ATTACHMENT E – NOTICE OF INTENT

0039

WATER QUALITY ORDER 2016-XXXX-DWQ
GENERAL PERMIT CAG990004

RECEIVED
MAY 01 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	☐ 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: Solano County Mosquito Abatement District			
B. Mailing Address: 2950 Industrial Ct.			
C. City: Fairfield	D. County: Solano	E. State: CA	F. Zip Code: 94533
G. Contact Person: Richard Snyder	H. Email address: SOLMAD@AOL.COM	I. Title: Manager	J. Phone: 707-437-1116

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: Various - see Attachment A
Name of the conveyance system: _____

☒ 3. Directly to river, lake, creek, stream, bay, ocean, etc.
Name of water body: Various - See Attachemtn A and Map

* 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 2, 5
(List all regions where pesticide application is proposed.)

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

V. PESTICIDE APPLICATION INFORMATION

A. Target Organisms: ☒ Vector Larvae ☒ Adult Vector

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

See Attachment B

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

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

VII. NOTIFICATION

Have potentially affected governmental agencies been notified?
☒ Yes ☐ No

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

VIII. FEE

Have you included payment of the filing fee (for first-time enrollees only) with this submittal?
☒ Yes ☐ NO ☐ NA

IX. CERTIFICATION

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

A. **Printed Name:** Richard Snyder

B. **Signature:** Richard Snyder **Date:** 4/26/16

C. **Title:** Manager

X. FOR STATE WATER BOARD USE ONLY

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

Attachment A

Target areas: surface waters and waters of the U.S. within Solano County, CA. Map of Solano County enclosed.

In prior years, the District has either applied larvicides directly to, or adulticides within the vicinity of the following water bodies:

Lake Solano
West fork of McCune Creek-tributary to Putah Creek
Miller Canyon Creek-tributary to Putah Creek
Putah South Canal
Pleasant Creek, tributary to Putah Creek
Southeast fork of McCune Creek-tributary to Sweeney Creek
Gibson Canyon Creek-tributary to Sweeney Creek
West fork of Sweeney Creek-tributary to Putah Creek
English Creek-tributary to Putah South Canal
Southeast branch of Sweeney Creek-tributary to Ulatis Creek
Ulatis Creek-tributary to Main Prairie Slough
Alamo Creek-tributary to Ulatis Creek
Encinosa Creek-tributary to Alamo Creek
Laguna Creek-tributary to Alamo Creek
Hass Slough-tributary to Cache Slough
Main Prairie Slough-tributary to Cache Slough
Soda Springs-tributary to Laurel Creek
Laurel Creek-tributary to McCoy Creek
McCoy Creek-tributary to Hill Slough
Ledgewood Creek-tributary to Peytonia Slough
Union Creek-tributary to Hill Slough
Dry Road Creek-tributary to Wildhorse Creek
Wildhorse Creek-tributary to Green Valley Creek
Dan Wilson Creek-tributary to Green Valley Creek
Green Valley Creek-tributary to Cordelia Slough
Suisun Creek-tributary to Suisun Slough
Boynton Slough-tributary to Suisun Slough
Well Slough-tributary to Suisun Slough
Shelldrake Slough-tributary to Suisun Slough
Volanti Slough-tributary to Suisun Slough
Denverton Slough-tributary to Nurse Slough
Loco Slough-tributary to Nurse Slough
Hastings Slough-tributary to Nurse Slough
Nurse Slough-tributary to Little Honker Bay
Hornan Slough-tributary to Suisun Slough
Hastings Slough-tributary to Montezuma Slough (se)
Suisun Slough-tributary to Grizzly Bay (upper portion of Suisun Bay)
Montezuma Slough (sw-tributary to Grizzly Bay)

Montezuma Slough (se-tributary to Sacramento River)
Goodyear Slough
Southampton Bay
North Rindler Creek- tributary to Lake Chabot
Lake Chabot- drains to Chabot Creek
Central Rindler Creek- tributary to Lake Chabot
South Rindler Creek- tributary to Lake Chabot
Turner Creek-tributary to Lake Chabot
San Pablo Bay

