

ATTACHMENT E – NOTICE OF INTENT

WATER QUALITY ORDER 2016-0039-DWQ
GENERAL PERMIT CAG990004

APR 29 2016
APR 29 2016

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

I. NOTICE OF INTENT STATUS (see Instructions)

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

C. Change of ownership or responsibility: WDID# _____

D. Enrolled under Order 2011-0002-DWQ: WDID# _____

II. DISCHARGER INFORMATION

A. Name Owens Valley Mosquito Abatement Program DBA Mammoth Lakes Mosquito Abatement District			
B. Mailing Address 207 West South Street			
C. City Bishop	D. County Inyo	E. State CA	F. Zip Code 93514
G. Contact Person Chris Wickham	H. Email address ovmosquito@gmail.com	I. Title Manager	J. Phone 760.873.7853

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: _____
Name of the conveyance system: _____
- 3. Directly to river, lake, creek, stream, bay, ocean, etc.
Name of water body: Mammoth Creek

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

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

C. Period of Application: Start Date Continuously, January 1, 2016 End Date December 31, 2016

D. Types of Adjuvants Added by the Discharger: None

VI. PESTICIDES APPLICATION PLAN

A. Has a Pesticides Application Plan been prepared?*

Yes No

If not, when will it be prepared? _____

* A copy of the 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.

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: Chris Wickham

B. Signature: 

Date: 4/14/16

C. Title: Manager, OVMAP

X. FOR STATE WATER BOARD USE ONLY

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

Mammoth Lakes Mosquito Control District serviced by
Owens Valley Mosquito Abatement Program



Attachment 2

V.B. Pesticides Used for Vector Control

<u>Trade Name</u>	<u>Active Ingredient</u>
<u>Larvicides</u>	
BVA 2 Oil	Mineral oil
*** This product is used as a sticking agent, per label instructions, for the production of Aquabac Primary Powder OSF sand granules. 200 lbs of sand are mixed with 56 ounces of BVA oil and 8.6 lbs of Aquabac Primary Powder OSF to yield 211.85 lbs of finished product. Label application rates vary from 5 to 20 lbs per acre of finished product which equals 1.3 to 5.3 ounces of BVA Oil per acre.***	
Altosid (pellets)	(S)-Methoprene
Altosid 30 (briquettes)	(S)-Methoprene
Altosid XRG (granules)	(S)-Methoprene
Altosid XR (briquets)	(S)-Methoprene
Aquabac Primay Powder OSF	<i>Bacillus thuringiensis, subsp. Isrealensis</i>
Vectobac GR (granules)	<i>Bacillus thuringiensis, subsp. Isrealensis</i>
VectoLex CG (granules)	<i>Bacillus spaericus</i> Serotype H5a5b, stain 2362
VectoMax CG (granules)	<i>Bacillus thuringiensis, subsp. Isrealensis</i> and <i>Bacillus spaericus</i> Serotype H5a5b, strain 2362
Agnique MMF (monomolecular film)	Poly (oxy-1,2-ethanediyl), α -isooctadecyl- ω -hydroxyl (100%)
<u>Adulticides</u>	
Zenivex E20	Etofenprox
Pyronyl Oil Concentrate 525	Pyrethrins, PBO
Suspend SC	Deltamethrin
Mavrik	Tau-fluvalinate

**Pesticide Application Plan for the Mammoth Lakes Mosquito Abatement District in accordance with
WATER QUALITY ORDER NO. 2011-0002-DWQ
GENERAL PERMIT NO. CAG 990004
STATEWIDE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT FOR BIOLOGICAL AND RESIDUAL PESTICIDE
DISCHARGES TO WATERS OF THE UNITED STATES
FROM VECTOR CONTROL APPLICATIONS**

The Discharger shall develop 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 from the water body of the target areas;**

See attached map.

Mammoth Lakes Mosquito Abatement District services approximately 1/3 of the town of Mammoth lakes. Primarily alpine wetlands and bordered by US Forest Service land on the west, Meridian Blvd on the north, Snowcreek Athletic Club to the east, and the Sherwin mountain range to the south.

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

Please see the [Best Management Practices for Mosquito Control in California](#).

