	Included
Impacts			
Biological Resource Impacts (excluding ecological health)	No Impact or Less-than-Significant Impact	No Impact or Less-than-Significant Impact	No Impact or Less-than-Significant Impact
Physical Resource Impacts (excluding air quality odors)	No Impact or Less-than-Significant Impact	No Impact or Less-than-Significant Impact	No Impact or Less-than-Significant Impact
Air Quality - Odors	Potentially Significant but Mitigable Impact Less-than-Significant after Mitigation	Less-than Significant Impact	No Impact
Ecological Health Impacts	Less-than Significant Impact	Less-than Significant Impact	Potentially Significant Impacts
Human Health Impacts	No Impact or Less-than-Significant Impacts	No Impact or Less-than-Significant Impacts	Significant and Unavoidable Impacts

Revisions are made as indicated to the following sections.

3.2.2 Chapter 1. Introduction

No revisions were made to this chapter.

3.2.3 Chapter 2. Program Description

2.7.3 Other Alternatives

On page 2-44, a sentence is added as indicated.

While no other alternatives are considered feasible or appropriate to achieve the District's Program objectives, including the No Chemical Alternative, and all of the Program alternatives would be combined into the District's Proposed Program, potential options or alternative methods within some of the Program alternatives could be used to modify those alternatives, thus minimizing impacts to the environment or replacing chemical treatments previously used. A Reduced Chemical Control Program was evaluated to reduce the impact to air quality from possible objectionable odors.

2.8.1.4 United States Army Corps of Engineers

On page 2-47, Sec 2.8.1.4 was revised as follows:

~~For minor physical control activities, the District may obtain 5-year regional permits from the USACE (with review by the SFBRWQCB and/or the USFWS, as needed), and from the BCDC (as needed). The current USACE permit runs through December 31, 2012, and the BCDC permit runs through April 1, 2014. A proposed extension of up to 2 years for the USACE permit is being considered as an interim measure until the District completes additional biological assessments and other permit requirements in 2013 and this PEIR.~~ For minor physical control activities, the District obtains 5-year regional permits from the USACE, SWRCB, and BCDC (with review by the USFWS, CDFW, National Marine Fisheries Service (NMFS), and other agencies as needed). The current USACE permit for the maintenance of existing water circulation ditches and channels for the purpose of mosquito abatement in tidal marshes runs through July 1, 2013 (USACE 2007), and the BCDC permit runs through April 1, 2014. The District is working collaboratively with the CDPH and other Coastal Region Districts toward renewing the USACE source reduction permit.

On page 2-47, Sec. 2.8.2, the following paragraph was added.

Additionally, any physical control activity conducted inside the Contra Costa Flood Control District's (FC District) right-of-way will be coordinated with the FC District. Likewise, any grading activities in unincorporated Contra Costa County, will be coordinated with the FC District and the Contra Costa County Maintenance Division.

2.9.1 District Program BMPs

Table 2-7, BMP F6 is modified.

Vegetation management work will be confined to September ~~October~~ 1 to January 31 ~~April~~ 30 to minimize potential impacts to sensitive species, especially breeding birds. When work is expected

to occur between February 1 ~~and August 31 (nesting season)~~ ~~April 30~~, additional consultations will occur with appropriate resource agencies to help identify locations of active nests of raptors or migratory birds as well as any additional protection measures that will need to be implemented prior to commencement of work.

Table 2-7, the following BMP's on use of mosquitofish were added.

- Not planting mosquitofish without surveys by a biologist qualified to perform such surveys, and/or consultation with CDFW biologists.
- Limiting such plantings to areas where the District's historic and ongoing Surveillance Program indicates that mosquito breeding is likely to occur.
- Consulting appropriate federal and state fish and wildlife department websites, including the USFWS website, CDFW website, and CalFish.org to determine if the area under consideration for treatment, including a 1 mile radius around the site, is a known habitat for threatened and/or endangered species.
- Not planting in streams until flows have become discontinuous, and stream habitat consists of isolated pools to minimize the potential for the movement of mosquitofish to areas where treatment was not intended.
- The public is instructed on State regulations and directed to only stock mosquitofish in ornamental ponds, horse troughs and non-maintained swimming pools.

3.2.4 Chapter 3. Urban and Rural Land Uses

No revisions were made to this chapter.

3.2.5 Chapter 4. Biological Resources – Aquatic

Table 4-6, page 40, the following BMP's on use of mosquitofish were added.

- Not planting mosquitofish without surveys by a biologist qualified to perform such surveys, and/or consultation with CDFW biologists.
- Limiting such plantings to areas where the District's historic and ongoing Surveillance Program indicates that mosquito breeding is likely to occur.
- Consulting appropriate federal and state fish and wildlife department websites, including the USFWS website, CDFW website, and CalFish.org to determine if the area under consideration for treatment, including a 1 mile radius around the site, is a known habitat for threatened and/or endangered species.
- Not planting in streams until flows have become discontinuous, and stream habitat consists of isolated pools to minimize the potential for the movement of mosquitofish to areas where treatment was not intended.
- The public is instructed on State regulations and directed to only stock mosquitofish in ornamental ponds, horse troughs and non-maintained swimming pools.

