

ATTACHMENT 1 WATER QUALITY ORDER 2022-0077-EXEC

GENERAL NPDES PERMIT FOR BIOLOGICAL AND RESIDUAL
PESTICIDE DISCHARGES FROM VECTOR CONTROL APPLICATIONS
ORDER 2016-0039-DWQ NPDES NO. CAG990004

Attachment E - NOTICE OF INTENT

**WATER QUALITY ORDER 2016-0039-DWQ
GENERAL PERMIT CAG990004**

**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# 5A45AP00001
- C. Change of ownership or responsibility: WDID# _____
- D. Enrolled under Order 2011-0002-DWQ: WDID# _____

II. DISCHARGE INFORMATION

- A. Name Shasta Mosquito and Vector Control District
- B. Mailing Address 19200 Latona Rd
- C. City Anderson
- D. County Shasta
- E. State CA
- F. Zip Code 96007
- G. Contact Person Peter Bonkrude
- H. Email address contact@shastamosquito.org
- I. Title District Manager
- J. Phone 530-365-3768

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

- A. Name _____
- B. Mailing Address _____
- C. City _____
- D. County _____
- E. State _____

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NPDES NO. CAG990004

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: Various- see Attachment A/Sacramento Watershed

Name of the conveyance system: Various- see Attachment A

3. Directly to river, lake, creek, stream, bay, ocean, etc.

Name of water body: Various- see Attachment A/Sacramento Watershed

*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 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. Pesticide Used: List name, active ingredients and, if known, degradation by-products

See Attachment B

C. Period of Application:

Start Date January 1st End Date December 31st

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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?

*A copy of the Pesticides Application Plan shall be included with the NOI.

