

Kings Mosquito Abatement District

Post Office Box 907 Hanford, CA 93232

RECEIVED

FEB 28 2012

DIVISION OF WATER QUALITY

Michael J. Cavanagh
District Manager

Steven F. Gilles
Assistant Manager/Biologist

Dave Hickey
Superintendent

District Office
10871 Bonney View Lane
Hanford, California 93230
Phone (559) 584-3326
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office@kingmosquito.net

Board of Trustees
Bobby Lee, President
Lemoore
Len Giuliani, Vice President
Kings County
Cindy Harris, Secretary
Corcoran
Joe Machado
Tulare County
Bill Gundacker
Hanford

February 13, 2012

State Water Resources Control Board
Attn: Phil Isorena, NPDES Unit: 15th Floor
PO Box 100
Sacramento, CA 95814-0100

RE: NPDES Permit Application

Dear Mr. Isorena,

Please find the enclosed documents relating to the Kings Mosquito Abatement District's application for the California Water Quality Order No. 2011-0002-DWQ General Permit No. CAG 990004.

Sincerely,

Michael Cavanagh
District Manager
Kings Mosquito Abatement District
559-584-3326

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ATTACHMENT G – NOTICE OF INTENT

WATER QUALITY ORDER NO. 2011-0002-DWQ
GENERAL PERMIT NO. CAG 990004

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# _____

II. DISCHARGER INFORMATION

A. Name KINGS MOSQUITO ABATEMENT DISTRICT			
B. Mailing Address PO BOX 907			
C. City HANFORD	D. County KINGS	E. State CA	F. Zip Code 93232
G. Contact Person MICHAEL CAVANAGH	H. Email address cavanagh@kingsmosquito.net	I. Title DISTRICT MANAGER	J. Phone 559.584.3326

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)*:

- Canals, ditches, or other constructed conveyance facilities owned and controlled by Discharger.
 Name of the conveyance system: _____
- 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: _____
- Directly to river, lake, creek, stream, bay, ocean, etc.
 Name of water body: KINGS RIVER, CROSS CREEK, TULE 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. Pesticides Used: List name, active ingredients and, if known, degradation by-products
SEE ATTACHED PESTICIDE ACTION PLAN (PAP)

C. Period of Application: Start Date FEBRUARY 1, 2012 End Date ONGOING

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 PAP 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

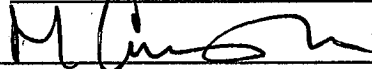
Have you included payment of the filing fee (for first-time enrollees only) with this submittal?

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

A. Printed Name: MICHAEL CAVANAGH

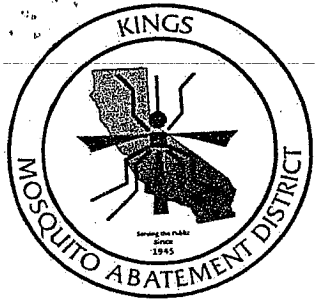
B. Signature: 

Date: 2-13-2012

C. Title: DISTRICT MANAGER

X. FOR STATE WATER BOARD USE ONLY

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



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Kings County
Cindy Harris, Secretary
Corcoran
Joe Machado
Tulare County
Bill Gundacker
Hanford

Date

Agency Name
Agency Address

Re: Pesticide Application Notification

Dear Agency,

The Kings Mosquito Abatement District (District) may be making larvicide and/or adulticide applications to waters of the U.S. under your jurisdiction for mosquito control purposes. The District is required to notify all government agencies that may be affected by these applications under the requirements of the General NPDES Permit for Biological and Residual Pesticide Discharges from Vector Control Applications. Please contact the District at 559-584-3326 if you have any questions.

Sincerely,

Michael Cavanagh
District Manager
Kings Mosquito Abatement District
559-584-3326

FEB 28 2012

DIVISION OF WATER QUALITY

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 Kings Mosquito Abatement District (District) is primarily located in the northern third of Kings County. The District services 560 square miles, as well as 34 square miles of Tulare County. 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. Also 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;

The following lists of products may be used by the District for larval or adult control. This list is directly from Attachments E and F within the NPDES Permit for Biological and Residual Pesticide Discharges to Waters of the U.S. for Vector Control Applications. All of these 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).

