

**ATTACHMENT E – NOTICE OF INTENT**  
**WATER QUALITY ORDER 2016-0039-DWQ**  
**GENERAL PERMIT CAG990004**

**RECEIVED**  
**APR 28 2016**  
DIVISION OF WATER QUALITY

**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	<input type="checkbox"/> A. New Applicator	<input type="checkbox"/> B. Change of Information: WDID# _____
	<input type="checkbox"/> C. Change of ownership or responsibility: WDID# _____	
	<input checked="" type="checkbox"/> D. Enrolled under Order 2011-0002-DWQ: WDID#	<u>SAZ8NP0001</u>

**II. DISCHARGER INFORMATION**

A. Name <u>NAPA COUNTY MOSQUITO ABATEMENT DISTRICT</u>			
B. Mailing Address <u>P.O. Box 10053</u>			
C. City <u>AMERICAN CANYON</u>	D. County <u>NAPA</u>	E. State <u>CA</u>	F. Zip Code <u>94503</u>
G. Contact Person <u>WESLEY A. MAFFEI</u>	H. Email address <u>bugsydoc1@yahoo.com</u>	I. Title <u>MANAGER</u>	J. Phone <u>707-553-9610</u>

**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: County of Napa; USFWS; CDFW; BLM - SEE ATTACHMENT A  
Name of the conveyance system: Applications may be made to various conveyance systems within Napa County

3. Directly to river, lake, creek, stream, bay, ocean, etc.  
Name of water body: SAN PABLO BAY; NAPA RIVER; SUISUN MARSH; AND TRIBUTARIES OF SAN PABLO BAY, NAPA RIVER, AND SUISUN MARSH

\* A map showing the affected areas for items 1 to 3 above may be included. (SEE ATTACHMENT A)

B. Regional Water Quality Control Board(s) where application areas are located  
(REGION 1, 2, 3, 4, 5, 6, 7, 8, or 9): Region 2 AND 5  
(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:  Vector Larvae  Adult Vector

B. Pesticides Used: List name, active ingredients and, if known, degradation by-products  
SEE ATTACHED PESTICIDES USED LIST (Active Ingredients) (ATTACHMENT B)

C. Period of Application: Start Date Jan 1 End Date Dec 31

D. Types of Adjuvants Added by the Discharger:

**VI. PESTICIDES APPLICATION PLAN**

A. Has a Pesticides Application Plan been prepared?\*

Yes  No

If not, when will it be prepared? \_\_\_\_\_

Please note: there will be no changes in application methods or pesticides which will be applied from MRCAC AND DISTRICT PAP submitted under prior order 2011-0002-DWQ

\* A copy of the Pesticides Application Plan 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.      *SEE ATTACHMENT C*

**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 Order, including developing and implementing a monitoring program, will be complied with."

