



## Association of California Water Agencies

Leadership Advocacy Information *Since 1910*

Public Comment  
Draft Aquatic Weed Control Permit  
Deadline: 8/21/12 by 12 noon

### VIA ELECTRONIC MAIL

[commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

August 21, 2012

Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24th Floor  
Sacramento, CA 9581



**Subject: Comments on Proposed Draft Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications**

Dear Ms. Townsend:

The Association of California Water Agencies (ACWA) greatly appreciates this opportunity to provide comments on the proposed Draft Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications (Draft Aquatic Weed Control Permit)". As you know, ACWA represents over 450 public water agencies in California which collectively supply over 90% of the water delivered in California for domestic, agricultural and industrial uses. Aquatic pesticides are used by urban and agricultural water agencies, reclamation districts, and storm water and flood control agencies as an essential tool to ensure adequate water quality and water conveyance capabilities for water users statewide. We understand that the Draft Aquatic Weed Control Permit covers discharges of residual algaecides and aquatic herbicides from direct applications to surface waters to control algae and aquatic weeds and that it supersedes the existing permit (Order No. 2004-0009-DWQ), issued by the SWRCB in 2004.

ACWA appreciates the approach that the staff of the SWRCB has used to revise and refine a practical and effective NPDES general permit to address compliance with the federal Clean Water Act since the Headwaters, Inc. v. Talent Irrigation District decision by the federal Ninth Circuit Court of Appeals in May of 2001. This has been recently evidenced by the staff's willingness work with ACWA to receive input and provide for flexibility to the permit processing schedule, while also committing to having an approved permit ready for adoption and use by water agencies for the 2013 "weed treatment season".

Although the proposed Draft Aquatic Weed Control Permit has undergone some significant revisions from the existing permit and some of the existing ACWA member agency permittees have expressed concerns about some of the new provisions, we have concluded that Draft Aquatic Weed Control Permit offers significant improvements over the previous permit. We

especially appreciate the staff's review and use of over nine years of monitoring data to inform the content of this proposed permit and streamline some of its provisions.

However, after careful review of the Draft Aquatic Weed Control Permit by ACWA's Aquatic Pesticide Work Group, in consultation with Michael Blankinship of Blankinship & Associates, Inc., have identified a several provisions that we believe should be revised before the permit is adopted by the SWRCB.

A summary of some of these concerns and recommendations were identified in our oral testimony at the August 7, 2012 Public Hearing. The key concerns include:

1. Need to Assure Continuous Coverage

The Draft Aquatic Weed Control Permit is currently scheduled for an approval hearing by the SWRCB in November 2012, but ideally sooner. However, the permit requires that a permit package be submitted 90 days before aquatic herbicide application. Typically, aquatic herbicide applications need to occur as early as April 1<sup>st</sup>, which would require a permit package submittal on or before January 1, 2013. If the new permit is not available until December 1<sup>st</sup>, this leaves only 30 days for permittees to prepare and submit a permit package by January 1<sup>st</sup> in time for the 90 days to elapse before the first application on April 1<sup>st</sup>. It also provides SWRCB and RWQCB staff only 30 calendar days during the holiday season to review as many as 120 permit packages.

Solutions include making provisions for issuance of a provisional NOA by SWRCB staff, or a provision to administratively extend the old permit until coverage is obtained under the new permit Another option would be to grandfather the old permit ( as with the Construction General Permit adopted on September 2, 2009). Assuming SWRCB adopts the Weed Permit in November 2012, we would recommend an effective date of September 2013 to allow transition to the new permit and to allow water agencies to continue the necessary applications for weed and algae control.

2. Review and Approval Process

The Draft Aquatic Weed Control Permit should clarify the roles of SWRCB and RWQCB staff in the review and approval of permit packages in order to reduce potential permit processing delays that may arise

A solution would be for SWRCB take the lead and coordinate with all RWQCBs proactively.

Attached to this letter we offer a copy of the Draft Aquatic Weed Control Permit with "track change" comments added, which provides comments and proposed changes that we believe will successfully resolve all of these concerns.

With incorporation of these changes ACWA supports adoption of the Draft Aquatic Weed Control Permit by the SWRCB as soon as practicable, so that it is available for use by water agencies early in 2013 to cover needed applications of the permitted aquatic herbicides. This will

Comments on Draft Aquatic Weed Control Permit

August 21, 2012

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help ensure that water agencies can implement best management practices for weed and algae control, and continue to provide clean and reliable water supplies for their customers. ACWA and its members look forward to working with SWRCB staff on implementation of the new permit.

If you have any questions regarding this letter please feel free to contact me by e-mail at [daveb@acwa.com](mailto:daveb@acwa.com) or by phone at (916) 441-4545.

