DEPARTMENT OF PUBLIC HEALTH

Division of Environmental Health Services
- ☐ 385 North Arrowhead Avenue – San Bernardino, CA 92415-0160 – (909) 884-4056
- ☐ 8575 Haven Avenue, Suite 130 – Rancho Cucamonga, CA, 91730 – (909) 948-5058
- ☐ 15900 Smoke Tree Street – Hesperia, CA 92345 – (760) 995-8140

Mosquito and Vector Control Program
- ☒ 2355 East 5th Street – San Bernardino, CA 92410-5201 – (909) 388-4600

June 3, 2011

RECEIVED
JUN 10 2011
DIVISION OF WATER QUALITY

State Water Resources Control Board
1001 I Street, PO Box 100
Sacramento, CA 95814-0100

Re: NPDES Permit for Residual Pesticide discharges to Waters of the United States from Vector Control Applications- California Regional Water Quality Control Boards – Lahontan, Colorado, and San Ana Regions

Enclosed with this letter, please find the Notice of Intent to apply for a National Pollution Discharge Elimination System (NPDES) Permit for residual pesticides discharges to waters of United States from Vector applications. Attached to this NOI is a copy of our Program's Pesticide Application Plan (PAP).

Sincerely,

Terri Williams,
Division Chief of Environmental Health Services
San Bernardino County

JWW:TW:rr

Encl (1)

wakoli/NPDES Permit Cover Letter 0311.NPDES Permits

ATTACHMENT G – NOTICE OF INTENT

WATER QUALITY ORDER NO. 2011-0002-DWQ
GENERAL PERMIT NO. CAG 990004

STATEWIDE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR BIOLOGICAL AND RESIDUAL PESTICIDE DISCHARGES TO WATERS OF THE UNITED STATES FROM VECTOR CONTROL APPLICATIONS

I. NOTICE OF INTENT STATUS (see Instructions)

Mark only one item ☑ A. New Applicator ☐ B. Change of Information: WDID# _____

☐ C. Change of ownership or responsibility: WDID# Division Chief, Environmental He

II. DISCHARGER INFORMATION

A. Name SBC Dept. of Public Health, Division of Environmental Health Services, Mosquito and Vector Control Program			
B. Mailing Address 2355 East 5th Street			
C. City San Bernardino	D. County San Bernardino	E. State CA	F. Zip Code 92410
G. Contact Person Joseph R. Krygier	H. Email address jkrygier@dph.sbcounty.gov	I. Title Supervising EHS	J. Phone 909-388-4600

III. BILLING ADDRESS (Enter Information *only* if different from Section II above)

A. Name			
B. Mailing Address			
C. City	D. County	E. State	F. Zip Code
G. Email address	H. Title	I. Phone	

IV. RECEIVING WATER INFORMATION

A. Biological and residual pesticides discharge to (check all that apply)*:

1. Canals, ditches, or other constructed conveyance facilities owned and controlled by Discharger.
☐ Name of the conveyance system: _____

2. Canals, ditches, or other constructed conveyance facilities owned and controlled by an entity other than the Discharger.
☑ Owner's name: (see attachment 1)
Name of the conveyance system: _____

3. Directly to river, lake, creek, stream, bay, ocean, etc.
☐ Name of water body: _____

* A map showing the affected areas for items 1 to 3 above may be included.

B. Regional Water Quality Control Board(s) where application areas are located (REGION 1, 2, 3, 4, 5, 6, 7, 8, or 9): Region 6, 7, and 8
(List all regions where pesticide application is proposed.)

A map showing the locations of A1-A3 in each Regional Water Board shall be included.

V. PESTICIDE APPLICATION INFORMATION

A. Target Organisms: X Vector Larvae X Adult Vector

B. Pesticides Used: List name, active ingredients and, if known, degradation by-products

(see attachment 2)

C. Period of Application: Start Date 03/01/11 End Date 03/01/16

D. Types of Adjuvants Added by the Discharger:
None

VI. PESTICIDES APPLICATION PLAN

A. Has a Pesticides Application Plan been prepared?*
☑ Yes ☐ No

If not, when will it be prepared? _____

* A copy of the PAP shall be included with the NOI.