A. Printed Name: WESLEY A. MAFFEI

B. Signature: *Wesley A. Maffei*      Date: 26 April 2016

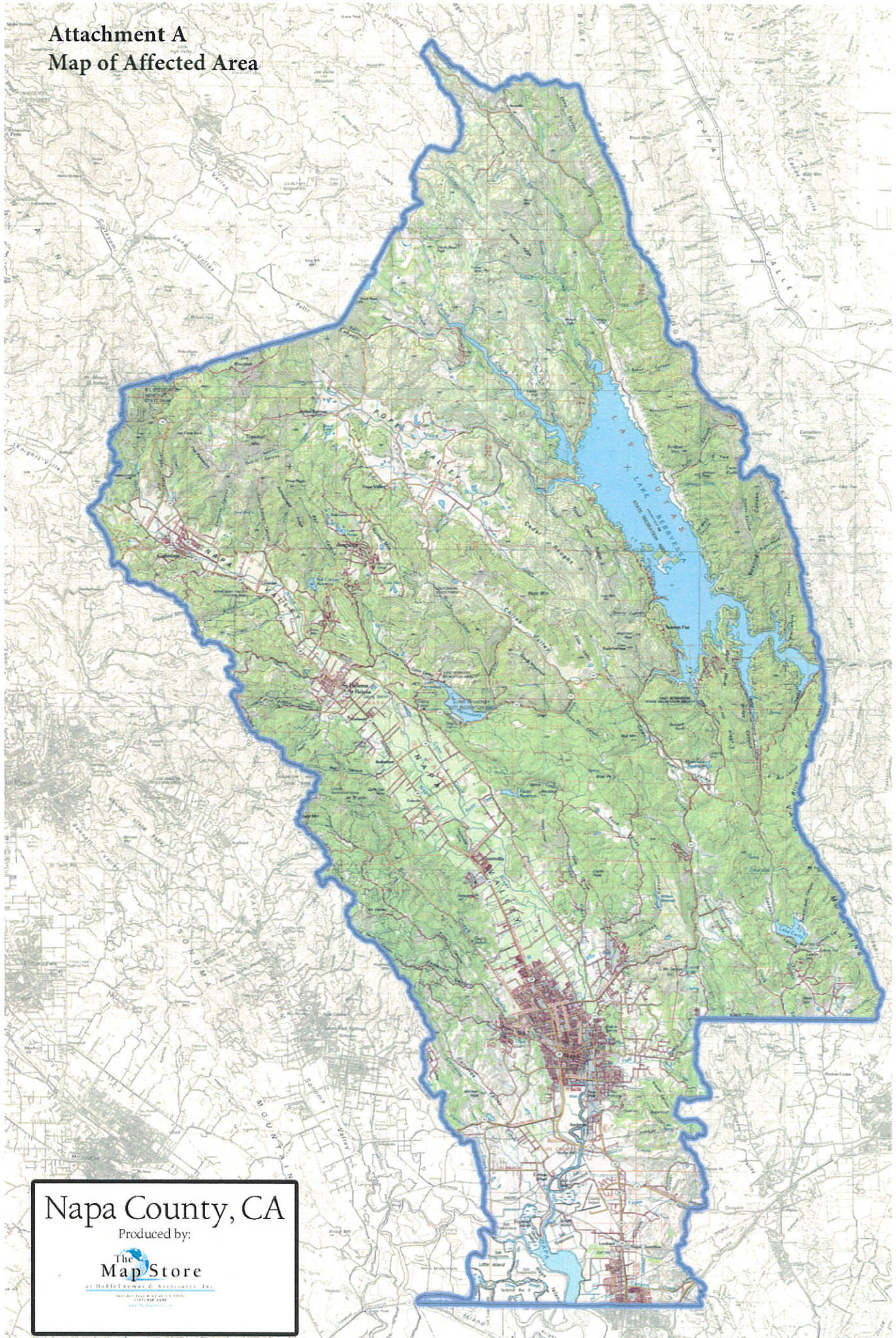
C. Title: Manager

**X. FOR STATE WATER BOARD USE ONLY**

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



# Attachment A Map of Affected Area



Napa County, CA  
Produced by:  
  
The Map Store  
a subsidiary of Haberkorn & Associates, Inc.  
10000 RIVERWOOD DRIVE, SUITE 100  
DUBLIN, CA 94568  
(925) 834-4300  
WWW.THEMAPSTORE.COM



**Attachment B**

**Napa County Mosquito Abatement District NOI**

**V. Pesticide Application Information**

**List of Active Ingredients that may be used under NPDES Permit**

<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> (Bti)
<i>Bacillus sphaericus</i> (Bs) ( <i>Lysinibacillus sphaericus</i> )
Methoprene
Monomolecular Films
Petroleum Distillates
Spinosad
Temephos
Deltamethrin
Etofenprox
Lambda-Cyhalothrin
Malathion
Naled
N-Octyl bicycloheptane dicarboximide (MGK-264)
Piperonyl butoxide (PBO)
Permethrin
Prallethrin
Pyrethrin
Resmethrin
Sumithrin
Any minimum risk category pesticides that are FIFRA exempt and registered for use in California and used in a manner specified in 40 C.F.R. section 152.25.

