

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# 510AP00036
- C. Change of ownership or responsibility: WDID#
- D. Enrolled under Order 2011-0002-DWQ: WDID#

**II. DISCHARGE INFORMATION**

- A. Name Fresno Mosquito and Vector Control District
- B. Mailing Address 2338 E McKinley Ave
- C. City Fresno
- D. County Fresno
- E. State California
- F. Zip Code 93703
- G. Contact Person Ryan McNeil
- H. Email address ryan@fresnomosquito.org
- I. Title District Manager
- J. Phone (559) 268-6565

**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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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: Fresno Irrigation District/Fresno Metro Flood Control District

Name of the conveyance system: \_\_\_\_\_

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

Name of water body: San Joaquin River

\*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 Attached

C. Period of Application:

Start Date January 1

End Date December 31

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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

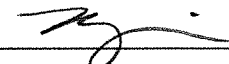
☐ No

☐ 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: Ryan McNeil

B. Signature:  Date: 4/25/2023

C. Title: District Manager

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

WDID: \_\_\_\_\_ Date NOI Received: \_\_\_\_\_ Date NOI Processed: \_\_\_\_\_

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PESTICIDE DISCHARGES FROM VECTOR CONTROL APPLICATIONS  
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Case Handler's Initial: \_\_\_\_\_ Fee Amount Received: \$ \_\_\_\_\_ Check#: \_\_\_\_\_

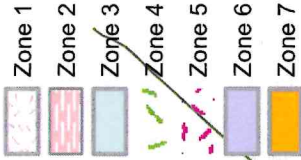


# Fresno Mosquito & Vector Control District ZONE MAP with TRS

## Legend

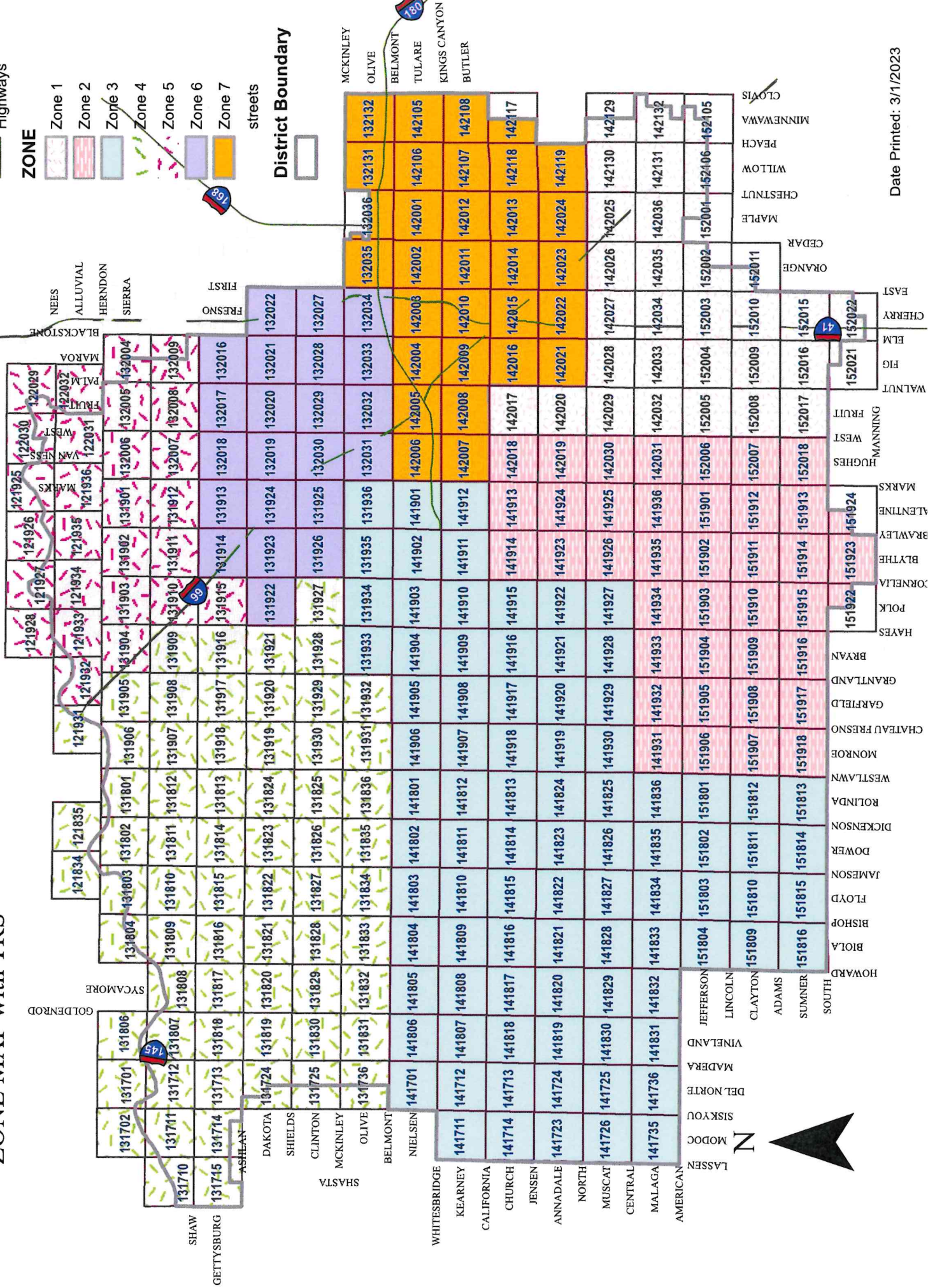
Highways

### ZONE



streets

### District Boundary







# Fresno Mosquito & Vector Control District

2338 E. McKinley Ave. Fresno, California 93703

Telephone: (559) 268-6565 | Fax: (559) 268-8918

Website: [www.fresnomosquito.org](http://www.fresnomosquito.org)

