

ATTACHMENT G – NOTICE OF INTENT

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

**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 type="checkbox"/> A. New Applicator <input checked="" type="checkbox"/> B. Change of Information: WDID# _____ <input type="checkbox"/> C. Change of ownership or responsibility: WDID# _____

II. DISCHARGER INFORMATION

A. Name Westlake Management Association			
B. Mailing Address 32353 w. Triunfo Canyon Rd.			
C. City Westlake	D. County Los Angeles	E. State CA	F. Zip Code 91361
G. Contact Person Carl Koenig	H. Email address clkoenig@aol.com	I. Title Lake Manager	J. Phone 818-889-5377

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: Westlake Lake

* 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 L.A. Region 4
(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
Vectobac 12AS; Vectobac G; Vectobac WDG—bacillus thuringiensis israelensis (BTI); no degradation byproducts

C. Period of Application: Start Date 4/1/2012 End Date 3/31/2013

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 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: Carl Koenig

B. Signature: _____

Date:

C. Title: Lake Manager

X. FOR STATE WATER BOARD USE ONLY

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

INSTRUCTIONS FOR COMPLETING THE NOI

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

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

These instructions are intended to help you, the Discharger, to complete the Notice of Intent (NOI) form for the Statewide General National Pollutant Discharge Elimination System (NPDES) permit. **Please type or print clearly when completing the NOI form.** For any field, if more space is needed, submit a supplemental letter with the NOI.

Send the completed and signed form along with the filing fee and supporting documentation to the State Water Resources Control Board (State Water Board).

Section I – Notice of Intent Status

Indicate whether this request is for the first time coverage under this General Permit or a change of information for the discharge already covered under this General Permit. For a change of information or ownership, please supply the eleven-digit Waste Discharge Identification (WDID) number for the discharge.

Section II – Discharger Information

- A. Enter the name of the Discharger.
- B. Enter the street number and street name where correspondence should be sent (P.O. Box is acceptable).
- C. Enter the city that applies to the mailing address given.
- D. Enter the county that applies to the mailing address given.
- E. Enter the state that applies to the mailing address given.
- F. Enter the zip code that applies to the mailing address given.
- G. Enter the name (first and last) of the contact person.
- H. Enter the email address of the contact person.
- I. Enter the contact person's title.
- J. Enter the daytime telephone number of the contact person.

Section III – Billing Address

Enter the information **only** if it is different from Section II above.

- A. Enter the name (first and last) of the person who will be responsible for the billing.
- B. Enter the street number and street name where the billing should be sent (P.O. Box is acceptable).

- C. Enter the city that applies to the billing address.
- D. Enter the county that applies to the billing address.
- E. Enter the state that applies to the billing address.
- F. Enter the zip code that applies to the billing address.
- G. Enter the email address of the person responsible for billing.
- H. Enter the title of the person responsible for billing.
- I. Enter the daytime telephone number of the person responsible for billing.

Section IV – Receiving Water Information

- A. Check all boxes that apply. At least one box must be checked.
 - 1. Check this box if the application area is a canal, ditch, or other constructed conveyance system owned and controlled by the Discharger. Print the name of the conveyance system.
 - 2. Check this box if the application area is a canal, ditch, or other constructed conveyance system owned and controlled by an entity other than the Discharger. Print the name of the owner and the name of the conveyance system..
 - 3. Check this box if the application area is to the river, lake, creek, stream, bay, ocean, etc. Print the name of the water body.
- B. List all Regional Water Board numbers where pesticide application is proposed. Regional Water Board boundaries are defined in section 13200 of the California Water Code. The boundaries can also be found on our website at http://www.waterboards.ca.gov/waterboards_map.shtml. The numbers with corresponding Regional Water Board names are given below:

Regional Water Board Numbers	Regional Water Board Names
1	North Coast
2	San Francisco Bay
3	Central Coast
4	Los Angeles
5	Central Valley (Includes Sacramento, Fresno, Redding Offices)
6	Lahontan (South Lake Tahoe, Victorville offices)
7	Colorado River Basin
8	Santa Ana
9	San Diego

Section V – Pesticide Application Information

- A. Check the appropriate target organism.
- B. List the name and active ingredients of each pesticide to be used.
- C. List the start and end date of proposed pesticide application event.
- D. List the name(s) and type(s) of adjuvants added by the Discharger.