Sincerely,



David Bolland  
Senior Regulatory Advocate

cc:

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**NOTE**

**STATE WATER RESOURCES CONTROL BOARD**

**1001 I Street, Sacramento, California 95814**

[http://www.waterboards.ca.gov/water\\_issues/programs/npdes/aquatic.shtml](http://www.waterboards.ca.gov/water_issues/programs/npdes/aquatic.shtml)

**WATER QUALITY ORDER NO. 2012-XXXX-DWQ  
GENERAL PERMIT NO. CAG 90005**

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

The following Dischargers may apply for coverage under this General Permit in compliance with the waste discharge requirements as set forth in this General Permit:

**Table 1. Discharger Information**

<b>Dischargers</b>	Any entity that discharges residual algaecides and aquatic herbicide and their degradation byproducts to waters of the United States (U.S.) from algae and aquatic weed control applications.
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**Table 2. Administrative Information**

This General Permit was adopted by the State Water Resources Control Board (hereinafter State Water Board) on:	<b>&lt;Adoption Date&gt;</b>
This General Permit shall become effective on:	<b>&lt;Effective Date&gt;</b>
This General Permit shall expire on:	<b>&lt;Expiration Date&gt;</b>
The U.S. Environmental Protection Agency (USEPA) and the State Water Board have classified this discharge as a <b>minor</b> discharge.	

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this General Permit with all attachments is a full, true, and correct copy of the General Permit adopted by the State Water Board on **<Adoption Date>**.

AYE:  
NAY:  
ABSENT:  
ABSTAIN:

\_\_\_\_\_  
Jeanine Townsend  
Clerk to the Board

**Comment [MSB1]:** Comments offered by Mike Blankinship on behalf of the Association of California Water Agencies (ACWA) Aquatic Pesticide Work Group.

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## I. DISCHARGE INFORMATION

Pesticide formulations may include “active ingredients<sup>\*1</sup>” and “inert ingredients\*.” Adjuvants\* or surfactants may be added to the ingredients in the application equipment used in delivery of the pesticide. As part of the registration process of pesticides for use in California, USEPA and the California Department of Pesticide Regulation (DPR) evaluate data submitted by registrants to ensure that a product used according to label instructions will cause no harm or adverse impact on non-target organisms that cannot be reduced or mitigated with protective measures or use restrictions. The Clean Water Act (CWA), at section 301(a), broadly prohibits the discharge of any pollutant to waters of the United States, except in compliance with an NPDES permit. Residual pesticides\* discharged into surface waters constitute pollutants within the meaning of the CWA even if the discharge is in compliance with the registration requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Therefore, coverage under an NPDES permit is required.

The discharge of algaecides and aquatic herbicides and their residues to surface waters for algae and aquatic weed control throughout the State of California may pose a threat to existing and potential beneficial uses of waters of the US if not properly controlled and regulated.

This General Permit regulates the discharge of algaecides and aquatic herbicides\* used for algae and aquatic weed control to waters of the US. These are algaecides and aquatic herbicides with registration labels that explicitly allow direct application to water bodies.

## II. PERMIT COVERAGE AND APPLICATION REQUIREMENTS

### A. General Permit Coverage

Except for discharges on tribal lands which are regulated by a federal permit, this General Permit covers the point source\* discharge of algaecide and aquatic herbicide residues resulting from algae and aquatic weed control applications using 2,4-D, acrolein, copper, diquat, endothall, fluridone, glyphosate, imazapyr, penoxsulam, sodium carbonate peroxyhydrate, and triclopyr Triethylamine (triclopyr TEA).

This General Permit does not cover agricultural storm water discharges or return flows from irrigated agriculture because these discharges are not defined as “point sources” and do not require coverage under an NPDES permit. This General Permit also does not cover other indirect or non-point source discharges from applications of algaecides and aquatic herbicides, including discharges of pesticides to land that may be conveyed in storm water or irrigation runoff.

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<sup>1</sup> An asterisk means the term is defined in Attachment A. This applies to all sections of this General Permit.

## B. Discharger

A Discharger under this General Permit includes any entity involved in the application of algaecides and aquatic herbicides that results in a discharge of algaecides and aquatic herbicides and their residues and degradation byproducts to waters of the US, and meets either or both of the following two criteria:

1. The entity has control over the financing for or the decision to perform algaecide and aquatic herbicide applications that result in discharges, including the ability to modify those decisions; or
2. The entity has day-to-day control of algaecide and aquatic herbicide applications or performs activities that are necessary to ensure compliance with this General Permit. For example, the entity is authorized to direct workers to carry out activities required by this General Permit or perform such activities themselves.

## C. General Permit Application

To obtain authorization under this General Permit, Dischargers must submit to the State Water Resources Control Board (State Water Board) a complete application that consists of the following:

1. A Notice of Intent (NOI) shown as Attachment E, signed in accordance with the signatory requirements of the Standard Provisions in Attachment B;
2. An application fee; and
3. An Aquatic Pesticide Application Plan (APAP).