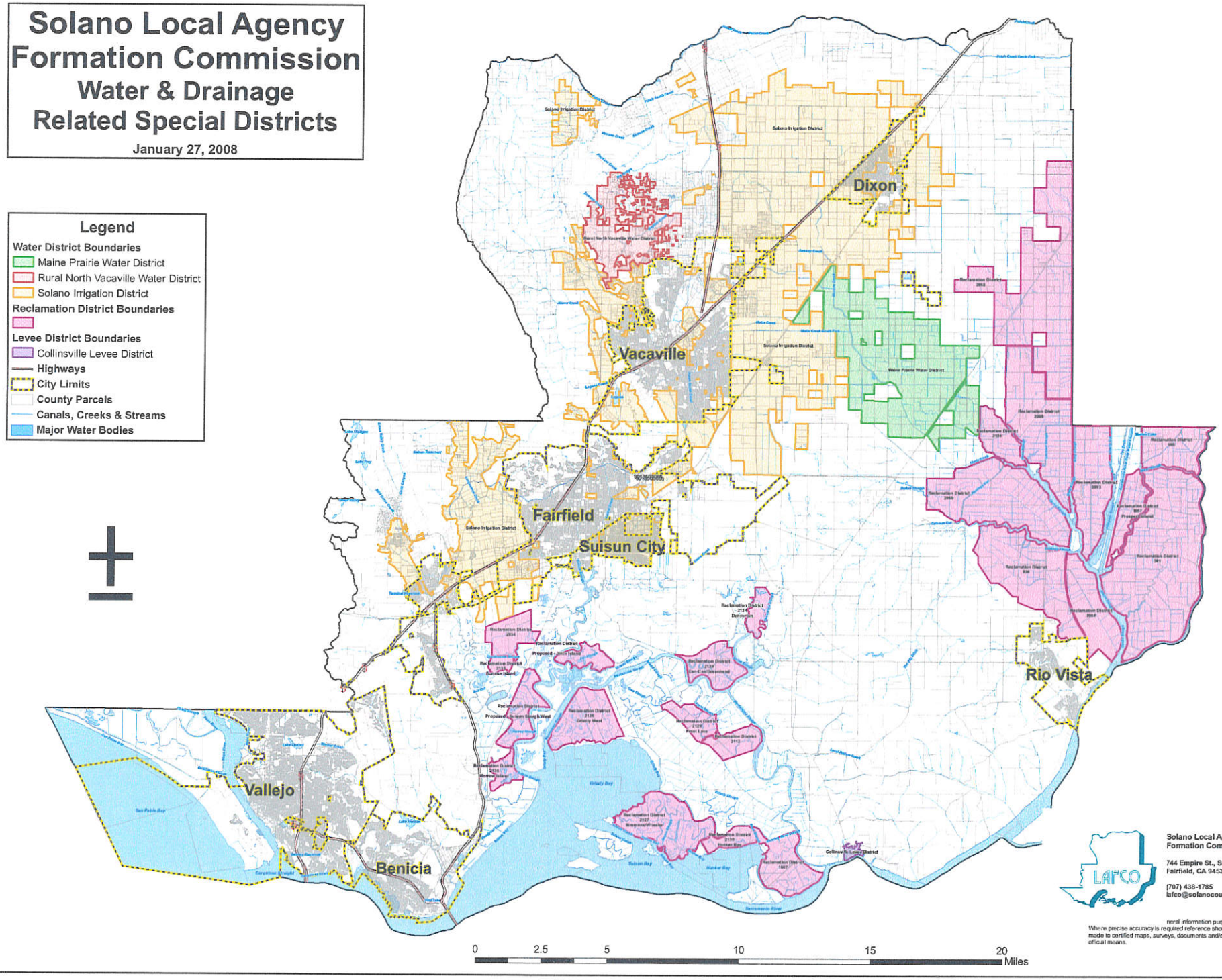
In prior years, the District has applied adulticides and/or larvicides directly to or in the vicinity of canals, ditches, or other constructed conveyance facilities owned and controlled by:

California Department of Fish and Game properties in the Suisun Marsh
Collinsville Levee Maintenance District
Solano Irrigation District
2068 Reclamation District
Main Prairie Water District
Rural North Vacaville Water District
Private Duck Clubs in the Suisun Marsh
Reclamation District No. 501 (Ryer Island)
Reclamation District 536 (Egbert Tract)
Reclamation District 1607 (Van Sickle Island)
Reclamation District 2034
Reclamation District 2060 (Hastings Tract)
Reclamation District 2068
Reclamation District 2084
Reclamation District 2093 (Liberty Island)
Reclamation District 2098
Reclamation District 2104 (Peters Pocket Tract)
Reclamation District 2112 (Schafer Pintail)
Reclamation District 2127 (Simmons Wheeler)
Reclamation District 2129 (Frost Lake)
Reclamation District 2130 (Honker Bay)
Reclamation District 2134 (Denverton)
Reclamation District 2135 (Sunrise Island)
Reclamation District 2136 (Grizzly West)
Reclamation District 2138 (Morrow Island)
Reclamation District 2139 (Can Can/Greenhead)
Reclamation District 2141 (Joice Island)
Reclamation District 2142 (Suisun Slough West)

Solano Local Agency Formation Commission

Water & Drainage Related Special Districts

January 27, 2008



Solano Local Agency Formation Commission

744 Empire St., Suite 216
Fairfield, CA 94533

(707) 438-1785
lafco@solanocounty.com

Attachment B

Solano County Mosquito Abatement District
V. Pesticide Application Information
List of Active Ingredients that may be used under NPDES Permit

Active Ingredients

Bacillus thuringiensis subsp. Israelensis (Bti)
Bacillus sphaericus (Bs) (Lysinibacillus sphaericus)
Methoprene
Monomolecular Films
Petroleum Distillates
Spinosad
Temephos
Etofenprox
Malathion
Naled
N-octyl bicycloheptene dicarboxomide (MGK-264)
Piperonyl butoxide (PBO)
Permethrin
Prallethrin
Pyrethrin
Resmethrin
Sumithrin

