

County of Sacramento Stormwater Utility



Aquatic Pesticides Application Plan

Updated: April 2024

Prepared by:
Department of Water Resources
Stormwater Quality

Table of Contents

- CERTIFICATION FOR THE COUNTY OF SACRAMENTO v
- Background 1
- 1. Description of Water System 4
- 2. Description of Treatment Area..... 4
- 3. Description of Vegetation Being Controlled..... 4
- 4. Aquatic Pesticides Used..... 4
 - Table 1: Inventory of Pesticides..... 4
 - Application Methods..... 5
 - Aquatic Pesticide Application Log 6
- 5. Factors Influencing Decision to use Aquatic Pesticides 6
- 6. Gates and Control Structure..... 6
- 7. State Exception 7
- 8. Monitoring Program..... 7
 - Background 7
 - Monitoring Approach..... 7
 - Representative Monitoring Site Selection 8
 - Water Quality Monitoring Program 9
 - Constituents to be Monitored..... 9
 - Table 2: Constituents and Parameter List 9
 - Field Measurements Procedures 10
 - Sample Analysis..... 10
 - Water Quality Sample Collection Procedures..... 10
 - Visual Inspection..... 11
 - Chain-of-Custody Forms 11
 - Safety 11
- 9. How to Prevent Sample Contamination..... 12
 - Quality Assurance/Quality Control Sample Methods..... 12
 - Field Blank..... 12
 - Laboratory Duplicate 12
 - Clean Sample Handling 12
 - Other Methods to Prevent Sample Contamination 13

10. Proposed Best Management Practices	13
a. Aquatic Pesticide Spill Prevention and Containment	13
b. Appropriate Application Rate	13
c. Plan for Educating Applicators and Personnel on Avoiding Adverse Effect from Pesticide Applications	14
d. Plan for Informing Agencies and Landowners Who Have Water Rights on the Receiving Waters	14
Public Notice Requirements	14
e. Preventing Fish Kills.....	14
11. Evaluation of Available Alternatives	15
i. No action.....	15
ii. Prevention	15
iii. Mechanical Method	15
iv. Cultural Methods	15
v. Biological Control Agents.....	16
vi. Aquatic Pesticides	16
Reporting.....	16
Annual Report.....	16
Twenty-Four Hour Reporting	16
Five-Day Written Report.....	17
Appendix A. The County’s Unincorporated Stormwater Utility Boundary.....	18

CERTIFICATION FOR THE COUNTY OF SACRAMENTO
SACRAMENTO COUNTY AQUATIC PESTICIDES
MONITORING PLAN

I certify under penalty of law that the Sacramento County Aquatic Pesticides Monitoring Plan, and all appendices were prepared under my direction or supervision in accordance with a system designed to assure 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 and imprisonment for knowing violations.

Signed: Todd Peterson Date: 5/9/2024
Todd Peterson, Division Chief
Department of Water Resources
Community Services Agency
County of Sacramento

Background

On March 12, 2001, the Ninth Circuit Court of Appeals ruled that discharges of pollutants from the use of aquatic pesticides in waters of the United States require coverage under a National Pollutant Discharge Elimination System (NPDES) permit.

On March 5, 2013, the State of California, Water Resources Control Board (State Water Board) adopted Water Quality Order 2013-0002- DWQ the Statewide NPDES Permits for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications (hereafter General Permit). The State Water Board amended Order 2013-0002-DWQ through Order 2014-0078-DWQ on May 20, 2014, and Order 2015-0029-DWQ on March 3, 2015, and Order 2016-0073-EXEC on July 27, 2016. The General Permit covers the point source discharge of residual pesticides resulting from pesticide applications for aquatic weed control. The General Permit covers only pesticides that are approved for aquatic use by U.S. Environmental Protection Agency (EPA) and registered by the California Department of Pesticide Regulation for aquatic applications in accordance with specific application rates.