State Water Board and Regional Water Quality Control Board (Regional Water Board) staff will review the application package for completeness and applicability to this General Permit. After the application is deemed complete, the State Water Board's Deputy Director of the Division of Water Quality (Deputy Director) will issue a Notice of Applicability (NOA). The NOA will specify the permitted algaecide and aquatic herbicide active ingredients that may be used, and any region-specific conditions and requirements not stated in this General Permit. Any such region-specific conditions and requirements shall be enforceable. The Discharger is authorized to discharge starting on the date of the NOA.

Alternatively, the Deputy Director or a Regional Water Board Executive Officer may issue a Notice of Exclusion (NOE)<sup>2</sup>, which either terminates the permit coverage or requires submittal of an application for an individual permit or alternative general permit.

**Comment [SF2]:** Need to add language that identifies the time allotted to issue an NOA or a provisional NOA.

Example: "An NOA or a provisional NOA will be issued on or before 90 days have elapsed since submittal of complete permit package. If a submittal is deemed incomplete, SWRCB staff will notify the permittee within 30 days of submittal."

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<sup>2</sup> An NOE is a one-page notice that indicates and justifies why the Discharger or proposed Discharger is not eligible for coverage under this General Permit and states the reason why. This justification can include, but is not limited to, necessity to comply with a total maximum daily load (TMDL) or to protect sensitive water bodies. The NOE can also indicate that the coverage is denied if feasible alternatives to the selected pesticide application project are not analyzed.

#### **D. Fees**

The fee for enrollment under this General Permit shall be based on Section 2200(b)(9) Category 3 of Title 23, California Code of Regulations (CCR), which is available at [http://www.waterboards.ca.gov/resources/fees/docs/fy1112fee\\_schdl\\_npdes\\_prmt.pdf](http://www.waterboards.ca.gov/resources/fees/docs/fy1112fee_schdl_npdes_prmt.pdf) and is payable to the State Water Board.

#### **E. Terminating Coverage**

To terminate permit coverage, a Discharger must submit a complete and accurate Notice of Termination (NOT) provided in Attachment F. The Discharger's authorization to discharge under this General Permit terminates on the day of the coverage termination letter issued by the Deputy Director. Prior to the termination effective date, the Discharger is subject to the terms and conditions of this General Permit and is responsible for submitting the annual fee and all reports associated with this General Permit.

A Discharger must submit an NOT when one of the following conditions occurs:

1. A new operator has taken over responsibility of the Discharger's algae or aquatic weed control activities covered under an existing NOA;
2. The Discharger has ceased all discharges from the application of algaecides and aquatic herbicide for which it obtained General Permit coverage and does not expect to discharge during the remainder of this General Permit term; or
3. The Discharger has obtained coverage under an individual permit or an alternative general permit for all discharges required to be covered by an NPDES permit.

### **III. FINDINGS**

The Fact Sheet (Attachment D), which contains the background information and rationale for the requirements in this General Permit, is hereby incorporated into this General Permit and constitutes its Findings. All other attachments (A, B, C, and E through G) are also incorporated into this General Permit.

THEREFORE, IT IS HEREBY ORDERED that this General Permit supersedes Order No. 2004-0009-DWQ except for enforcement purposes, and in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

### **IV. DISCHARGE PROHIBITIONS**

The discharge of residual algaecides and aquatic herbicides in a manner different from that described in this General Permit is prohibited.



- A. The discharge of residual algaecides and aquatic herbicides shall not create a nuisance as defined in section 13050 of the California Water Code.
- B. The discharge shall not cause, have a reasonable potential to cause, or contribute to an in-stream excursion above any applicable standard or criterion promulgated by USEPA pursuant to section 303 of the CWA, or water quality objective adopted by the State or Regional Water Boards.
- C. All pesticides are prohibited from the waters of the Lahontan Region (Region 6). The use of this permit is invalid in the Lahontan Region unless the discharger has requested a prohibition exemption from the Lahontan Water Board and the Lahontan Water Board has granted an exemption for the use of algaecides or aquatic herbicides.

**V. EFFLUENT LIMITATIONS**

- A. The discharge of residual algaecides and aquatic herbicides must meet applicable water quality standards; and
- B. Dischargers shall implement BMPs when applying aquatic algaecides and aquatic herbicides. The BMPs must be provided in the APAP which is described in Section VIII.C below.

**VI. RECEIVING WATER LIMITATIONS**

The discharge shall not result in any of the following:

- A. The discharge of residual algaecides and aquatic herbicides shall not cause or contribute to an exceedance of the following limitations in the receiving water:

**Table 3. Receiving Water Limitations**

Ingredient	Unit	Instantaneous Maximum	Basis
2,4,-D	µg/L	70	USEPA MCL
Acrolein <sup>1</sup>	µg/L	21	USEPA Gold Book
Copper <sup>1</sup>	µg/L	Dissolved freshwater <sup>2</sup> Copper Chronic = $0.960 \exp(0.8545[\ln(\text{hardness}^3)] - 1.702)^{4,5}$ Dissolved saltwater <sup>2</sup> Copper Chronic = $0.83 \exp(0.8545[\ln(\text{hardness}^3)] - 1.702)^{4,5}$	California Toxics Rule
Diquat	µg/L	20	USEPA MCL
Endothall	µg/L	100	USEPA MCL
Fluridone	µg/L	560	USEPA Integrated Risk Information System
Glyphosate	µg/L	700	USEPA MCL
Nonylphenol	µg/L	Freshwater <sup>2</sup> Chronic Criterion = 6.6 Saltwater <sup>2</sup> Chronic Criterion = 1.7	USEPA National Recommended Ambient Water Quality Criteria
Toxicity		Algaecide and aquatic herbicide applications shall not cause or contribute to toxicity in receiving water(s).	Regional Water Boards' Basin Plans

Notes:

1. Public entities and mutual water companies listed in Attachment G are not required to meet these limitations in receiving waters during the exception period described in the APAP and Section VIII.C.10 below.

**Comment [MB3]:** Is this Table 1?

Need values for Penoxsulam, Imazapyr, Triclopyr and Sodium Carbonate Peroxyhydrate. If not available, so state and list rationale why.

**Comment [SF4]:** All these values are based on the most restrictive, not necessarily applicable designated beneficial use. This is different from the previous permit where the beneficial use determined the WQO.

Need to add a column for Beneficial Use Designation and assign a Inst. Max value specific for that particular designation.

**Comment [MB5]:** This is an example of ignoring the MUN (70 µg/L) and "Other than MUN, Warm or Cold (780 µg/L) beneficial use designation shown on page 8 of the previous permit.

The receiving water limitation must be consistent with the designated beneficial use.

**Comment [MB6]:** What is this? Cite reference

**Comment [SF7]:** Suggest BLM model as an alternative and a more accurate tool. It takes into account not just hardness (as the formula to the left does), but also the critical parameters of pH and dissolved organic carbon. Accordingly, it gives a much more accurate picture of copper behavior.

**Comment [SF8]:** This is an example of the MUN designation being applied to all water bodies. If a WQO does exist for Warm or Cold and this is where the material is used, the MUN designation is not applicable.

Need to add a column for Beneficial Use Designation and assign a Inst. Max value for that particular designation.

2. For waters in which the salinity is equal to or less than 1 part per thousand 95% or more of the time, the freshwater criteria apply. For waters in which the salinity is equal to or greater than 10 parts per thousand 95% or more of the time, saltwater criteria apply. For waters in which the salinity is between 1 and 10 parts per thousand, the applicable criteria are the more stringent of the freshwater or saltwater criteria.
3. For freshwater aquatic life criteria, waters with a hardness 400 mg/L or less as calcium carbonate, the actual ambient hardness of surface water shall be used. For waters with a hardness of over 400 mg/L as calcium carbonate, a hardness of 400 mg/L as calcium carbonate shall be used with a default Water-Effect Ratio of 1.
4. Values should be rounded to two significant figures.
5. This limitation does not apply to the Sacramento River and its tributaries above the State Highway 32 Bridge at Hamilton City. See Table III-1 of the Water Quality Control Plan for the Sacramento and San Joaquin River Basins for copper limitation.

- B. **Dissolved Oxygen.** Dissolved oxygen to be below the Regional Water Board Basin Plans' dissolved oxygen objectives for the receiving water.
- C. **Floating Material.** Floating material to be present in the amounts that cause nuisance or adversely affect beneficial uses.
- D. **Settleable Substances.** Settleable substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
- E. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
- F. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses or domestic or municipal water supplies.
- G. **Toxic Pollutants.** Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
- H. **Color.** Esthetically undesirable discoloration.
- I. **Aquatic Communities.** Aquatic communities and populations, including vertebrates, invertebrates, and non-target plant species to be degraded.

## VII. RECEIVING WATER MONITORING TRIGGERS

The Receiving Water Monitoring Triggers shown in Table 4 below will be used to assess compliance with the narrative receiving water toxicity limitation. However, exceeding the monitoring trigger does not constitute a violation of this General Permit as long as the Discharger performs the following actions: (1) initiates additional investigations for the cause of the exceedance; (2) implements additional BMPs measures to reduce the algaecide and aquatic herbicide residue concentration to be below the monitoring triggers in future applications; and (3) evaluates the appropriateness of using alternative products.

**Comment [MSB9]:** Insert: "In the absence of Receiving Water Limitations",

**Comment [MB10]:** Fix syntax

**Table 4. Receiving Water Monitoring Triggers**

Ingredient	Unit	Instantaneous Maximum Monitoring Trigger	Basis
Imazapyr	mg/L	11.2	USEPA Office of Pesticides <i>Ecotoxicity Database</i>
Triclopyr TEA	mg/L	13.0	USEPA Office of Pesticides <i>Ecotoxicity Database</i>

**Comment [MB11]:** State status of the other 10 herbicides and if not applicable, so state and give rationale.

**VIII. AQUATIC PESTICIDE USE REQUIREMENTS**

**A. Application Schedule**

The Discharger shall provide a phone number or other specific contact information to all persons who request the Discharger’s application schedule. The Discharger shall provide the requester with the most current application schedule and inform the requester if the schedule is subject to change. Information may be made available by electronic means, including posting prominently on a well-known web page.

