

RECEIVED

APR 07 2016

Attachment E – Notice of Intent

**WATER QUALITY ORDER NO. 2013-0002-DWQ
 GENERAL PERMIT NO. CAG990005**

DIVISION OF WATER QUALITY

**STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
 (NPDES) PERMIT FOR RESIDUAL AQUATIC PESTICIDE DISCHARGES TO WATERS OF
 THE UNITED STATES FROM ALGAE AND AQUATIC WEED CONTROL APPLICATIONS**

I. NOTICE OF INTENT STATUS (see Instructions)

Mark only one item	A. New Applicator	B. Change of Information: WDID# <u>SA09AP0001</u>
	C. <input type="checkbox"/> Change of ownership or responsibility: WDID#	

II. DISCHARGER INFORMATION

A. Name <u>CAMERON PARK COMMUNITY SERVICES DISTRICT</u>			
B. Mailing Address <u>2502 COUNTRY CLUB DRIVE</u>			
C. City <u>CAMERON PARK</u>	D. County <u>EL DORADO</u>	E. State <u>CA</u>	F. Zip <u>95682</u>
G. Contact Person <u>J. R. HICHBORN</u>	H. E-mail address <u>J.R.Hichborn@cameronpark.org</u>	I. Title <u>PARKS & FACILITIES SUPERINTENDENT</u>	J. Phone <u>530-672-7355</u>

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
G. E-mail address	H. Title	I. Phone	

IV. RECEIVING WATER INFORMATION

A. Algaecide and aquatic herbicides are used to treat (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: CAMERON PARK LAKE

B. Regional Water Quality Control Board(s) where treatment areas are located
(REGION 1, 2, 3, 4, 5, 6, 7, 8, or 9): Region 5
(List all regions where algaecide and aquatic herbicide application is proposed.)

V. ALGAECIDE AND AQUATIC HERBICIDE APPLICATION INFORMATION

A. Target Organisms: _____
NUISANCE AQUATIC WEEDS

B. Algaecide and Aquatic Herbicide Used: List Name and Active ingredients
REKLARD - DIQUAT DIBROMIDE
[6,7-dihydrodipyrido(1,2-a:2',1'-c)pyrazinediium dibromide]

C. Period of Application: Start Date APRIL 1 End Date JULY 1

D. Types of Adjuvants Used: NONE

VI. AQUATIC PESTICIDE APPLICATION PLAN

Has an Aquatic Pesticide Application Plan been prepared and is the applicator familiar with its contents?
 Yes No

If not, when will it be prepared? _____

VII. NOTIFICATION

Have potentially affected public and governmental agencies been notified? Yes No
NO KNOWN AFFECTED AGENCIES

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: J.R. Hichborn

B. Signature: 

Date: 3-29-16

C. Title: Superintendent

XI. FOR STATE WATER BOARD STAFF USE ONLY

WDID:	Date NOI Received:	Date NOI Processed:
Case Handler's Initial:	Fee Amount Received: \$	Check #:
<input type="checkbox"/> Lyris List Notification of Posting of APAP	Date _____	Confirmation Sent _____

AQUATIC PESTICIDE APPLICATION PLAN

FOR

**CAMERON PARK LAKE
CAMBRIDGE ROAD
CAMERON PARK, CALIFORNIA**

Prepared for

CAMERON PARK COMMUNITY SERVICES DISTRICT

Stratus Project No. 10-1657-04

March 2016

Prepared by



3330 Cameron Park Drive, Suite 550
Cameron Park, California 95682



3330 Cameron Park Drive, Suite 550
Cameron Park, California 95682
(530) 676 6004 ~ Fax (530) 676 6005

March 31, 2016
Project No. 10-1657-04

Mr. J. R. Hichborn
Parks and Facilities Superintendent
Cameron Park Communities Services District
2502 Country Club Drive
Cameron Park, CA 95682

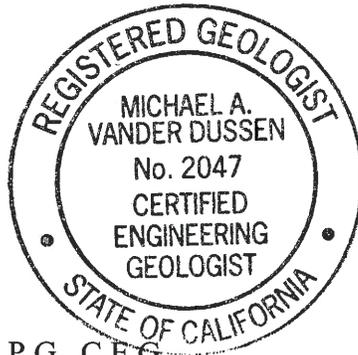
Dear Mr. Hichborn:

This document, and the interpretations and discussion of the data included therein, have been prepared under the supervision of the undersigned. Stratus representatives, whose signatures appear below, declare under penalty of perjury, that the information contained in the attached *Aquatic Pesticide Application Plan* are true and correct to the best of our knowledge.