On page 4-46, K. Vegetation Management, BMP K6 language is modified:

Vegetation management work will be confined to September ~~October~~ 1 to January 31 ~~April 30~~ to minimize potential impacts to sensitive species, especially breeding birds. When work is expected

to occur between February 1 and August 31 (nesting season) ~~April 30~~, additional consultations will occur with appropriate resource agencies to help identify locations of active nests of raptors or migratory birds as well as any additional protection measures that will need to be implemented prior to commencement of work.

On page 4-49, M. Applications of Pesticides, Surfactants, and/or Herbicides, BMP M10 is updated as shown:

Special Status Aquatic Wildlife Species:

A CNDDDB search was conducted in 2012, updated in 2014, and the results incorporated into ~~Appendix A~~ for this PEIR. District staff communicates with state, federal, and county agencies regarding sites that have potential to support special status species. Many sites where the District performs surveillance and control work have been visited by staff for many years and staff is highly knowledgeable about the sites and habitat present. If new sites or site features are discovered that have potential to be habitat for special status species, the appropriate agency and/or landowner is contacted and communication initiated.

On page 4-57, in a new Section 4.2.3.3 Impacts to Migration and Movement, Impact AR-4 is modified to reflect minimal rather than no impacts in the preceding text and now reads as follows:

Any disruption of migration patterns would be due to the presence of personnel and machinery in the environment. In all cases this occurrence would be very short term, generally not more than a few hours in any given location. Therefore, this effect would be minimal, would have no substantial adverse effect on the movement of native resident or migratory fish or wildlife, and would not affect wildlife migration corridors or nursery areas, as no physical disturbance would occur.

Impact AR-4. The Surveillance Alternative would have ~~no impact~~ a less-than-significant impact on the movement of any native resident or migratory fish or wildlife species. ~~Nor would it impact any native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.~~ No mitigation is required.

On page 4-63, Impacts AR-7 was modified moving explanatory information into the preceding sections, and the statements now read as follows:

Impact AR-7. The Physical Control Alternative, ~~with the BMPs~~ would have a **less-than-significant** impact either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species. No mitigation is required.

3.2.6 Chapter 5. Biological Resources - Terrestrial

In Section 5.1 Environmental Setting Page 5-1 second paragraph is modified with text deleted and added as follows:

Section 5.1.1 ~~identifies~~ describes the ~~ecoregion provinces~~ habitat types used in evaluating Program impacts within the District's Program Area, Section 5.1.2 describes the special status terrestrial species that have the potential to occur within the Program Area, Section 5.1.3 provides an overview of federal, state, and local ordinances and regulations pertinent to these resources that are applicable to the Program. Section 5.1.4 ~~identifies~~ summarizes the Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs) in the Program

In Section 5.1.3.1.4 Clean Water Act of 1977 on page 5-5, language is added to the first paragraph and an additional paragraph added for clarification to read as follows:

These sections of the Clean Water Act of 1977 (CWA) provide for the protection of wetlands. The administering agency for the above authority is the US Army Corps of Engineers (USACE). Under CWA Sections 301 and 502, any discharge of dredged or fill materials into "waters of the United States," including wetlands, is forbidden unless authorized by a permit issued by the USACE pursuant to Section 404. These permits are an essential part of protecting streams and wetlands. Wetlands are vital to the ecosystem in filtering streams and rivers and providing habitat for wildlife. The US Environmental Protection Agency (USEPA) is the federal agency responsible for water quality management and administers the federal Water Pollution Control Act Amendments of 1972 and 1987, collectively known as the Clean Water Act (CWA). The CWA establishes the principal federal statutes for water quality protection. It was established with the intent "to restore and maintain the chemical, physical, and biological integrity of the nation's water, to achieve a level of water quality which provides for recreation in and on the water, and for the propagation of fish and wildlife." Also see Section 9.1.2.1 in Chapter 9, Water Resources.

Section 5.1.4 Habitat Conservation Plans and Natural Community Plans page 5-8 third paragraph is modified to read as follows:

CEQA requires that an EIR consider whether a project would conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan. A number of HCPs and NCCPs are in effect or under development within the Program Area (Table 4- 5). ~~These are described in Section 4.1.4.~~ They are described in Chapter 4, Section 4.1.4. ~~Listings of these documents on the USFWS and CDFW websites were reviewed, and ten plans were identified.~~ The District is not signatory to these HCPs or NCCPs, but will comply with the provisions of these documents when their vector control activities occur within the boundaries of an existing HCP or NCCP or those that may be developed during the Program lifetime. The District's activities have little overlap with the activities covered under these HCPs (mostly urban development and infrastructure project ongoing operations and maintenance) except for the Bay Delta Plan's measure for management and control of mosquitoes, as detailed in Chapter 4, Section 4.1.4.

Table 5-3 Contra Costa Mosquito & Vector Control District BMPs to avoid/minimize environmental impacts by alternative page 5-24, K. Vegetation Management, BMP K6 language changed as requested by CDFW:

Vegetation management work will be confined to ~~October~~September 1 to April 30~~January 31~~ to minimize potential impacts to special status species, especially breeding birds. When work is expected to occur between February 1 and ~~April 30~~August 31 (nesting season), additional consultations will occur with appropriate resource agencies to help identify locations of active nests of raptors or migratory birds as well as any additional protection measures that will need to be implemented prior to commencement of work.