- 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;**

Please see Attachments E and F within NPDES Permit for Biological and Residual Pesticide Discharges to Waters of the U.S. for Vector Control Applications. Products may be applied by hand, truck, backpack, hand can, helicopter, or airplane according to label directions.

- 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 Mammoth Lakes Mosquito Abatement District's preferred solution, and whenever possible the agency works with property owners to affect long-term solutions to reduce or eliminate the need for continued applications as described in [Best Management Practices for Mosquito Control in California](#). The typical sources treated by this agency include:

- Alpine Wetland Meadows
- Stagnate Settling Ponds
- Underground Vaults and Drainages
- Roadside ditches with standing water

- Golf Course Features
- Snowmelt Pools and Ponds
- Manmade Old Mining Depressions
- Residential Standing Water Features
- Manmade Drainages in City Funded Housing Projects
- Lakes Basin

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

With any source of mosquitoes or other vectors, the Mammoth Lakes Mosquito Abatement 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. The most commonly used methods and their limitations are included in the Best Management Practices for Mosquito Control in California.

Specific methods used by the District included educating residents through public announcement programs created by Mono County Public Health Department that mosquitoes develop in standing water and encouraging the removal of sources of standing water on their property, and working with property owners to identify sources and find long-term water management strategies that meet their needs while minimizing the need for public health pesticide applications.

District personnel deploy hand tools when practical to eliminate standing water. District Manager meets with town planners and public health officer regarding future development projects which may include water features that may breed mosquitoes.

District Manager works closely with golf course managers and staff, water district staff, US Forest Service, and the Town Bear Management Specialist to help identify, and log, newly identified mosquito sources and to educate and assist with practical methods to identify and eliminate ever changing standing water sources that breed mosquitoes in order to reduce or eliminate public health pesticide applications.

6. How much product is needed and how this amounts 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 Mammoth Lakes Mosquito Abatement District's 2009 PUR as an estimate of pesticide use in 2011. Other public health pesticides in addition to those listed below may be used as part of the agency's best management practices.

2009 Pesticide use

Pesticide Name (from label)	EPA Registration Number	Amount applied	Units
Altosid XR Ingots	2724-421	73.53	lbs
Altosid 30-day pellets	2724-448	112	lbs

VectoBac	7349-10	25	lbs
Agnique MMF	53263-28	76	fl. oz
Scourge 4-12 (Bayer)	432-716	386	fl. oz

2009 was a typical year for abatement in the District which could be used as a measure for anticipated use in future years.

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

Please see the Best Management Practices for Mosquito Control in California

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

The Mammoth Lakes Mosquito Abatement District's BMPs are described in the Best Management Practices for Mosquito Control in California 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. Agency 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 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 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 Mammoth Lake Mosquito Abatement District calibrates truck-mounted and handheld larviciding equipment each year to meet application specifications. Management reviews 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 and adulticiding equipment is not used by the District.

e. descriptions of specific BMPs for each pesticide product used; and

Please see the Best Management Practices for Mosquito Control in California for general pesticide application BMPs, and the current approved pesticide labels for application BMPs for specific products.

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

Please see the 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 US, 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 Mammoth Lakes Mosquito Abatement District 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 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 and the California Mosquito-borne Virus Surveillance and Response Plan.

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 as described in the Best Management Practices for Mosquito Control in California.

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 Mammoth Lakes Mosquito Abatement District continually collects adult and larval mosquito surveillance data, dead bird reports, and monitors regional mosquito-borne disease activity (including near-by Owens Valley) 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.

The Mammoth Lakes Mosquito Abatement District uses the principles and practices of Integrated Vector Management (IVM) as described on pages 26 and 27 of the Best Management Practices for Mosquito Control in California. 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 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 mosquitoes are listed on pages 4-19 of the Best Management Practices for Mosquito Control in California.

Implementing preferred alternatives depends 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 Mammoth Lakes Mosquito Abatement District follows an existing IVM program which includes 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 right spraying techniques and equipment, taking account of weather conditions and the need to protect the environment.

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

See the State Water Resources Control Board Website.

References:

Best Management Practices for Mosquito Control in California. 2010. Available by download from the California Department of Public Health—Vector-Borne Disease Section at <http://www.westnile.ca.gov/resources.php> under the heading *Mosquito Control and Repellent Information*. Copies may be also requested by calling the California Department of Public Health—Vector-Borne Disease Section at (916) 552-9730 or the Mammoth Lakes Mosquito Abatement District at (760)914-1354.