Any minimum risk category pesticides that are FIFRA exempt and registered for use in California and used in a manner specified in C.F.R. section 152.25

Attachment C

NPDES Government Mailing List 2016

Agency	Name/Title	Address
CITIES		
City of Benicia	Brad Kilger, City Manager	Benicia City Hall 250 East L Street/Benicia, CA 94510
City of Dixon	Jim Lindley, City Manager	Dixon City Hall 600 East A Street/Dixon, CA 95620
City of Fairfield	David White, City Manager	Fairfield City Hall 1000 Webster Street/Fairfield, CA 94533
City of Rio Vista	Tim Chapa, City Manager	Rio Vista City Hall One Main Street/ Rio Vista, CA 94571
City of Suisun	Suzanne Bragdon, City Manager	Suisun City Hall 701 Civic Center Blvd./Suisun City, CA 94585
City of Vacaville	Laura Kuhn, City Manager	Vacaville City Hall 850 Merchant Street/Vacaville, CA 95688
City of Vallejo	Daniel E. Keen, City Manager	Vallejo City Hall 555 Santa Clara Street/Vallejo, CA 94590
SOLANO COUNTY		
	Solano County Board of Supervisors	675 Texas Street/Fairfield, CA 94533
MUNICIPAL WATER AGENCIES		
Solano County Water Agency	District Office	810 Vaca Valley Parkway, Suite 203/Vacaville, CA 95688
Solano Irrigation District	Cary Keaten, General Manager	810 Vaca Valley Parkway, Suite 201/Vacaville, CA 95688
Main Prarie Water District	Don Holdener, Manager	6595 Pittschool Road/Dixon, CA 95620
Rural North Vacaville Water District	Gordon Stankowski, General Manager	P.O. Box 5097/Vacaville, CA 95696
RECLAMATION DISTRICTS		
Reclamation District No. 501 (Ryer Island)	District Office	3554 State Highway 84/Walnut Grove, CA 95690
Reclamation District No. 536 (Egbert Tract)	District Office	P.O. Box 536/Rio Vista, CA 94571
Reclamation District No. 1607 (Van Sickle Island)	Chris Lanzafame	P.O. Box 350/Pittsburg, CA 94565
Reclamation District No. 1667 (Prospect Island)	U.S. Bureau of Reclamation	2800 Cottage Way/Sacramento, CA 95825 Attn: L. Lee
Reclamation District No. 2034 (Chadbourne)	Albert Seeno Jr., President	P.O. Box 4113/Concord, CA 94524
Agency	Name/Title	Address
RECLAMATION DISTRICTS (continued)		
Reclamation District No. 2060 (Hastings Tract)	District Office	1143 Crane Street, #220, Menlo Park, CA 94025
Reclamation District No. 2068 (Yolano)	District Office	7178 Yolano Road/ Dixon, CA 95620
Reclamation District No. 2084	District Office	9419 Highway 70/ Marysville, CA 95901

Reclamation District No. 2093 (Liberty Island)	District Office	116 New Montgomery Street/San Francisco, CA 94105
Reclamation District No. 2098	District Office	C/O Road 2068, 7178 Yolano Road/Dixon, CA 95620
Reclamation District No. 2104 (Peters Pocket Tract)	William Miller, President	6302 Morada Lane/ Stockton, CA 95205
Reclamation District No. 2112 (Schafer-Pintail)	Jack Schafer, President	4576 Minnesota Avenue/Fair Oaks, CA 95628-5715
Reclamation District No. 2127 (Simmons-Wheeler)	Jim Waters, President	3000-F Danville Blvd. #304/Alamo, CA 9450749
Reclamation District No. 2129 (Frost Lake)	Terry Connolly, President	39 Twin Creeks Drive/ Fairfield, CA 94534
Reclamation District No. 2130 (Honker Bay)	Dave Cavanaugh, President	1547 Gibbons Drive, Alameda, CA 94501
Reclamation District No. 2134 (Denverton)	Robert Eddings, President	3836 Denverton Road/ Suisun, CA 94585
Reclamation District No. 2135 (Sunrise Island)	John Galletti, President	150 Las Quebradas/Alamo, CA 94507
Reclamation District No. 2136 (Grizzly West)	Frank Johnson, President	1000 Hawthorne Drive/Walnut Creek, CA 94596
Reclamation District No. 2138 (Morrow Island)	George Boero, President	10 Orchard Heights/Watsonville, CA 95076
Reclamation District No. 2139 (Can Can/Greenhead)	Bill Hatcher, President	114 Pierce Street/ Santa Rosa, CA 95404
Reclamation District No. 2141 (Joice Island)	Larry Newhall, President	1993 Rockville Road/Fairfield, CA 94534
Reclamation District No. 2142 Suisun Slough West	Larry Petrie, President	1407 Devlin Drive/Vallejo, CA 94591
OTHER SPECIAL DISTRICTS		
Suisun Resource Conservation District	Steven Chappell, Executive Director	2544 Grizzly Island Road/Suisun City, CA 94585
STATE OF CALIFORNIA		
California Department of Fish and Wildlife	Patrick Graham, Refuge Manager	2548 Grizzly Island Road/Suisun City, CA 94585
Cal Trans District 4	Bijan Sartipi, Director	Cal Trans District 4/111 Grand Avenue/Oakland, CA 94612
UNITED STATES GOVERNMENT		
San Pablo Bay National Wildlife Refuge	Don Brubaker, Refuge Manager	7715 Lakeville Highway/Petaluma, CA 94954
U.S. Bureau of Reclamation- Bay –Delta Office	Sue Fry, Manager	801 I Street, Suite 140/Sacramento, CA 95814-2536