B. Is the applicator familiar with its contents?

☑ Yes ☐ No

VII. NOTIFICATION

Have potentially affected governmental agencies been notified?

☐ Yes ☑ No

* If yes, a copy of the notifications shall be attached to the NOI.

VIII. FEE

Have you included payment of the filing fee (for first-time enrollees only) with this submittal?

☑ Yes ☐ NO ☐ NA

IX. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. Additionally, I certify that the provisions of the General Permit, including developing and implementing a monitoring program, will be complied with."

A. Printed Name: Terri Williams

B. Signature: _____ **Date:** 6-3-11

C. Title: Division Chief, Environmental Health Services

X. FOR STATE WATER BOARD USE ONLY

WDID:	**Date NOI Received:**	**Date NOI Processed:**
Case Handler's Initial:	**Fee Amount Received:** **$**	**Check #:**

Attachment 1

IV. A. Name of receiving Waters, Section 2:

1. Region 6- Lahontan Region

   Any and all navigable waters of San Bernardino County that breed mosquitoes or black flies and belong to the Lahontan Region and the Mojave River watershed and its tributaries and other streams that flow to the inland basins, and various ponds and small lakes owned or operated by the County of San Bernardino Flood Control including Horseshoe Lake, Pelican Lake along Mojave river. Similar receiving waters owned or operated by all the cities in the county whose jurisdictions are in the Lahontan region including Victorville, Hesperia, Apple Valley, Adelanto, Barstow, and several other high desert communities.

2. Region 7- Colorado Region

   Any and all navigable waters of San Bernardino County that breed mosquitoes or black flies and belong to the Colorado River watershed and its tributaries and other streams that flow within its basins, and various ponds and small lakes owned or operated by the County of San Bernardino Flood Control including Havasu Lake. Similar receiving waters owned or operated by all the cities in the county whose jurisdictions are in the Colorado River region including Needles, Joshua Tree and, several other lower desert communities.

3. Region 8- Santa Ana Region

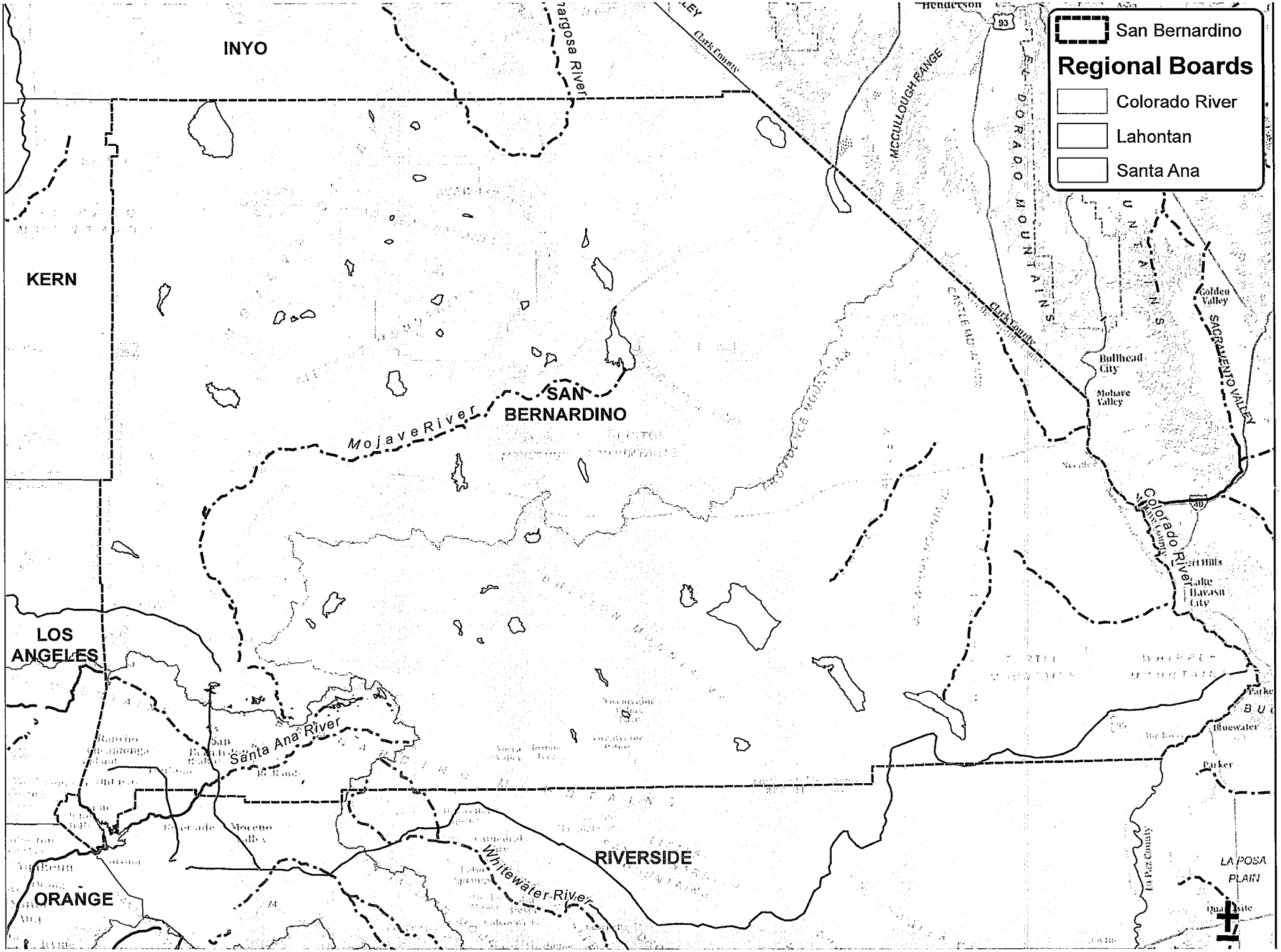
   Any and all navigable waters in San Bernardino County that breed mosquitoes or black flies and belong to the Santa Ana River watershed and the Rivers and their tributaries and other streams that flows to the pacific ocean, and various ponds and small lakes owned or operated by the County of San Bernardino Flood Control including Lake Arrowhead, Lake Gregory, and Big Bear Lake. Similar receiving waters owned or