Table 5-3 Contra Costa Mosquito & Vector Control District BMPs to avoid/minimize environmental impacts by alternative page 5-28, M. Applications of Pesticides, Surfactants, and/or Herbicides, BMP M10 is updated as shown:

Special Status Aquatic Wildlife Species:

A CNDDDB search was conducted in 2012, updated in 2014, and the results incorporated into ~~Appendix A~~ for this PEIR. District staff communicates with state, federal, and county agencies regarding sites that have potential to support special status species. Many sites where the District performs surveillance and control work have been visited by staff for many years and staff ~~is~~are highly knowledgeable about the sites and habitat present. If new sites or site features are

discovered that have potential to be habitat for special status species, the appropriate agency and/or landowner is contacted and communication initiated.

3.2.7 Chapter 6. Ecological Health

In 6.1.1 Hazards, Toxicity, and Exposure in the Environmental Setting, a new Section 6.1.1.3 Bioaccumulation and Biomagnification was added to page 6-3 as follows:

Bioaccumulation is the increase in concentration of a chemical from the environment to the first organism in a food chain, while biomagnification is the increase in concentration of a chemical from one trophic level in the food chain to another. In addition to direct exposures, the issues of bioaccumulation of some chemicals (they have all been categorized by USEPA) and their persistence in the environment are all included in the risk calculations wherever the data are available. Several chemicals are identified as persistent, meaning that they remain in the media of application for relatively long periods (i.e., weeks, months). However, most pesticides currently used by the District are selected preferentially for much shorter half-lives of hours to days. These physio/chemical characteristics of the chemicals selected for vector control are always considered early in the risk calculation process. Only in some special situations such as an USEPA Section 18 “emergency”³ are the older, more persistent products allowed. These emergency situations are intended for and only to stop dramatic and sometimes potentially catastrophic vector infestations.

Biologically persistent chemicals (and bioaccumulation) by definition address the potential for a chemical to move up the food chain and even increase the tissue concentration (biomagnification) in higher trophic animals. The chemicals known to elicit bioaccumulation and/or biomagnification are specifically addressed in the assessment as each of the “higher” (predator) receptor species is considered. As a result of this focus on biological and chemical properties of selected pesticides, the risk assessment process provides the best, conservative estimate of any potential unwanted adverse effects.

Some chemicals have the potential to be retained in the fatty tissues of organisms and accumulate after their prolonged exposure to contaminated sources (bioaccumulation), resulting in a higher concentration in the organism over time. In some cases chemicals can even exist in organisms above the exposure media concentrations (biomagnification). However, biomagnification is correlated with an organism that is associated with continued exposure to a contaminated environment (e.g., usually sediments and water) and is not typically associated with the limited and/or short term chemical exposures that might result from District applications for vector control. Even chemicals that have a potential to bioaccumulate do not exhibit this phenomenon in all biota, since toxic chemicals are selectively taken up by fat (e.g., a chemical may bioaccumulate in fish but not in all animals). Many toxic substances are excreted or metabolized after ingestion such that bioaccumulation is dependent on the physio/chemical characteristics of the chemical (persistence and toxicity), the concentration of the chemical, and the specific organism exposed.

With the exception of a small number of pesticides currently used or planned for use by the District, the majority do not bioaccumulate. The herbicide adjuvants nonylphenol and short-chain nonylphenol ethoxylates are discussed in Section 6.2.5.1.2. See Section 6.2.7 under the Chemical Control Alternative for a discussion of seven pesticides with potential for bioaccumulation. The persistence, bioaccumulation, and the toxicity of each of the chemicals used or planned for use by the District are presented in each of the respective sections addressing these chemicals in Appendix B and in Appendix B, Table 6-1.

³Section 18 of FIFRA authorizes EPA to allow States to use a pesticide for an unregistered use for a limited time if EPA determines that emergency conditions exist. Current and recent actions under Section 18 are detailed in the FIFRA Section 18 Emergency Exemptions database.

6.2.1 Evaluation Concerns and Criteria

On page 6-8, item c response was revised.

> Bs is a naturally occurring soil bacterium. Data indicate a high degree of specificity with Bs (and Bti) for mosquitoes and demonstrate no toxicity to chironomid larvae at any mosquito control application rate. Bs is capable of cycling in the aquatic environment providing weeks of effective mosquito control after a single dose. It is very effective in water with high organic content and ineffective in brackish and saline waters. The use, fate and transport, and potential toxicity of Bs is discussed in Section 6.2.7 and described in detail in Appendix B.

On page 6-8, item h response was revised.

> Although larval and adult mosquitoes serve a positive role as potential prey items for some invertebrates, fish, avian insectivores, bats, small reptiles, and amphibians, the loss or reduction of a focus area (~~infested or large~~ population of mosquitoes) will not affect the predator populations overall. Many species of mosquitoes are short lived or seasonal, so they generally serve as only one of many possible prey sources for predators. The decline in one prey species generally means that a predator will shift its food preference. No predators are known that rely exclusively on mosquitoes (larval or adult) for prey.

6.2.2 Evaluation Methods and Assumptions

On page 6-13, last paragraph is revised.

Most products sold as herbicides and pesticides are evaluated herein both for the active ingredient and for the adjuvants and surfactants used to make the product more useful. When multiple products are used in a vector control application, the impacts are weighed against the proximity and timing of each application. ~~When two approved products are used that contain two active ingredients, this scenario is possible, but the product usually already contains two active ingredients.~~ If products with an identical similar or different active ingredients are applied simultaneously, it is likely that the net effect could be the sum of the total active ingredient that is available for uptake by the vector.