California Mosquito-borne Virus Surveillance and Response Plan. 2010. [Note: this document is updated annually by CDPH]. . Available by download from the California Department of Public Health—Vector-Borne Disease Section at <http://www.westnile.ca.gov/resources.php> under the heading *Response Plans and Guidelines*. Copies may be also requested by calling the California Department of Public Health—Vector-Borne Disease Section at (916) 552-9730 or the Mammoth Lakes Mosquito Abatement District at (760)914-1354.

MVCAC NPDES Coalition Monitoring Plan. 2011. [in development at the time of this draft]

ATTACHMENT E – NOTICE OF INTENT

RECEIVED

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

APR 26 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 checked="" type="checkbox"/> A. New Applicator	<input type="checkbox"/> B. Change of Information: WDID# _____
	<input type="checkbox"/> C. Change of ownership or responsibility: WDID# _____	
	<input type="checkbox"/> D. Enrolled under Order 2011-0002-DWQ: WDID# _____	

II. DISCHARGER INFORMATION

A. Name Owens Valley Mosquito Abatement Program			
B. Mailing Address 207 West South Street			
C. City Bishop	D. County Inyo	E. State CA	F. Zip Code 93514
G. Contact Person Chris Wickham	H. Email address ovmosquito@gmail.com	I. Title Manager	J. Phone 760.873.7853

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: Los Angeles Dept. of Water and Power
Name of the conveyance system: Pasture irrigation system

3. Directly to river, lake, creek, stream, bay, ocean, etc.
Name of water body: Owens River and tributaries (See attachment 1)

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

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

C. Period of Application: Start Date Continuously: January 1, 2016 End Date December 31, 2016

D. Types of Adjuvants Added by the Discharger: None

VI. PESTICIDES APPLICATION PLAN

A. Has a Pesticides Application Plan been prepared?*

Yes No

If not, when will it be prepared? _____

* A copy of the 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.

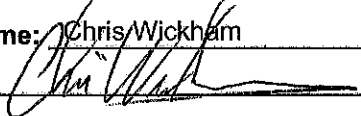
VIII. FEE

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: Chris Wickham

B. Signature:  Date: 4/14/16

C. Title: Program Manager, OVMAP

X. FOR STATE WATER BOARD USE ONLY

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

Attachment 2

V.B. Pesticides Used for Vector Control

<u>Trade Name</u>	<u>Active Ingredient</u>
<u>Larvicides</u>	
BVA 2 Oil	Mineral oil
*** This product is used as a sticking agent, per label instructions, for the production of Aquabac Primary Powder OSF sand granules. 200 lbs of sand are mixed with 56 ounces of BVA oil and 8.6 lbs of Aquabac Primary Powder OSF to yield 211.85 lbs of finished product. Label application rates vary from 5 to 20 lbs per acre of finished product which equals 1.3 to 5.3 ounces of BVA Oil per acre.***	
Altosid (pellets)	(S)-Methoprene
Altosid 30 (briquettes)	(S)-Methoprene
Altosid XRG (granules)	(S)-Methoprene
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VectoLex CG (granules)	<i>Bacillus spaericus</i> Serotype H5a5b, stain 2362
VectoMax CG (granules)	<i>Bacillus thuringiensis, subsp. Isrealensis</i> and <i>Bacillus spaericus</i> Serotype H5a5b, strain 2362
Agnique MMF (monomolecular film)	Poly (oxy-1,2-ethanediyl), α -isooctadecyl- ω -hydroxyl (100%)
<u>Adulticides</u>	
Zenivex E20	Etofenprox
Pyronyl Oil Concentrate 525	Pyrethrins, PBO
Suspend SC	Deltamethrin
Mavrik	Tau-fluvalinate

WATER QUALITY ORDER NO. 2011-XXXX-DWQ
GENERAL PERMIT NO. CAG XXXXXX

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

The NPDES Permit requires a **Pesticides Application Plan (PAP)** that contains the following elements:

- a. **Description of the target area and adjacent areas, if different from the water body of the target area;**

See attached map.