The basic requirements of this General Permit include the following:

1. The dischargers must follow all Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) pesticide label instructions and any Restricted Material Use Permits issued by a County Agricultural Commissioner (CAC).
2. The discharger must be licensed by the Department of Pesticide Regulation (DPR) or work under the supervision of someone who is licensed if the aquatic pesticide is considered a restricted material.
3. The discharger must comply with effluent limitations including developing and implementing an Aquatic Pesticides Application Plan (APAP).
4. The discharger must comply with applicable receiving water limitations.
5. The discharger must comply with monitoring and reporting requirements.

The Aquatic Pesticide Application Permit is a comprehensive plan developed by the discharger (the County) that describes the pesticide application project, the need for the project, what will be done to reduce water quality impacts, and how those impacts will be monitored. Dischargers shall submit an APAP, if changes were made, at least 90 days before the expected day of permit coverage. The APAP shall contain, but not be limited to, the following elements sufficient to address each proposed treatment area:

1. Description of the water system to which algacides and aquatic herbicides are being applied;
2. Description of the treatment area in the water system;
3. Description of types of weed(s) and algae that are being controlled and why;

4. Algaecide and aquatic herbicide products or types of algaecides and aquatic herbicides expected to be used and if known their degradation byproducts, the method in which they are applied, and if applicable, the adjuvants and surfactants used;
5. Discussion of the factors influencing the decision to select algaecide and aquatic herbicide applications for algae and weed control;
6. If applicable, list the gates or control structures to be used to control the extent of receiving waters potentially affected by algaecide and aquatic herbicide application and provide an inspection schedule of those gates or control structures to ensure they are not leaking;
7. If the Discharger has been granted a short-term or seasonal exception under State Water Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, * and Estuaries of California (Policy) section 5.3 from meeting acrolein and copper receiving water limitations, provide the beginning and ending dates of the exception period, and justification for the needed time for the exception. If algaecide and aquatic herbicide applications occur outside of the exception period, describe plans to ensure that receiving water criteria are not exceeded because the Dischargers must comply with the acrolein and copper receiving water limitations for all applications that occur outside of the exception period;
8. Description of monitoring program;
9. Description of procedures used to prevent sample contamination from persons, equipment, and vehicles associated with algaecide and aquatic herbicide application.
10. Description of the best management practices, BMPs, to be implemented. The BMPs shall include, at the minimum:
 - a. Measures to prevent algaecide and aquatic herbicide spill and for spill containment during the event of a spill;
 - b. Measures to ensure that only an appropriate rate of application consistent with product label requirements is applied for the targeted weeds or algae;
 - c. The Discharger's plan in educating its staff and algaecide and aquatic herbicide applicators on how to avoid any potential adverse effects* from the algaecide and aquatic herbicide applications;
 - d. Discussion on planning and coordination with nearby farmers and agencies with water rights diversion so that beneficial uses of the water (irrigation, drinking water supply, domestic stock water, etc.) are not impacted during the treatment period; and
 - e. A description of measures that will be used for preventing fish kill when algaecides and aquatic herbicides will be used for algae and aquatic weed controls.
11. Examination of Possible Alternatives. Dischargers should examine the alternatives to algaecide and aquatic herbicide use to reduce the need for applying algaecides and herbicides. Such methods include:
 - a. Evaluating the following management options, in which the impact to water quality, impact to non-target organisms including plants, algaecide and aquatic herbicide resistance, feasibility, and cost effectiveness should be considered:

- i. No action;
 - ii. Prevention;
 - iii. Mechanical or physical methods;
 - iv. Cultural methods;
 - v. Biological control agents; and
 - vi. Algaecides and aquatic herbicides.
- b. Using the least intrusive method of algaecide and aquatic herbicide application; and
- c. Applying a decision matrix concept to the choice of the most appropriate formulation.

The APAP described in the following pages addresses the above-mentioned requirements.

1. Description of Water System

The County is responsible for maintaining storm pipe systems and channels throughout the unincorporated portion of the Stormwater Utility. This system conveys stormwater to help reduce the risk of flooding. In order for stormwater to be drained properly, channels must be kept clear of vegetation that will obstruct the flow of water. Drainage channel blockage or restriction may lead to flooding and property damage.