2950 Industrial Ct.
Fairfield, CA 94533-6500
Telephone (707) 437-1116
Fax (707) 437-1187

Meetings: Second Monday of Every Month 7:30 P.M.

January 27, 2016

Notice of Intent to Apply Public Health Pesticides for Vector Control Purposes to Surface Waters and Waters of the U.S. Within Solano County.

1. ***The Solano County Mosquito Abatement District intends to make public health pesticide applications to, over and adjacent to constructed conveyances, surface waters and other waters of the U.S. owned and controlled by an entity other than the District for vector control purposes per the requirements of the General N PDES Permit for Biological and Residual Pesticide Discharges for Vector Control Applications.***

A list of Public Health Pesticides allowed that have the potential to be used are listed below:

Pesticide Product Name	E.P.A. Registration Number
ADULTICIDE PRODUCTS	
Pyrocide Mosquito Adulticiding Concentrate for ULV Fogging 7395	1021-1570
Evergreen Crop Protection EC 60-6	1021-1770
Pyrenone Crop Spray	432-1033
Prentox Pyronyl Crop Spray	655-489
Pyrocide Mosquito Adulticiding Concentrate for ULV Fogging 7396	1021-1569
Pyrocide Fogging Formula 7067 for ULV Mosquito Adulticiding or [ALTERNATE BRAND NAME: PYROCIDE 25-5, MAC]	1021-1199-
Aquahalt Water Based Adulticide	1021-1803
Pyrocide Mosquito Adulticide 7453	1021-1803-8329
Pyrenone 25-5 Public Health Insecticide	432-1050
Prentox Pyronyl Oil Concentrate #525	655-471

Pesticide Product Name	E.P.A. Registration Number
ADULTICIDE PRODUCTS (continued)	
Permanone 31-66	432-1250
Kontrol 30-30 Concentrate	73748-5
Aqualuer 20-20	769-985
Aqua Reslin	432-796
Aqua-Kontrol Concentrate	73748-1
Kontrol 4-4	73748-4
Biomist 4+12 ULV	8329-34
Permanone RTU 4%	432-1277
Prentox Perm-X UL 4-4	655-898
Allpro Evoluer 4-4 ULV	769-982
Biomist 4%+12%	8329-35
Kontrol 2-2	73748-3
Anvil 10+10 ULV	1021-1688
AquaANVIL Water-based Adulticide	1021-1807
Duet Dual-Action Adulticide	1021-1795
Anvil 2+2 ULV	1021-1687
Zenivex E20	2724-791
Trumpet EC Insecticide	5481-481
Fyfanon ULV Mosquito	67760-34
LARVICIDE PRODUCTS	
Vectolex CG Biological Larvicide	73049-20
Vectolex WDG Biological Larvicide	73049-57
Vectolex WSP Biological Larvicide	73049-20
Vectobac Technical Powder	73049-13
Vectobac-12 AS	73049-38
Aquabac 200 G	62637-3
Teknar HP-D	73049-404
Vectobac-G Biological Mosquito Larvicide Granules	73049-10
Vectomax FG Biological Larvicide-Fine Granule	73049-429
Vectomax WSP Biological Larvicide	73049-429
Zoecon Altosid Pellets	2724-448
Zoecon Altosid 30-Dav Briquets	2724-375
Zoecon Altosid Liquid Larvicide Mosquito Growth Regulator	2724-392
Zoecon Altosid XR Extended Residual Briquets	2724-421
Zoecon Altosid Liquid Larvicide Concentrate	2724-446
Zoecon Altosid XR-G	2724-451
Zoecon Altosid SBG Single Brood Granule	2724-489
Masterline Kontrol Mosquito Larvicide	73748-10
Metalarv S-PT Mosquito Growth Regulator Spherical Pellet	73049-475

Pesticide Product Name	E.P.A. Registration Number
LARVICIDE PRODUCTS (continued)	
BVA2 Mosquito Larvicide Oil	70589-1
BVA Spray 13	55206-2
Agnique MMF Mosquito Larvicide & Pupacide	53263-28
Aqnique MMF G	53263-30
Abate 2-BG	8329-71
5% Skeeter Abate	8329-70
Natular 2EC	8329-82
Natular G	8329-80
Natular XRG	8329-83
Natular XRT	8329-84
FourStar Sustained Release 180 Day Microbial Briquets	83362-3
FourStar SBG	85685-1
Aquabac XT	62637-1
Soheratax SPH *150* G) WSP	84268-2
Soheratax SPH (50 G)	84268-2

3. The purpose of the use of the listed pesticides is for the control of immature and adult mosquitoes to reduce annoyance and suppress the threat of arbovirus transmission.