B. Is the applicator familiar with its contents?

☒ Yes ☐ No

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

A. Printed Name: Peter Bonkrude

B. Signature:  Date: 8/10/2023

C. Title: District Manager

X. FOR STATE WATER BOARD USE ONLY

WDID: _____ Date NOI Received: _____ Date NOI Processed: _____

ATTACHMENT 1 WATER QUALITY ORDER 2022-0077-EXEC

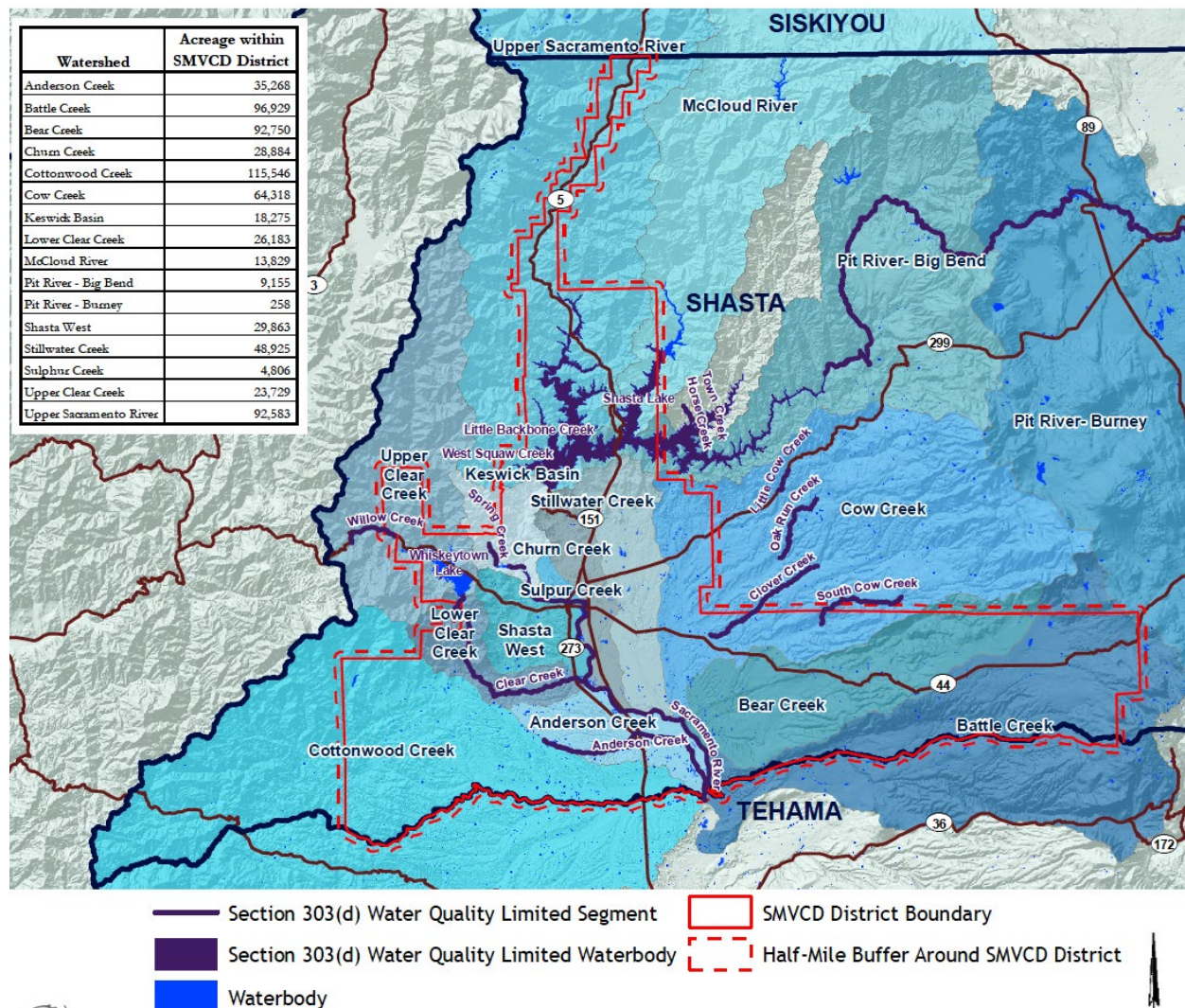
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Case Handler's Initial: _____ Fee Amount Received: \$ _____ Check#: _____

Shasta Mosquito and Vector Control District (District) Pesticide Application Plan (PAP):

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 or may be applied to control vectors. The description shall include adjacent areas, if different from the water body of the target areas;

Please see Agency Boundary Map.



In prior years, the District has applied adulticides and/or larvicides directly to or in the vicinity of the following water bodies:

Sacramento River	Shasta Lake	Anderson Creek	Battle Creek	Bear Creek	Churn Creek	Clear Creek	Cottonwood Creek	Cow Creek
Stillwater Creek	Sulphur Creek	McCloud River	Pit River-Big Bend	Pit River-Burney	Upper Sacramento River	Upper Clear Creek	Falks Lake	Middle Creek
Olinda Creek	Buckeye Creek	Dry Creek	Oak Run Creek	Clover Creek	Ash Creek	Sheridan Creek	Swede Creek	French Creek
Clough Creek	Jenny Creek	Basin Hollow Creek	Deep Hole Creek	Yank Creek	East Valley Creek	Elks Creek	Manzanita Creek	Mirror Lake
Moody Creek	Nelson Creek	Newtown Creek	Oat Creek	Olney Creek	Salmon Creek	Soda Creek	Fall Creek	Deer Creek
Flume Creek	Sweetbriar Creek	Spring Branch						

In prior years, the District has applied adulticides and/or larvicides directly to or in the vicinity of canals, ditches, or other constructed conveyance facilities owned and controlled by:

Keswick CSD	Buckeye WTP	Shasta CSD	Centerville CSD
City of Redding	City of Shasta Lake	Mountain Gate CSD	Anderson-Cottonwood Irrigation District

2. Discussion of the factors influencing the decision to select pesticide applications for vector control;

Please see: The Best Management Practices for Mosquito Control in California
<https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf>

And

The 2023 California Mosquito-borne Virus Surveillance and Response Plan
<https://westnile.ca.gov/pdfs/CAMosquitoSurveillanceResponsePlan.pdf>

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 US from Vector Control Applications was amended to list the approved

active ingredients rather than having specific products named. 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 may be applied by truck, backpack, hand can and airplane.