6.2.4 Physical Control Alternative

On page 6-16, the last sentence of the first full paragraph is revised.

The presence of special status species at aquatic or terrestrial sites or the presence of suitable habitat for special status species would require consultation and coordination with resource agencies prior to implementation ~~result in cancellation~~ of scheduled physical control activities.

6.2.5 Vegetation Management Alternative

On page 6-16, paragraph 3 is revised.

The District uses hand tools (e.g., shovels, pruners, chainsaws, and weed-whackers) and heavy equipment where necessary for vegetation removal or thinning and sometimes apply herbicides to improve surveillance or reduce vector habitats. Vegetation removal or thinning primarily occurs in aquatic habitats to assist with the control of mosquitoes and in terrestrial habitats to help with the control of other vectors. To reduce the potential for mosquito breeding associated with water retention and infiltration structures, District staff may systematically clear weeds and other obstructing vegetation in wetlands, winery waste ponds, and retention basins (or request the structures' owners, within the limits of resource agency requirements and permits, to perform this task). Surveys for special status plants, coordination with the landowner, and acquisition of necessary permits are completed before any work is undertaken. In some sensitive habitats

and/or where special status species concerns exist, vegetation removal and maintenance actions would be restricted to those months or times of the year that minimize disturbance/impacts. Vegetation management is also performed to assist other agencies and landowners with the management of invasive/nonnative weeds. These actions are typically performed under the direction of the concerned agency, which also maintains any required permits.

On page 6-16, paragraph 4 is revised.

Vegetation management in the form of removal could include the use of weed-whackers, chainsaws, and shovels. These activities could lead to physical injury to special status species of terrestrial plants and animals. The District applies BMPs to reduce these impacts, including the identification of special status species in treatment areas, communication with resource agencies, and acquisition of permits, prior to commencing any vegetation removal actions. The nonherbicide component of the Vegetation Management Alternative is not expected to result in adverse ecological effects. These activities are generally coordinated with and monitored by public agencies and conducted during times to alleviate potential impacts to nontarget organisms.

6.2.6 Biological Control Alternative

On page 6-20, Section 6.2.6.3 Other Vectors was added.

No effective natural predators exist to control high rodent populations. Domestic and feral cats may provide short-term control when the rodent population is low, but they can also impact bird populations. The District does not employ cats for rodent control. Currently, no commercial biological control agents or products are available for wasp, yellow jacket, and tick control.

6.2.7 Chemical Control Alternative

On page 6-21, following Table 6-6, new text and a new Table 6-7 were added to address the bioaccumulation issue in greater detail.

A few of these pesticides used by the District have the potential to bioaccumulate to varying degrees. Pesticides in use identified as having the potential to bioaccumulate under some conditions are listed below in Table 6-7.

Table 6-7 Pesticides with Potential to Bioaccumulate

Active Ingredient	Vector	Potential to Bioaccumulate
Methoprene	Mosquito (larvae)	Yes
Spinosad	Mosquito (larvae)	Yes
Etofenprox	Mosquito(adults)	Yes
Bromadiolone	Rat	Yes
Difethialone	Rat	Yes

Although these active ingredients have the potential to bioaccumulate, the conditions in which they are used include the use of ULV application methods for adult mosquito control and highly localized applications for yellow jackets, ticks, and rodents. The larvicides methoprene and spinosad have been designated as bioaccumulators, but the environmental conditions on the ground and in water after an application of one of these pesticides by the District generally does not provide the continuous exposure needed for substantial bioaccumulation in a nontarget organism with no subsequent biomagnification. Therefore, the impact is less than significant.

On page 6-23, to Section 6.2.7.1.3 Hydrocarbon Esters (Methoprene), a sentence is added to the end of the third paragraph.

Release rates of extended release methoprene products are also engineered to be at the low levels effective for mosquito control while minimizing impacts to nontarget organisms.

On page 6-24, Section 6.2.7.1.5 Aliphatic Solvents (Mineral Oil), the first paragraph under this section is deleted.

~~Monomolecular films are alcohol ethoxylated surfactants, which are low-toxicity pesticides that spread a thin film on the surface of water that makes it difficult for mosquito larvae, pupae, and emerging adults to attach to the water's surface, causing them to drown (USEPA 2007a). The films also disrupt larval respiration of some other classes of air-breathing aquatic insects. They are used on an assortment of waterbodies including ornamental ponds, pastures, irrigation systems, drainage systems, and drinking water systems (CDPR 2010a).~~

On page 6-24, the following sentence was added before the Impact ECO-11.

Plant oil mixes include the use of the small amount of mineral oil alcohol ethoxylated surfactant and a blend of methyl esters of fatty acids.

On page 6-25, Section 6.2.7.2.1 Pyrethrins, the first full paragraph is modified.

The District uses pyrethrin for mosquito and/or yellow jacket wasp control. For yellow jacket wasp control, pyrethrin is applied around parks, landscaping, and directly into ground nests. For mosquito control, pyrethrin is applied to man-made and natural sites including, but not limited to, woodland areas with treehole mosquitoes, ditches and moving and standing water.

6.2.9 Cumulative Impacts

After the first paragraph in this section, on page 6-32, the following paragraph was added.