4. The general time period for the application of pesticides is January through December, 2016. The locations of expected use will be surface waters and waters of the U.S. within Solano County, CA where immature and adult mosquitoes are found at treatment threshold levels.

S. There are no known water use restrictions or precautions during treatment.

6. Interested persons may contact the District at (707) 437-1116 to obtain additional information.

Richard M. Snyder, Manager
Solano County Mosquito Abatement District 2950
Industrial Way
Fairfield, CA 94533-6500
(707) 437-1116
solmad@aol.com

Service Request Zone 04 Date 4/26/2016 S/R #: 3618

Assigned To:	Ian Caldwell	**Request Taken By**	Richard
Name:	Heritage Apartments	**Includes all Activity Since:**	04/27/13
Address:	200 Leisure Way	**When are mosquitoes biting**	
City/Zip:	Vacaville	☐ Day ☐ Dusk ☐ Night	
CrossStreet:		☐ Inside ☐ Outside ☐ Sleeping	
HmPhone:		**Description:**	Mosquitoes
WkPhone:		**Suspected Source**	
SourceID:		**Sample Requested** ☐	
Dog Status:	Free ☐ Secured ☐ None ☑	**PondSize:**	Pond1

Notes

Date	Nature of Req	Comments	Technician
04/26/16	Mosquitoes	Caller said pool is green, please check out	Caldwell, Ian

Date:_____ **Employee:**_____ **New Source: Yes**___ **No**___

Specie Code	Material Code	Amount	Measure
_____	_____	_____	_____
_____	_____	_____	_____

Comments: _____

Pesticide Application Plan (PAP) for the NPDES Vector Control Permit Application of the Solano County Mosquito Abatement District

1. Target areas: surface waters and waters of the U.S. Within Solano County, CA. Map of Solano County enclosed.

In prior years, the District has either applied larvicides directly to, or adulticides within the vicinity of the following water bodies:

Lake Solano
West fork of McCune Creek-tributary to Putah Creek
Miller Canyon Creek-tributary to Putah Creek
Putah South Canal
Pleasant Creek, tributary to Putah Creek
Southeast fork of McCune Creek-tributary to Sweeney Creek
Gibson Canyon Creek-tributary to Sweeney Creek
West fork of Sweeney Creek-tributary to Putah Creek
English Creek-tributary to Putah South Canal
Southeast branch of Sweeney Creek-tributary to Ulatis Creek
Ulatis Creek-tributary to Main Prairie Slough
Alamo Creek-tributary to Ulatis Creek
Encinosa Creek-tributary to Alamo Creek
Laguna Creek-tributary to Alamo Creek
Hass Slough-tributary to Cache Slough
Main Prairie Slough-tributary to Cache Slough
Soda Springs-tributary to Laurel Creek
Laurel Creek-tributary to McCoy Creek
McCoy Creek-tributary to Hill Slough
Ledgewood Creek-tributary to Peytonia Slough
Union Creek-tributary to Hill Slough
Dry Road Creek-tributary to Wildhorse Creek
Wildhorse Creek-tributary to Green Valley Creek
Dan Wilson Creek-tributary to Green Valley Creek
Green Valley Creek-tributary to Cordelia Slough
Suisun Creek-tributary to Suisun Slough
Boynton Slough-tributary to Suisun Slough
Well Slough-tributary to Suisun Slough
Shelldrake Slough-tributary to Suisun Slough
Volanti Slough-tributary to Suisun Slough
Denverton Slough-tributary to Nurse Slough
Loco Slough-tributary to Nurse Slough
Hastings Slough-tributary to Nurse Slough
Nurse Slough-tributary to Little Honker Bay
Hornan Slough-tributary to Suisun Slough

Hastings Slough-tributary to Montezuma Slough (se)
Suisun Slough-tributary to Grizzly Bay (upper portion of Suisun Bay)
Montezuma Slough (sw-tributary to Grizzly Bay)
Montezuma Slough (se-tributary to Sacramento River)
Goodyear Slough
Southampton Bay
North Rindler Creek- tributary to Lake Chabot
Lake Chabot- drains to Chabot Creek
Central Rindler Creek- tributary to Lake Chabot
South Rindler Creek- tributary to Lake Chabot
Turner Creek-tributary to Lake Chabot
San Pablo Bay

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:

California Department of Fish and Game properties in the Suisun Marsh
Collinsville Levee Maintenance District
Solano Irrigation District
2068 Reclamation District
Main Prairie Water District
Rural North Vacaville Water District
Private Duck Clubs in the Suisun Marsh
Reclamation District No. 501 (Ryer Island)
Reclamation District 536 (Egbert Tract)
Reclamation District 1607 (Van Sickle Island)
Reclamation District 2034
Reclamation District 2060 (Hastings Tract)
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Reclamation District 2136 (Grizzly West)
Reclamation District 2138 (Morrow Island)
Reclamation District 2139 (Can Can/Greenhead)
Reclamation District 2141 (Joice Island)
Reclamation District 2142 (Suisun Slough West)

2. **Please see the following enclosed references that identify the factors influencing the decision to select pesticide applications for vector control:**

In order to access documents (a)-(e) it is necessary to first go to the California Department of Public Health Website first by typing : http://westnile.ca.gov/
Then choose The California Department of Public Health West Nile Virus/Resources/

a. **Best Management Practices for Mosquito Control in California. 2012.**
California Department of Health Services, Vector-Borne Disease Section
http://westnile.ca.gov/
The California Department of Public Health West Nile Virus/Resources/Mosquito Control and Repellent Information/Best Management Practices for Mosquito Control in California-June 2011.pdf

b. **California Mosquito-Borne Virus Surveillance & Response Plan. 2015.**
California Department of Health Services, Vector-Borne Disease Section
http://westnile.ca.gov/
The California Department of Public Health West Nile Virus/Resources/Response Plans and Guidelines/2011 California Mosquito-borne Virus Surveillance and Response Plan.pdf

c. **Operational Plan for Emergency Response to Mosquito-Borne Disease Outbreaks. 2013**. California Department of Health Services, Vector-Borne Disease Section.
http://westnile.ca.gov/
The California Department of Public Health West Nile Virus/Resources/Response Plans and Guidelines/2011 California Mosquito-borne Virus Surveillance and Response Plan.pdf

d. **Overview of Mosquito Control Practices in California. 2008.** California Department of Health Services, Vector-Borne Disease Section
http://westnile.ca.gov/
The California Department of Public Health West Nile Virus/Resources/Mosquito Control and Repellent Information/Overview of Mosquito Control Practices in California.pdf

e. **Epidemic/Epizootic West Nile Virus in the United States: Guidelines for Surveillance, Prevention, and Control. 2003.** U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
http://westnile.ca.gov/
The California Department of Public Health West Nile Virus/Resources/Response Plans and Guidelines/CDC Guidelines for WNV Surveillance, Prevention, and Control.pdf

2.

f. **Pesticides and Public Health: Integrated Methods of Mosquito Management. 2001.** U.S. Environmental Protection Agency. **(/eid/article/7/1/70-0017_article.htm#comment)**

g. **Solano County Mosquito Abatement District Integrated Management Practices. 2011 (Previously included as attachment g.)**

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

The NPDES Permit for Biological and Residual Pesticide Discharges to Waters of the U.S. from Vector Control Applications was amended to list the approved active ingredients rather than having specific product named. All pesticide label restrictions and instructions will be followed for pesticides which contain the active ingredients below. In addition, pesticides which fall under the "minimum risk" category may be used. The minimum risk pesticides have been exempted from FIFRA requirements. Products will be applied by truck, backpack, hand can, broadcast spreaders and aircraft.

Active Ingredients

Bacillus thuringiensis subsp. Israelensis (Bti)
Bacillus sphaericus (Bs) (Lysinibacillus sphaericus)
Methoprene
Monomolecular Films
Petroleum Distillates
Spinosad
Temephos
Deltamethrin
Etofenprox
Malathion
Naled
N-octyl bicycloheptene dicarboxomide (MGK-264)
Piperonyl butoxide (PBO)
Permethrin
Prallethrin
Pyrethrin
Resmethrin
Sumithrin

Any minimum risk category pesticides that are FIFRA exempt and registered for use in California and used in a manner specified in C.F.R. section 152.25

4. Following is a general description of the types of application areas (also known as "Source Types" in Solano County that are being planned to be applied or may be applied:

Swimming Pool	Pasture Ditch	Valve Box
Ponds	Flooded Pasture	Waste/Sewer Pond
Water Trough	Strip Check Pasture	Roadside Ditch
Retention Basin	Sump	Depression/Swale
Manmade Pond	Tail Water Drain	Duck Club
Fish Ponds	Septic Tank	Tidal Marsh
Dredge Spoil Pond	Container	Reclaimed Marsh
Permanent Pond	Tires	Streams/Creeks
Alfalfa	Waterline Leak	Tree hole
Row Crop	Electrical Box	
Contour Pasture	Catch Basin	

5. The other control strategies used and their limitations include:

A. Biological control

Biological control is the intentional use of natural predators, pathogens or parasites to reduce the size of target mosquito populations to tolerable levels. Biological control agents of mosquito larvae include predatory fish, predatory aquatic invertebrates and mosquito pathogens. Of these only mosquitofish are available in sufficient quantity for use in mosquito control programs. Natural predators may sometimes be present in numbers sufficient to reduce larval mosquito populations. Biological control is sometimes used in conjunction with selective bacterial or chemical insecticides. The use of biological control is a primary method of control if the use of other control methods presents environmental concern and current vector populations are low or tolerable. The use of biological control organisms and strategies is limited to those that have been researched and field-tested against target and non-target organisms. In addition, any biological control organism to be considered for use by the District will also be recognized and authorized by appropriate federal, state, and local agencies.