List of Permitted Larvicide Products

Larvicide Product Name	Registration Number
Vectolex CG Biological Larvicide	73049-20
Vectolex WDG Biological Larvicide	73049-57
Vectolex WSP Biological Larvicide	73049-20

Larvicide Product Name	Registration Number
Vectobac Technical Powder	73049-13
Vectobac-12 AS	73049-38
Aquabac 200G	62637-3
Teknar HP-D	73049-404
Vectobac-G Biological Mosquito Larvicide Granules	73049-10
Vectomax CG Biological Larvicide	73049-429
Vectomax WSP Biological Larvicide	73049-429
Vectomax G Biological Larvicide/Granules	73949-429
Zoecon Altosid Pellets	2724-448
Zoecon Altosid 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
Mosquito Larvicide GB-1111	8329-72
BVA 2 Mosquito Larvicide Oil	70589-1
BVA Spray 13	55206-2
Agnique MMF Mosquito Larvicide & Pupicide	53263-28
Agnique 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 Briquets	83362-3
FourStar SBG	85685-1
Aquabac xt	62637-1
Spheratax SPH (50 G) WSP	84268-2
Spheratax SPH (50 G)	84268-2

List of Permitted Adulticide Products

Adulticide Product Name	Registration Number
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
Aquahalt Water-Based Adulticide	1021-1803
Pyrocide Mosquito Adulticide 7453	1021-1803
Pyrenone 25-5 Public Health Insecticide	432-1050
Prentox Pyronyl Oil Concentrate #525	655-471
Prentox Pyronyl Oil Concentrate or 3610A	655-501
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+4	8329-35
Kontrol 2-2	73748-3
Scourge Insecticide with Resmethrin/Piperonyl Butoxide 18%+54% MF Formula II	432-667
Scourge Insecticide with Resmethrin/Piperonyl Butoxide 4%+12% MF Formula II	432-716
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

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 as described in Item 2 above and Best Management Practices for Mosquito Control in California. 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 Kings River, Cross Creek, and the Tule River.

Please see Attachment 1

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. 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 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 2011 PUR as an estimate of pesticide use in 2012. 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 2011

Product Name	EPA Reg #	Amount	Unit
Agnique MMF	53263-28	652.40	gal
Agnique MMF G	53263-30	1.50	lbs
Altosid Pellets WSP	2724-448	441.56	lbs
Altosid ALL	2724-392	57.37	gal
Altosid XR Briquet	2724-421	16.37	lbs
Altosid XR-G	2724-451	80.00	lbs
Anvil 2+2 ULV	1021-1687	69.39	gal
Anvil 10+10 ULV	1021-1688	1.41	gal
Aquabac 200G	62637-3	2352.86	lbs
BVA2 Larvicide	70589-1	59.72	gal
Evergreen EC 60-6	1021-1770	6.40	gal
Golden Bear 1111	8329-72	0.99	gal
Natular 2EC	8329-82	1.07	gal
Pyronyl 525	655-471	4.47	gal
Teknar HP-D	73049-404	546.10	gal
Teknar SC	73049-435	711.20	gal
Trumpet EC	5481-481	6.09	gal
Vectobac G	73049-10	30406.66	lbs
Vectobac TP	73049-13	4172.80	lbs
Vectolex CG	73049-20	919.50	lbs
Vectolex WSP	73049-20	338.84	lbs

Total Use Waters of the U.S. 2011

Product Name	EPA Reg #	Amount	Unit
Agnique MMF	53263-28	25.00	gal
Altosid ALL	2724-392	9.88	gal
Anvil 2+2 ULV	1021-1687	8.91	gal
Aquabac 200G	62637-3	736.00	lbs
Pyronyl 525	655-471	0.30	gal
Teknar HP-D	73049-404	124.24	gal
Trumpet EC	5481-481	4.22	gal
Vectobac G	73049-10	6262.12	lbs
Vectobac TP	73049-13	225.05	lbs
Vectolex CG	73049-20	520.00	lbs

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. Also 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 District's BMPs are described in Item 2 above, 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. 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 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 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. description of specific BMPs for each type of environmental setting (agricultural, urban, and wetland).

Please see Item 2 and 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 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 Kings MAD

<i>Aedes melanimon</i>	<i>Culiseta incidens</i>
<i>Aedes nigromaculis</i>	<i>Culiseta inornata</i>
<i>Aedes sierrensis</i>	<i>Culex erythrothorax</i>
<i>Aedes vexans</i>	<i>Culex pipiens complex</i>
<i>Anopheles freeborni</i>	<i>Culex tarsalis</i>

The District may target any mosquito species found within the District's boundaries that represent a nuisance or public health threat. Also please see the Best Management Practices for Mosquito Control in California and the California Mosquito-borne Virus Surveillance and Response Plan 2011.

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 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.

The 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 vegetation growth in ponds, ditches, and 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 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.