operated by all the cities in the county whose jurisdictions are in the Santa Ana region including Upland, Fontana, Rialto, Colton, Grand Terrace, and Loma Linda, San Bernardino, Highland, Redlands, Yucaipa, Big Bear Lake, and several mountain communities.

Attachment 2

V. B. Pesticides Used:

Active Compound	**Product Trade Name**
Bacillus thuringiensis israelensis	Bactimos
	Vectobac
Bacillus sphaericus	Vectolex
	Vectomax
S-Methoprene	Altosid
Bti and *B. sphaericus*	FourStar Briquets
Aliphatic Petroleum Hydrocarbons	GB 1111
Petroleum Distillate	BVA 2 Larvicide oil
Resmethrin	Scourge
Pyrethrins	Pyrenone 25-5


San Bernardino
Regional Boards
Colorado River
Lahontan
Santa Ana
INYO
KERN
SAN BERNARDINO
LOS ANGELES
ORANGE
RIVERSIDE
Mojave River
Santa Ana River
Whitewater River
Colorado River
Clark County
Bullhead City
Mohave Valley
Golden Valley
Lake Havasu City
Parker
Bluewater
LA POSA PLAIN
MCCULLOUGH RANGE
SACRAMENTO VALLEY

June 3, 2011

San Bernardino County

Mosquito and Vector Control Program

PESTICIDE APPLICATION PLAN

NPDES PERMIT FOR RESIDUAL PESTICIDE DISCHARGES TO WATERS OF THE UNITED STATES FROM VECTOR CONTROL APPLICATIONS

WATER QUALITY ORDER NO. 2011-0002-DWQ
GENERAL PERMIT NO. CAG 990004

submitted to:

STATE WATER QUALITY CONTROL BOARD

for:

LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

COLORADO REGIONAL WATER QUALITY CONTROL BOARD

SANTA ANA REQIONAL WATER QUALITY CONTROL BOARD

1. Characterization of Application Sites and Pesticides Used

1.1 Description of Target Area

San Bernardino County Mosquito and Vector Control (SBCMVC) provide an integrated pest management (IPM) services to all of San Bernardino County except for a small area serviced by West Valley Mosquito and Vector Control. Three regional water quality control boards (Santa Ana, Lahontan and Colorado) have territory within San Bernardino County. A county map is provided delineating the regional boards' areas serviced by SBCMVC (please see attached map – Figure 1).