Section VI – Pesticides Application Plan

The Discharger must prepare and complete a Pesticides Application Plan (PAP). The minimum contents of PAP are specified in the permit under item VIII.C of the General Permit. The Discharger must ensure that its applicator is familiar with the PAP contents before pesticide application.

If a PAP is not complete at the time of application, enter the date by which it will be completed.

Section VII – Notification

Have you notified potentially affected governmental agencies, as required under item VIII.B of the General Permit?

If yes, a copy of the notifications shall be attached to the NOI.

Section VIII – Fee

The amount of fee shall be based on Section 2200(b)(6) of Title 23, California Code of Regulations. Fee information can be found at http://www.waterboards.ca.gov/resources/fees/docs/fy10_11_fee_schedule.pdf. Check the YES box if you have included payment of the fee. Check the NO box if you have not included this payment.

Section IX– Certification

- A. Print the name of the appropriate official. For a municipality, State, federal, or other public agency, this would be a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of U.S. EPA).
- B. The person whose name is printed above must sign and date the NOI.
- C. Enter the title of the person signing the NOI.

Endangered Species Act

This General Permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 et. seq) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 et. seq). This General Permit requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Additional information on federally-listed threatened or endangered species and federally-designated critical habitat is available from NMFS (www.nmfs.noaa.gov) for anadromous or marine species or FWS (www.fws.gov) for terrestrial or freshwater species.

Section 303(d) List

This General Permit does not authorize the discharge of biological and residual pesticides or their breakdown by-products to waters of the US that are impaired by the same pesticide active ingredient or any pesticide in the same chemical family included in permitted larvicides and adulticides listed in Attachments E and F. Impaired waters are those waters not meeting quality standards pursuant to Section 303(d) of the CWA. California impaired waters, as approved by the State Water Board, are listed on

http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/2010_combo303d.xls



"Advancing the Science of Lake Management"

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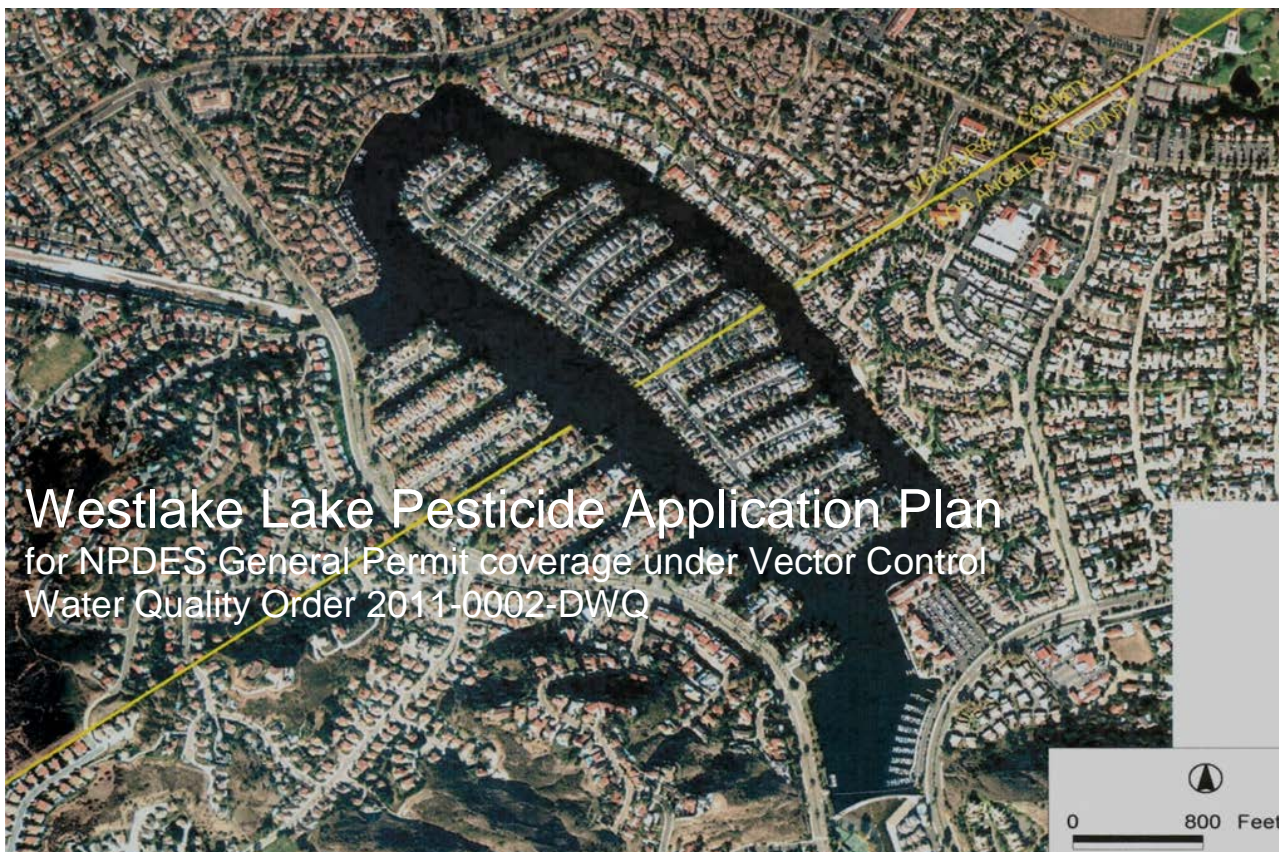
Notice of Intent to Apply Aquatic Pesticide—Larvicide Vectobac 12AS, Vectobac G, and Vectobac WDG (bacillus thuringiensis israelensis) to Westlake.