NPDES Contact List

Attachment C

American Canyon Fire Protection District	Glen Weeks, Fire Chief, District Manager	911 Donaldson Way East, American Canyon, CA 94503
Cal Fire Sonoma, Lake, Napa	Barry Bierman, Acting Chief	1199 Big Tree Road, St. Helena, CA 94574
California Department of Fish and Wildlife Yountville	Scott Wilson, Region Manager	7329 Silverado Trail, Napa 94558
Calistoga Joint Unified School District	Dr. Esmeralda Mondragon, Superintendent	1520 Lake Street, Calistoga, CA 94515
Circle Oaks County Water District	Paul Quarneri, District Manager	380 Circle Oaks Drive, Napa, CA 94558-6607
City of American Canyon	Dana Shigley, City Manager	dshigley@cityofamericancanyon.org
City of Calistoga	Dylan Feik, City Manager	dfeik@ci.calistoga.ca.us
City of Napa	Mike Parness, City Manager	955 School Street, Napa, CA 94559
City of St. Helena	Jennifer Phillips, City Manager	jenniferp@cityofsthelena.org
Congress Valley Water District	Tom Josten, President	PO Box 3023, Napa, CA 94558
County of Napa	Nancy Watt, County Executive Officer	1195 Third Street, Napa, CA 94559
County Service Area No. 3	Martin Pehl, District Manager	1195 Third Street, Room 201, Napa CA 94559
County Service Area No. 4	Nancy Johnson, District Manager	1195 Third Street, Room 301, Napa CA 94559
Lake Berryessa Resort Improvement District	Steven Lederer, Public Works Director	1195 Third Street, Room 201, Napa CA 94559
Los Carneros Water District	John Stewart, President	2111 Las Amigas Road, Napa, CA 94559-9717
Monticello Public Cemetery District	Steven Lederer, District Manager	1195 Third Street, Room 201, Napa CA 94559
Napa County Flood Control and Water Conservation District	Molly Rattigan, Deputy District Officer	804 First Street, Napa, CA 94559
Napa County Regional Park and Open Space District	John Woodbury, General Manager	1195 Third Street, Room 210, Napa, CA 94559
Napa County Resource Conservation District	Leigh Sharp, District Manager	1303 Jefferson Street, Suite 500B, Napa, CA 94559
Napa River Reclamation District #2109	Penny Wilson, District Manager	pennyrrd@msn.com
Napa Sanitation District	Timothy Healy, General Manager	935 Hartle Court, Napa, Ca 94559
Napa Valley College	Dr. Ronald Kraft, President	2277 Napa Vallejo Hwy, Napa, CA 94558
Napa Valley Unified School District	Dr. Patrick Sweeney, Superintendent	2425 Jefferson Street, Napa 94558
Napa-Berryessa Resort Improvement District	Steven Lederer, District Engineer	1195 Third Street, Room 201, Napa CA 94559
Pope Valley Cemetery District	Brad Kirkpatrick, President	PO Box 22, Pope Valley, CA 94567
San Pablo Bay National Wildlife Refuge	Don Brubaker, Refuge Manager	2100 CA-37, Petaluma, CA 94954
Silverado Community Services District	Steven Lederer, District Engineer	1195 Third Street, Room 201, Napa CA 94559
Spanish Flat Water District	Marcia Ritz, General Manager	4340 Spanish Flat Loop Road, Napa, CA 94558
St Helena Unified School District	Dr. Marylou Wilson, Superintendent	465 Main Street, St. Helena, CA 94574
Town of Yountville	Steven Rogers, Town Manager	srogers@yville.com
U.S. Dept. of Interior, Bureau of Reclamation	David Murillo, Regional Director	Mid Pacific Regional Office, Federal Office Building 2800 Cottage Way, Sacramento, CA 95825-1898

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DIVISION OF WATER QUALITY

# *Napa County Mosquito Abatement District*

*P.O. Box 10053, American Canyon, CA 94503*

WESLEY A. MAFFEI  
Manager

Phone (707) 553-9610  
Fax (707) 553-9611  
[www.napamosquito.org](http://www.napamosquito.org)

April 26, 2016

## **Annual Statement of Intent to apply pesticides**

On March 1, 2016 the State Water Board reissued the Statewide National Pollutant Discharge Elimination System Permit for Residual Pesticide Discharges to Waters of the United States from Vector Control Applications.

The permit requires the District to provide an annual notice of our intent to discharge pesticides to potentially affected governmental agencies. Since the Napa County Mosquito Abatement District (NCMAD) may potentially treat anywhere within the boundary of Napa County on any given day during the year we are notifying the County, cities and all Special Districts within Napa County.

NCMAD typically uses larvicides for the purpose of reducing mosquito populations. The larvicides can be broken down into several groups, bacterial products (e.g., Bti, Bs), insect growth regulators (e.g., methoprene) and larviciding oils (e.g., monomolecular films and petroleum distillates). During certain times of the year it is necessary for the District to use adulticides to control treehole mosquitoes or an unusual outbreak of mosquitoes. The adulticides typically used are natural pyrethrins. On rare occasions, when natural pyrethrins are not available, synthetic pyrethroids may be used. Pyrethrin and some synthetic pyrethroids may also be used for the management of yellowjackets and other stinging wasps.

Sources treated with the pesticides used by the District require no additional restrictions or precautions to be taken by your employees or the public.