Active Ingredients:

Bacillus thuringiensis subsp. *Israelensis* (Bti)

Bacillus sphaericus (Bs) (*Lysinibacillus sphaericus*)

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

Pyriproxyfen

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.

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;

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 Best Management Practices for Mosquito Control in California

<https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf> Mosquito breeding sources and areas that require adult mosquito control are difficult to predict from year to year based on the weather and environmental conditions variations. However, typical sources treated by this District include: permanent/ semi-permanent/seasonal wetlands, irrigated crops and associated water conveyance systems, storm drains, river seepage and creeks within ULV spray blocks. Please see Agency Boundary Map and response to Question Number 1.

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 vector potential. The most commonly used methods and their limitation are included in the Best Management Practices for Mosquito Control in California

<https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf> An example of an alternative is the District's use of *Gambusia affinis* in the approved wetlands, irrigation drains, and neglected swimming pools on a yearly basis. The District also identifies mosquito breeding sites throughout the District and works with property owners and land managers to incorporate Mosquito Control BMPs to reduce or eliminate mosquito breeding habitats. These practices can be highly effective, but not possible in every habitat and in some cases difficult to complete due to the complexity.

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

Material	Pounds	Gallons
Mineral Oil		35
Malathion		1
Methoprene dry	622	
Methoprene liquid		0.25
Spinosad dry	1135	
Permethrin		100
Bti liquid		0.25
Bti WDG	298	
Bti Granule	937	
Bti/Bs Granule	5	

The above totals represent estimated pesticides application within the District boundaries to Waters of the US for 2022. These amounts will change from year to year due to annual variability in required pesticide application for mosquito control. This data is provided as an example of the products and amounts used in one year.

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;

Please see: Best Management Practices for Mosquito Control in California
<https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf>

9. Description of the BMPs to be implemented. The BMPS shall include at a minimum:

The District's BMPs are described in the Best Management Practices for Mosquito Control in California <https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf> and in the 2023 California Mosquito-borne Virus Surveillance and Response Plan <https://westnile.ca.gov/pdfs/CAMosquitoSurveillanceResponsePlan.pdf> . Specific elements have been highlighted below under items a-f.

- a. Measures to prevent pesticide spill;
 - a. All pesticide applicators receive annual spill prevention and response training. District employees ensure daily that

application equipment is in proper working order. Spill mitigation devices are placed in all vehicle and pesticide storage areas.

- b. Measures to ensure that only a minimum and consistent amount is used
 - a. Application equipment is calibrated at least annually as required by the Department of Pesticide Regulations (DPR) and the terms of a cooperative agreement with the California Department of Public Health (CDPH).
- c. A plan to educate Coalition's or Discharger's staff and pesticide applicators on any potential adverse effects to the waters of the US from the pesticide application;
 - a. This will be included in our pesticide applicators annual pesticide application and safety training, continuing education programs, and/or regional NPDES Permit training programs.
- d. Descriptions of specific BMPs for each application mode, e.g. aerial, truck, hand, etc.;
 - a. The SMVCD calibrates truck-mounted and handheld larviciding equipment each year to meet application specifications. Supervisor review application records daily to ensure appropriate amounts of material are being used. Ultra-low volume (ULV) application equipment is calibrated for output and droplet size to meet label requirements. If used, aerial adulticide equipment is calibrated regularly and droplet size will be monitored by the District to ensure droplets meet label requirements. If used, the airplane in urban area ULV applications and the airplane used for rural ULV application will be equipped with advanced guidance and drift management equipment to ensure the best available technology is being used to place product in the intended area.
- e. Descriptions of specific BMPs for each pesticide product used; and
 - a. Please see the Best Management Practices for Mosquito Control in California
<https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf>
- f. Descriptions of specific BMPs for each type of environmental setting (agricultural, urban, and wetland)
 - a. Please see the Best Management Practices for Mosquito Control in California
<https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf>