**B. Public Notice Requirements**

Every calendar year, prior to the first application of algaecide or aquatic herbicide, the Discharger shall notify potentially affected governmental agencies. The notification shall include the following information:

1. A statement of the discharger’s intent to apply algaecide or 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 persons may call to obtain additional information from the discharger.

**C. Aquatic Pesticides Application Plan (APAP)**

Dischargers shall submit an APAP at least 90 days before the expected day of permit coverage. This is to allow posting of the APAP for a 30-day comment period, staff to review APAP and respond to comments, and the Deputy Director to issue the NOA. The APAP shall contain, but not be limited to, the following elements sufficient to address each proposed treatment area:

**Comment [SF12]:** Add language that states that the Permittee will be notified within 30 days of any deficiencies.

1. Description of the water system to which algaecides 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. Type(s) and amount of algaecides and aquatic herbicides used, the method in which they are applied, and if applicable, the adjuvants and surfactants used;
7. 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;
8. 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;
9. Description of monitoring program;
10. Description of procedures used to prevent sample contamination from persons, equipment, and vehicles associated with algaecide and aquatic herbicide application;
11. Description of the 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 a minimum and consistent amount of algaecides and aquatic herbicides 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

**Comment [SF13]:** Asking for the APAP to describe the amount of material that will be applied is not possible as this is determined just before application and can range widely depending on many factors.

Suggestion: strike reference to "amount."

**Comment [SF14]:** A minimum amount is not always the best choice as this may result in re-emergence.

Suggestion: Replace "minimum" with "appropriate rate of application consistent with product label requirements"

- 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.

12. 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, 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;
  - vi. Algaecides and aquatic herbicides;

If there are no alternatives to algaecides and aquatic herbicides, Dischargers shall use the minimum amount of algaecides and aquatic herbicides necessary to control the pest.

- b. Using the least intrusive method of algaecide and aquatic herbicide application with preference given to algaecides and herbicides with limited life spans ; and
- c. Applying a decision matrix concept to the choice of the most appropriate formulation.

**D. APAP Processing, Approval, and Modifications**

Upon receipt of an APAP, staff will post it on the State Water Board's website for a 30-day public comment period.<sup>3</sup> If no comments are received and staff deems the APAP complete, the Deputy Director will issue an NOA within five (5) working days of closure of the comment period. If comments are received, staff will work with the Discharger to address the comments to allow the Deputy Director to issue an NOA as expeditiously as possible. Permit coverage will begin when the Discharger receives the NOA.

Major changes to the APAP shall be submitted to the Deputy Director for approval. Examples of major changes include using a different product other than what is specified in the APAP, changing an application method that may result in different amounts of pesticides being applied, or adding or deleting BMPs.

<sup>3</sup> See Waterkeeper Alliance, Inc. v. EPA, 399 F.3d 486 (2nd Cir. 2005).

**Comment [SF15]:**

Need location and time specificity.

Example: When acrolein is used accordingly to label direction, fish kill may result in the treated water body.

Suggestion: Add "outside the treatment area" after "fish kill".

**Comment [SF16]:**

See earlier comment.

Suggestion: Change minimum to "appropriate rate of application consistent with product label requirements"

**Comment [SF17]:**

Reference and preference to "limited life span is not appropriate. In some cases, a long lasting material is desirable.

Example: Fluridone applied at a low concentration and maintained overtime is an efficacious method to treat submersed weeds.

Suggestion: End sentence at "application."

**Comment [SF18]:**

This language may not be consistent with the 90 day approach presented earlier.

Example: If SWRCB staff don't get a review done before the closure period ends, an NOA must be issued.

Suggestion #1: Add "or the completion of staff review, whichever comes first" after "...comment period."

Suggestion #2: Add "provisional NOA" after "NOA" on line 3 of this paragraph.

**Potential timing issue:** The new permit will be considered by the SWRCB in Nov 2012 and that the new permit requires that a permit package be submitted 90 days before aquatic herbicide application. Recognize that typical aquatic herbicide applications can occur as early as April 1 which would require a permit package submittal on or before Jan 1. If the new permit is not available until Dec 1, this leaves only 30 days for permittees to prepare and submit a permit package by Jan1 in time for the 90 days to elapse before the first application on April t.

This would mean that Board staff would have only 30 calendar days during the holiday season to review as many as 120 permit packages. Is this realistic?