The Owens Valley Mosquito Abatement Program (the Program) operates in about 1200 square miles from the Inyo/Mono county line in the north to State Hwy 190 in the south; the base of the White Mountains in the east to the Eastern slope of the Sierra Nevada in the west.

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

Please see the Best Management Practices for Mosquito Control in California

- c. **Type(s) of pesticides used, the method in which they are applied, and if applicable, the adjuvants and surfactants used;**

Please see the Best Management Practices for Mosquito Control in California

- d. **Description of the types and locations of the anticipated application area* and the target area to be treated by the Discharger, recognizing that, with vector control, the precise locations may not be known until after surveillance;**

Any site that holds water for more than 96 hours (4 days) can produce mosquitoes. Source reduction is the Program's preferred solution, and whenever possible the Program works with property owners to effect long-term solutions to reduce or eliminate the need for continued applications as described in Best Management Practices for Mosquito Control in California. The typical sources treated by this Program include:

- Alpine Wetland Meadows
- Stagnate Settling Ponds
- Underground Vaults and Drainages
- Roadside ditches with standing water
- Golf Course Features
- Snowmelt Pools, sloughs, and Ponds
- Flood irrigated pastureland
- Residential Standing Water Features
- Manmade Drainages
- Old river channel and oxbows
- Ponds and lakes

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

With any mosquito or other vector source, the Program'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 included in the Best Management Practices for Mosquito Control in California.

Keeping the public aware of control operations that aren't as audible or visible as adulticiding, as well as current mosquito conditions, source reduction procedures, disease threats, and bite prevention measures are all ongoing through the use of the usual media channels such as local Radio, TV, and Newspaper. The Program also uses other media and events such as the Inyo Mono Agriculture website, social media such as Facebook, the Tri County Fair, community get-togethers, and one-on-one conversations. Field staff are encouraged to engage inquiries with courtesy and look at a one-on-one conversation in the field as an opportunity to share the parts of the IMMP that are not as well known by the public.

f. Approximately how much product is anticipated to be used and how this amount was determined

2010 Pesticide use table

Pesticide Name (from label)	EPA Registration Number	Amount applied	Units
Pyrenone 25-5	432-1050	63	gal
Zenivex E20	2724-791	5	gal
Agnique MMF	53263-28	40	gal
Altosid SBG	2724-489	62	lbs
Altosid XR-G	2724-451	391	lbs
Fourstar briquettes	83362-3	66	lbs
Vectobac TP	73049-13	528	lbs
GB-1111	8329-72	13	gal
BVA 2 oil	70589-1	13	gal
VectoBac G	73049-10	395	lbs
Vectolex CG	73049-20	1000	lbs
Vectomax CG	73049-429	305	lbs
Altosid 30-day pellets	2724-448	112	lbs

2010 was a typical year for abatement in the Program which could be used as a measure for anticipated use in future years.

g. Representative monitoring locations* and the justification for selecting these monitoring locations

Please see the MVCAC NPDES Coalition Monitoring Plan

- h. 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**

Please see the Best Management Practices for Mosquito Control in California

- i. Description of the BMPs to be implemented**

Please see the Best Management Practices for Mosquito Control in California

2. The Discharger shall update the PAP periodically and submit the revised PAP to the State Water Board for approval if there are any changes to the original PAP.

D. Best Management Practices (BMPs)

The Discharger shall develop BMPs that contain the following elements:

The Program's BMPs are described in the Best Management Practices for Mosquito Control in California and the California Mosquito-borne Virus Surveillance and Response Plan.

1. Identify the Problem

Prior to first pesticide application covered under this General Permit that will result in a discharge of residual pesticides to waters of the US, 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. Establish densities for larval and adult vector populations to serve as action threshold(s) for implementing pest management strategies**

Only those mosquito sources that Program staff determines to represent imminent threats to public health or quality of life are treated. The presence of any mosquito may necessitate treatment, however higher thresholds may be applied depending on the Program'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 and the California Mosquito-borne Virus Surveillance and Response Plan.

- 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 Program's preferred solution, and whenever possible the Program works with property owners to implement long-term solutions to reduce or eliminate the need for continued applications as described in Best Management Practices for Mosquito Control in California.

- 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 Programs uses. The Program continually collects adult and larval mosquito surveillance data, submits adult mosquito samples for encephalitis virus surveillance, monitors dead bird reports, and uses them to guide mosquito control activities.