**Ryan McNeil**  
District Manager

**Jacob M. Jones**  
Assistant Manager

**Julia Laciste**  
Office Manager

**Chenoa De Freece**  
Biologist

December 6, 2022

To: Public Agencies

Regarding: Public Health Pesticide Application Notification

The Fresno Mosquito and Vector Control District may be making public health pesticide applications to the Waters of the United States (WOTUS) under your jurisdiction for mosquito control to prevent mosquito-borne diseases, such as the West Nile and Saint Louis Encephalitis viruses. The District will be using larvicides and adulticides listed in the National Pollutant Discharge Elimination System (NPDES) general permit for biological and residual pesticide discharges to waters of the United States for vector control operations.

Attached is a list of pesticide active ingredients that the District may potentially use. Your agency could expect to see applications between January 1, 2023 and December 31, 2023, however, the majority of applications may most likely occur between March 1, 2023 and October 31, 2023.

The District is required to notify all government agencies that may be affected by these applications under the requirements of the NPDES general permit. Please contact our office if you have any questions concerning this notice or District operations.

Sincerely,

Ryan McNeil  
District Manager



The following is a list of active ingredient chemicals that are permitted for biological and residual pesticide discharge from vector control applications and may potentially be used this year within the geographical boundaries of our District in or near waters of the United States:

Bacillus Thuringiensis Israelensis (BTI)  
Deltamethrin  
Etofenprox  
Lambda-Cyhalothrin  
Lysinibacillus Sphaericus  
Malathion  
Methoprene  
N-octyl Bicycloheptene Dicarboximide  
Naled  
Piperonyl Butoxide (PBO)  
Permethrin  
Petroleum Distillates  
Prallethrin  
Pyrethrin  
Pyriproxyfen  
Resmethrin  
Spinosad  
Sumithrin  
Temephos

**The NPDES Permit requires a Pesticides 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 or may be applied to control vectors. The description shall include adjacent areas, if different form the water body of the target areas;**

The Fresno Mosquito and Vector Control District (District) is primarily located in northern central Fresno County. The District services 280 square miles, including the cities of Fresno and Kerman and unincorporated communities of Malaga, Calwa, and Biola. Please see Attachment 1 for the District boundaries and Waters of the U.S.

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

The District seeks to eliminate or reduce mosquito breeding sources with property owners first. The use of pesticides becomes necessary when source reduction efforts have failed or have not been implemented and mosquito populations, larval or adult, reach unacceptable levels and threaten the public's health or quality of life. Other factors that influence the use of pesticides include the presence of mosquito-borne disease, population of disease vectoring mosquitoes, climatic conditions, and service requests.

**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 following lists of products may be used by the District for larval or adult control. This list is directly from the NPDES Permit for Biological and Residual Pesticide Discharges to Waters of the U.S. for Vector Control Applications. All products are used according to label directions and may be applied by ground (hand, truck, ATV, backpack, etc) or by air (helicopter or fixed wing aircraft).



## Active Ingredients for larval and adult mosquito control:

Bacillus Thuringiensis Israelensis (BTI)  
Deltamethrin  
Etofenprox  
Lambda-Cyhalothrin  
Lysinibacillus Sphaericus  
Malathion  
Methoprene  
N-octyl Bicycloheptene Dicarboximide  
Naled  
Piperonyl Butoxide (PBO)  
Permethrin  
Petroleum Distillates  
Prallethrin  
Pyrethrin  
Pyriproxyfen  
Resmethrin  
Spinosad  
Sumithrin  
Temephos

### **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 pesticide applications. Mosquito breeding sources and areas that require adult mosquito control are difficult to predict from year to year based on the weather and variations in local environmental conditions. However, the typical sources considered to be waters of the U.S. that are treated by this District include: permanent and semi-permanent seasonal wetlands, rivers, creeks, canals and ditches, associated

water conveyance systems and sloughs, and tributary waters of the San Joaquin River.

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

With any source of mosquitoes or other vectors, 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 potential for vectors.

Specific methods used by the District include stocking mosquito fish (*Gambusia affinis*), educating residents that mosquitoes develop in standing water and encouraging them to remove sources of standing water on their property, and working with property owners to find long-term water management strategies that meet their needs while minimizing the need for public health pesticide applications.

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

The need to apply product is determined by surveillance. Actual use varies annually depending on mosquito abundance. The pesticide amounts presented below were taken from the District's database as an estimate of pesticide use in WOTUS in 2022. Other public health pesticides in addition to those listed below may be used as part of the District's best management practices.