#### **E. Algaecide and Aquatic Herbicide Application Log**

The Discharger shall maintain a log for each algaecide and aquatic herbicide application. The application log shall contain, at a minimum, the following information:

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

### **IX. PROVISIONS**

#### **A. Standard Provisions**

1. All Dischargers authorized to discharge under this General Permit shall comply with the Federal Standard Provisions included in Attachment B of this General Permit.
2. This General Permit does not authorize the discharge of residual algaecides and aquatic herbicides or their degradation byproducts to waters of the US that are impaired by the active ingredient of the algaecides and herbicides used. Impaired waters are those waters not meeting water quality standards pursuant to section 303(d) of the CWA. California impaired waters are listed on [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/2010state\\_ir\\_reports/2010\\_combo303d.xls](http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/2010_combo303d.xls).
3. This General Permit does not authorize any take of endangered species. The discharge is prohibited from adversely impacting biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws. To ensure that endangered species issues are raised to the responsible agencies, the State Water Board has notified the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Game of this General Permit.
4. The State Water Board may use this General Permit to regulate the discharge of algaecides and aquatic herbicides and their residues to a surface water classified as Outstanding National Resource Waters or as a water body impaired by unknown toxicity only after the following conditions are satisfied: (1) the proposed project will comply with the limitations and discharge requirements specified in the General Permit; and (2) if required, the proposed algaecide and aquatic herbicide application qualifies for and has been granted a Basin Plan prohibition exception prior to discharge. The two bodies of water that are classified as Outstanding National Resource Waters in California are Lake Tahoe and Mono Lake.



5. The Discharger must follow all FIFRA pesticide label instructions and any Restricted Material Use Permits issued by a County Agricultural Commissioner.
6. All adjuvants used with the algaecides and aquatic herbicides must be labeled for aquatic use.
7. The Discharger must comply with effluent and receiving water limitations and must develop and implement an APAP.
8. To reduce the potential impacts to water quality, Dischargers shall implement the feasible alternatives to chemical use that are identified in the APAP.
9. All Dischargers authorized to discharge under this General Permit shall comply with discharge prohibitions and other requirements contained in water quality control plans, as implemented by the State and the nine Regional Water Boards.
10. All Dischargers authorized to discharge under this General Permit shall comply with the following provisions:
  - a. After notice and opportunity for a hearing, this General Permit may be terminated or modified for cause, including, but not limited to:
    - i. violation of any term or condition contained in this General Permit;
    - ii. obtaining this General Permit by misrepresentation or by failing to disclose fully all relevant facts;
    - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
    - iv. a material change in the character, location, or volume of discharge (if applicable).
  - b. The provisions of this General Permit are severable. If any provision of this General Permit is found invalid, the remainder of this General Permit shall not be affected.
  - c. The Discharger shall maintain a copy of this General Permit and make it available at all times to operating personnel. Key operating personnel shall be familiar with its content.
  - d. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the State and Regional Water Boards.
  - e. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.
  - f. Each Discharger shall file with the State Water Board and the appropriate Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this General Permit.
  - g. The State and Regional Water Board are authorized to enforce the terms of this General Permit under provisions of the California Water Code, including, but not limited to, sections 13385, 13386, and 13387.

**Comment [SF19]:**

Awkward.

Suggest: "To reduce the impacts to water quality, Dischargers shall consider and if feasible implement alternatives to the use of algaecides and aquatic herbicides that are identified in the APAP."

Global change: replace "chemical" with "algaecide and aquatic herbicide".

**Comment [SF20]:**

Remove reference to yearly as some instruments do not call for this.

Suggestion: Replace "at least yearly" with "consistent with manufacturer's recommendations."

## B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment C of this General Permit.

## C. Special Provisions

### 1. Reopener Provisions

This General Permit may be reopened for modification and reissuance in accordance with the provisions contained in 40 C.F.R. §122.62, and for the following reasons:

- a. **Addition to the Public Entity List.** This General Permit may be reopened to modify Attachment G if any additional entity becomes qualified for a Policy section 5.3 exception.
- b. **Addition of Aquatic Pesticide Active Ingredients.** This General Permit may be re-opened to add additional algaecide and aquatic herbicide active ingredients if new active ingredients are registered by USEPA and DPR.
- c. **Acute and Chronic Toxicity.** If the State Water Board revises the Policy toxicity control provisions that would require new implementation procedures including the establishment of numeric chronic toxicity limitations, this General Permit may be reopened to include numeric acute and/or chronic toxicity receiving water limitations based on the new provisions.
- d. **Receiving Water Limitations.** This General Permit may be re-opened to add numeric Receiving Water Limitations for the residual algaecide and aquatic herbicides exceeding the triggers if the additional investigation results show necessary.
- e. **Endangered Species Act.** If USEPA develops biological opinions regarding algaecides and aquatic herbicides included in this General Permit, this General Permit may be re-opened to add or modify Receiving Water Limitations/Monitoring Triggers for aquatic herbicides and algaecides and their residues of concern, if necessary.