The incremental effects of the District's use of five pesticides with the potential to bioaccumulate in the environment (i.e., including methoprene and spinosad for mosquito larvae; etofenprox for adult mosquitoes; and bromadiolone and difethialone for rats) do not contribute considerably to large-scale bioaccumulation and regional impacts to ecological health. The limited number and use of the adult insect product (etofenprox) and rodenticides (bromadiolone and difethialone) in relation to the area of application is inconsequential and does not create a risk that existing organisms would be subject to continuous exposure or exposure at a frequency and duration that is likely to present a substantial risk of bioaccumulation. Although spinosad and methoprene have been designated as potential bioaccumulators, the environmental conditions on the ground and in water after an application of one of these pesticides by the District generally do not provide the continuous exposure needed for substantial bioaccumulation in nontarget organisms. The impact of District applications of these pesticides that could contribute to the bioaccumulation of these pesticides in nontarget animals and the environment is short-lived with such a small fraction of their overall normal exposure to outside stress as to be unremarkable. The seven pesticides that have the potential to bioaccumulate are used in such low doses, usually with special application restrictions, and in such prescribed areas as to not substantially impact the regional environment and are not cumulatively considerable.

3.2.8 Chapter 7. Human Health

7.2.2 Evaluation Methods and Assumptions

On page 7-9, the second paragraph is revised.

This evaluation herein does not include assumptions about which alternative treatment strategy(ies) would be applied in any given area. Criteria used to trigger a particular alternative based on vector abundance and other variables are included in the District's operating procedures. This evaluation assumes that important parameters, such as media half-life, are dependent on the specific conditions at the time of pesticide application, and values listed herein serve as references values.

7.2.3 Surveillance Alternative

Beginning on page 7-12, the last paragraph is revised.

District practices would be a continuation of existing activities using applicable techniques, equipment, vehicles, and watercraft (except for possible purchase of an airboat for future use). Surveillance activities involve monitoring the distribution and abundance of adult and larval mosquitoes (field counting, sampling, and trapping), field inspection of mosquito habitat, testing for the presence of arboviruses in mosquitoes and their hosts, ~~encephalitis virus-specific antibodies in sentinel chickens or wild birds,~~ collection and testing of ticks for the presence of tickborne pathogens (e.g., lyme disease, ehrlichia, tularemia and spotted fever group rickettsia), small rodent trapping and testing, and/or response to public service requests regarding nuisance other vector animals or insects (e.g., yellow jacket wasps). Surveillance of potential areas of concern is a critical element for directing and responding to potential outbreaks of mosquitoes vectors and the potential for conveying mosquito vector-borne diseases.

7.2.5 Vegetation Management Alternative

On page 7-14, Section 7.2.5.1 Herbicides, the second paragraph is supplemented with the following additional information after Table 7-4, and a third paragraph is added before Impact HH-4.

Herbicides are typically classified into the following major categories: pre-emergent herbicides (applied to the soil to prevent seedlings from germinating and emerging); post-emergent herbicides (applied after seedlings have emerged and control actively growing plants via contact damage or systemic impacts); contact herbicides (cause physical injury to the plant upon contact); and systemic herbicides (damage the internal functioning of the plant). Herbicides included in the Program have diverse chemical structures, act through distinct modes of action, and exhibit varying levels of potential toxicity to humans. ~~These~~ Many of the herbicides are typically nonselective and broad-spectrum and function by inhibiting growth but do so in a multitude of ways. Most of the herbicides are moderately persistent in soil and water (for each herbicide's half-life in soil and water, please refer to Appendix B). The following have been shown to exhibit no/low toxicity to humans: imazapyr (USEPA 2006a), triclopyr (USEPA 1998a), and sulfometuron methyl (USEPA 2008). The actual use and human exposure in the field are far less than tested in the laboratory, and much higher volumes (exposure) would be needed to result in toxicity.

Many of the herbicides are typically nonselective and broad-spectrum and generally function by inhibiting growth but do so in a multitude of ways. For example, sulfometuron methyl retards or stops root and shoot development. Herbicides used against annual broadleaf weeds are generally of the post-emergent variety, such as triclopyr and sulfometuron methyl. In addition, imazapyr is a systematic, nonselective, pre- and post-emergent herbicide used for a broad range of terrestrial and aquatic weeds. Glyphosate represents a commonly used herbicide for the control and elimination of grass weeds and sedges. Most of the herbicides are moderately persistent in soil and water (for each herbicide's half-life in soil and water, refer to Appendix B).

On page 7-14, immediately prior to Section 7.2.5.1.1 Glyphosate the following was added.

Glyphosate and adjuvants were identified for further evaluation based on use patterns and toxicity (Appendix B) and discussed in further detail below.

On page 7-14, the first paragraph in Section 7.2.5.1.1 Glyphosate is modified.

Glyphosate is a nonselective, post-emergent, and systemic herbicide that is the active ingredient (as an acid or salt) in Alligare, Aquamaster, Buccaneer, and Roundup® products. It is designed to target the shikimic acid pathway, which is specific to plants and some microorganisms; therefore, glyphosate is thought to have very low toxicity to mammals (USEPA 1993). The District employs an adequate buffer to water sources when it applies glyphosate strictly adheres to its BMPs and product label requirements when using Glyphosate. Every effort is also made to minimize treatments that could affect milkweed, a plant important to Monarch butterfly populations.

7.2.6 Biological Control Alternative

On page 7-16, a sentence is added to the end of first paragraph.