#### **Total District Use 2022**

Product	EPA Reg.	Qty	Unit
BVA 2 Oil	70589-1	0.015	gal
BVA 2 Oil	70589-1	24	gal
BVA 2 Oil	70589-1	0.117	gal
Altosid XR-G	2724-451	0.198	lbs
BVA 2 Oil	70589-1	0.039	gal
FourStar 180-Day	83362-3	5	ea
BVA 2 Oil	70589-1	0.577	gal
FourStar MBG	85685-3	9.64	lbs
BVA 2 Oil	70589-1	24	gal
Natular G30	8329-83	80	lbs
BVA 2 Oil	70589-1	1	gal
BVA 2 Oil	70589-1	1	gal
BVA 2 Oil	70589-1	0.5	gal
BVA 2 Oil	70589-1	1.5	gal
BVA 2 Oil	70589-1	2	gal
BVA 2 Oil	70589-1	0.015	gal
Altosid XR-G	2724-451	0.044	lbs
BVA 2 Oil	70589-1	0.046	gal
Altosid XR-G	2724-451	0.132	lbs
BVA 2 Oil	70589-1	1	gal
BVA 2 Oil	70589-1	1.5	gal
FourStar MBG	85685-3	10	lbs
BVA 2 Oil	70589-1	1.5	gal

FourStar MBG	85685-3	10	lbs
BVA 2 Oil	70589-1	3	gal
FourStar MBG	85685-3	5	lbs
BVA 2 Oil	70589-1	12	gal
FourStar MBG	85685-3	77.5	lbs
BVA 2 Oil	70589-1	1.5	gal
BVA 2 Oil	70589-1	1.5	gal
BVA 2 Oil	70589-1	1	gal
FourStar MBG	85685-3	5	lbs
BVA 2 Oil	70589-1	1	gal
BVA 2 Oil	70589-1	3	gal
BVA 2 Oil	70589-1	1	gal
Vectobac GS	73049-10	5	lbs
BVA 2 Oil	70589-1	3	gal
BVA 2 Oil	70589-1	1	gal
FourStar MBG	85685-3	5	lbs
BVA 2 Oil	70589-1	2	gal
FourStar MBG	85685-3	10	lbs
BVA 2 Oil	70589-1	0.187	gal
FourStar MBG	85685-3	5	lbs
FourStar MBG	85685-3	10	lbs
BVA 2 Oil	70589-1	0.0546	gal
Altosid XR-G	2724-451	2	lbs
BVA 2 Oil	70589-1	0.0546	gal
Altosid XR-G	2724-451	1	lbs
Vectobac GS	73049-10	5	lbs
Vectobac GS	73049-10	10	lbs
Vectobac GS	73049-10	15	lbs
BVA 2 Oil	70589-1	0.5	gal
FourStar MBG	85685-3	5	lbs
BVA 2 Oil	70589-1	0.078	gal
Altosid XR-G	2724-451	1.5	lbs
BVA 2 Oil	70589-1	0.0312	gal
Altosid XR-G	2724-451	0.176	lbs
BVA 2 Oil	70589-1	2	gal
FourStar MBG	85685-3	10	lbs
BVA 2 Oil	70589-1	0.312	gal
BVA 2 Oil	70589-1	0.124	gal
BVA 2 Oil	70589-1	2	gal
BVA 2 Oil	70589-1	1	gal
BVA 2 Oil	70589-1	2	gal
BVA 2 Oil	70589-1	1	gal
BVA 2 Oil	70589-1	2	gal
BVA 2 Oil	70589-1	0.031	gal
Altosid XR-G	2724-451	0.088	lbs
BVA 2 Oil	70589-1	2	gal
BVA 2 Oil	70589-1	1	gal

BVA 2 Oil	70589-1	0.015	gal
Altosid XR-G	2724-451	0.044	lbs
FourStar 180-Day	83362-3	2	ea
BVA 2 Oil	70589-1	0.0078	gal
BVA 2 Oil	70589-1	0.039	gal
Altosid XR-G	2724-451	0.011	lbs
Fyfanon EW	279-3622	242.2	oz
Duet Dual Action	1021-1795-8329	24.32	oz

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

The District works with other agencies to reduce vegetation and maintain access to areas along bodies of water considered to be Waters of the U.S. for control personnel and equipment.

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

The District's BMPs are described in Item 2 above and in the California Mosquito-Borne Virus Surveillance and Response Plan. Specific elements have been highlighted below under items a-f.

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

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 vehicles and pesticide storage areas.

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

Application equipment is calibrated at least annually as required by the Department of Pesticides (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 applicator on any potential adverse effects to waters of the U.S. from the pesticide application;**

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.;**

The District calibrates truck-mounted and handheld larviciding and adulticiding equipment each year to meet application specifications. Supervisors 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. Aerial larviciding equipment is calibrated by the Contractor. Aerial adulticide equipment is calibrated regularly and droplet size will be monitored by the agency to ensure droplets meet label requirements.

Airplanes used in urban ULV applications and the primary airplane used for rural ULV application is equipped with advanced guidance and drift management equipment to ensure the best available technology is being used to place product in the intended area. If a secondary airplane is used in rural ULV applications, it will be equipped with an advanced guidance system.