If you have any questions regarding this document, please contact us at (530) 672-4010 or (530) 672-4017.

Sincerely,

STRATUS ENVIRONMENTAL, INC.



Handwritten signature of Michael Vander Dussen in blue ink.

Michael Vander Dussen, P.G., C.E.G.
Senior Engineering Geologist

Handwritten signature of Robert Kull in blue ink.

Robert Kull, P.E.
Principal Engineer

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Appendix A Sample Pesticide Application Record

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1.0 BACKGROUND INFORMATION

Stratus Environmental, Inc. (Stratus), on behalf of the Cameron Park Community Services District (CSD), has prepared this *Aquatic Pesticide Application Plan* (APAP) for the Cameron Park Lake facility, located east of Cambridge Road in Cameron Park, California. This document is prepared to comply with Sections VIII. Aquatic Pesticide Use Requirements, C. Aquatic Pesticides Application Plan (APAP), of Water Quality Order 2013-0002-DWQ (General Order) and its amendments, requiring preparation of and adherence to an APAP for application of aquatic herbicides.

This APAP describes the site, the treatment areas, the aquatic weeds needing control, an evaluation of practical methods of weed control leading to aquatic pesticide (herbicide) use, types of herbicides expected to be used, the application monitoring program, and best management practices to be followed during the application process.

2.0 DESCRIPTION OF THE WATER SYSTEM

Cameron Park Lake (Lake) located in Cameron Park, El Dorado County, is a man-made lake formed by the construction of an earthen dam on Deer Creek. Impoundment of the water is conducted under water rights license (008176 and 008177) from the California State Water Resources Control Board. A control structure regulates outflow from the lake. Stop-logs at the control structure are used to regulate Lake water level. Deer Creek flows to the southwest out of the Lake and eventually joins with the Cosumnes River approximately 28 miles from the Lake. The Lake has a surface area of approximately 29 acres, and a maximum depth near the dam of approximately 20 feet. The Lake is maintained by the Cameron Park Community Services District for recreation uses. The Lake is located near the headwaters of Deer Creek, and runoff flows into the Lake diminish as the winter and spring rainy season ends. As the lake water warms at the end of the rainy season, weed growth accelerates, and in order to maintain a quality of recreation at the facility, weed control is necessary.

3.0 DESCRIPTION OF THE AQUATIC HERBICIDE TREATMENT AREA

Considering the weed growth occurs over approximately 100 percent of the Lake, the application area extends over the complete approximately 29 acres of the Lake surface.

4.0 DESCRIPTION OF TYPES OF WEEDS TO BE CONTROLLED

An invasive type of elodea (Brazilian or related species) can form a thick mat of growth material near the surface of the Lake during the late spring. The growth becomes a nuisance and prevents full recreational use of the Lake.

5.0 AQUATIC HERBICIDE AND SURFACTANT PRODUCTS AND APPLICATION

The CSD has found through past weed control treatments that the most effective product regarding weed suppression and environmental protection has been the diquat bromide formulation Reward®, produced by Syngenta. No surfactants or adjuvants are proposed for use in addition to the herbicide. The herbicide is applied directly to the Lake's water surface with a spray unit located in an open-hull aluminum boat with an outboard motor. Application specifics and certification of adherence to this APAP are recorded at the time of application on the Pesticide Application form (sample form attached in Appendix A).

6.0 EXAMINATION OF ALTERNATIVES

a. Evaluation of Management Options

No action – the primary function of the Lake is to provide a recreation center for the Cameron Park community. The Lake is a resource for boating, fishing, swimming, and wildlife conservation and observation. The result of no action regarding weed management would be a significant reduction in the quality of those activities and uses.