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 water of the US, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the Dischargers must do the following for each vector management area:

- a. If applicable, establish densities for larval and adult vector populations to serve as action threshold(s) for implementing pest management strategies;
 - i. The SMVCD staff only applies pesticides to sources of mosquitoes that represent imminent threats to public health or quality of life. The presence of any mosquito may necessitate treatment, however higher 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 species present
 - Mosquito stage of development
 - Pest, nuisance, or disease potential
 - Disease activity
 - Mosquito abundance
 - Flight range
 - Proximity to populated areas
 - Size of source
 - Presence/absence of natural enemies or predators
 - Presence of sensitive/endangered species or habitats.
- b. Identify target vector species to develop species-specific pest management strategies based on developmental and behavioral considerations for each species;

Please see the Best Management Practices for Mosquito Control in California <https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf>
- c. Identify known breeding areas for source reduction, larval control program, and habitat management; and

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 implement long-term solutions to reduce or eliminate the need for continued applications as described in the Best Management Practices for Mosquito Control in California <https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf>

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

This is included in the Best Management Practices for Mosquito Control in California <https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf> The District continually collects adult and larval mosquito surveillance data, dead bird reports, and sentinel chicken test results and uses this data to guide mosquito control activities.

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:
 - i. No action
 - ii. Prevention
 - iii. Mechanical or physical methods
 - iv. Cultural methods
 - v. Biological control agents
 - vi. Pesticides

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

Implementing preferred alternative 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 a 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.

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

This is described in the District's existing integrated vector management (IVM) program, as well as the practices described the Best Management Practices for Mosquito Control in California <https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf> .

In addition, the District may utilize legal abatement authority to mitigate mosquito production.

12. Correct Use of Pesticides

Coalition's or Discharger's use of pesticides must ensure that all reasonable precaution 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 District, and is required to comply with the Department of Pesticide Regulation's (DPR) requirements and the terms if 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. Website for Public

www.shastamosquito.org

References:

Best Management Practices for Mosquito Control in California

<https://westnile.ca.gov/pdfs/BMPMosquitoControl.pdf>

2023 California Mosquito-borne Virus Surveillance and Response Plan

<https://westnile.ca.gov/pdfs/CAMosquitoSurveillanceResponsePlan.pdf>

MVCAC NPDES Coalition Monitoring Plan.

Attachment B

Shasta Mosquito and Vector Control District NOI

V. Pesticide Application Information

List of Active Ingredients that may be used under NPDES permit.

Active Ingredients:
Bacillus thuringiensis var. israelensis
Bacillus sphaericus (Lysinibacillus sphaericus)
Deltamethrin
Etofenprox
Lamda-Cyhalothrin
Malathion
Methoprene
Monomolecular Films
Naled
N-octyl Bicycloheptene Dicarboximide (MGK-264)
Petroleum Distillates
Permethrin
Piperonyl butoxide
Prallethrin
Pyrethrin
Pyriproxyfen
Resmethrin
Spinosad
Sumithrin
Temephos
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

Attachment C

List of Agencies to be contacted:

Agency Name	Address
City of Anderson	1887 Howard Ave. Anderson, CA 96007
City of Shasta Lake	PO Box 777 Shasta Lake, CA 96019
Redding Electric Utility	PO Box 496071 Redding, CA 96001
Anderson Fire Protection District	1925 W. Howard St. Anderson, CA 96007
Cottonwood Water District	3282 Chestnut St. Cottonwood, CA 96022
Cottonwood Fire Protection District	3271 Brush St. Cottonwood, CA 96022
Happy Valley Fire Protection District	17441 Palm Ave Anderson, CA 96007
Bella Vista Water District	11368 East Stillwater Way Redding, CA 96003
Shasta Lake Fire Protection District	4126 Ashby Court Shasta Lake, CA 96019
Mountain Gate Community Service	PO Box 496071 Redding, CA 96007
Shasta Community Services District	PO Box 2520 Shasta, CA 96087
Shasta County	1450 Court St Suite 308A Redding, CA 96001
Redding Basin Water Resources Management Plan	1855 Placer St. Redding, CA 96001
Cottonwood Creek Watershed Group	20404 Gas Point Rd Cottonwood, CA 96002
California Department of Transportation	1657 Riverside Dr Redding, CA 96001
Department of Fish and Wildlife	601 Locust St. Redding, CA 96002
US Army Corps of Engineers	152 Hartnell Ave Redding, CA 96002
US Bureau of Land Management	14225 Holiday Rd Redding, CA 96003
Shasta County Office of Education	1644 Magnolia Ave Redding, CA 96001
City of Redding	PO Box 496071 Redding, CA 96001