**e. descriptions of specific BMPs for each pesticide product used; and**  
Please see the current approved pesticide labels for application BMPs for specific products.

**f. description of specific BMPs for each type of environmental setting (agricultural, urban, and wetland).**

Please see Item 2 and the current Best Management Practices for Mosquito Control in California.

**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:**

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

The District's 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 agency's resources, disease activity, surveillance data, 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 of habitats

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

Most Common Mosquitoes Present in Fresno MVCD

<i>Aedes aegypti</i>
<i>Culex tarsalis</i>
<i>Anopheles freeborni</i>

The District may target any mosquito species found within the District's boundaries that represent a nuisance or public health threat.

**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 agency's preferred solution, and whenever possible the agency works with property owners to implement long-term solutions to reduce or eliminate the need for continued pesticide applications.

**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 and the California Mosquito-borne Virus Surveillance and Response Plan that the agency uses. The District continually collects adult and larval mosquito surveillance data, dead bird reports, and monitors regional mosquito-borne disease activity detected in humans, horses, birds, and/or other animals, and uses these 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:**

- 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.**

As stated in item #10 above, 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 vegetation growth in ponds, ditches, and wetlands
- 4) Design facilities and water conveyance and/or holding structures to minimize the potential for producing mosquitoes
- 5) Use appropriate biological control methods that are available.

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 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**

The District follows an existing IVM program which includes practices described in Item 2 above, as well as the practices described in the California Mosquito-Borne Virus Surveillance and Response Plan and Best Management Practices for Mosquito Control in California.

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 number of vectors may pose a substantial threat to public health and quality of life. 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 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.

## **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 proper spraying techniques and equipment, taking account of weather conditions and the need to protect the environment.**

This is an existing practice of the District, 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 public notices, required in Section VIII.B, may be found.**

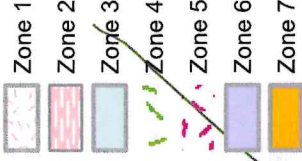
Public notices are posted on the SWRCB website