Prevention – The relatively shallow nature of the Lake provides an environment that supports the annual growth of weeds as the weather warms in the late spring; there are no practical methods available to the CSD to prevent this growth.

Mechanical and Physical Methods – Mechanical weed removal has been used previously at the lake with little success. Drying the removed weeds on-site created a significant odor problem (landfill would not take wet waste), and the weeds rapidly re-grew. Mechanical removal is also cost prohibitive. Controlling weed growth by raising the lake water elevation is not feasible because of freeboard requirements.

Cultural Methods – Cultural methods of weed control (opaque fabric) were not found to be applicable to this site as the affected area is too large.

Biological Control Agents – These generally consist of using goats and sheep to control land growth, and these methods are not applicable to aquatic weeds. The affected area is too extensive to consider using grass carp to control the growth, and the potential impacts of introducing a new species to the Lake precludes this option.

Algaecides and Aquatic Herbicides – Past weed control efforts at the Lake, both mechanical and chemical, have indicated that herbicide application in the spring, and sometimes in the fall, is the most effective alternative for weed control.

b. Using the Least Intrusive Method of Algaecide and Aquatic Herbicide Application

Herbicide usage is determined based upon the area requiring weed control. The herbicide application rate used is per the manufacturer's directions and the dosage/application rates are

noted on the Pesticide Application Record and the Herbicide Application /Monitoring Event Log (sample forms are included in Appendix A and Appendix B of this Plan).

c. Applying a Decision Matrix to the Choice of the Most Appropriate Formulation

Selection of the herbicide diquat dibromide for use in controlling the weed growth in the lake is based on the following considerations:

- Low toxicity to aquatic life
- Relatively rapid degradation in an aqueous environment (half-life of approximately 48 hours)
- Rapid breakdown with ultraviolet light exposure

7.0 MONITORING AND SAMPLING

Monitoring and sampling will be conducted in accordance with the requirements contained in the General Order’s Attachment C – Monitoring and Reporting Program (MRP), with the objective of addressing the two key questions presented in the MRP:

- Does the residual algaecides and aquatic herbicides discharge cause an exceedance of receiving water limitations?
- Does the discharge of residual algaecides and aquatic herbicides, including active ingredients, inert ingredients, and degradation byproducts, in any combination cause or contribute to an exceedance of the “no toxics in toxic amount” narrative toxicity objective?

Watershed specific attributes (upstream of the Lake) and waste constituents that enter the Lake include those contained in residential and commercial/retail surface runoff. Those constituents likely include residential and commercial use landscape fertilizers and pesticides, and oils from parking lots and streets. High concentrations of these materials are not anticipated in the Lake water as it is located near the headwaters of Deer Creek, and the drainage area contributing runoff to the Lake is not extensive.

During the spring when the Lake temperatures rise, and after flows from the upstream drainage basin into the Lake subside, nuisance aquatic weed growth occurs. Recreational use of the Lake also increases as the weather warms, necessitating the herbicide application. One application of herbicide between April and July has been sufficient in reducing the weed growth during recent years. Application has occurred on the Lake surface in the northern and central areas of the Lake. Considering that at the time of herbicide application, the flows into the lake have subsided, and that the stop-log structures have been installed at the dam outlet, little to no flow (other than seepage through the stop-logs) from the outlet is observed. The herbicide that is applied to the Lake surface disseminates into the water and contacts the weed surfaces. The portion of the herbicide that does not contact the weed surfaces breaks down relatively rapidly with ultraviolet radiation (half-life reported at 48 hours in water).

Situations that could lead to downstream impacts to designated uses would include application at excessively high mixture ratios during times of the year when water is flowing through the Lake and discharged at the dam. These conditions have not been reported at the site.

The sample locations are shown on Figure 1 attached to this APAP, and are located at the end of the boat dock (northern portion of the application area), and at the stop-log outlet structure of the dam. Latitude and longitude coordinates of the sample sites are also indicated on Figure 1. The boat dock sample site is the primary sampling location and is monitored and sampled according to the frequency indicated on Table C-1 of the MRP (background, event, and post event). The dam sample location is added to verify attenuation of the herbicide concentration with time and distance from the application area, and sampling at that location occurs during the one-week post-application event monitoring conducted at the primary sample site.