Westlake Management Association has contracted with AquaTechnex, LLC to apply a larvicide called Vectobac to Westlake. The active ingredient in Vectobac is a common bacteria strain called bacillus thuringiensis israelis or BTI. BTI is labeled for the control of aquatic midge larvae. Product names are Vectobac 12AS, Vectobac G and Vectobac WDG. BTI is highly target specific and has been found to have significant effects only on mosquito and aquatic midge larvae and closely related insects such as black flies. . BTI has no measureable toxicity to vertebrates and is classified by the US EPA as "Practically Non-Toxic". It comes with a Caution label.

These applications will be performed lake wide on Westlake between the months of April and October in order to keep midge populations under nuisance levels. Applications are to the entire water volume of Westlake, and are designed to maintain an effective control level throughout the water column. Post application, BTI biodegrades in 48-72 hours and leaves no detectable residue in the water. There are no post-application water use restrictions in regard to current allowable uses of Westlake, i.e. fishing and boating.

BTI contains naturally produced bacterial proteins generally regarded as environmentally safe. It leaves no residues and is quickly biodegraded. At the application rates used for midge control, BTI is unlikely to have any measureable effect on water quality. There are no established standards, tolerances or EPA approved tests related to BTI. Other naturally occurring strains of this bacterium are commonly found in aquatic habitats.

Any comments or concerns, contact Westlake Mangement Association at 818-889-5377, or AquaTechnex, LLC at 760-272-5842



Prepared by:

AquaTechnex, LLC

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Pesticide Application Plan and Statement of Best Management Practices for the Westlake Vector Control Program

For Water Quality Order No. 2011-0002-DWQ Statewide General National Pollution Discharge Elimination System (NPDES) for discharges of aquatic pesticides to Waters of the United States from Vector Control Applications

Background

Westlake is a 123 acre impounded lake system located within the City of limits of Westlake Village and Thousand Oaks California. The lake was created as the centerpiece of a planned community village. There are a number of homeowner associations that have been established by the various builders that have developed residential communities around the lake. The Westlake Lake Management Association was established to represent these homeowners associations and provide for the common management and protection of lake users and water quality within the lake system.

From time to time, Westlake experiences severe hatches of Aquatic Midges. Aquatic midges are mosquito like insects in the family Chironomidea. "Blind Mosquito" is a layman's term, which many use to refer to several species of these midges. Midges do not bite, suck blood or carry disease. Their occurrence and survival in certain eutrophic waters cause issues when they emerge in such large numbers to pose a nuisance by swarming outdoor areas.

The life history of the midge is presented in Appendix 1.

Westlake can experience severe hatches of aquatic midges, generally in the spring and early summer. Absent management, these hatches have a severe impact on the community. The adult swarms force residents to seal their homes to exclude the insects. They can not use their decks and patios during these times. The aquatic midge swarms generate an excessive amount of feces that builds up on decks, docks and boats damaging these surfaces and causing significant economic damage.

WLMA has studied this issue for a number of years and has developed a program of Best Management Practices (BMPS) based on the philosophy of Integrated Pest Management (IPM). Pesticide use is only one element of the IPM Strategy. Our IPM emphasizes the use of non chemical technologies whenever possible and is based on a program of continual monitoring of both adult and larvae midge populations and impacts on beneficial uses at Westlake.