2. Examine the Possibility of Alternatives to Treatments

Dischargers should continue to examine the possibility of alternatives to reduce the need for applying larvicides that contain temephos and for spraying adulticides. Such methods include:

a. Evaluating management and treatment options that may impact water quality, non-target organisms, vector resistance, feasibility, and cost effectiveness, such as:

- **No action**
- **Source prevention**
- **Mechanical or physical source reduction methods**
- **Cultural methods**
- **Biological control agents**
- **Pesticides**

b. Applying pesticides only when vectors are present at a level that will constitute a nuisance or threat to public health

c. Using the least intrusive method of pesticide application.

d. Public education efforts to reduce potential vector breeding habitat.

e. Applying a decision matrix concept to the choice of the most appropriate formulation.

This describes the Program's existing integrated vector management (IVM) program, 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 that are used by this agency.

3. Correct Use of Pesticides

Users 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 properly calibrated equipment, taking account of weather conditions and the need to protect the environment.

- a. All errors in application and spills are reported to the proper authority.**
- b. Staff training in the proper application of pesticides and handling of spills.**

This is an existing practice of the Program, 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.

4. Spill Containment, Training, and Equipment / Calibration

a. measures to prevent pesticide spill

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

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

Spray equipment is calibrated each year and is a part of the MOU with CDPH

c. a plan to educate Coalition's or Discharger's staff and pesticide applicator on any potential adverse effects from the pesticide application

Applicators are required to complete pesticide training yearly.

d. descriptions of specific BMPs for each spray mode, e.g. aerial spray, truck spray, hand spray, etc.; cease and desist order

Program will calibrate truck and hand larviciding equipment each year to meet application specifications. Supervisor reviews spray records daily to ensure appropriate amounts of material are being used. ULV equipment is calibrated for output and droplet size to meet label requirements. Aerial larviciding equipment is calibrated by the Contractor. Aerial adulticide equipment is calibrated regularly and droplet size will be monitored by the Program to ensure droplets meet label requirements.

e. descriptions of specific BMPs for each type of environmental setting (agriculture, urban, and wetlands).

Please see the Best Management Practices for Mosquito Control in California.

E. Pesticide Application Log

The Discharger shall maintain a log for each pesticide application. The application log shall contain, at a minimum, the following information, when practical, for larvicide or adulticide applications:

1. Date of application;
2. Location of the application and target areas (e.g., addresses, crossroads, or map coordinates);
3. Name of applicator;
4. The names of the water bodies treated if known/ named(i.e., canal, creek, lake, etc.);
5. Application details, such as when the application started and stopped, pesticide application rate and concentration, water flow rate of the target area, surface water area, volume of water treated, pesticide(s) and adjuvants used by the Discharger, and volume or mass of each component discharged;

This is an existing practice of the Program as required to comply with DPR regulations and our CDPH Cooperative Agreement requirements.

References:

Best Management Practices for Mosquito Control in California. 2010. Available by download from the California Department of Public Health—Vector-Borne Disease Section at <http://www.cdph.ca.gov/HealthInfo/discond/Pages/MosquitoBorneDiseases.aspx> or <http://www.westnile.ca.gov/resources.php> under the heading Mosquito Control and Repellent Information. Copies may be also requested by calling the California Department of Public Health—Vector-Borne Disease Section at (916) 552-9730 or the Owens Valley Mosquito Abatement Program at (760)873-7860.

California Mosquito-borne Virus Surveillance and Response Plan. 2010. [Note: this document is updated annually by CDPH]. . Available by download from the California Department of Public Health—Vector-Borne Disease Section at <http://www.cdph.ca.gov/HealthInfo/discond/Pages/MosquitoBorneDiseases.aspx> or <http://www.westnile.ca.gov/resources.php> under the heading Response Plans and Guidelines. Copies may be also requested by calling the California Department of Public Health—Vector-Borne Disease Section at (916) 552-9730 or the Owens Valley Mosquito Abatement Program at (760)873-7860.