The visual, physical, and chemical parameters listed under Section B of the MRP will be observed/measured and recorded for the background, event, and post-event monitoring and sampling episodes. The results for lake appearance, weather conditions, temperature, turbidity, electrical conductivity, pH, and dissolved oxygen observations/measurements will be recorded on monitoring event logs.

Monitoring of the lake water during the sampling events will include observations for the following conditions: floating or suspended matter; discoloration; bottom deposits; aquatic life; visible films, sheens, or coatings; fungi, slimes, or objectionable growths; and potential nuisance conditions.

Samples for laboratory analysis will be collected within the herbicide application area (end of the boat dock) and near the overflow structure, and placed on ice in an ice chest for transfer under chain of custody (COC) record to a state-certified laboratory for chemical analysis (diquat).

Sample contamination prevention – Standard environmental sampling protocol will be employed to prevent sample contamination, which will include the following measures:

- Clean laboratory-supplied containers will be used for sample collection
- Sampling conducted following the application will be done after all application equipment has been removed from the sampling areas; there will be no contact with application equipment or application personal protective equipment
- Fresh personal protective equipment (eg. nitrile gloves) will be used at each sampling site
- Sampling equipment used at multiple sampling sites will be cleaned with an alconox type cleaning solution and thoroughly rinsed with potable water, then rinsed with the water being sampled prior to its use at a new location

An annual report will be prepared summarizing the application conducted during the year, the observations made during and following the application, and laboratory results of samples collected during the monitoring period. The report will be submitted to the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board by March 1st of the year following the reporting period. The report will comply with the

requirements outlined in Section IV. Reporting Requirements, included in the MRP. Those requirements include:

- An executive summary discussing compliance or violation of the General Permit
- A summary of monitoring data, including the identification of water quality improvements or degradation as a result of the aquatic pesticide application

8.0 BEST MANAGEMENT PRACTICES

The following are descriptions of BMPs to be implemented regarding handling and application of aquatic herbicides.

a. Measures to prevent aquatic herbicide spill contamination

The herbicide is stored in a locked containment area (steel shipping container, serves as secondary containment), in the original shipping containers (boxes of two- 2½ gallon plastic jugs), from the time of delivery at the Lake maintenance complex area, until the time of application on the Lake. Herbicide is transferred from the plastic jugs to the spray unit in the boat over spill containment materials placed below the spray unit, to prevent contact of the herbicide with the aluminum boat hull (the herbicide reacts with aluminum to form hydrogen gas).

b. Measures to ensure minimum and consistent amount of pesticide used for targeted weeds

The herbicide is applied from a spray unit in the aluminum boat, and the boat's travel path is charted to provide even coverage and maintain the manufacturer's recommended application rate across the Lake.

c. Plan for educating applicators on avoiding adverse effects from herbicide application

A training program is employed for personnel that handle and apply the herbicide. The program includes at minimum: review of the herbicide's Safety Data Sheet information (carried on the boat), spill prevention measures, proper rate of spray application and speed of boat, minimizing fugitive spray mists (no spraying during windy conditions), and appropriate personal protective equipment for handling and application.

d. Plan for informing farmers and agencies with water rights on the receiving water

The CSD is not aware of farmers or agencies with water rights on Deer Creek downstream of the Lake within at least approximately 4 miles of the Lake.

e. Description of Measures that will be used for preventing fish kill from pesticide application

Monitoring of past herbicide applications indicates that concentrations of diquat from the Reward formulation that were detected in the lake water immediately following the application, were two to three orders of magnitude lower than the 96 hr. LC50 for rainbow trout (reported for Eco-Acute Toxicity in the Ecological Information section of the Reward® safety data sheet).

The manufacturer's recommended application rate used for site weed control is considered to be appropriate to prevent fish kill related to the application.