# Fresno Mosquito & Vector Control District ZONE MAP with TRS

## Legend

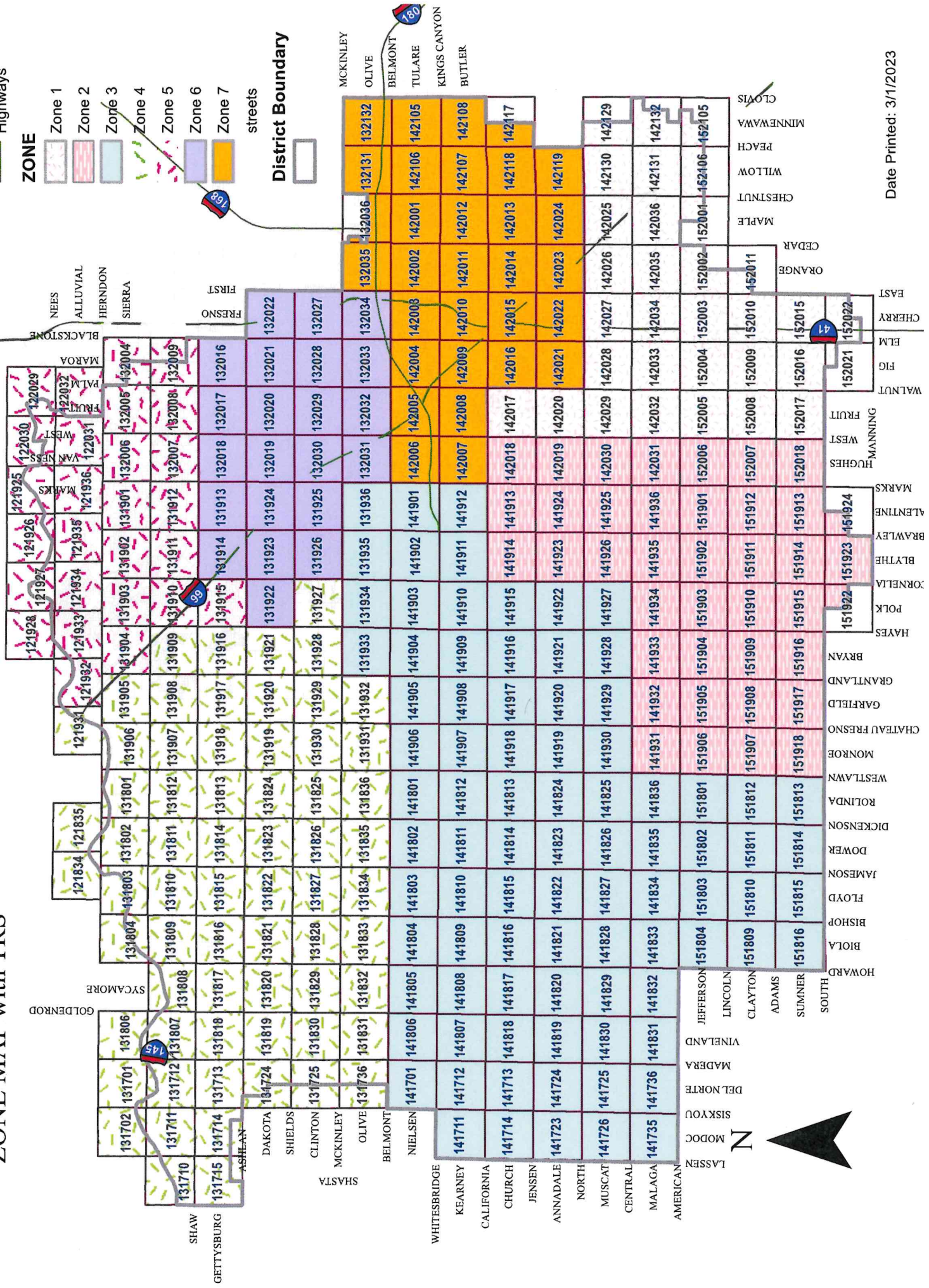
Highways

## ZONE



streets

## District Boundary







The following is a list of active ingredient chemicals that are permitted for biological and residual pesticide discharge from vector control applications and may potentially be used this year within the geographical boundaries of our District in or near waters of the United States:

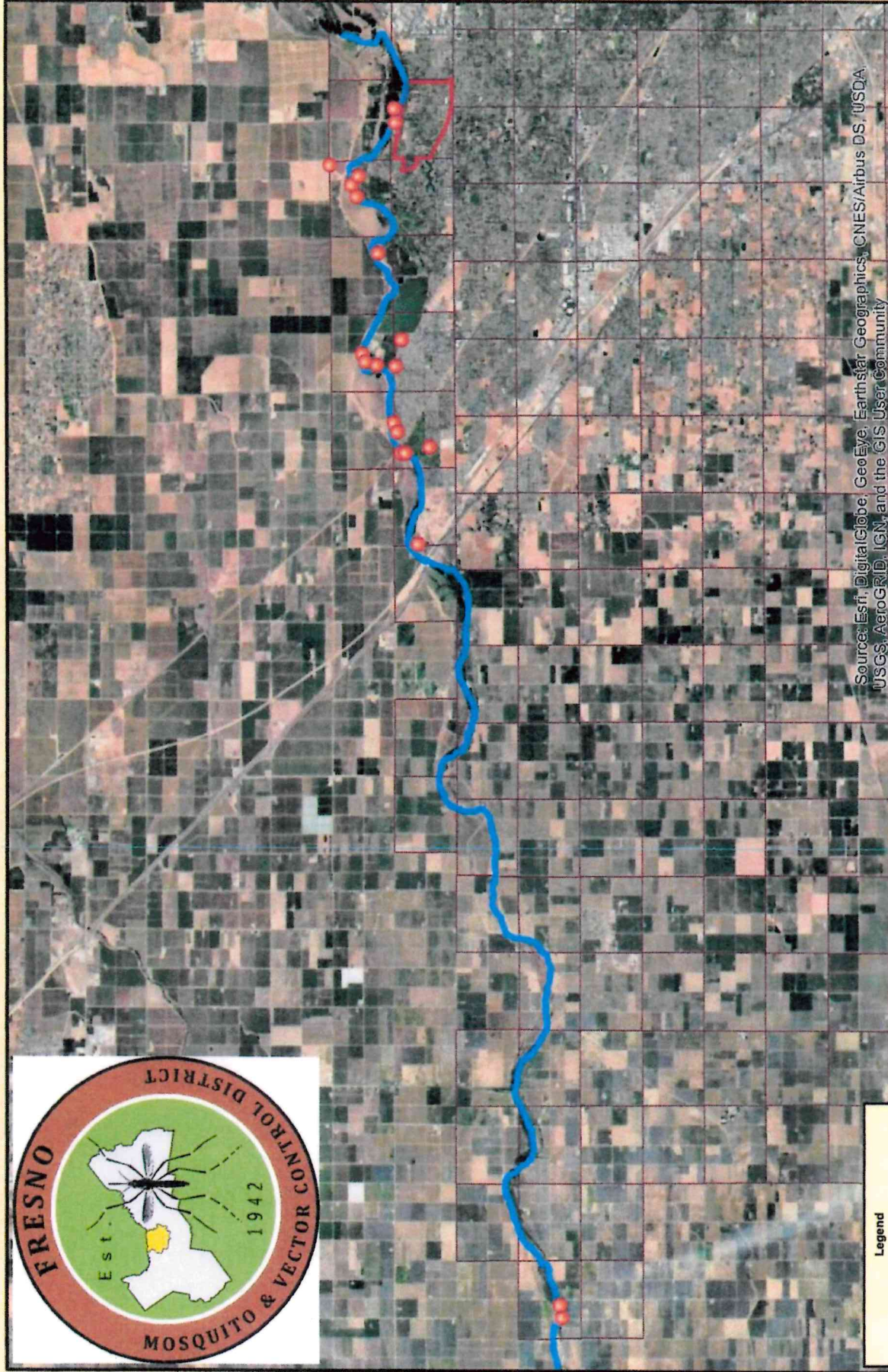
Bacillus Thuringiensis Israelensis (BTI)  
Deltamethrin  
Etofenprox  
Lambda-Cyhalothrin  
Lysinibacillus Sphaericus  
Malathion  
Methoprene  
N-octyl Bicycloheptene Dicarboximide  
Naled  
Piperonyl Butoxide (PBO)  
Permethrin  
Petroleum Distillates  
Prallethrin  
Pyrethrin  
Pyriproxyfen  
Resmethrin  
Spinosad  
Sumithrin  
Temephos