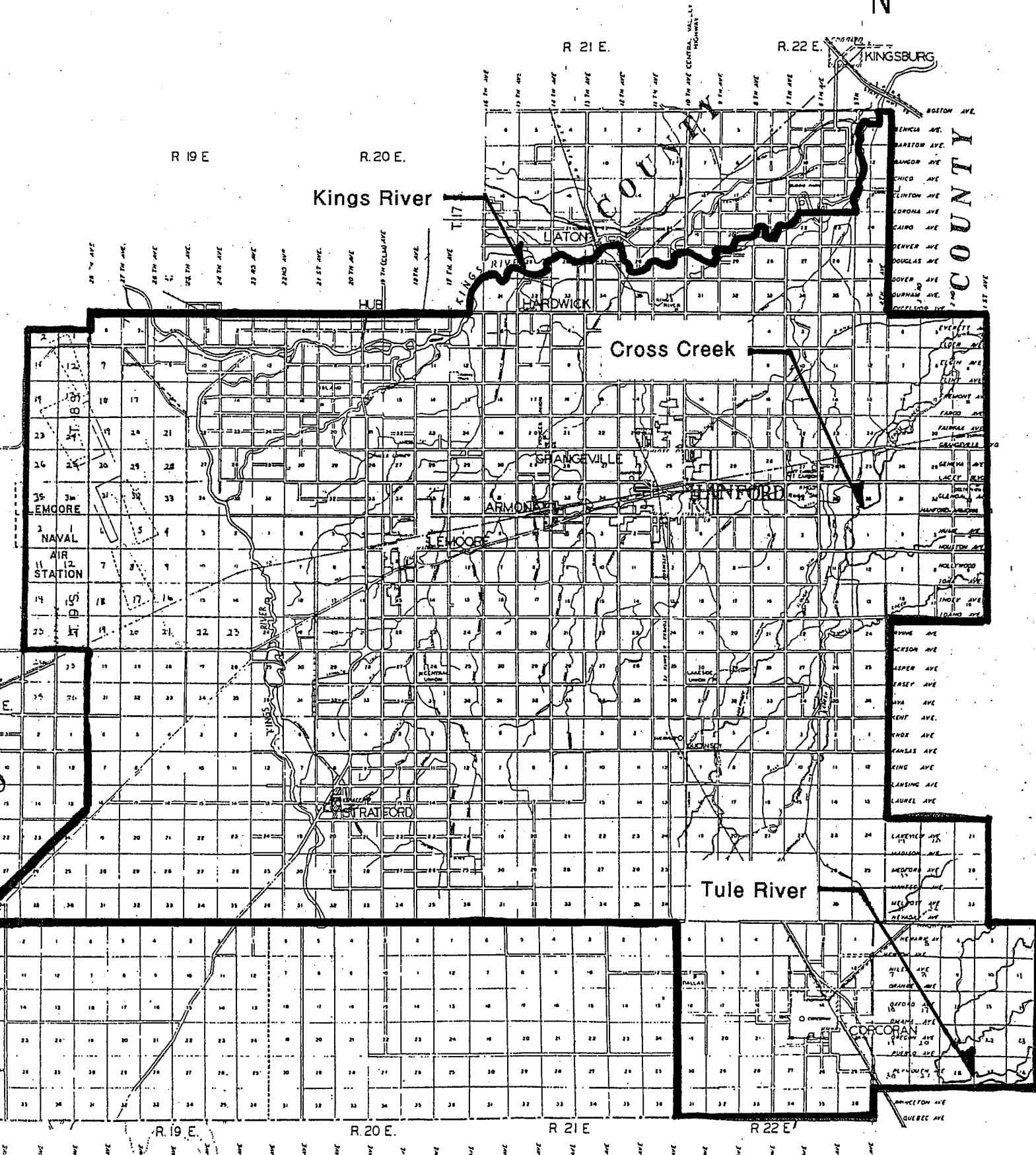
This is an existing practice of the District, and is required to comply with the Department of Pesticide Regulation's (DPR) requirements and the terms of our California Department of Public Health (CDPH) Cooperative Agreement. All pesticide applicators receive annual safety and spill training in addition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

13. If applicable, specify a website where public notices, required in Section VIII.B, may be found.

Public notices are posted on the SWRCB website.

Kings Mosquito Abatement District

Attachment 1



References:

Best Management Practices for Mosquito Control in California. 2011. 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 Kings Mosquito Abatement District at (559) 584-3326.

California Mosquito-borne Virus Surveillance and Response Plan. 2011. [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 Kings Mosquito Abatement District at (559) 584-3326.

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

NOI Agency Mailing List

Alta Irrigation District
CA Dept of Fish & Game, Region 4
City of Hanford
City of Lemoore
City of Visalia
Consolidated Irrigation District
Corcoran Irrigation District
Crescent Canal Company
Empire West Side Irrigation District
John Heinlen Mutual Water Company
Kings County Agricultural Commissioner
Kings County Board of Supervisors
Kings County Public Works Parks Division
Kings County Water District
Kings River Conservation District
Kings River Water Association
Kings River Water District
Laguna Irrigation District
Lakeside Irrigation Water District
Last Chance Water Ditch Company
Lemoore Canal & Irrigation Company
Lower Tule River Irrigation District
Melga Water District
Naval Air Station Lemoore
Peoples Ditch Company
Salyer Water District
Tulare County Agricultural Commissioner
Tulare County Board of Supervisors
Tulare Lake Basin Water Storage District