2. Description of Treatment Area

The County applies aquatic pesticide in channels that have been selected based on the presence vegetation that reduces the capacity to drain stormwater flow throughout the unincorporated portion of the County’s Stormwater Utility boundary (Appendix A). Open waterways within the County’s Stormwater Utility have either a natural or a concrete-lined bottom. These drainage channels experience flow from seasonal precipitation and/or urban runoff.

The application area is the same as the treatment area for this program. The County applies aquatic pesticides directly to the vegetation within these channels. The County does not apply aquatic pesticides to lakes or ponds. Pesticide application areas are surrounded by a variety of land use types, including urban, industrial, commercial, and agriculture. Aquatic pesticide application sites are reported by watershed within the Stormwater Utility.

3. Description of Vegetation Being Controlled

Periodically silt is deposited in the County’s drainage channels which leads to the growth of aquatic vegetation such as broad leaf weeds and grasses. The County applies aquatic pesticides to keep these channels free from nuisance vegetation that could impede or block the flow of water.

4. Aquatic Pesticides Used

Glyphosate is a non-selective chemical that kills vegetation that it upon contact. Triclopyr is a systematic chemical that targets woody and broadleaf plants.

Table 1: Inventory of Pesticides

Product Name	Manufacturer	Active Ingredient	Degradation Byproducts	EPA Registration #
Roundup Custom™	Bayer AG	Glyphosate	Aminomethyl phosphonic acid, carbon dioxide	86738473
Garlon 3a™	Corteva Agriscience	Triclopyr	3,5,6-trichloro-2-pyridinol (TCP) and 3,5,6-trichloro-2-methoxypyridine (TMP)	62719-37

Application Methods

The County follows the recommendations of licensed Pest Control Advisors (PCA) and product label specifications. All County personnel that apply aquatic pesticides are licensed by a Department of Pesticide Regulation Qualified Applicator Certificate or Qualified Applicator License.

The County picks the most appropriate method to apply aquatic pesticides depending on site accessibility and abundance of target aquatic vegetation. Applications are done by using properly maintained and calibrated backpack sprayers, truck-mounted boom sprayers or handguns.

Applicators drive a set route to perform site evaluations and determine areas in need of treatment, suitability and location of a treatment site, and precautions to be followed during treatment. Aquatic pesticides are applied directly to target vegetation, not to the water. The County sprays vegetation until it is wet, not to the point of runoff.

Aquatic pesticide applications are made at the minimum frequency and volume necessary to control vegetation to a level which will effectively maintain stormwater conveyance capacity. Typically, only one application is made at each site during each season. The assessment of pesticide application efficacy normally begins one week after application and continues for the rest of the growing season. In special cases, a second application might be administered in areas of excessive vegetation growth. The application frequency at a given site may vary based on seasonal weather patterns, species of vegetation present, density of vegetation, and the availability of application crews. If a treatment is ineffective, a drainage area is modified by construction, or hazards to the application are identified, crews either take corrective action by modifying the application or remove that particular creek or channel segment from the herbicide application schedule.

The applicator will postpone or terminate the treatment if the following conditions exist:

1. Open water where no emerged weeds are present;
2. The area is not safe;
3. Foliage appears wet, within 4 hours of forecast rain, or when run-off is likely to occur;
4. If the water level in the creek or channel is much higher than normal;
5. If a temperature inversion is present or forecast, wind speeds exceed 10 mph, or pedestrians or bicyclists are present;
6. Livestock feeding or bees in the drainage area; and
7. Water is being pumped for irrigation, or active potable water intake is flowing within 0.5 miles of application site unless the intake can be turned off for a minimum of 48 hours after the application, or any other negative factor.

The County adds the biodegradable, low foaming, non-ionic surfactant penetrant Activator 90™, manufactured by Loveland, Inc., to the same tank as Roundup Custom™ or Garlon 3a™ as part of the PCA recommendation. Activator 90™ contains the ingredient alkylphenol ethoxylate.

The County adds Reign™ manufactured by Loveland Products, Inc., a deposition aid and drift control agent containing polyvinyl polymer (polyacrylamide), to the same tank as Roundup Custom™ or Garlon 3a™ as part of the PCA recommendation. This product has been developed specifically for the spraying of pesticides.