A complete list of all pesticide active ingredients used by the District are listed on the back of this page. Additional information about these active ingredients and the specific pesticide products that contain them can be found on the District's website at:

<http://napamosquito.org/control-methods/chemical-control/supplemental-information-pesticides/>

Any questions regarding this statement can be directed to District Manager, Wesley A. Maffei at (707) 553-9610.

Wesley A. Maffei  
Manager

## **BOARD OF TRUSTEES**

SHELBY VALENTINE  
Calistoga  
President

FRANK CABRAL  
County of Napa  
Acting President

PENELOPE JOHNSON  
American Canyon  
Secretary

CHARLES CARBONE  
Napa  
Acting Secretary

STEVEN ROSA  
Town of Yountville

BRIAN CRAMER  
St. Helena

Active Ingredients for immature mosquito control:

<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> (Bti)
<i>Bacillus sphaericus</i> (Bs) (= <i>Lysinibacillus sphaericus</i> )
Methoprene
Monomolecular Films
Petroleum Distillates
Spinosad
Temephos

Active Ingredients for adult mosquito and vector control:

Deltamethrin
Etofenprox
Lambda-Cyhalothrin
Malathion
Naled
N-Octyl bicycloheptene dicarboximide (MGK-264)
Piperonyl butoxide (PBO)
Permethrin
Prallethrin
Pyrethrin
Resmethrin
Sumithrin



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## Napa County Mosquito Abatement District Pesticide Application Plan (PAP)

The Discharger shall develop a Pesticide Application Plan (PAP) that contains the following elements:

- 1. Description of ALL target areas, if different from the water body of the target area, in to which larvicides and adulticides are being planned to be applied to control vectors. The description shall include adjacent areas, if different from the water body of the target areas;**

Please see attached map. The District is responsible for all potential mosquito and vector breeding sources within the boundaries of Napa County. Typical and historically treated sites will include most if not all water bodies including but not limited to tidal marshes, lakes, ponds, creeks (both year-round and intermittent), storm water systems, waste water systems, flood control channels, an agricultural ditches.

- 2. Discussion of the factors influencing the decision to select pesticide applications for mosquito control;**

Decisions to use pesticides for control of mosquitoes and other vector organisms include, but are not limited to, growth stage, habitat that may affect efficacy of certain pesticides, inability to implement BMPs (such as draining or management of water) in a timely fashion to prevent emergence, vector population levels (e.g. adult mosquitoes) and/or vector-borne disease activity that require widespread applications (e.g. ultra low volume applications for adult mosquitoes), etc.....

Details of these factors can be found in the Napa County MAD 2015 Programmatic Environmental Impact Report; Appendices E and F,  
<http://www.napamosquito.org/district-news/environmental-documents>

See also the following documents:

- a) CDPH and MVCAC 2012 Best Management Practices for Mosquito Control in Calif. (see <http://westnile.ca.gov/resources.php>)
- b) CDPH and MVCAC 2015 California Mosquito-borne Virus Surveillance and Response Plan (see <http://westnile.ca.gov/resources.php>)
- c) CDPH 2013 Operational Plan for Emergency Response to Mosquito-borne Disease Outbreaks (see <http://westnile.ca.gov/resources.php>)
- d) MVCAC 2003 Integrated Mosquito Surveillance Program Guidelines for California submitted as a part of the NOI, dated 27 May 2011, and can be found on the State Water Board website at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/npdes/pesticides/archives.shtml](http://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/archives.shtml)

All of these documents are a key part of the District's program reviews and overall decision making process.

**3. Pesticide products or types expected to be used and if known, their degradation by-products, the method in which they are applied, and if applicable, the adjuvants and surfactants used;**

The NPDES Permit for Biological and Residual Pesticide Discharges to Waters of the U.S. from Vector Control Applications was amended to list approved active ingredients rather than having specific products named (State Water Resources Control Board letter dated 12 August 2014 from Deputy Director Victoria Whitney). All pesticide label restrictions and instructions will be followed for pesticides which contain the active ingredients listed below. In addition, pesticides which fall under the "minimum risk" category may be used. The Minimum risk pesticides have been exempted from FIFRA requirements. Products will be applied by hand, truck, ATV, backpack, hand can, ULV, helicopter, airplane, or drone according to label instructions.