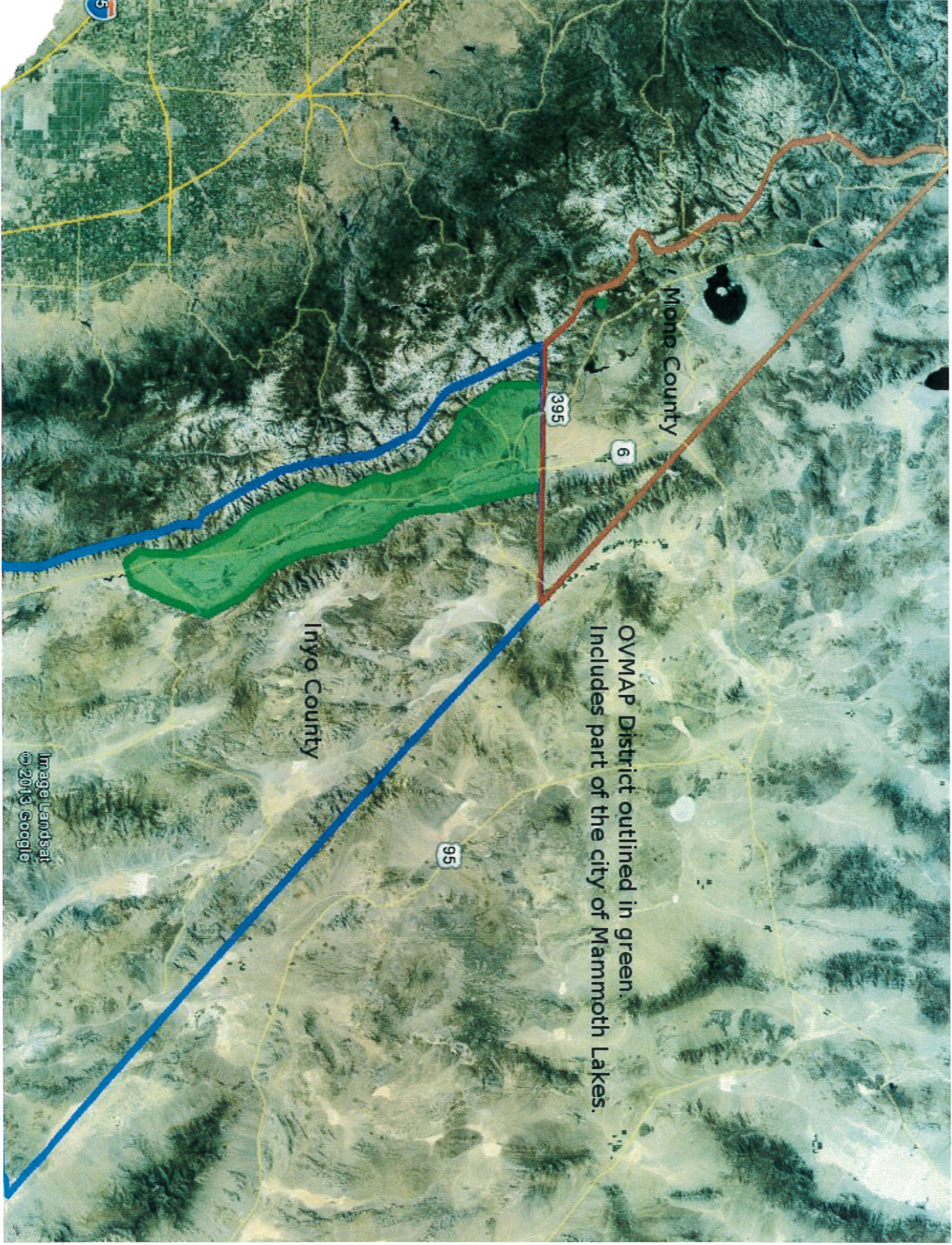
MVCAC NPDES Coalition Monitoring Plan. 2011. [In development at the time of this draft]

Owens Valley Mosquito Abatement Program
Water Quality Order No. 2011-XXXX-DWQ, NOI

Attachment 1

IV. A.

1. Any and all navigable waters of the Owens Valley that breed mosquitoes including the Owens River and its tributaries, Klondike Lake, Tinnemaha Reservoir, Blackrock Waterfowl Area, Goose Lake, Billy Lake, and Owens Lake.
2. Flood irrigated pastureland.
3. Roadside low spots and backyard ponds and pools.



OVMAP District outlined in green.
Includes part of the city of Mammoth Lakes.

Mono County

Inyo County