Aquatic Pesticide Application Log

A log to record all aquatic pesticides applications is required. This application log will help the County and the State Water Boards' staff to investigate any exceedance of receiving water limitations or receiving water monitoring triggers. Information from the completed pesticide application log will be used in the annual report. At a minimum the log shall contain:

1. Date of application;
2. Location of application;
3. Name of applicator;
4. Type and amount of algaecide and aquatic herbicide used;
5. Application details, such as flow and level of water body, time application started and stopped, algaecide and aquatic herbicide application rate and concentration;
6. Visual monitoring assessment; and
7. Certification that applicator(s) followed the APAP.

5. Factors Influencing Decision to use Aquatic Pesticides

Application of aquatic pesticides has proven to be the most effective, cost efficient, and environmentally compatible option for controlling nuisance vegetation in the County's drainage channels. Mechanical and hand removal has been known to cause problems with erosion control as well as habitat disruption and water quality degradation. Furthermore, mechanical removal is often problematic due to site accessibility issues and increased risk of worker injury. Hand and mechanical removal typically result in roots being left behind and the increased spreading of seeds, thereby increasing the required frequency of removal. For a more detailed discussion, see the *Evaluation of Available Alternatives* section of this document.

6. Gates and Control Structure

The County operates gates at several pump stations for flood control purposes. Depending on the vegetation growth, the pump station gates are closed to aid in the mechanical removal of vegetation.

7. State Exception

The County has not been granted a short-term or seasonal exception under the State Water Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

8. Monitoring Program

Background

Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the State and Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program in Attachment C of the General Permit establishes monitoring and reporting requirements to implement federal and state requirements.

The goals of the Monitoring and Reporting Program:

1. Identify and characterize algaecide or aquatic herbicide application projects conducted by the County;
2. Determine compliance with the receiving water limitations and other requirements specified in this General Permit;
3. Measure and improve the effectiveness of the APAP;
4. Support the development, implementation, and effectiveness of BMPs;
5. Assess the chemical, physical, and biological impacts on receiving waters resulting from algaecide or aquatic herbicide applications;
6. Assess the overall health and evaluate long-term trends in receiving water quality;
7. Demonstrate that water quality of the receiving waters following completion of resource or weed management projects are equivalent to pre-application conditions; and
8. Ensure that projects that are monitored are representative of all algaecide or aquatic herbicide and application methods used by the County.

Monitoring Approach

The General Permit requires the County to collect samples from a minimum of 6 consecutive application events for each active ingredient in each environmental setting (flowing and non-flowing water) per year, except for glyphosate. If surfactants are used in conjunction with the active ingredients, sampling for nonylphenol is required.

If there are less than six application events in a year for an active ingredient, collect samples during each application event for each active ingredient in each environmental setting until six consecutive samples are collected. If six consecutive sampling events show results of concentrations that are less than the applicable receiving water limitation or trigger in an environmental setting, sampling shall be reduced to one sample per year for that active

ingredient in that environmental setting. If the annual sampling shows exceedances of the applicable receiving water limitation or trigger, then sampling shall return to six consecutive application events the following year for that active ingredient in each environmental setting, and thereafter until sampling may be reduced again.

To monitor glyphosate, collect samples from one application event from each environmental setting per year. If surfactants are used in the glyphosate application, sampling for nonylphenol is required.

Pesticides are commonly used in both agricultural and residential areas therefore background concentrations may exist prior to, or after, an application event by the County. Collection of three samples at the representative monitoring site(s) shall take place according to the following:

- Background Monitoring - Background monitoring samples shall be collected upstream at the time of the application event, or in the application area, just prior to (up to 24 hours in advance of) the application event.
- Event Monitoring - Event monitoring samples shall be collected immediately downstream of the treatment area in flowing waters or immediately outside of the treatment area in non-flowing waters, immediately after the application event, but after sufficient time has elapsed such that treated water would have exited the treatment area.
- Post-Event Monitoring - Post-event monitoring samples shall be collected within the treatment area within one week after the application event.