At present, mosquito parasites are not commercially available for mosquito control. The Biological Control Alternative as the District practices it at present would be a continuation of existing activities focused on mosquitofish using applicable techniques, equipment, vehicles, and water craft.

On page 7-16, in Section 7.2.6.1 Mosquito Larvae Pathogens, the second paragraph is replaced with the following.

All three bacteria are naturally occurring soil organisms, which are commercially produced as mosquito larvicides. Because these forms of biological control are regulated by USEPA and are applied in a similar manner to chemical pesticides, they are evaluated under Section 7.2.7, Chemical Control Alternative, including the discussion of potential impacts. The environmental fate and toxicity of these control agents are described in detail in Appendix B.

~~Because the potential environmental impacts of Bs or Bti application are generally similar to those of chemical pesticide applications, these materials and spinosad are evaluated below under Section 7.2.7, Chemical Control Alternative. The environmental fate and toxicity of these control agents is discussed in Appendix B.~~

On page 7-16, 7.2.6.2 Mosquito Predators, the discussion is modified.

Mosquitofish (*Gambusia affinis*) are presently the only commercially available mosquito predators. The District's ~~rearing and stocking~~ use of these fish in mosquito habitats is the most commonly used biological control agent for mosquitoes in the world. Used correctly, this fish can provide safe, effective, and persistent suppression in various mosquito producing sources. However, due to concerns that mosquitofish may potentially impact red-legged frog and tiger salamander populations, the District limits the use of mosquitofish to habitats such as ornamental fish ponds, water troughs, water gardens, fountains, and unmaintained swimming pools.

On page 7-18, in Section 7.2.7.1.1 Bacterial Larvicides (Bs, Bti, and Spinosad), the discussion is modified as follows.

~~These bacterial larvicides as applied are highly mosquito-specific bacteria that usually infect mosquito larvae when they are ingested. These pathogens multiply rapidly in the host, destroying internal organs and consuming nutrients. The pathogen can be spread to other mosquito larvae in some cases when larval tissue disintegrates and the pathogens are released into the water and are ingested by uninfected larvae. Bs and Bti, produce proteins that are toxic to most mosquito larvae, while the fermentation of *S. spinosa* produces spinosyns, which are highly effective mosquito neurotoxins. Bacterial larvicides such as Bs and Bti are highly selective microbial~~

pesticides for mosquitoes whose protein spores, when ingested, cause destruction of the gut wall leading to paralysis and death. Another bacterium, Saacharopolyspora spinosa, produces spinosyns, which are highly effective mosquito neurotoxicants. All three bacteria are naturally occurring soil organisms and are commercially produced as mosquito larvicides. Unlike Bti and S. spinosa, Bs is a live bacterium that can reproduce in natural settings for some time following release. Bs and Bti are applied on a variety of ~~crops and~~ standing and moving waterbodies, ~~Bti materials the District applies do not contain live organisms, only spores.~~ The spores of Bs and Bti can persist in the environment for months, but the endotoxins are readily degraded by UV light and persist only for a few hours to a maximum of a few days. Bacterial spores of Bti are uniquely toxic to nematoceran Diptera (mosquitoes, some midges, blackflies, psychodids, and ceratopogonids) (Lacey and Mulla 1990) and do not exhibit any human toxicity.

Spinosad alters nicotine acetylcholine receptors in insects, causing constant involuntary nervous system impacts ultimately leading to paralysis and death. ~~It is used on various crops, animal husbandry premises, recreation areas, rights-of-way, and local residences.~~ The USEPA has classified spinosad as a “reduced risk” compound because it is an alternative to more toxic, OP insecticides (CDPR 2002). It exhibits ~~very~~ acute toxicity to target organisms by all exposure routes ~~and~~ but has not been shown to elicit acute or chronic toxicity in humans.

On page 7-19, Section 7.2.7.2 Mosquito Adulticides, the paragraph is removed and replaced with two paragraphs as follows.

In addition to chemical control of mosquito larvae, the District may use pesticides for control of adult mosquitoes when no other tools are available and if specific criteria are met, including species composition, population density (as measured by landing count or other quantitative method), proximity to human populations, and/or human disease risk. Adulticide materials are used infrequently and only when necessary to control mosquito populations (e.g., those areas with treeholes where access to larval breeding sites is impractical.

Adulticides the District potentially uses include pyrethrins, synthetic pyrethroids, pyrethroid-like compounds, OPs, and synergists. Table 7-8 lists the adulticides the District uses for vector abatement. Several of these active ingredients, as well as a few others, are also used for the control of yellow jacket wasps and, in some cases, to control tick populations that pose an imminent threat to people, pets or livestock (Table 7-8 and this section). A subset of these active ingredients required further evaluation in Appendix B and further discussion is provided below. A detailed discussion of the environmental fate and toxicity of these pesticides is provided in Appendix B.

~~The District may use pesticides to control adult mosquitoes when no other tools are available and if specific criteria are met, including species composition, population density, proximity to human populations, and/or human disease risk. Adulticide materials are used infrequently to control seasonal adult mosquito populations. The adulticides the District may use or proposed to use to control mosquito and yellow jacket wasps and where they are applied are listed in Table 7-8 and discussed in detail in the section of Appendix B indicated.~~

3.2.9 Chapter 8. Public Services and Hazard Response

8.2.7 Chemical Control Alternative

On Page 8-10, the first paragraph in this section is modified.