B. Legal abatement

Legal abatement is the process of preventing vectors through the enactment of legislation that enforces control measures or imposes regulations to prevent the production, introduction, or spread of pests and vectors. Legal abatement includes the use of federal, state and local guidelines and laws designed to prevent the creation and/or harborage of pests and vectors. The District regularly enforces the California Health and Safety Code, which specifically addresses the creation and/or harborage of vectors and vector breeding sites.

C. Natural control

Natural control is a pest management strategy in which the environment is disturbed as little as possible. Reliance is placed on naturally occurring parasites, predators, and diseases to control vectors. One scientific definition of natural control is "...the maintenance of a fluctuating population density within definable upper and lower limits over a period by the combined effects of abiotic and biotic elements in the environment." Natural control is sometimes difficult to implement or assess due to the amount of man-made or manipulated vector sources found in the District. Natural control is advocated for sites that are remote and undisturbed, to the least amount practical, for the individual vector species being contemplated for control.

D. Physical control

Physical control, or habitat modification, is achieved by altering the major ecological components of the vector's environment associated with the establishment and production of the mosquito's immature stages. The primary operational objective of physical control is to reduce the vector carrying capacity of a site to preclude the use of control methods that would adversely impact the environment and wildlife. The District no longer performs any physical control work itself. When cleaning of existing drainage ways becomes necessary, the work is performed by another agency having suitable equipment and expertise. Additionally, the District routinely reviews and comments on proposed projects within Solano County being considered by various public entities, thus providing opportunities to "design out" mosquito breeding conditions prior to construction and development.

6. **The amount and type of product needed and how this amount was determined is difficult to project on a prospective basis, however, the District can provide the amount and type of products used in 2015 as an estimate of what may be used in 2016 and future years. Below is the 2015 information:**

Product Name	EPA REG. #	AMOUNT USED	# OF APPLICATIONS	ACRES TREATED
ADULTICIDES				
M.G.K. Pyrocide for ULV Fogging 7067	1021-1569	307.20 gal	467	45278.409
LARVICIDES				
BVA2 Mosquito Larvacide oil	70589-1	83.08	21	17.025
FourStar 180 day Briquets	83362-3	5.9490	2	.1430
Zoecon Altosid Pellets Mosquito Growth Regulator	2724-448	4259.75 lb.	288	1409.208
Zoecon Altosid Liquid Larvicide Mosquito Growth Regulator	2724-392	375.83 gal.	131	12026.7
Zoecon Altosid XR Extended Residual Briquets	2724-421	184.01 lb.	223	5.076
Zoecon Altosid SBG Single Brood Granule	2724-489	896.0 lb.	2	128.0
Zoecon Altosid SBG II Single Brood Granule	75318-8-89459	910 lb.	2	130.0
Agnique MMF Mosquito Larvicide & Pupacide	53263-28	.27 gal	13	0.3

7. **Representative monitoring locations and justification for selecting these locations are provided in the MVCAC Coalition Monitoring Plan.**

8. **Examples of specific BMPs that the agency uses and examples of where they have been implemented in the past.**

Biological control-

Mosquitofish are stocked (or distributed) into isolated ponded areas of creeks or tributaries such as: Alamo Creek

Encinosa Creek
English Creek
Horse Creek
Laurel Creek
Pleasant Creek
Pine Tree Creek
Putah Creek
Sweeney Creek
Ulatis Creek

- Guidelines prevent seasonal stocking in natural habitats during times of year when amphibian larvae or other sensitive species/life stages may be present.
- Some seasonally inundated retention basins are stocked with fish. Locations are: at the end of Doyle Lane, on 1st Street and at the corner of Porter and Pittschool Rd. in Dixon.
- When suitable conditions exist, mosquitofish can be stocked in unmaintained swimming pools.
- The public can obtain mosquitofish from the District to stock livestock troughs, ornamental ponds and other artificial containers.

Natural predators: aquatic invertebrates:

A number of aquatic invertebrates are natural predators of mosquito larvae and , including:

- diving beetles
- dragonfly and damselfly naiads
- backswimmers
- water bugs
- hydra

In some instances, seasonally flooded ponds for waterfowl habitat may contain enough aquatic invertebrates to control *Culex tarsalis* immatures to an acceptable level, eliminating the need for a second treatment with a pesticide.

Physical Control-

Physical control may be categorized into three areas: "maintenance," "new construction," and "cultural practices." Maintenance activities include the removal of sediments from existing water circulation ditches, repair of existing water control structures, removal of debris, weeds and emergent vegetation in natural channels, clearance of brush for access to streams tributary to wetland areas and filling of existing, non-functional water circulation ditches to achieve required water circulation dynamics and restore ditched wetlands. The District contracts with another agency having suitable equipment and expertise to perform the necessary maintenance on existing drainage ways.