After aquatic pesticides are applied to the selected event monitoring site(s), application crews shall cease application upstream of the monitoring site, as well as to any upstream tributaries to the monitoring site, until after the final samples associated with the site monitoring event are collected (one week).

Representative Monitoring Site Selection

Representative aquatic pesticide monitoring sites were selected based on the following considerations:

- Presence of low volume during application months (adequate for water quality sample collection).
- Environmental settings (flow vs non-flowing water).
- Adequate site access and safety.
- Conveyance system construction (natural vs. improved channels).
- Pesticide application methods (hand vs. truck mounted equipment).
- Similar in hydrology, aquatic pesticide use, and other factors that affect the discharge to the areas being represented in that environmental setting.

Historically the County has used Chicken Ranch Slough, Morrison Creek, and Dry Creek as representative aquatic pesticide monitoring sites. Representative monitoring locations may be changed based on surveillance of the County.

Water Quality Monitoring Program

County water quality sample collection personnel have received comprehensive training on the following procedures: preparation for monitoring events, sample collection consistent with EPA guidance, field measurements, clean sample handling, personal protective equipment, sample delivery, and chain of custody. Records of monitoring information including the date, exact location, time of sampling and measurements, and the individual(s) who performed the sampling and measurements shall be recorded and saved for at least three years.

Constituents to be Monitored

Field monitoring shall be conducted for the constituents and parameters listed in Table 2. Pollutants shall be analyzed using the analytical methods described by EPA Title 40 Code Federal Regulation (40 CFR) Part 136.

Table 2: Constituents and Parameter List

Sample Type	Constituent/ Parameter	Units	Receiving Water Limitations/ Triggers
Visual	1. Monitoring area description (pond, lake, open waterway, channel, etc.) 2. Appearance of waterway (sheen, color, clarity, etc.) 3. Weather conditions (fog, rain, wind, etc.)	N/A	N/A
Physical	Temperature	°C	N/A
Physical	Specific Conductance at 25°C	µS/cm	N/A
Physical	Dissolved Oxygen	mg/L	N/A
Physical	pH	Units	N/A
Physical	Turbidity	FNU	N/A
Chemical	Glyphosate	µg/L	700
Chemical	Triclopyr	mg/L	13.0
Chemical	Nonylphenol	µg/L	6.6 ₁

₁Freshwater Chronic Criterion

All visual, physical, and chemical sample types will be collected during the background, event, and post-event monitoring. Chemical reporting limits and hold times are determined by the laboratory.

Field Measurements Procedures

Physical readings listed in Table 2 will be recorded at the sampling sites on a field data form and saved electronically. All field monitors and equipment shall be maintained, serviced, and calibrated at the appropriate intervals to ensure their accuracy as specified by the manufacturer and EPA Title 40 CFR Part 136. Records of all monitoring information, including all calibration and maintenance, shall be retained for at least three years.

The preferred method to obtain field readings is to submerge the monitor at mid-stream and mid-depth. Once the probes have stabilized and reached equilibrium with the creek, the values will be recorded in a logbook.

If mid-stream, mid-depth readings are difficult to obtain because of flow, access restrictions, site configurations or safety concerns, measurements may be taken using a clean intermediate container. If this alternative method is required, a clean intermediate container shall be triple rinsed with site water prior to use at each site. An expandable grab pole shall be attached to the container, then the container will be filled with water from the mid-depth of the mid-stream location and field measurements taken promptly from the intermediate container or bottle. All field measurements shall be taken in a manner consistent with manufacturer instruction manuals.

Sample Analysis

A laboratory certified by the Environmental Laboratory Accreditation Program shall be used to analyze the samplers. The date(s) the analysis was performed, the individual(s) who performed the analyses, the analytical techniques or methods used, and the results of such analyses shall be recorded and retained for at least three years from the date of the sample. All analyses shall be conducted in accordance with the latest edition of “Guidelines Establishing Test Procedures for Analysis of Pollutants”, promulgated by the EPA Title 40 CFR Part 136. Glyphosate and triclopyr will be analyzed by EPA method 547.