This Plan supports WLMA's midge management program and the Notice of Intent filed with the Los Angeles Regional Water Quality Control Board to participate under the General National

Pollution Discharge Elimination System (NPDES) permit to apply aquatic pesticides for vector control in waters of the United States.

When aquatic pesticides are considered for use, only *Bacillus thuringiensis israelensis* biological larvacide are proposed for use in Westlake.

Research has shown that this larvacide has little or no lasting environmental impacts when directly applied to water bodies with the purpose and intent of killing aquatic midge larvae. This larvacide is extensively discussed in the General Permit. This material is a biological material and degrades rapidly in the environment, thus the aerial extent and duration of residues are considered negligible and do not remain beyond the intended purpose of the applied larvacide. When integrated with other strategies including biological and physical methods constituted safe and effective Best Management Practices (BPM's).

This document describes the Westlake Pesticide Application Plan and proposes a Monitoring Reporting Plan that is commensurate with the negligible effects of the larvacide proposed for use. Additionally, this larvacide applied at rates specified on the label and discussed in the General Permit, will not impact the physical parameters of the environment, (ie temperature, salinity, turbidity and pH).

Statement of Best Management Practices

Introduction

The basic components of an IPM program are:

1. Surveillance of aquatic midge populations both in the lake sediments and in the atmosphere
2. Determination of treatment thresholds
3. Selection from a variety of control options including physical, cultural, biological and chemical control technologies
4. Training and certification of applicators
5. Public education

Midge surveillance

Surveillance of midge populations is essential for assessing the necessity, location, timing and choice of appropriate control measures. Surveillance reduces the areal extent and duration of pesticide use, by restricting treatments to areas where midge populations exceed established thresholds. Information on the species, density, and stages present is used to select an appropriate control strategy from integrated pest management alternatives.

WLMA has retained an professional aquatic pesticide application business and lake management consultant to perform these applications. The Lake Management firm inspects the lake weekly throughout the six months where aquatic midge problems can occur. Their staff will monitor for midge larval presence and abundance. The WLMA lake patrol is staffed 24 hours per day and will perform visual inspection of adult midge densities during period of concern and the WLMA lake management office communicates with lake residents and records complaints when densities are problematic of adult aquatic midges. This information will be noted and used to determine when thresholds are exceeded.

Pre Treatment Thresholds/Decision Making

Beneficial uses for Westlake and the adjacent community include boating, fishing, moorage for electric powered vessels, residential including outside dining and commercial including outside restaurants. Excessive levels of adult midge impact all of these beneficial uses of the lake and surrounding environment. Treatment thresholds will be established that protect these beneficial uses from the impact of these organisms.

The primary method of control is biological through the management of the fishery within Westlake. The lake is stocked with sunfish and other insect predator species and fish stocking rates are adjusted to account for mortality. This has in the past four years mitigated the need for application of larvacides.

The threshold for treatment is established where adult aquatic midge density determined by insect counts and complaints exceed levels where nuisance and/or property damage conditions are present.

When these thresholds are exceeded, appropriate control strategies are selected and implemented to minimize potential environmental impacts while maximizing efficacy. The method of control selected is based on the above threshold criteria, plus water conditions and quality, weather conditions, cost, and water flow.

Types of target areas inspected and treated as needed

All of the main body of Westlake and the finger areas of the lake will be inspected on a regular schedule as noted above.

Treatment Strategies and Alternative Controls

Source reduction

In many vector control situations, source control is a viable strategy. Midges will lay eggs in any standing water area from lakes to swimming pools to ponded irrigation water in lawns. Source reduction is not a viable alternative for Westlake. This waterbody is a constructed 123 acre lake system impounded by a dam at the eastern end of the lake. It is not possible to reduce the source to control aquatic midge.

Physical Control

Physical control for insect vectors is an action that is also not possible for Westlake. The major proven physical control technologies involve reducing or eliminating vector developmental sites to reduce the need for chemical applications. In the case of Westlake, it is not a viable option.

Biological Control

Biological control is a viable option for Westlake and is the primary tool used in the management of aquatic midge. There are a number of species of fish that act as predators for both the larvae living in the lake sediments, the pupae in the water column transitioning to the lake surface to hatch and the adult hatch on the lake surface. Westlake has been stocked with catfish species at densities that have a significant impact on aquatic midge larvae in the lake sediments. A number of species of sunfish that prey on pupae and adults on the lake surface are also stocked at densities that have a significant impact on aquatic midge populations.