1.2 Factors Influencing the Decision to Select Pesticide Application

SBCMVC utilizes State recommended Best Management Practices (BMP) in its decision making process regarding selected pesticide applications. Based on the State BMP, SBCMVC has not used an adulticide for mosquito control since 2007.

State BMP:

> IPM mosquito control programs initiate adult mosquito control when action levels thresholds are reached or exceeded. Thresholds are based on local sampling of the adult mosquito population and/or when the risk of mosquito-borne disease increases above levels established by a local agency, often following guidelines established in the California Mosquito-borne Virus Surveillance and Response Plan. Thresholds are integral components of mosquito control because they provide a range of predetermined actions based on quantified data. Thresholds also establish expectations and boundaries for responses that ensure appropriate mosquito control activities are implemented at the appropriate time. The threshold for adult mosquito control depends on several factors including:
>
> - How local citizens tolerate nuisance mosquitoes by evaluating public service
> - requests.
> - Overall mosquito abundance.

- Presence of mosquito-borne disease in the region.
- Abundance of mosquito species that are vectors of disease.
- Local acceptance of adult mosquito control activities.
- Climate data.

1.3 Type and Amount of Pesticides Used

SBCMVC uses select types of adulticides for mosquito control (see Table 1). These adulticides are applied by a truck mounted "Ultra Low Volume" sprayer in accordance with the State's BMP (Please refer to the state BMP document).

- ULV applications are used to control adult mosquitoes over large areas. An "ultra-low volume" (typically less than 2 oz / acre [140 ml / ha] total volume) of tiny oil or water droplets carrying an insecticide are emitted from specialized equipment mounted to trucks or aircraft. The droplets kill adult mosquitoes on contact. ULV applications are made after sunset or before sunrise to coincide with the time that mosquitoes are most active, when non-target insects are least active, and when temperature inversions are most likely to occur. These applications are employed when mosquito populations must be reduced immediately to halt disease transmission. Multiple applications in a particular area may be utilized when the objective is to kill a high enough proportion of older adult mosquitoes to break a disease transmission cycle.

SBCMVC uses several environmentally friendly larvicides for mosquito control (see attached table 1). These larvicides are applied either by a truck mounted "granule" spreader, back-pack sprayers or by hand-held sprayers according to the state BMP (Please refer to the state BMP document).

- Pesticides that control mosquito larvae are called larvicides. Four types of larvicides (bio-rational, surface oil, growth regulating, and chemical products) encompassing

seven active ingredients are registered for use in California. Larvicides are applied by hand, from hand-held or vehicle-mounted engine-driven blowers, or by aircraft, depending on the product, the formulation, and the target habitat. Applicators of any of these products must be certified by the CDPH or an appropriate regulatory authority.

SBCMVC uses three of the four types of classes of larvicides - the bio-rational, surface oil and insect growth regulators, but does not use the more toxic chemical larvicides such as the organophosphates.

Table 1: Type of Pesticides Used

Active Compound	**Product Trade Name**
Bacillus thuringiensis israelensis	Bactimos
	Vectobac
Bacillus sphaericus	Vectolex
	Vectomax
S-Methoprene	Altosid
Bti and *B. sphaericus*	FourStar Briquets
Aliphatic Petroleum Hydrocarbons	GB 1111
Petroleum Distillate	BVA 2 Larvicide oil
Resmethrin	Scourge
Pyrethrins	Pyrenone 25-5

1.4 Alternative Methods Used for Mosquito Control

SBCMVC fully utilizes the State's BMP alternative methods for mosquito control.

- Larval control is the foundation of most mosquito control programs in California. Whereas adult mosquitoes are widespread in the environment, larvae must have water to develop; control efforts therefore can be focused on aquatic habitats. Minimizing the number of adults that emerge is crucial to reducing the incidence and risk of disease. The three key components of larval control are environmental management, biological control, and chemical control.