Water Quality Sample Collection Procedures

For this project, the preferred method for sample collection is direct submersion of sample bottles at mid-stream and mid-depth. Sample collection personnel shall fill sample bottles using clean sampling techniques following the protocol below:

1. Wade to approximately mid-stream, while holding the sample bottle to be filled;
2. Allow adequate time for any disturbed sediment to wash downstream;
3. Fill sample bottle facing upstream by submerging the bottle to approximately mid-depth using the clean sampling techniques;
4. After securing the cap of the full sample bottle, place the labeled bottle upright in a cooler with ice (frozen blue ice is acceptable);
5. After samples have been collected at a given site, glass bottles should be wrapped with bubble wrap or other packaging material to reduce the chance of breakage during transportation and shipping; and

6. Samples shall remain on ice, accompanied by chain of custody, from the time of collection to the time of sample receipt by the laboratory.
7. Samples shall arrive at the laboratory in adequate time to start analysis within the maximum allowable holding time. Weekend delivery should be avoided, if weekend sample delivery is necessary, prior arrangements should be made with the laboratory to be sure that laboratory personnel are on hand to receive and log in samples.

If sample collection by wading and direct filling of sample bottles is not possible due to flow, access restrictions, site configurations or safety concerns, an alternative sample collection method may be required. The alternative method involves the attachment of the sample bottle to an expandable grab sampling pole and reaching out into the flow stream (as closely as possible to mid-stream) and filling the sample bottle by submerging to approximately mid-depth.

Visual Inspection

During each monitoring site visit, the sampling crew shall keep a log of visual observations such as vegetation, channel configuration, appearance of waterway, weather, and flow conditions. Attention shall be given to the presence or absence of:

1. Floating or suspended matter;
2. Discoloration;
3. Bottom deposits;
4. Aquatic life;
5. Visible films, sheens, or coatings;
6. Fungi, slimes, or objectionable growths; and
7. Potential nuisance conditions.

Notes on receiving water conditions shall be summarized in the monitoring report. The best practice is to take photos before aquatic pesticide application as a reference, and during the subsequent field visit. The sampling crew shall also note whether there are any irregular discharges or excessive floating material visible that could potentially affect the concentration of targeted components.

Chain-of-Custody Forms

Chain of custody forms, COCs, shall be filled out for all samples submitted to the laboratory. Sample ID, date, time, sample location, and analysis requested shall be noted on each COCs.

Safety

Safety is a primary concern when conducting monitoring activities. Best practice is for the sampling crew to consist of a minimum of two people. During field activities County personnel shall be aware of their surroundings, site conditions, and if the area or activities become unsafe the event shall be terminated.

9. How to Prevent Sample Contamination

Quality Assurance/Quality Control Sample Methods

Quality control samples shall be collected once a year for each type of aquatic pesticide monitoring event. Quality control sample results shall be evaluated to verify the precision and accuracy of analytical testing procedures and variability, and contamination introduced by field or laboratory procedures. These control results shall be used to qualify corresponding environmental results as necessary.

The following quality control samples shall be collected and analyzed for aquatic pesticides during this project:

Field Blank

Grab sample field blanks shall be collected to check sampling containers and procedures for potential contamination. Field blank samples shall be collected immediately prior to the collection of normal grab samples. The field crew shall generate field blank samples by pouring laboratory provided blank water (see *Clean Sample Handling*) into a clean grab sample bottle. This procedure shall mimic actual environmental sample procedures as closely as possible.

Laboratory Duplicate

Laboratory duplicate analysis is done for the purpose of checking variability in laboratory sample handling and analytical procedures. No special sampling considerations are required. Laboratory duplicate analysis shall be noted on the sample bottle label and COC.