Chemical control is a Program tool that consists of the application of nonpersistent selective insecticides to directly reduce populations of larval or adult mosquitoes and other invertebrate

threats to public health (e.g., ticks, yellow jacket wasps), and the use of rodenticides to control rats and mice. Chemical control is implemented when inspections reveal that mosquitoes or other vector populations are present at levels that trigger the District's criteria for chemical control based on the vector's abundance, density, species composition, proximity to human settlements and recreational areas, water temperature, presence of predators, and other factors.

On Page 8-10, the first sentence of the fourth paragraph in this section is modified. The District's rat population control program implements the limited use of rodenticides usually in response to the identification of high rodent populations as a result of citizen complaints~~District resident requests.~~

Under Section 8.2.7.3 Yellow Jackets, Ticks, and Rodents, rodents are added to the discussions as appropriate.

3.2.10 Chapter 9. Water Resources

9.2.7 Chemical Control Alternative

On page 9-29, Section 9.2.7.1.2 Hydrocarbon Esters, the last sentence in paragraph five is modified.

Although it may exhibit toxicity to fish and aquatic invertebrates, as well as nontarget insects including moths, butterflies, and beetles, methoprene is considered the least toxic of all larvicide alternatives, especially at concentrations allowed for mosquito control.

On page 9-29, in Section 9.2.7.1.3 Surfactants, the first complete paragraph is modified.

The District would avoid use of surfactants, when possible, in sites with aquatic nontarget species or natural enemies of mosquitoes present such as nymphal damselflies and dragonflies, dytiscids, hydrophilids, corixids, notonectids, and ephydriids. Although surfactants can be used with pupae, microbial larvicides (e.g., Bti, Bs) or insect growth regulators (e.g., methoprene) are often used with other earlier life stages (Table 9-3, BMP E2) to prevent development of pupae and minimize use of surfactants.

On page 9-33, Section 9.2.7.4 Rodenticides, the sentence is modified.

The District's limited use of rodenticides is as a result of surveillance and/or in response to the identification of high rodent populations as a result of citizen complaints~~District resident requests.~~

3.2.11 Chapter 10. Air Quality

10.1.6 Regulatory Framework

On page 10-12, Section 10.1.6.5.5 Nuisance (Odors), paragraph four is modified as follows.

Some of the pesticides used for mosquito control have an unpleasant odor in concentrated form, in particular the Bti liquids and the adulticides pyrethrin and permethrin. ~~When sprayed, once the fog dissipates (about 20 minutes maximum) there is no residual smell. Bti liquids, when diluted with water and sprayed onto water containing breeding mosquitoes, has almost no odor within a few minutes of application. The adulticides pyrethrin and permethrin have no residual smell once the ULV fog dissipates (about 20 minutes maximum).~~ The BVA-2 oil has an odor, although once applied (3 - 5 gallons per acre) there is not much odor. To manage potential nuisance issues, the

District has a notification process for areas that request adulticiding. Residents within 100 yards of an application site must sign an agreement form prior to an application taking place.

10.2.2 Evaluation Methods and Assumptions

On page 10-15, this section was modified to include BMP's and the paragraphs modified as follows::

As described in Section 10.1.5, operation of onroad fleet vehicles, offroad all-terrain vehicles, watercraft, aircraft, portable equipment, and small equipment would result in emissions of criteria pollutants (NO_x, VOCs, CO, SO_x, PM₁₀, PM_{2.5}) in engine exhaust. Detailed lists of equipment, estimated usage, and emission calculations are provided in Appendix C, in Attachment A Appendix A. Equipment lists and annual activity schedules were provided by the ~~nine participating~~ Districts. Emission calculations were performed using the most recent and applicable emission factors published by CARB (2008a), Hare and Springer 1973, and USEPA (1991, 2011a, 2011b, 2012c). The future use of watercraft and fixed-wing aircraft is not included in the emissions calculations because infrequent use would not substantively impact criteria or GHG emissions because, as such, undefined infrequent use would result in relatively small quantities of emissions, which cannot be reliably, quantified at this time and would not be cumulatively considerable. From Table 2-6 in Section 2.9, the District is implementing BMPs to avoid or minimize environmental impacts from applications of pesticides, surfactants, and/or herbicides under the Vegetation Management and/or Chemical Control alternatives. The impact significance determinations assume that the District will continue to implement the following BMPs:

> District staff will conduct applications with strict adherence to product label directions that include approved application rates and methods, storage, transportation, mixing, and container disposal. (Table 2-6, BMP M1)

> 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, ephydrids, etc. Surfactants are a least preferred method and are the only tool that can be used with pupae to prevent adult emergence. The District will use a microbial larvicide (Bti, Bs) or insect growth regulator (e.g., methoprene) instead or another alternative when possible. (Table 2-6, BMP M2)

> Materials will be applied at the lowest effective concentration for a specific mosquito species and environmental conditions. Application rates will never exceed the maximum label application rate. (Table 2-6, BMP M3)

> To minimize application of pesticides, applications will be determined by surveillance and monitoring of mosquito populations. (Table 2-6, BMP M4)

> District staff will follow label requirements for storage, loading, and mixing of pesticides and herbicides. Handle all mixing and transferring of herbicides within a contained area. (Table 2-6, BMP M5) To elaborate, handling, mixing, and transfer of pesticides and herbicides will follow label requirements and District safety procedures, and spill containment and cleanup equipment will be present during all mixing and loading operations.