The biological control strategy involves monitoring the density of these predator fish species and augmenting them with stocking from local fish hatcheries when their numbers are reduced through fishing, consumption by bass and high predators and natural mortality. This strategy has kept problems species low during most periods of the year and have mitigated the need for regular treatments with pesticides.

This management strategy has no impact on lake water quality. Fish are a natural component of the aquatic ecosystem and their levels are supported by the food supply.

Microbial Insecticides

Microbial insecticides contain naturally produced bacterial proteins that are toxic to midge larvae when ingested in sufficient quantity. Although they are biological agents, any material applied to control a pest is considered a pesticide by the US EPA and applicable regulations they develop and enforce. These bio-pesticides are only considered pesticides because of the claims of control they provide and the regulations in the Federal Insecticide Fungicide Rotenticide Act that any such material must be labeled through the process the EPA has established.

While there are a number of bio-pesticides labeled for the control of mosquitoes, *Bacillus thuringiensis* var. *israelensis* or BTI is labeled for the control of aquatic midge larvae. Product names are Vectobac 12AS, Vectobac G and Vectobac WDG.

BTI is highly target specific and has been found to have significant effects only on mosquito and aquatic midge larvae and closely related insects such as black flies. It is available in a variety of liquid, granular and pellet formulations, which provides some flexibility in application methods, equipment and contact time. BTI has no measureable toxicity of vertebrates and is classified by the US EPA as "Practically Non-Toxic". It comes with a Caution label. BTI formulations contain a combination of five different proteins within a larger crystal. These proteins have varying modes of action and synergistically act to reduce the likelihood of resistance developing in larval target populations.

Bacterial insecticides must be fed upon by larvae in sufficient quantity to be effective. Therefore applications must be carefully timed to coincide with periods in the life cycle when larvae are actively feeding. Pupae and late 4th stage larvae do not feed and therefore would not be controlled by BTI. Low water temperature inhibits larval feeding behavior, reducing the effectiveness of BTI. High organic conditions also reduce the effectiveness of BTI. An increased frequency of surveillance of larval sources insures that bacterial insecticides can be applied during the appropriate stages of larval development to prevent adult midge emergence.

Impact on water quality: BTI contains naturally produced bacterial proteins generally regarded as environmentally safe. It leaves no residues and is quickly biodegraded. At the application rates used for midge control, BTI is unlikely to have any measureable effect on water quality. There are no established standards, tolerances or EPA approved tests related to BTI. Other naturally occurring strains of this bacterium are commonly found in aquatic habitats.

Chemical Control Strategies

There are a number of chemical pesticides labeled by the EPA for application to lakes and the atmosphere to target both larvae and adult aquatic midges and other insect vectors. WLMA is not considering the use of these technologies at this point.

Training and Certification

Aquatic pesticide applications are very different from terrestrial applications. The team making these applications when necessary are certified and licensed by the California Department of Agriculture to apply aquatic pesticides. All aquatic pesticide applicators are required to obtain in excess of 20 hours of continuing education during their relicensing period. The continuing education that our group seeks out focus specifically on aquatic herbicide use and technologies. New personnel are required to study for and obtain an applicator's license with an aquatic

endorsement. They are then teamed with experienced staff that mentor them in the correct procedures and practices that meet permit, label and environmental requirements.

Oversight/Review of Control

The aquatic specialists that will be part of this effort are trained and licensed to apply aquatic pesticides. They operate under the review of the California Department of Agriculture and the Ventura and Los Angeles County Agricultural Commissioners through their license and yearly registration with those entities.

All aquatic pesticide applications are different based on the pesticide being applied, the rate of application, and the site where the pesticide is being applied. The first step is the development of a specific treatment plan for the site in question on the day in question. Once water depths, surface area and contact exposure time and water exchange considerations are made, an amount of pesticide is selected and brought to the treatment site for application. The application equipment must then be calibrated for output based on those factors and rates. Generally for either liquid or granular application systems, the first step the applicator takes at the site is a flow test. The pump/eductor/blower/spreader equipment is run for one minute and the discharged pesticide is collected and measured. This output is then set and the boat speed and application swath width are set to insure even and effective application.

The applicator is required to complete a pesticide application record at the site after completion of the application. This record notes the personnel present, their licensing information, the products applied with their EPA registration numbers, the amount of material applied and the acreage treated with a map as well as other key information such as presence of pests in excess of established thresholds. These records are maintained as required by the State Department of Agriculture and the NPDES general permit to apply vector control agents.