Clean Sample Handling

Clean sampling techniques are required to collect and handle water samples in a way that minimizes contamination, loss, or change in the chemical form of the analytes of interest. Therefore, clean techniques shall be used during the collection of water samples for aquatic pesticide analysis. Samples shall be collected using the protocols summarized below:

1. Samples shall be collected only into new clean sample bottles provided by the analytical laboratory.
2. Sampling personnel shall wear clean, powder-free, nitrile gloves during sample collection.
3. Clean, powder-free nitrile gloves shall be changed whenever something not known to be clean has been touched.
4. Clean techniques shall be employed when handling sample bottles or equipment used for the collection of samples.
5. Water samples are most cleanly obtained by surface grab, using clean powder-free nitrile gloved hands, and facing into a flowing body of water.

Other Methods to Prevent Sample Contamination

To reduce potential sample contamination personnel shall follow these guidelines:

1. No smoking.
2. Wear clean, powder-free, nitrite or similar surgical-quality gloves when handling sample containers.
3. Never sample near a running vehicle. Do not park vehicles near sample collection area.
4. Minimize the amount of time any sample container is left open.
5. Do not set lids down where they may accumulate contaminants.
6. To the greatest extent possible, prevent foreign material (blowing dust, leaves, etc.) from entering any open sample container.
7. Never touch the inside surfaces of sample bottles, lids, or composite carboys, even with gloved hands.

10. Proposed Best Management Practices

During pesticide application, the BMPs listed below shall be implemented by the County to maximize efficiency of control efforts and minimize adverse impacts to the environment.

a. Aquatic Pesticide Spill Prevention and Containment

The County personnel will follow aquatic pesticide label instructions, safety data sheets, and the EPA and the Department of Pesticide Regulation guidelines on storage, handling, mixing, transport, personnel protective equipment, spill control, and proper pesticide disposal.

In the event of an aquatic pesticide spill County personnel will prevent the contaminated water from reaching adjacent water bodies wherever feasible. The use of absorbent granules and/or pads will be deployed as needed. The County will report spills as required by the local, state, and federal regulations, see the **Reporting** section.

b. Appropriate Application Rate

County applicators determine the appropriate application rate based on the PCA recommendation, the method of pesticide application, the pesticide label, and the application area. Some factors considered are weed species present, growth stage, weed location, and weed density.

c. ***Plan for Educating Applicators and Personnel on Avoiding Adverse Effect from Pesticide Applications***

County applicators take annual continuing education credits to maintain Pesticide Applicators Professional Association certificates and licenses. County applicators also go through annual training involving label readings, mixing requirements, proper application procedures, safety requirements including appropriate personal protective equipment for mixing chemicals and application, as well as reviewing the types of targeted vegetation.

The County uses licensed PCA when receiving pesticide application recommendations.

d. ***Plan for Informing Agencies and Landowners Who Have Water Rights on the Receiving Waters***

Public agencies and landowners potentially affected by any water use restrictions will be notified prior to the aquatic pesticide application following the information on the aquatic pesticide label. Aquatic pesticides are not applied to water, see ***Application Methods*** for more information.

Public Notice Requirements

Every calendar year, at least 15 days prior to the first application of aquatic pesticides, the County shall notify potentially affected public agencies. The County shall post the notification on its website if available. The notification shall include the following information:

1. A statement of the County's intent to apply aquatic herbicide(s);
2. Name of algaecide and aquatic herbicide(s);
3. Purpose of use;
4. General time period and locations of expected use;
5. Any water use restrictions or precautions during treatment; and
6. A phone number that interested people may call to obtain additional information from the County.

e. ***Preventing Fish Kills***

Aquatic pesticides are applied following the pesticide labels in a manner where it won't encounter water thus preventing fish kill. See ***Application Method*** for more information regarding pesticide application.

11. Evaluation of Available Alternatives

The County has evaluated alternative control methods for controlling nuisance vegetation in drainage channels.

i. *No action*

During periods with limited vegetation growth this course is preferred. Once a threshold of vegetation growth is reached, action needs to be taken to combat the excessive growth.

ii. *Prevention*

The best way to prevent excessive vegetation growth in canals is to perform annual maintenance on the canals following the PCA recommendation and knowledge of County personnel that have a Qualified Applicator Certificate or Qualified Applicator License.

iii. *Mechanical Method*

The County performs vegetation control with hand crews and mechanical excavators. At sites with limited access or sensitive habitat that would be damaged by heavy equipment, hand crews perform mechanical vegetation removal. Easily accessible sites with heavy vegetation are cleared with the use of excavators and other heavy equipment.