Latitude	Longitude	Op	Date	Owner/Location	Vector	MatCodeName	EPAREg.	Qty	Unit	Acres	ApplicationRa	LabelRateRange
36.85797	-119.8860766	173	4/12/2022	8225 N MILBURN	Mosquito	BVA 2 Oil	70589-1	0.015 gal	0.004	0.004	3.75	1-5 gallons per acre
36.84939	-119.8808357	173	4/19/2022	MILBURN/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	24 gal	8	8	3	1-5 gallons per acre
36.85913	-119.8425789	173	4/13/2022	BOY SCOUT/RIVERS EDGE	Mosquito	BVA 2 Oil	70589-1	0.117 gal	0.034	0.034	3.441176471	1-5 gallons per acre
36.85913	-119.8425789	173	4/13/2022	BOY SCOUT/RIVERS EDGE	Mosquito	Altosid XR-G	2724-451	0.198 lbs	0.02	0.02	9.9	5-20 lbs per acre
36.84569	-119.9285948	173	4/13/2022	SJ RIVER/WEBER	Mosquito	BVA 2 Oil	70589-1	0.039 gal	0.011	0.011	3.545454545	1-5 gallons per acre
36.84569	-119.9285948	173	4/13/2022	SJ RIVER/WEBER	Mosquito	FourStar 180-Day	83362-3	5 ea	0.011	0.011	454.5454545	at least 435.6 briquets per acre
36.8504	-119.9023776	173	4/25/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	0.577 gal	0.169	0.169	3.414201183	1-5 gallons per acre
36.8504	-119.9023776	173	4/26/2022	BLUFF/SANTA FE	Mosquito	FourStar MBG	85685-3	9.64 lbs	0.642	0.642	15.01557632	5-20 lbs per acre
36.84939	-119.8808357	173	4/14/2022	MILBURN/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	24 gal	8	8	3	1-5 gallons per acre
36.84939	-119.8808357	173	4/18/2022	MILBURN/SJ RIVER	Mosquito	Natular G30	8329-83	80 lbs	5.33	5.33	15.00938086	5-20 lbs per acre
36.84848	-119.9072694	173	5/24/2022	RIVERSIDE/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	0.33	3.03030303	1-5 gallons per acre
36.85112	-119.9002198	173	5/24/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	0.33	3.03030303	1-5 gallons per acre
36.85971	-119.8474091	173	5/24/2022	BOY SCOUT/RIVERS EDGE	Mosquito	BVA 2 Oil	70589-1	0.5 gal	0.165	0.165	3.03030303	1-5 gallons per acre
36.85913	-119.8425789	173	5/24/2022	BOY SCOUT/RIVERS EDGE	Mosquito	BVA 2 Oil	70589-1	1.5 gal	0.5	0.5	3	1-5 gallons per acre
36.8495	-119.9073567	173	5/24/2022	RIVERSIDE/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	2 gal	0.66	0.66	3.03030303	1-5 gallons per acre
36.85865	-119.8842151	173	5/11/2022	8225 N MILBURN	Mosquito	BVA 2 Oil	70589-1	0.015 gal	0.004	0.004	3.75	1-5 gallons per acre
36.85865	-119.8842151	173	5/11/2022	8225 N MILBURN	Mosquito	Altosid XR-G	2724-451	0.044 lbs	0.004	0.004	11	5-20 lbs per acre
36.85797	-119.8860766	173	5/11/2022	8225 N MILBURN	Mosquito	BVA 2 Oil	70589-1	0.046 gal	0.013	0.013	3.538461538	1-5 gallons per acre
36.85797	-119.8860766	173	5/11/2022	8225 N MILBURN	Mosquito	Altosid XR-G	2724-451	0.132 lbs	0.013	0.013	10.15384615	5-20 lbs per acre
36.85522	-119.8867869	173	5/11/2022	8225 N MILBURN	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	0.33	3.03030303	1-5 gallons per acre
36.84848	-119.9072694	173	5/3/2022	RIVERSIDE/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	1.5 gal	0.5	0.5	3	1-5 gallons per acre
36.84848	-119.9072694	173	5/3/2022	RIVERSIDE/SJ RIVER	Mosquito	FourStar MBG	85685-3	10 lbs	0.5	0.5	20	5-20 lbs per acre
36.85112	-119.9002198	173	5/3/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	1.5 gal	0.5	0.5	3	1-5 gallons per acre