In addition, a Pesticide Use Report is developed on Department of Pesticide Regulation form PR-ENF-060. This report documents all material used in the County of use, and includes the manufacturer and product name, the EPA registration number from the label, the total amount used and the number of applications per month.

The team will note and report to the CAC and CDPH any conspicuous or suspected adverse effects upon humans, domestic animals and other non target organism or property from the application of any pesticide.

Public Education

This can be a critical part of any vector control operation. Our team works with the Ventura County Vector Control Program in that they have excellent resources for the public in terms of education on these subjects. The VCP provides public outreach in the form of presentations upon request, as well as through media such as newspapers television and radio. Information is provided on biological, physical and cultural methods of control that property owners and managers can use to preclude or reduce the vector and nuisance pests in their locations. That Department maintains a web site at

http://www.ventura.org/rma/envhealth/programs/tech_serv/vector/index.html

In addition, WLMA communicates with its membership through provision of an annual report that documents the program, provides a Lake Management office and staff to field quesitons. The program does not utilize pesticides for vector control that place a restriction on the use of treated water for swimming, boating or other activities.

Public notification will also include information required in the NPDES General Permit under the appropriate sections of that document.

Monitoring and Reporting Program

WLMA is seeking coverage under the General Permit for the discharges of aquatic pesticides to surface waters as is allowed by that permit. As stated in Attachment C of the General Permit, the Monitoring and Reporting Plan or MRP is designed to address the following two key questions:

1. Does the biological or residual pesticide form applications cause an exceedance of receiving water limitation or monitoring triggers?
2. Does the biological or residual pesticide, including active ingredients, inert ingrediants and degradation byproducts, in any combination, cause or contribute to an exceedance of the "no toxics in toxic" amount narrative toxicity objective?

As stated on page 7, in the General Permit, Section III m H "Regional Water Quality Control Plans (Basin Plans) include a narrative toxicity objective ("no toxics in toxic amounts") which specifically prevents the presence of toxic substances, individually or in combination, in concentrations that product detrimental physiological responses in human, plant, animal or aquatic life. Since information regarding residual pesticides deposited in the receiving water as a result of larvicide applications for vector control is not adequate to develop receiving water limitations for individual and combinations of pesticide, this General permit only contains receiving water monitoring triggers for residual pesticides of concern".

As stated in the General Permit Attachment D, Section VI, B.1.a, microbial pesticides have undergone extensive testing prior to registration. USEPA has determined that microbial pesticides are essentially non toxic to humans and do not pose risks to wildlife, non target species or the environment when they are used according to label directions. Therefore, the General Permit does not include a Receiving Water Monitoring Trigger for BTI, the only formulations proposed for use on this project.

Implementation of nontoxic or least toxic control alternative within a BMP eliminated the need for larvicide residual monitoring.

I. Characterization of Pesticide Application Project for Westlake

Types of sources treated.

Activities of our applicator are directed toward control of aquatic midge in their aquatic, larval stage. This approach allows control activities to be concentrated in localized areas within the treatment area using the least toxic materials. Adult midge will not be targeted using aquatic pesticides. This permit does not cover the use of adult pesticides and no adult pesticide use on or over the lake is contemplated here.

II. Pesticide Use and Assessment of Impacts

Pesticides currently used by our applicator are bio-larvicides described above in this PAP, our applicator when necessary will be using only these products within the lake.

A. Bacterial larvicides consist of spores of certain species of bacteria containing naturally produced proteins, which are toxic to midge larvae when ingested in sufficient quantities. Although they are biologically derived agents, products containing them are labeled and registered by the Environmental Protection Agency as pesticides.

Bacillus thuringiensis var. *israelensis* (BTI), product names Vectobac 12AS, Vectobac G, Vectobac WDG. BTI is highly target specific and has been found to have significant effects only on midge and mosquito larvae, and closely related insects. It is available in a variety of liquid, granular and pellet formulations, providing some flexibility in application methods and equipment. BTI has no measurable toxicity to vertebrates and is classified by EPA as Practically Non Toxic. BTI formulations contain a combination of five different proteins within a larger crystal. These proteins have varying modes of action and synergistically act to reduce the likelihood of resistance developing in larval mosquito and midge populations.