9.0 LIMITATIONS

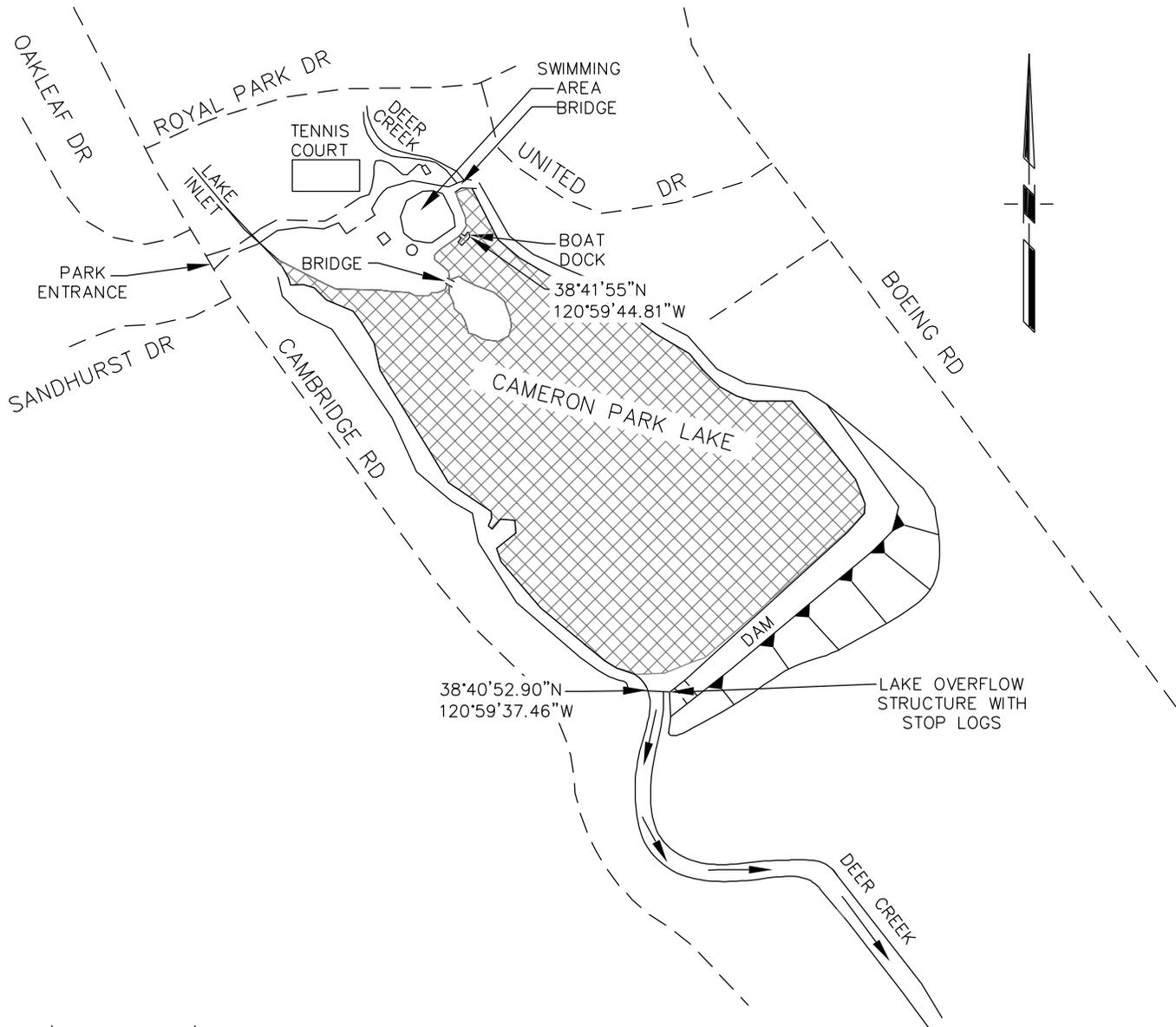
This APAP was prepared in general accordance with accepted standards of care that existed at the time this work was performed. No other warranty, expressed or implied, is made. Conclusions and recommendations are based on field observations and data obtained from previous investigations. It should be recognized that definition and evaluation of environmental conditions is a difficult and somewhat inexact science. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the site conditions present. More extensive studies may be performed to reduce uncertainties. This document is solely for the use and information of our client unless otherwise noted.