36.85112	-119.9002198	173	5/3/2022	BLUFF/SANTA FE	Mosquito	FourStar MBG	85685-3	10 lbs	0.5	0.5	20	5-20 lbs per acre
36.8495	-119.9073567	173	5/3/2022	RIVERSIDE/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	3 gal	1	1	3	1-5 gallons per acre
36.8495	-119.9073567	173	5/3/2022	RIVERSIDE/SJ RIVER	Mosquito	FourStar MBG	85685-3	5 lbs	0.25	0.25	20	5-20 lbs per acre
36.84939	-119.8808357	173	5/5/2022	MILBURN/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	12 gal	4	4	3	1-5 gallons per acre
36.84939	-119.8808357	173	5/5/2022	MILBURN/SJ RIVER	Mosquito	FourStar MBG	85685-3	77.5 lbs	3.87	3.87	20.02583979	5-20 lbs per acre
36.85971	-119.8474091	173	6/14/2022	BOY SCOUT/RIVERS EDGE	Mosquito	BVA 2 Oil	70589-1	1.5 gal	0.5	0.5	3	1-5 gallons per acre
36.86089	-119.8447035	173	6/14/2022	BOY SCOUT/RIVERS EDGE	Mosquito	BVA 2 Oil	70589-1	1.5 gal	0.5	0.5	3	1-5 gallons per acre
36.8504	-119.9023776	173	6/14/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	0.33	3.03030303	1-5 gallons per acre
36.8504	-119.9023776	173	6/14/2022	BLUFF/SANTA FE	Mosquito	FourStar MBG	85685-3	5 lbs	0.33	0.33	15.15151515	5-20 lbs per acre
36.84569	-119.9285948	173	5/25/2022	SJ RIVER/WEBER	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	0.33	3.03030303	1-5 gallons per acre
36.84939	-119.8808357	173	5/4/2022	MILBURN/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	3 gal	1	1	3	1-5 gallons per acre
36.8505	-119.8300784	173	5/31/2022	RIVER BOTTOM/VAN NESS	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	0.33	3.03030303	1-5 gallons per acre
36.8505	-119.8300784	173	5/31/2022	RIVER BOTTOM/VAN NESS	Mosquito	Vectobac GS	73049-10	5 lbs	0.33	0.33	15.15151515	2.5-20 lbs per acre
36.84569	-119.9285948	173	6/16/2022	SJ RIVER/WEBER	Mosquito	BVA 2 Oil	70589-1	3 gal	1	1	3	1-5 gallons per acre
36.85474	-119.8605684	173	6/9/2022	SJ RIVER/VALENTINE	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	0.33	3.03030303	1-5 gallons per acre
36.85474	-119.8605684	173	6/9/2022	SJ RIVER/VALENTINE	Mosquito	FourStar MBG	85685-3	5 lbs	0.33	0.33	15.15151515	5-20 lbs per acre
36.8505	-119.8300784	173	6/23/2022	RIVER BOTTOM/VAN NESS	Mosquito	BVA 2 Oil	70589-1	2 gal	0.66	0.66	3.03030303	1-5 gallons per acre
36.8505	-119.8300784	173	6/23/2022	RIVER BOTTOM/VAN NESS	Mosquito	FourStar MBG	85685-3	10 lbs	0.66	0.66	15.15151515	5-20 lbs per acre
36.85474	-119.8605684	173	6/20/2022	SJ RIVER/VALENTINE	Mosquito	BVA 2 Oil	70589-1	0.187 gal	0.055	0.055	3.4	1-5 gallons per acre
36.85971	-119.8474091	173	6/15/2022	BOY SCOUT/RIVERS EDGE	Mosquito	FourStar MBG	85685-3	5 lbs	0.33	0.33	15.15151515	5-20 lbs per acre
36.86089	-119.8447035	173	6/15/2022	BOY SCOUT/RIVERS EDGE	Mosquito	FourStar MBG	85685-3	10 lbs	0.66	0.66	15.15151515	5-20 lbs per acre
36.81193	-120.1099593	101	6/9/2022	17504 W SHAW	Mosquito	BVA 2 Oil	70589-1	0.0546 gal	0.016	0.016	3.4125	1-5 gallons per acre
36.81193	-120.1099593	101	6/9/2022	17504 W SHAW	Mosquito	Altosid XR-G	2724-451	2 lbs	0.2	0.2	10	5-20 lbs per acre
36.81232	-120.1070723	101	6/9/2022	17504 W SHAW	Mosquito	BVA 2 Oil	70589-1	0.0546 gal	0.016	0.016	3.4125	1-5 gallons per acre
36.81232	-120.1070723	101	6/9/2022	17504 W SHAW	Mosquito	Altosid XR-G	2724-451	1 lbs	0.1	0.1	10	5-20 lbs per acre