Examples areas within the District where maintenance has been done within the last 3 years are:

(1) Removal of vegetation and sediment from 1,700 ft. of "Type A ditches" (small ditches up to 18 x 24 inch max.) lateral circulation ditches located 3.5 miles west of Mare Island in Vallejo and south of Hwy. 37, along the San Pablo Bay marsh in order to improve water circulation and reduce mosquito production.

(2) Removal of vegetation and sediment from 4,300 ft. of "Type A ditches" located on the south end of Mare Island near the Carquinez Strait and along the San Pablo Bay marsh in order to improve water circulation and reduce mosquito production.

Annual meetings are held with the California Department of Fish and Game (Grizzly Island/Suisun Marsh) prior to the upcoming waterfowl season to discuss the District's findings from the previous season and any subsequent recommendations for maintenance and "cultural practices" such as water management to help reduce mosquito production problems.

A similar meeting is held with the Suisun Resource Conservation District to discuss the District's recommendations for maintenance and water management practices on seasonal wetland habitat that is privately owned in the Suisun Marsh.

Recommendations were made to one Reclamation District that involved the removal of excessive vegetation from supply ditches, disking areas with excessive pickleweed cover and the creation of a swale which in combination should facilitate the drain-down of a significant portion of the ponds. This in turn is intended to reduce the amount of acreage requiring pesticide treatment.
District staff reviews proposals for wetlands construction to assess their impact on mosquito production. Any necessary comments are made and appropriate guidelines are submitted regarding design and maintenance that will eliminate or greatly reduce the production of mosquitoes.

3. Limitations to the usage of alternative larval control methods include:

   - Mosquitofish may not be suitable due to water quality issues.
   - In ponds that are seasonally flooded for waterfowl habitat mosquitofish have not been found to successfully control *Aedes melanimon* larvae due to the enormous number of eggs (previously deposited on damp soil or at the base of vegetation) that hatch synchronously when inundated.
   - A lack of resources for physical control or habitat manipulation, legal restrictions prohibiting the necessary improvements due to the presence of endangered species.

9. Items 2a. through 2g. (above) were used in the evaluation of available BMP's for the determination of feasible alternatives to selected pesticide applications that could reduce potential water quality impacts.

2 a. pages 4-20 and 26-34
b. pages 4-20 and 22-34
c. pages 4-10 and 19
d. pages 10-25
e. pages 7-17 and 27-35
f. pages 2- 4
g. pages 5- 9

10. Items 2a. through 2g. (above) describe the BMP's to be implemented.

2 a. pages 4-20 and 26-34
b. pages 4-20 and 22-34
c. pages 4-10 and 19
d. pages 10-29
e. pages 7-17 and 27-35
f. pages 2- 4
g. pages 4- 14

11. Prior to the first pesticide application covered under the 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 District will do the following for each vector management area:

a. Utilize vector identification and surveillance techniques identified in the Best Management Practices for Mosquito Control in California (item 2.a. above-pages 4-20 and 26-34), the California Mosquito-Borne Disease Surveillance and Response Plan (item 2.b. above-pages 4-20 and 22-34) to identify vector species in the development of species-specific pest management strategies;
b. Utilize the District's mosquito surveillance and control record keeping system (Access database), Department of Health's data sets to analyze existing surveillance data for the identification of new or unidentified sources of vector problems as well as areas that may have recurring vector problems.

12. The District will utilize the resources identified in 2a. pages 4-20 and 26-27, 2b. page 8, 2c. pages 4-10 and 19, 2d. pages 11-14, 2e. pages 30-32, 2f. page 2, and 2g. pages 6-9 (above) in the examination of the alternatives to pesticides. If there are no alternatives to pesticides, the District, to the extent practical, will use the least toxic pesticide necessary to control the target vector, and will only apply pesticides when vectors are present at levels identified in CDPH BMP's (item 2a. above, pages 26-34.) and CDPH Mosquito-Borne Disease Surveillance and Response Plan (item 2b. above, pages 9-15).

13. The District will ensure that all reasonable precautions are taken to minimize the impacts caused by pesticide applications, and will comply with all regulations related to pesticide application, mixing, storing, and transport. The District is signatory to a Cooperative Agreement administered by the California Department of Public Health (copy attached) regarding pesticides, and agrees to: 1) calibrate all application equipment, 2) seek assistance from the Solano County Agricultural Commissioner (SCAC) for the interpretation of pesticide labeling, 3) maintain records of each pesticide application for two or more years, 4) to submit monthly pesticide use reports to the SCAC. 5) to report to the SCAC and CDPH-VBDS any suspected adverse issues resulting from a pesticide application, 6) to certify and routinely train pesticide applicators, and 7) to be inspected by the SCAC to ensure that our activities are in compliance with the laws and regulations related to pesticide application.

14. Public notices specified in Section VII of the permit will be posted on the District's *website, www.solanomosquito.com.*