FIGURES

Figure 1 – APAP Sampling Locations

Note

PRE-, DURING-, AND POST-APPLICATION SAMPLES COLLECTED AT BOAT DOCK; ADDITIONAL POST-APPLICATION SAMPLE COLLECTED AT THE DAM.



Legend



HERBICIDE APPLICATION AREA



CAMERON PARK LAKE APAP SAMPLING LOCATIONS

Job No:
10-1657-04

Date:
March 2016

Figure:

1

APPENDIX A

Sample Pesticide Application Record

Pesticide Application Record

Application Site: _____ Owner: _____ Location: _____

Description: (Turf, Ag Crop, etc)

Pesticide/s Used	Pesticides	Concentration	Rate	Total Amount Used
[1]	_____	_____	_____	_____
[2]	_____	_____	_____	_____
[3]	_____	_____	_____	_____
[4]	_____	_____	_____	_____

Adjuvant: Type _____ Amount _____ Total Gallons _____

Date of Application: _____ Temperature: _____ Flow: _____
Equipment Used: _____ Cloud Cover: _____ Level of Lake: _____
Calibrated By: _____ Wind Speed: _____ Travel Speed: _____
Mixed By: _____ Wind Direction: _____ Application Start Time: _____
Applied By: _____ Other: _____ Application End Time: _____
Total Time: _____

Visual Monitoring: (Check if Present)

- Floating/Suspended Matter
- Discoloration
- Visible Film, Sheen, or Coating
- Slime
- Aquatic Life

Observation Descriptions:

Applicator's Certification:

I _____ certify that the Aquatic Pesticide Application Plan has been followed.
(Print Name)

Signature _____ Date _____

APPENDIX B

Sample Herbicide Application/Monitoring Event Log

CAMERON PARK LAKE: HERBICIDE APPLICATION/MONITORING EVENT LOG

HERBICIDE APPLICATION

Date/Time of Application:	Applicator Name:	Application/Treatment Area (Indicate on attached Map)
Lake Outflow Structure Inspection: Yes / No	Lake Outflow Structure Leakage/Damage Observed: Yes / No Describe:	
Weather Conditions:	Herbicide(s) Used:	Dosage/Application Rate:

PREAPPLICATION/BACKGROUND MONITORING (Within 24 hours before application event)

Date/Time of Monitoring:	Monitor Name:	Monitoring Location Note w/ GPS Coordinates on Attached Map	
Weather Conditions:	Temperature (C or F):	Conductivity (umhoc/cm):	Dissolved Oxygen (mg/l):
Lake Conditions:*	Turbidity (NTU):	pH:	Sample(s) for Herbicide Testing Collected: Yes / No

EVENT MONITORING (Immediately after the application event)

Date/Time of Monitoring:	Monitor Name:	Monitoring Location Note w/ GPS Coordinates on Attached Map	
Weather Conditions:	Temperature (C or F):	Conductivity (umhoc/cm):	Dissolved Oxygen (mg/l):
Lake Conditions:*	Turbidity (NTU):	pH:	Sample(s) for Herbicide Testing Collected: Yes / No

POST-EVENT MONITORING (Within one week of herbicide application)

Date/Time of Monitoring:	Monitor Name:	Monitoring Location Note w/ GPS Coordinates on Attached Map	
Weather Conditions:	Temperature (C or F):	Conductivity (umhoc/cm):	Dissolved Oxygen (mg/l):
Lake Conditions:*	Turbidity (NTU):	pH:	Sample(s) for Herbicide Testing Collected: Yes / No

MONITORING SAMPLE RESULTS

Herbicide(s) Tested:	Chain of Custody Record Attached: Yes / No
	Laboratory Report Attached: Yes / No

* Includes: floating or suspended matter; discoloration; bottom deposits; aquatic life; visible films, sheens, or coatings; fungi, slimes or objectionable growths; potential nuisance conditions.