36.84848	-119.9072694	173	6/1/2022	RIVERSIDE/SJ RIVER	Mosquito	Vectobac GS	73049-10	5 lbs	0.33	15.15151515	2.5-20 lbs per acre
36.85112	-119.9002198	173	6/1/2022	BLUFF/SANTA FE	Mosquito	Vectobac GS	73049-10	10 lbs	0.66	15.15151515	2.5-20 lbs per acre
36.84569	-119.9285948	173	6/1/2022	SJ RIVER/WEBER	Mosquito	Vectobac GS	73049-10	15 lbs	1	15	2.5-20 lbs per acre
36.86595	-119.8400406	173	6/8/2022	AVE 8/AVE 39	Mosquito	BVA 2 Oil	70589-1	0.5 gal	0.2	2.5	1-5 gallons per acre
36.86595	-119.8400406	173	6/8/2022	AVE 8/AVE 39	Mosquito	FourStar MBG	85685-3	5 lbs	0.25	20	5-20 lbs per acre
36.81193	-120.1095993	101	4/29/2022	17504 W SHAW	Mosquito	BVA 2 Oil	70589-1	0.078 gal	0.023	3.391304348	1-5 gallons per acre
36.81193	-120.1095993	101	4/29/2022	17504 W SHAW	Mosquito	Altosid XR-G	2724-451	1.5 lbs	0.15	10	5-20 lbs per acre
36.81232	-120.1070723	101	4/29/2022	17504 W SHAW	Mosquito	BVA 2 Oil	70589-1	0.0312 gal	0.0092	3.391304348	1-5 gallons per acre
36.81232	-120.1070723	101	4/29/2022	17504 W SHAW	Mosquito	Altosid XR-G	2724-451	0.176 lbs	0.019	9.263157895	5-20 lbs per acre
36.85069	-119.8267949	173	6/27/2022	RIVER BOTTOM/VAN NESS	Mosquito	BVA 2 Oil	70589-1	2 gal	0.66	3.03030303	1-5 gallons per acre
36.84569	-119.9285948	173	6/21/2022	SJ RIVER/WEBER	Mosquito	FourStar MBG	85685-3	10 lbs	0.66	15.15151515	5-20 lbs per acre
36.8504	-119.9023776	173	4/11/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	0.312 gal	0.091	3.428571429	1-5 gallons per acre
36.84939	-119.8808357	173	4/11/2022	MILBURN/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	0.124 gal	0.036	3.444444444	1-5 gallons per acre
36.84848	-119.9072694	173	7/11/2022	RIVERSIDE/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	2 gal	0.66	3.03030303	1-5 gallons per acre
36.85112	-119.9002198	173	7/11/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	3.03030303	1-5 gallons per acre
36.84848	-119.9072694	173	8/9/2022	RIVERSIDE/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	2 gal	0.66	3.03030303	1-5 gallons per acre
36.85112	-119.9002198	173	8/9/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	3.03030303	1-5 gallons per acre
36.85069	-119.8267949	173	7/13/2022	RIVER BOTTOM/VAN NESS	Mosquito	BVA 2 Oil	70589-1	2 gal	0.66	3.03030303	1-5 gallons per acre
36.84286	-119.905994	173	7/27/2022	SANDRINI/SPRUCE	Mosquito	BVA 2 Oil	70589-1	0.031 gal	0.009	3.444444444	1-5 gallons per acre
36.84286	-119.905994	173	7/27/2022	SANDRINI/SPRUCE	Mosquito	Altosid XR-G	2724-451	0.088 lbs	0.009	9.777777778	5-20 lbs per acre
36.8504	-119.9023776	173	7/20/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	2 gal	0.66	3.03030303	1-5 gallons per acre
36.85913	-119.8425789	173	7/6/2022	BOY SCOUT/RIVERS EDGE	Mosquito	BVA 2 Oil	70589-1	1 gal	0.33	3.03030303	1-5 gallons per acre
36.85075	-119.8870379	173	9/21/2022	MILBURN/SJ RIVER	Mosquito	BVA 2 Oil	70589-1	0.015 gal	0.004	3.75	1-5 gallons per acre
36.85075	-119.8870379	173	9/21/2022	MILBURN/SJ RIVER	Mosquito	Altosid XR-G	2724-451	0.044 lbs	0.004	11	5-20 lbs per acre
36.85075	-119.8870379	173	9/21/2022	MILBURN/SJ RIVER	Mosquito	FourStar 180-Day	83362-3	2 ea	0.004	500	at least 435.6 briquets per acre
36.85971	-119.8474091	173	7/14/2022	BOY SCOUT/RIVERS EDGE	Mosquito	BVA 2 Oil	70589-1	0.0078 gal	0.002	3.9	1-5 gallons per acre
36.8504	-119.9023776	173	8/29/2022	BLUFF/SANTA FE	Mosquito	BVA 2 Oil	70589-1	0.039 gal	0.011	3.545454545	1-5 gallons per acre
36.8504	-119.9023776	173	8/29/2022	BLUFF/SANTA FE	Mosquito	Altosid XR-G	2724-451	0.011 lbs	0.011	1	5-20 lbs per acre
36.84415	-119.8296602	141	7/1/2022	ILA/MINARETS	Mosquito	Fyfanon EW	279-3622	242.2 OZ	153.6	1.576822917	1.05-2.1 ounces per acre
36.84415	-119.8296602	141	8/11/2022	2555 W BLUFF	Mosquito	Duet Dual Action	1021-1795-8E	24.32 OZ	36.5	0.66630137	0.43-1.28 ounces per acre





## 2022 NPDES Sites

Coordinate System:  
Central Meridian:  
1st Std Parallel:  
2nd Std Parallel:  
Latitude of Origin:



### Legend

● 2022TreatmentSites

— SJR River

2022Adulticide

TrsZones