Bacterial insecticides must be fed upon by larvae in sufficient quantity to be effective. Therefore applications must be carefully timed to coincide with periods in the life cycle when larvae are actively feeding. Pupae and late 4th stage larvae do not feed and therefore will not

be controlled by BTI. Low water temperature inhibits larval feeding behavior, reducing the effectiveness of BTI during cooler months. The presence of high concentrations of organic material in treated water can also reduce the effectiveness of BTI. Cost per acre treated is generally higher than surfactants or organophosphate insecticides.

Increasing the frequency of surveillance for larvae can ensure that bacterial insecticides are applied during the appropriate stages of development to prevent adult midge emergence.

Impact on Water Quality: BTI contains naturally produced bacterial proteins, which are generally regarded as environmentally safe. Naturally occurring strains of this bacterium are ubiquitous in aquatic habitats. BTI leaves no residues and is quickly biodegraded. At the application rates used for midge control this product is unlikely to have any measurable effect on water quality. There are no established standards, tolerances or EPA approved tests for this material.

BTI is applied by WLMA in a granular or liquid formulation. Application is by hand, backpack blower, or boat mounted injection system for liquid applications. Persistence is low in the environment, usually lasting three to five days. Kills are usually observed within 48 hours of ingestion.

Relevance of Water Quality Analysis for the demonstration of full restoration following project completion:

Midge control projects are ongoing and do not have a specific duration or date of completion, since the goal is to prevent midge populations from exceeding specific injury levels rather than to eradicate them. As in the above Statement of BMP, surveillance of larval sources is conducted on a continuous basis and treated areas are applied as necessary to prevent significant nuisance or disease risks to the public. The materials used are applied at extremely low doses relative to the volume of the habitat, are inherently less toxic or least toxic materials and are not known to have measurable impacts on water quality. However, existing water quality conditions may have significant impacts on the selection and efficacy of control methods applied.

WLMA and Aquatechnex is forecasting the use of the following products and amounts during the 2012 treatment season:

Pesticide	EPA #	Amount
Valent Vectobac 12AS	73049-38	250 gallons
Valent Vectobac G	73049-10	100 pounds

III. Evaluation of the effectiveness of BMP's to reduce discharges and minimize area and duration of impacts

Our best management practices insure that all available least toxic control methods are considered and that new methods are evaluated on an ongoing basis and if effective, incorporated into our larval control program. Implementation of BMP resulted in the complete elimination of the need to use conventional insecticides (organophosphates and carbamates) as larvicides. Materials used by WLMA are the least toxic available, the use of these materials virtually eliminates impacts on water quality which could be caused by the use of conventional chemical based aquatic insecticides.

VI. Proposed Monitoring Plan

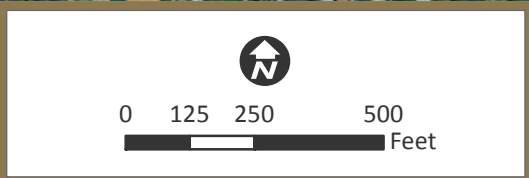
Records will be kept by WLMA and Aquatechnex of all pesticide applications made to waters of the United States. These records shall include the site, map coordinates, name of applicator, flow rate of target area, material, concentration, quantity applied, habitat type, approximate water surface area and the date of application. In addition we will submit monthly reports to the appropriate local agencies.

As stated in the General Permit "The microbial pesticides have undergone extensive testing prior to registration. USEPA has determined that microbial pesticides are essentially non toxic to humans and do not pose risks to wildlife, non target species or the environment when they are used according to label directions".

Aquatechnex will monitor water quality parameters throughout the lake on a weekly basis during the summer months and three times per month during the winter months.

The least toxic control methods and materials used by WLMA are designed not to produce measurable impact on the water quality parameters generally monitored under NPDES permits. In addition, EPA has no standard method for the measurement of BTI formulations in water and as such it is not possible to measure this material in a water sample. BTI formulations do not leave a residue beyond the time frame of the intended purpose of their application. Therefore, retound monitoring of BTI is not possible or proposed.