SHASTA MOSQUITO AND VECTOR CONTROL DISTRICT

19200 Latona Road, Anderson, CA 96007
Telephone: (530) 365-3768 Fax: (530) 365-0305
Web: shastamosquito.org

XXXXXX, 2023



BOARD OF TRUSTEES

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SHASTA COUNTY

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ADMINISTRATION
Peter Bonkrude, MS
Manager

Dear Agency/Stakeholder,

The Shasta Mosquito and Vector Control District (District) may be making larvicide and/or adulticide applications to water of the US under your jurisdiction for mosquito reduction purposes. Application information is available upon request. The District is required to notify all Governmental Agencies that may be affected by these applications under the requirements of the Statewide National Pollutant Discharge Elimination System (NPDES) Permit for Biological and Residual Pesticide Discharges to Waters of the United States from Vector Control Applications.

Please contact Peter Bonkrude at (530) 365-3768 if you have additional questions.

Sincerely

Peter Bonkrude
District Manager
pbonkrude@shastamosquito.org

Our Mission: "To protect the public's health from vector-borne disease and nuisance, through a comprehensive mosquito and vector control program focused on innovation, experience and efficiency".

XXXXX, 2023

Notice of Intent to Apply Public Health Pesticides for Vector Control Purposes to Surface Waters and Waters of the US within Shasta County.

- The Shasta Mosquito and Vector Control District intends to make public health pesticide applications to, over and adjacent to constructed conveyances, surface waters and other waters of the US owned and controlled by an entity other than the District for Vector Control purposes per the requirements of the General NPDES Permit for Biological and Residual Pesticide Discharges for Vector Control Applications.
- The NPDES Permit requirements for listing of the Public Health Pesticides anticipated to be used were modified from the previous permit, to the new permit which was issued in 2016. The newer requirements specify that any pesticide product can be used that contain approved active ingredients, provided all pesticide label restrictions and instructions are followed. In addition, pesticides which fall under the “minimum risk” category can be used. The minimum risk pesticides have been exempted from FIFRA requirements. The following tables list the active ingredients approved for FIFRA regulated pesticides.

Active Ingredients for larval mosquito control
<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> (Bti)
<i>Bacillus sphaericus</i> (Bs)
Methoprene
Monomolecular Films
Petroleum Distillates
Spinosad
Temephos

Active Ingredients for adult mosquito control
Deltamethrin
Etofenprox
Lambda-Cyhalothrin
Malathion
Naled
N-octyl bicycloheptene dicarboximide (MGK-264)
Piperonyl butoxide (PBO)
Permethrin
Prallethrin
Pyrethrin
Pyriproxyfen
Resmethrin

Our Mission: “To protect the public’s health from vector-borne disease and nuisance, through a comprehensive mosquito and vector control program focused on innovation, experience and efficiency”.

Sumithrin

- The purpose of the use of larvicide and adulticide pesticides containing these active ingredients is for the control of larval and adult mosquitoes to minimize the threat of mosquito-borne diseases and biting annoyances.
- The general time period for the application of the pesticides is January through December, XXXX. Locations of expected use will be constructed conveyances, surface waters and other waters of the US located within Shasta County.
- There are no known water use restrictions or precautions during treatment.
- Interested persons may contact the District at (530) 365-3768

Peter Bonkrude
District Manager
Shasta MVCD
19200 Latona Rd
Anderson, CA 96007
www.shastamosquito.org