> Postpone or cease application when predetermined weather parameters exceed product label specifications, when wind speeds exceed the velocity as stated on the product label, or when a high chance of rain is predicted and rain is a determining factor on the label of the material to be applied. (Table 2-6, BMP M6)

> Applicators will remain aware of wind conditions prior to and during application events to minimize any possible unwanted drift to waterbodies, and other areas adjacent to the application areas. (Table 2-6, BMP M7)

> Clean containers at an approved site and dispose of at a legal dumpsite or recycle in accordance with manufacturer's instructions if available. (Table 2-6, BMP M8)

> The District will provide notification to the public (as soon as operationally possible) and/or appropriate agency(ies) when applying pesticides or herbicides for large-scale treatments (e.g., fixed-wing aircraft or helicopters) that will occur in close proximity to homes, heavily populated, high traffic, and sensitive areas. The District infrequently applies or participates in the application of herbicides in areas other than District facilities. (Table 2-6, BMP M12)

> Engine idling times will be minimized either by shutting equipment and vehicles off when not in use or reducing the maximum idling time to 5 minutes. Correct tire inflation will be maintained in accordance with manufacturer's specifications on wheeled equipment and vehicles to prevent excessive rolling resistance. All equipment and vehicles will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator if visible emissions are apparent to onsite staff. (Table 2-6, BMP A14)

In addition, Chapter 8, Public Services and Hazard Response, provides additional information on the District's spill prevention and worker safety plans.

Table 10-4 shows alternatives applicability by percentage as selected by the ~~nine~~ Districts: surveillance, physical control, vegetation management, biological control, chemical control, or other nonchemical control. Table 10-5 shows land uses associated with selected alternatives: residential, commercial, industrial, agricultural, and open space. ~~As shown in Tables 10-4 and 10-5, not all Program alternatives or land uses are applicable in all Districts, nor are all options or activities under any applicable alternative.~~

Tables 10-6 through 10-11 show estimated ongoing annual criteria emissions by alternative ~~and~~ for the District. Table 10-12 shows estimated peak daily criteria emissions for all alternatives combined assuming simultaneous operations as a hypothetical and highly unlikely "worst-case" scenario. Table 10-13 shows estimated highest quarterly and average daily criteria emissions for applicable alternatives assuming concurrent operations as "typical case," which is a more likely and realistic scenario.

No annual thresholds (Table 10-3) would be exceeded by the Program, ~~either individually or collectively,~~ based on existing activities. As shown in Table 10-12, the District would not exceed "worst-case" daily thresholds. As shown in Table 10-13, no "typical case" daily thresholds would likely be exceeded by the Program, ~~either individually or collectively.~~ Due to the very wide spatial and temporal dispersion of the mobile emissions sources across the ~~nine~~ Service Area ~~counties~~, no ambient air quality standards for any pollutant would be violated solely by mosquito and/or vector control activities. ~~Since the combined annual or average daily emissions of the nine Districts would not be significant, neither would the incremental contribution of each District.~~ Furthermore, continuation of existing activities under the Proposed Program in comparison to existing conditions when the NOP was published, would be practically zero.

3.2.12 Chapter 11. Greenhouse Gases and Climate Change

11.2.6 Biological Control Alternative

On page 11-16, the first full paragraph is modified.

The Biological Control Alternative would be a continuation of existing activities currently practiced by the District using applicable techniques, equipment, vehicles, watercraft, and aircraft. It currently involves the use of mosquito predators, i.e., mosquitofish (*Gambusia affinis*) as these

are the only commercially available biological control agents at this time. The environmental impact concerns are phrased as questions as follows for the Biological Control Alternative:

3.2.13 Chapter 12. Noise

12.2.4 Physical Control Alternative

On page 12-12, the last paragraph is modified.

As shown in Table 12-6, but typically, ground management would require the periodic use of light trucks, such as pickup trucks and jeeps, and ATVs. Water management would require the use of ATVs and, occasionally, boats. Table 12-6 also shows the range of noise levels that they typically would generate at 50- and 400-foot distances from the source. This table also shows the land use types where activities typically would occur.

3.2.14 Chapter 13. Cumulative Impacts

No revisions were made to this chapter.

3.2.15 Chapter 14. Other Required Disclosures

14.1.1 No Program

On page 14-1, the discussion is modified to include the following.

Furthermore, increases in mosquito and vector populations could lead to reductions in local and state revenues for parks, marinas, campgrounds, and other recreational activities and for the business that support these activities. There is also the issue of increased costs to individuals, businesses, and governments with respect to health care and additional vector management.

3.2.16 Chapter 15. Alternatives

Section 15.3 No Program is modified to include the following.

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 2003¹). 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.

¹Flint, 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.

Section 15.6 Environmentally Superior Alternative was added (copied) from Section S.5.3.

Table 15-1 Summary of Program Alternative Impacts was modified to reflect changes to several of the impact statements, mostly the reorganization of explanatory material contained in Section 4 Biological Resources – Aquatic and Section 5 Biological Resources – Terrestrial. A few of the impacts changed from “no impact” to a “less-than-significant impact.” None of the changes created any new potentially significant impacts.

3.2.17 Chapter 16. List of Preparers

No revisions were made to this chapter.

3.2.18 Chapter 17. References

No revisions were made to this chapter.

No revisions were made to any appendices.