SBCMVC utilizes surveillance and public outreach for **environmental management** of mosquito breeding. SBCMVC maintains a list of over 6000 potential water sources, which must be inspected for mosquito breeding. Source elimination and reduction are priority in the plan. SBCMVC works closely with property owners and managers regarding source maintenance, which reduces or eliminates breeding when the water source cannot be eliminated or reduced.

SBCMVC provides public outreach through schools, community meetings, fairs and expositions regarding mosquito breeding. SBCMVC maintains numerous educational handouts and routinely issues press releases regarding mosquitoes.

SBCMVC employs **biological controls** through the use of mosquito fish (Gambusia affinis). SBCMVC maintains aquariums stocked with mosquito fish, which are placed in mosquito breeding areas. SBCMVC will also provide the fish to the public if it has an adequate supply of them. If SBCMVC is unable to supply the fish, it provides names and numbers of businesses where the public can obtain the fish.

SBCMVC actively seeks ways to reduce mosquitoes and mosquito breeding by means other than the use of pesticides.

1.5 Amount of Product Used and How They are Determined

SBCMVC maintains all records of pesticide usage. The 2010 pesticide usage is shown below (Table 2).

Table 2: 2010 Pesticide Usage by SBCMVCP

Product	Amount	Unit	Registration Number
Altosid 30	50	Briquettes	2724-421
Altosid Pellets	1	Pounds	2724-448
Altosid WSP	226	Pouches	2724-489
Altosid XR	1525	Briquettes	2724-451
GB 1111	14.7	Gallons	8329-72
FourStar	0	Briquettes	83362-3
Vectobac 12AS	1.95	Gallons	73049-38
Vectobac G	467.5	Pounds	73049-10
Vectolex CG	368.3	Pounds	73049-20
Vectolex WSP	712	Pouches	73049-20
Vectolex WDG	58	Pounds	73049-57
Vectomax CG	145	Pounds	73049-429
Vectomax WSP	88	pouches	73049-429
BVA 2 Larvicide Oil	0.50	Gallons	70589-1
Scourge 4:12	7.65	Gallons	432-716
Pyrenone 25-5	0	Gallons	432-1050

2. Monitoring Plan

2.1 Representative Monitoring Plan

All monitoring will be conducted by MVCAC NPDES coalition and Toxic level test shall be done in conjunction with the State Water Quality Control Board (see the MVCAC "Coalition Monitoring Plan).

2.2 Available BMPs to Determine Alternatives to Pesticide Application

SBCMVC adheres to the State's BMP for mosquito control. All alternatives are explored to determine their feasibility for mosquito control prior to the use of a pesticide.

2.3 BMPs to be Implemented

There are numerous solutions within the State's BMP. SBCMVC will utilize the most effective solution in the BMP to resolve a mosquito control issue. Numerous factors concerning the mosquito issue determine the appropriate BMP solution to be implemented.

SBCMVC shall update the PAP periodically with a copy of the revision being filed with the State Water Quality Control Board. SBCMVC's Best Management Practices (BMPs) contain the following elements

SBCMVC strictly adheres to the BMPs described in the State's "Best Management Practices for Mosquito Control in California" and the California Mosquito-Borne Virus Surveillance and Response Plan.

SBCMVC will establish densities for larval and adult mosquito populations to serve as action thresholds for implementing pest management strategies. SBCMVC will determine the mosquito sources that represent imminent threats to public health or quality of life for treatment. The presence of any mosquito may necessitate treatment, however higher thresholds may be applied depending on SBCMVC's resources, disease activity, or needs. Treatment thresholds are based on several criteria that includes the following combination- mosquito species, mosquito larval mosquito stages, adult mosquito abundance, mosquito flight range, disease activity, proximity to populated areas, size of mosquito breeding sources, presence or absence of natural enemies in breeding habitats and presence of threatened or endangered species in these habitats.

2.4 Identify target vector species to develop species specific best management strategies

SBCMVC adheres to the State's "Best Management Practices for Mosquito Control in California" and the "California Mosquito-borne Virus Surveillance and Response Plan".