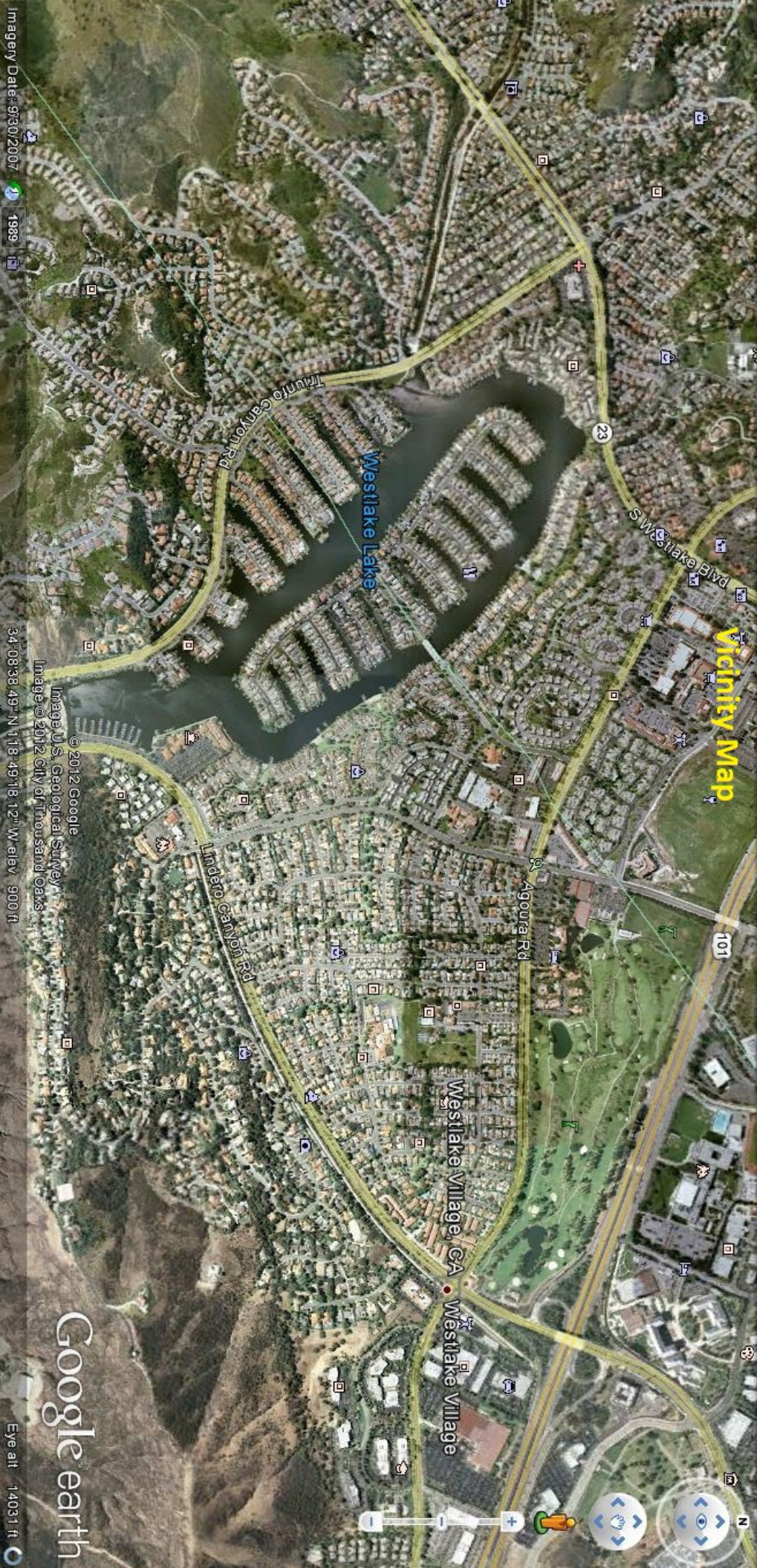
We will conduct an annual review of our BMPs to reflect any new practices and insure that least toxic methods and materials continue to be evaluated and incorporated as they become available. Any changes or revisions to our BMPs will be reported annually. WLMA will complete with all requirements of the general permit related to pesticides other than those outlined in the BMPs in this document.



Lake Information:
 Area: 123.6 Acres
 Max Depth: -23.8 ft
 Mean Depth: -8.8 ft

Mapping Information:
 Data Collection Performed: July 28, 2010
 GPS: Mapping Grade (sub-foot accuracy)
 Points Collected: 78,196
 Lake Level: Adjusted to Full Pool

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Vicinity Map



Image Date: 9/30/2007 1989
Image © 2012 Google
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Image © 2012 City of Thousand Oaks
34° 08' 38.49" N 118° 49' 18.12" W elev. 900 ft

Google earth
Eye alt 14031 ft