Active Ingredients

<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> (Bti)
<i>Bacillus sphaericus</i> (Bs) ( <i>Lysinibacillus sphaericus</i> )
Methoprene
Monomolecular Films
Petroleum Distillates
Spinosad
Temephos
Deltamethrin
Etofenprox
Lambda-Cyhalothrin
Malathion
Naled
N-Octyl bicycloheptene dicarboximide (MGK-264)
Piperonyl butoxide (PBO)
Permethrin
Prallethrin
Pyrethrin
Resmethrin
Sumithrin
Any minimum risk category pesticides that are FIFRA exempt and registered for use in California and used in a manner specified in 40 C.F.R. section 152.25.

See also the District's October 2015 Programmatic Environmental Impact Report  
<http://www.napamosquito.org/district-news/environmental-documents>

**4. Description of ALL the application areas and the target areas in the system that are being planned to be applied or may be applied. Provide a map showing these areas;**

There are potentially thousands of mosquito and vector breeding sites within the boundaries of Napa County ranging in size from a few square feet to thousands of acres. The number and size of these sites varies from season to season due to a number of factors including but not limited to water use, land use activity, frequency and amount of precipitation, hydroperiod, wind, temperature, density and type of vegetative cover, etc. Therefore, any site that holds water for more than 96 hours (4 days) can produce mosquitoes. Source reduction is the District's preferred solution, and whenever possible the District works with property owners to effect long-term solutions to reduce or eliminate the need for continued applications as described in the District's October 2015 Programmatic Environmental Impact Report and its statement of Best Management Practices. The typical sources treated by this District include:

**1) Larviciding:**

Tidal marsh, freshwater marsh, reclaimed marsh, seasonal wetlands, freshwater seeps, creeks, streams, diked marsh, canals, flood control, channels, ditches, storm water detention basins, storm drains, waste water ponds, rainwater gutters, water troughs, water gardens, and various manmade water containers.

**2) Adulticiding:**

Riparian corridors, oak woodland, tidal marsh, freshwater marsh, reclaimed marsh, seasonal wetland, and diked marsh.

For map of area please see map and response provided to question 1 above.

**5. Other control methods used (alternatives) and their limitations;**

With any mosquito or other vector source, the District's first goal is to look for ways to eliminate the source, or, if that is not possible, for ways to reduce the vector potential. The most commonly used methods and their limitations are discussed in detail in the District's October 2015 Programmatic Environmental Impact Report (located at: <http://www.napamosquito.org/district-news/environmental-documents>).

Examples of specific methods used by the District include the use of mosquito fish (*Gambusia affinis*), providing educational materials to residents on mosquito development in standing water and encouraging removal of sources on their property, working with property owners to find long-term water management strategies that meet their needs while minimizing the need for public health pesticide applications.



The District also works closely with other agencies that operate within the County in order to promote best management practices amongst those who manage water resources and can have a direct impact on the reduction of mosquito breeding without the use of pesticides.

**6. How much product is needed and how this amount was determined;**

The need to apply pesticides is determined by surveillance. Actual use varies annually depending on mosquito activity. The pesticide amounts presented below were taken from the NCMAD's 2015 Pesticide Use Reports (PUR) submitted to the Napa County Agricultural Commissioner and the District's 2015 NPDES annual report submitted to the State Water Quality Control Board as an estimate of use in 2016. The data reported is by amount of product used followed by amount of actual active ingredient. This data is provided as an example of the amounts of active ingredients used in one year. Projected future usage may vary depending on weather pattern (precipitation, wind, ambient temperatures, etc) and management of water and vegetation by landowners.

<b>Material</b>	<b>Total Inerts + AI</b>	<b>Pounds AI</b>	<b>Gallons AI</b>
Methoprene 5%	4053.9 oz	-----	1.58
Methoprene Pellets	15024 oz	56.34	-----
Methoprene Briquet 30 day	844 ea	0.86	-----
Bti Liquid	16659.7 oz	-----	7.29
Bti Granule	3278 oz	4.52	-----
Bs Granule	801 oz	3.75	-----
Bti + Bs Packet	373 ea	0.37 Bti 0.22 Bs	-----
Petroleum Distillate	12326 oz	-----	93.41
5% Pyrethrin	1 oz	-----	< 0.01

The District identifies vector breeding sites throughout the District and works with property owners and land managers to incorporate District BMPs to reduce or eliminate vector breeding habitat. Sites where BMPs have been applied include, but are not limited to, flood control channels, ditches, agricultural drains, tidal marshes, duck club habitat, and vegetation management that improves water circulation. These practices have been used where appropriate and efficacious to control mosquitoes.

**7. Representative monitoring locations and the justification for selecting these locations;**

Please see the MVCAC NPDES Coalition Monitoring Plan.