### 2. Change of Discharger

In the event of any change in the Discharger that has obtained coverage under this General Permit, the previous Discharger shall notify the new Discharger of the existence of this General Permit by letter. A copy of the letter shall be immediately forwarded to the Deputy Director. After receipt of the letter, the Deputy Director will terminate the permit coverage to the previous Discharger. The new Discharger shall complete and submit to the Deputy Director a revised NOI form (Attachment E), and any revisions to the APAP prepared by the previous control entity or a new APAP.

### 3. Application Package

Dischargers who seek coverage under this General Permit shall file a complete application package at least 90 days before the expected date of algaecide and



aquatic herbicide application. The application package shall include an NOI, APAP, and application fee. Enrolled dischargers will be billed annually thereafter.

4. **Special Studies, Technical Reports, and Additional Monitoring Requirements**

a. **Additional Investigation**

Each Discharger must conduct additional investigations when the chemical monitoring shows exceedance of any receiving water limitation or monitoring trigger. The additional investigations shall identify corrective actions to eliminate exceedance of receiving water limitations or monitoring triggers caused by the algaecide and aquatic herbicide application. The investigation shall include, but not be limited to, revising and improving the existing BMPs, revising the mode of application, using less toxic algaecide and aquatic herbicide products, or selecting alternative methods for algae and aquatic weed control.

**Comment [MSB21]:** Add "one or more of the following:" in front of "revising".

**Comment [SF22]:**

The toxicity of a herbicide may have nothing to do with its detection in the receiving water. Further, the selection of less toxic herbicide doesn't mean it will not be detected, and if detected, still not toxic to some degree.

Suggestion: replace "less toxic" with "different (i.e., less mobile, more efficacious, etc)"

b. **Qualified Biologist Certification Following Project Completion**

Upon completion of an algaecide and aquatic herbicide project, public entities and mutual water companies listed in Attachment G of this General Permit shall provide certification by a qualified biologist that beneficial uses of receiving waters have been restored.

5. **Corrective Action**

a. **Situations Requiring Revision of Control Measures.** If any of the following situations occur, the Discharger must review and, as necessary, revise the evaluation and selection of the control measures to ensure that the situation is eliminated and will not be repeated in the future:

- i. An unauthorized release or discharge associated with the application of algaecides and aquatic herbicides (e.g., spill, leak, or discharge not authorized by this or another NPDES permit) occurs;
- ii. The Discharger becomes aware, or the State Water Board concludes, that the control measures are not adequate/sufficient for the discharge to meet applicable water quality standards;
- iii. Any monitoring activities indicate that the Discharger failed to:
  - a) Follow the label instructions for the product used;
  - b) Use the lowest amount of algaecide and aquatic herbicide product per application and optimum frequency of algaecide and aquatic herbicide applications necessary for algae and aquatic weed controls, consistent with reducing the potential for development of resistance;
  - c) Perform regular maintenance activities to reduce leaks, spills, or other unintended discharges of algaecides and aquatic herbicides associated with the application of algaecides and aquatic herbicides covered under this General Permit; or

**Comment [SF23]:** See previous comment on "minimum".

Suggestion: Replace "lowest amounts" with "appropriate rate of application consistent with product label requirements"

d) Maintain algaecide and aquatic herbicide application equipment in proper operating condition by adhering to any manufacturer's conditions and industry practices, and by calibrating, cleaning, and repairing such equipment on a regular basis to ensure effective algaecide and aquatic herbicide application and algae and aquatic weed control. The Discharger must ensure that the equipment's rate of algaecide and aquatic herbicide application is calibrated to deliver the precise **minimum** quantity of algaecides and aquatic herbicides needed to achieve greatest efficacy against pests.

**Comment [SF24]:** See previous discussion.

Suggestion: Replace "precise minimum quantity" with "appropriate rate of application consistent with product label requirements for"

b. **Corrective Action Deadlines.** If the Discharger determines that changes to the control measures are necessary to eliminate any situation identified above, the Discharger shall make such changes within 60 days. The Discharger shall take the corrective action before any further discharge of the algaecides and aquatic herbicides and their residues will be allowed.

**Comment [SF25]:** Clarify.

Suggestion: change to last sentence to:

The Discharger shall take corrective action before any further algaecide or aquatic herbicide discharge that results in an exceedance of a water quality objective or monitoring trigger in receiving water immediately after application (event monitoring sample) or in treated water 6 days after application (post event monitoring sample).

c. **Effect of Corrective Action.** The occurrence of a situation identified in Section C.5.a above may constitute a violation of this General Permit. Correcting the situation according to Corrective Action section C.5.b above does not absolve the Discharger of liability for any original violation. However, failure to comply with any Corrective Action as required by section C.5.b. above constitutes an additional permit violation. The State Water Board will consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.

The State Water Board and the appropriate Regional Water Boards may impose additional requirements and schedules of compliance, including requirements to submit additional information concerning the condition(s) triggering corrective action or schedules and requirements more stringent than specified in this General Permit. Those requirements and schedules will supersede those in the Corrective Action section above if such requirements conflict.