2.5 Identify known breeding areas for source reduction, larval control programs, and habitat management

SBCMVC maintains a list of over 6000 potential water sources, which must be inspected for mosquito breeding. Source elimination and reduction are priority in the plan. SBCMVC maintains an active larval control program utilizing larvacides and biological controls. SBCMVC works closely with property owners and managers regarding source maintenance, which reduces or eliminates breeding when the water source cannot be eliminated or reduced.

2.6 Analyze existing surveillance data to identify new or unidentified sources of mosquito problems as well as recurring problem areas

SBCMVC adheres to the State's "Best Management Practices for Mosquito Control in California" and the "California Mosquito-borne Virus Surveillance and Response Plan". SBCMVC continually collects adult and larval mosquito surveillance data dead bird reports, and sentinel chicken test results and uses them to guide mosquito control activities.

2.7 Possible Alternatives to Pesticide Application

Evaluating management and treatment options such as no action, source prevention, mechanical or physical source reduction methods, cultural methods, and biological control methods.

2.8 Pesticides Applied

SBCMVC only applies pesticides when mosquitoes are present at a level that will constitute a nuisance or cause a potential threat to public health. The Program uses only the least intrusive pesticides and pesticide application methods. The Program provides educational outreach to the public through various venues to reduce mosquito breeding sources.

SBCMVC uses a decision matrix to determine the most appropriate formulation for mosquito control. SBCMVC adheres to the State's Best Management Practices for Mosquito Control in California and the California Mosquito-borne Virus Surveillance and Response Plan (see references below).

2.9 Correct Uses of Pesticides

SBCMVC ensures all reasonable precautions are taken to minimize the impacts caused by pesticide applications. These include using proper spraying techniques and equipment, weather conditions, and the need to protect the environment.

SBCMVC reports all errors in application and spills to the proper authorities.

SBCMVC maintains an on-going staff training program in the proper handling, application, and spill procedures for pesticides.

SBCMVC complies with the Department of Pesticide Regulation requirements and the terms of our California Department of Public Health Cooperative Agreement.

2.10 Pesticide Application Log

SBCMVC maintains a log for each pesticide application, larvacide and adulticide. The log contains:

- Date of application
- Application location and target area
- Name of applicator

- Names of water bodies treated if known
- Application details – time application started/stopped; application rate and concentration; water flow rate; surface water area; pesticide and adjuvant used; volume of each component discharged

The log is a requirement of the Department of Pesticide Regulation

2.11 Measures to Prevent Pesticide Spill

SBCMVC staff monitors application equipment on a daily basis to ensure it remains in proper working order. Spill mitigation devices are placed in all spray vehicles and pesticide storage areas to respond to spills. Employees are trained on spill prevention and response annually.

2.12 Measures to Ensure Only Minimum and Consistent Amount Used

Spray equipment is calibrated each year and maintains and MOU with California Department of Public Health.

2.13 Plan to educate SBCMVC staff on any potential adverse effects from the pesticide application.

SBCMVC provides continuous training to its staff regarding pesticide handling, application, spills, and adverse effects.

2.14 Descriptions of specific BMPs for each spray mode, e.g. aerial spray, truck spray, hand spray, and others.

SBCMVC calibrates truck and hand equipment each year to meet application specifications. Supervisors review spray records daily to ensure appropriate amounts of material

are being used. ULV equipment is calibrated for output and droplet size to meet label requirements. SBCMVC does not use aircraft.

3. References

1) Best Management Practices for Mosquito Control in California– available by download at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl08-10.pdf or http://www.westnile.ca.gov/resources.php . Copies may also be requested from California Department of Public Health, Vector Borne Disease Section at (916) 552-9730 or the San Bernardino County Department of Public Health, Environmental Health Services Mosquito and Vector Control Section, (909) 388-4600

2) California Mosquito-borne Virus Surveillance and Response Plan – available by download at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/CAResponsePlanJuly2010.pdf or http://www.westnile.ca.gov/resources.php . Copies may also be requested from California Department of Public Health, Vector Borne Disease Section at (916) 552-9730 or the San Bernardino County Department of Public Health, Environmental Health Services, Mosquito and Vector Control Section at (909) 388-4600