**8. Evaluation of available BMPs to determine if there are feasible alternatives to the selected pesticide application project that could reduce potential water quality impacts;**

The District reviews pre- and post BMP implementation source pesticide use data to determine efficacy and compliance of BMP treatment. For example, the hand ditching work, removal of wood refuse, and vegetation management (including removal of invasive pepperweed) significantly improved water flows and pickleweed vigor within a large tidal marsh between Skaggs Island and Highway 37. The improved water flows have resulted in a 95% reduction in the use of methoprene and Bti products for the control of immature mosquitoes for the last three years.

Please see the District's October 2015 Programmatic Environmental Impact Report for a more detailed discussion of the other BMPs used by the District.

<http://www.napamosquito.org/district-news/environmental-documents>

Other documents and BMPs that are a key part of the District's program reviews and overall decision making process include:

- a) CDPH and MVCAC 2012 Best Management Practices for Mosquito Control in Calif. (see <http://westnile.ca.gov/resources.php>)
- b) CDPH and MVCAC 2015 California Mosquito-borne Virus Surveillance and Response Plan (see <http://westnile.ca.gov/resources.php>)
- c) CDPH Operational Plan for Emergency Response to Mosquito-borne Disease Outbreaks June 2013 (see <http://westnile.ca.gov/resources.php>)

**9. Description of the BMPs to be implemented. The BMPs shall include, at the minimum:**

The District's BMPs are described in its October 2015 Programmatic Environmental Impact Report, MVCAC/CDPH Best Management Practices for Mosquito Control in California, MVCAC/CDPH California Mosquito-borne Virus Surveillance and Response Plan, and the CDPH Operational Plan for Emergency Response to Mosquito-borne Disease Outbreaks. Specific Elements have been highlighted below under items a-f.

**a. Measures to prevent pesticide spill;**

All pesticide applicators receive quarterly spill prevention and response training. District staff monitors application equipment on a daily basis to ensure it remains in proper working order. All vehicles and pesticide storage areas are equipped with spill mitigation and cleanup equipment.

**b. Measures to ensure that only a minimum and consistent amount is used;**

District application equipment is calibrated each year and is part of the MOU with CDPH. However, the pesticide label and associated registration by USEPA and CDPR are the authority of how much product can be legally applied to control the target.

**c. A Plan to educate Coalition's or Discharger's staff and pesticide applicator on any potential adverse effects to waters of the U.S. from the pesticide application;**

This is part of NCMAD's pesticide applicators quarterly pesticide application and safety training and continuing education programs. The District also conducts monthly safety meetings to remind District staff of the potential environmental effects of the various pesticides used. Records are kept of these training sessions for review by the local Agricultural Commissioner and CDPH. Employees certified by the CDPH must annually perform at least 20 hours of CDPH approved Continuing Education units to maintain their certifications.

**d. Descriptions of specific BMPs for each spray mode, e.g. aerial spray, truck spray, hand spray, etc;**

The NCMAD calibrates truck-mounted and handheld larviciding equipment each year to meet application specifications. Supervisors review application records daily to ensure appropriate amounts of material are being used and properly applied. Ultra-low volume (ULV) application equipment is calibrated for output and droplet size to meet label requirements. Aerial larviciding and adulticiding equipment is calibrated by the Contractor to ensure all label requirements are met. Potential drift is closely monitored to ensure applications remain within the target area and adhere to the District's guidelines of minimizing non-target effects.

**e. Description of specific MPs for each pesticide product used;**

Please see the District's October 2015 Programmatic Environmental Impact Report as well as the following additional documents:

- a) CDPH and MVCAC 2012 Best Management Practices for Mosquito Control in Calif. (<http://westnile.ca.gov/resources.php>)
- b) CDPH and MVCAC 2015 California Mosquito-borne Virus Surveillance and Response Plan (<http://westnile.ca.gov/resources.php>)
- c) CDPH 2013 Operational Plan for Emergency Response to Mosquito-borne Disease Outbreaks (<http://westnile.ca.gov/resources.php>)



**f. Descriptions of specific BMPs for each type of environmental setting (agriculture, urban, and wetlands).**

Please see the District's October 2015 Programmatic Environmental Impact Report as well as the following additional documents:

- a) CDPH and MVCAC 2012 Best Management Practices for Mosquito Control in Calif. (<http://westnile.ca.gov/resources.php>)
- b) CDPH and MVCAC 2015 California Mosquito-borne Virus Surveillance and Response Plan (<http://westnile.ca.gov/resources.php>)
- c) CDPH 2013 Operational Plan for Emergency Response to Mosquito-borne Disease Outbreaks (<http://westnile.ca.gov/resources.php>)