While mechanical vegetation removal does an adequate job in the short term, the County has found that the lack of chemical controls allows unwanted vegetation, such as cattails and water primrose, to grow rapidly in freshly cleaned creeks and channels. Mechanical removal causes the water to become turbid with suspended solids. Suspended solids can cause damage to freshwater aquatic life in the disturbed sections of creeks or channels, and for some distance downstream of the removal project. Mechanical removal of weeds can slowly enlarge channel size beyond acceptable limits, create erosion problems, and does not provide adequate weed control. Mechanical methods of aquatic vegetation control are cost prohibitive.

iv. *Cultural Methods*

The County has not found effective cultural methods to control, or remove, aquatic vegetative growth in canals.

v. ***Biological Control Agents***

The County has not found effective biological control agents to control, or remove, aquatic vegetative growth in canals.

vi. ***Aquatic Pesticides***

The County uses the least intrusive method of aquatic pesticides application based on the recommendation of the PCA to prevent the overspray of pesticides. See the ***Application Methods*** section.

The PCA evaluates application sites then creates a recommendation by following a decision matrix based on using the least intrusive method of aquatic pesticide application and the most appropriate aquatic pesticide formulation.

Reporting

All reports shall be submitted to the State Water Board Executive Officer. All reports submitted shall comply with the provisions in the General Permit, including the signatory requirements. Reporting requirements are summarized in this section.

Annual Report

Any person signing a document submitted to the Regional Board shall complete the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure 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 and imprisonment for knowing violations." (40 CFR §122.22(d).)

Twenty-Four Hour Reporting

The County shall report any noncompliance, including any unexpected or unintended effect of an aquatic herbicide use that may endanger health or the environment to the State Water Board and appropriate Regional Water Board. Any information shall be provided orally within 24 hours from the time that the County becomes aware of the circumstances.

1. The caller's name and telephone number;
2. Applicator name and mailing address;
3. Waste Discharge Identification (WDID) number;

4. The name and telephone number of a contact person;
5. How and when the County become aware of the noncompliance;
6. Description of the location of the noncompliance;
7. Description of the noncompliance identified and the EPA pesticide registration number for each product the County applied in the area of the noncompliance; and
8. Description of any steps that the County has taken or will take to correct, repair, remedy, cleanup, or otherwise address any adverse effects.

Five-Day Written Report

A written submission will be provided within five days of the time that the County becomes aware of the noncompliance. The written submission will contain a description of the noncompliance, its cause, the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue, and, steps taken or planned to reduce, eliminate, and/or prevent recurrence of the noncompliance.

1. Date and time the County contacted the State Water Board and the appropriate Regional Water Board notifying of the noncompliance and any instructions received from the State and/or Regional Water Board; information required to be provided in Section D.1 (24-Hour Reporting)
2. A description of the noncompliance and its cause, including exact date and time and species affected, estimated number of individual and approximate size of dead or distressed organisms (other than the pests to be eliminated);
3. Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity, etc.);
4. Magnitude and scope of the affected area (e.g. aquatic square area or total stream distance affected);
5. Aquatic herbicide application rate, intended use site (e.g., banks, above, or direct to water), method of application, and name of algaecide and herbicide product, description of algaecide and herbicide ingredients, and EPA registration number;
6. Description of the habitat and the circumstances under which the noncompliance activity occurred (including any available ambient water data for aquatic algaecides and aquatic herbicides applied);
7. Laboratory tests performed, if any, and timing of tests. Provide a summary of the test results within five days after they become available;
8. If applicable, explain why the County believes the noncompliance could not have been caused by exposure to the algaecides or aquatic herbicides from the County's application; and
9. Actions to be taken to prevent recurrence of adverse incidents.

The State Water Board staff or Regional Water Board staff may waive the above required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours.

Appendix A. The County's Unincorporated Stormwater Utility Boundary