**10. Identification of the problem. Prior to first pesticide application covered under this General Permit that will result in a discharge of biological and residual pesticides to waters of the U.S., and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the Discharger must do the following for each vector management area;**

The District's BMPs are described in chapter 2 of its October 2015 Programmatic Environmental Impact Report (PEIR). District thresholds, treatment criteria, equipment use guidelines, and additional information concerning the vector management decision process can be found in Appendix F of the 2015 PEIR. <http://www.napamosquito.org/district-news/environmental-documents>

NCMAD staff only applies pesticides to sources of mosquitoes and other vectors that represent imminent threats to public and animal health, and quality of life. The presence of any vector may necessitate treatment, however thresholds may be applied depending on the District's resources, disease activity, or local needs. Treatment thresholds are based on a combination of one or more of the following criteria:

- Mosquito/vector species present
- Mosquito/vector stage of development
- Health risk or disease potential
- Disease activity
- Mosquito/vector abundance
- Flight range
- Proximity to populated areas
- Size of vector source
- Presence/absence of natural enemies or predators
- Presence of sensitive/endangered species

- a. **If applicable, establish densities for larval and adult vector populations to serve as action threshold(s) for implementing pest management strategies;**

Please see the October 2015 Programmatic Environmental Impact Report, Appendix F. This document can be found on the District's website at:  
<http://www.napamosquito.org/district-news/environmental-documents>

- b. **Identify target vector species to develop species-specific pest management strategies based on developmental and behavioral considerations for each species;**

Please see the following documents:

- a) District's October 2015 Programmatic Environmental Impact Report  
<http://www.napamosquito.org/district-news/environmental-documents>
- b) CDPH and MVCAC 2012 Best Management Practices for Mosquito Control in Calif. (<http://westnile.ca.gov/resources.php>)
- c) CDPH and MVCAC 2015 California Mosquito-borne Virus Surveillance and Response Plan (<http://westnile.ca.gov/resources.php>)
- d) CDPH 2013 Operational Plan for Emergency Response to Mosquito-borne Disease Outbreaks (<http://westnile.ca.gov/resources.php>)

- c. **Identify known breeding areas for source reduction, larval control program, and habitat management: and**

There are potentially thousands of mosquito and vector breeding sites within the boundaries of Napa County ranging in size from a few square feet to thousands of acres. The number and size of these sites varies from season to season due to a number of factors including, but not limited to, water use, land use activity, frequency and amount of precipitation, hydroperiod, wind, temperature, density and type of vegetative cover, etc. Particularly significant is the fact that any site which holds water for more than 96 hours (4 days) can produce mosquitoes. Source reduction is the District's preferred solution, and whenever possible the District works with property owners to affect long-term solutions to reduce or eliminate the need for continued applications. This information is discussed further in the following documents:

- a) District's October 2015 Programmatic Environmental Impact Report  
<http://www.napamosquito.org/district-news/environmental-documents>
- b) CDPH and MVCAC 2012 Best Management Practices for Mosquito Control in Calif. (<http://westnile.ca.gov/resources.php>)

- d. **Analyze existing surveillance data to identify new or unidentified sources of vector problems as well as areas that have recurring vector problems.**

The District utilizes a proactive approach to monitor mosquito/vector presence and activity. Mosquito surveillance traps, dip sampling, mosquito bite counts, public feedback and requests for service, dead bird reports, and visits to known vector producing sites on a weekly basis are but a few of the methods used to obtain appropriate vector abundance and disease activity data that guide control decisions. This information is discussed further in the following documents:

- a) District's October 2015 Programmatic Environmental Impact Report  
<http://www.napamosquito.org/district-news/environmental-documents>
- b) CDPH and MVCAC 2012 Best Management Practices for Mosquito Control in Calif. (<http://westnile.ca.gov/resources.php>)
- c) CDPH and MVCAC 2015 California Mosquito-borne Virus Surveillance and Response Plan (<http://westnile.ca.gov/resources.php>)

**11. Examination of Alternatives. Dischargers shall continue to examine alternatives to pesticide use in order to reduce the need for applying larvicides that contain temephos and for spraying adulticides. Such methods include:**

- a. **Evaluating the following management options, in which the impact to water quality, impact to non-target organisms, vector resistance, feasibility, and cost effectiveness should be considered:**
  - **No action**
  - **Prevention**
  - **Mechanical or physical methods**
  - **Cultural methods**
  - **Biological control agents**
  - **Pesticides**

**If there are no alternatives to pesticides, dischargers shall use the least amount of pesticide necessary to effectively control the target pest.**

Implementing preferred alternatives depends on a variety of factors including availability of agency resources, cooperation with stakeholders, coordination with other regulatory agencies, and the anticipated efficacy of the alternative. If pesticide-free alternative does not sufficiently reduce the risk to public health, pesticides are considered, beginning with the least amount necessary to effectively control the target vector.

The NCMAD uses the principles and practices of integrated vector management (IVM) as described in its October 2015 Programmatic Environmental Impact Report (PEIR). Locations where vectors may exist are



assessed, and the potential for using alternatives to pesticides is determined on a case-by-case basis. Commonly considered alternatives include: 1) eliminate artificial sources of standing water; 2) ensure temporary sources of surface water drain within four days (96 hours) to prevent adult mosquitoes from developing; 3) control plant growth in ponds, ditches, and shallow wetlands; 4) design facilities and water conveyance and/or holding structures to minimize the potential for producing mosquitoes; and 5) use appropriate biological control methods that are available. Additional alternatives to using pesticides for managing vectors can be found in the District's October 2015 PEIR.

<http://www.napamosquito.org/district-news/environmental-documents>

**b. Applying pesticides only when vectors are present at a level that will constitute a nuisance.**

The NCMAD follows an existing integrated vector management (IVM) program which includes practices described in the Districts October 2015 PEIR, 2012 MVCAC/CDPH Best Management Practices for Mosquito Control in California, and 2015 MVCAC/CDPH California Mosquito-borne Virus Surveillance and Response Plan.

A "nuisance" is specifically defined in California Health and Safety Code (HSC) §2002(j). This definition allows vector control agencies to address situations where even a low level of vectors may pose a substantial threat to public health. In practice, the definition of a "nuisance" is generally only part of a decision to apply pesticides to areas covered under this permit. As summarized in the 2015 California Mosquito-borne Virus Surveillance and Response Plan, the overall risk to the public when vectors and/or vector-borne disease are present is used to select an available and appropriate material, rate, and application method to address that risk in the context of our IVM program.

Please see the following documents:

- a) District's October 2015 Programmatic Environmental Impact Report  
<http://www.napamosquito.org/district-news/environmental-documents>
- b) CDPH and MVCAC 2012 Best Management Practices for Mosquito Control in Calif. (<http://westnile.ca.gov/resources.php>)
- c) CDPH and MVCAC 2015 California Mosquito-borne Virus Surveillance and Response Plan (<http://westnile.ca.gov/resources.php>)
- d) CDPH 2013 Operational Plan for Emergency Response to Mosquito-borne Disease Outbreaks (<http://westnile.ca.gov/resources.php>)

## **12. Correct Use of Pesticides.**

**Coalition's or Discharger's use of pesticides must ensure that all reasonable precautions are taken to minimize the impacts caused by pesticide applications. Reasonable precautions include using the right spraying techniques and equipment, taking account of weather conditions and the need to protect the environment.**

This is an existing practice of the NCMAD, and is required to comply with the Department of Pesticide Regulation's (DPR) requirements and the terms of our California Department of Public Health (CDPH) Cooperative Agreement. All Pesticide applicators receive annual safety and spill training in addition to their regular continuing education.

## **13. If applicable, specify a website where applicable notices, required in section VIII.B, may be found.**

<http://www.napamosquito.org>

### **References:**

Napa County Mosquito Abatement District Programmatic Environmental Impact Report. 2015. Downloaded from:  
<http://www.napamosquito.org/district-news/environmental-documents>

Best Management Practices for Mosquito Control in California. 2012. CDPH and MVCAC  
Downloaded from: <http://westnile.ca.gov/resources.php>

California Mosquito-borne Virus Surveillance and Response Plan. 2015. CDPH and MVCAC  
Downloaded from: <http://westnile.ca.gov/resources.php>

Operational Plan for Emergency Response to Mosquito-borne Disease Outbreaks. 2013.  
Downloaded from: <http://westnile.ca.gov/resources.php>

MVCAC 2003 Integrated Mosquito Surveillance Program Guidelines for California submitted as a part of the NOI, dated 27 May 2011, and can be found on the State Water Board website at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/npdes/pesticides/archives.shtml](http://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/archives.shtml)