#### 6. **Adverse Incident to Threatened or Endangered Species or Critical Habitat**

If the Discharger becomes aware of an adverse incident<sup>\*</sup> to a federally-listed threatened or endangered species or its federally-designated critical habitat, that may have resulted from the Discharger's algaecides and aquatic herbicides application, the Discharger must immediately notify the National Marine Fisheries Service (NMFS) Santa Rosa office by phone at 707-575-6050 in the case of an anadromous or marine species, or the U.S. Fish and Wildlife Service (FWS) in the case of a terrestrial or freshwater species. This notification must be made by telephone or email immediately when the Discharger becomes aware of the adverse incident and must include at least the following information:

- a. The caller's name, telephone number, and email address;
- b. Applicator name and mailing address;
- c. The name of the affected species;
- d. How and when the Discharger became aware of the adverse incident;

- e. Description of the location of the adverse incident;
- f. Description of the adverse incident, including the USEPA pesticide registration number for each product applied in the area of the adverse incident; and
- g. Description of any steps that have been taken or will be taken to alleviate the adverse impact to the species.

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

#### **X. COMPLIANCE DETERMINATION**

Compliance with receiving water limitations and monitoring triggers shall be determined through event and post-event monitoring results.

## Attachment A – Definitions

### Active Ingredient

Active ingredients are ingredients disclosed by manufacturers that yield toxic effects on target organisms.

### Adjuvants

Adjuvants are ingredients that are added to pesticides during an application event and are often trade secrets. These ingredients are chosen by the Discharger, based on site characteristics, and typically increase the effectiveness of pesticides on target organisms.

**Comment [MSB26]:** Clarify.

Suggestion: Replace "added to pesticides during" with "mixed with pesticides prior to..."

### Adverse Incident

Adverse Incident means a situation where the Discharger observes upon inspection or becomes aware of in which:

- A person or non-target organism may have been exposed to an algaecide or aquatic herbicide residue; and
- The person or non-target organism suffered an adverse or toxic effect.

### Adverse or Toxic Effect

An "adverse or toxic effect" includes any impact that occurs within US waters on non-target plants, fish, or wildlife that is unusual or unexpected (e.g., effects are to organisms not otherwise described on the pesticide product label or otherwise not expected to be present) as a result of exposure to an aquatic pesticide residue, and may include:

- Distressed or dead juvenile and small fishes
- Washed up or floating fish
- Fish swimming abnormally or erratically
- Fish lying lethargically at water surface or in shallow water
- Fish that are listless or nonresponsive to disturbance
- Stunting, wilting, or desiccation of non-target submerged or emergent aquatic plants
- Other dead or visibly distressed non-target aquatic organisms (amphibians, turtles, invertebrates, etc.)

**Comment [MSB27]:** Hard to read and unclear. Rework

Suggest change to:

...Includes impacts that occur within Waters of the US on non-target organisms as a result of algaecide or aquatic herbicide residue. These effects are to organisms not listed as controlled on the product label or not expected to be present. Examples of these effects may include:

**Comment [MSB28]:** Need consistent use of terms.

Replace "aquatic pesticide" with "algaecide and aquatic herbicide" (Global change)

An "adverse or toxic effect" also includes any adverse effects to humans (e.g., skin rashes) or domesticated animals that occur either directly or indirectly from a discharge to waters of the U.S. that are temporally and spatially related to exposure to an aquatic pesticide residue (e.g., vomiting, lethargy).

**Comment [MSB29]:** See previous comment. Use consistent terminology.

### Agricultural Supply

Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.

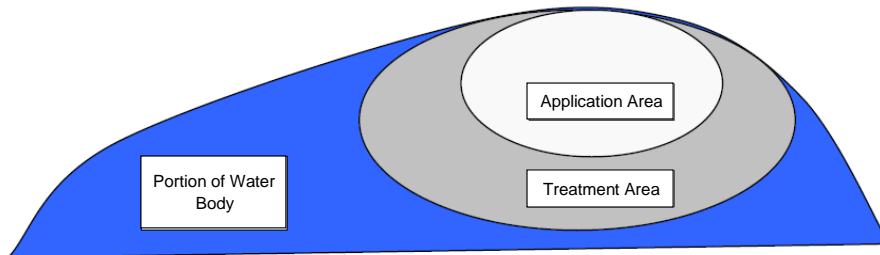
### Algae Control

Algae control means the treatment of filamentous algae, cyanobacteria (blue green algae), or algal species that have the potential to affect human or environmental health.

### Application Area

The application area is the area to which aquatic pesticides are directly applied.

**Comment [SF30]:** Include a diagram of flowing water treatment area.



### Application Event

The application event is the time that introduction of the algaecide or aquatic herbicide to the treatment area takes place, not the length of time that the environment is exposed to the algaecide or aquatic herbicide.

### Aquatic Pesticides

Aquatic pesticides in this General Permit are limited to algaecides and aquatic herbicides labeled for aquatic use to control aquatic weeds or algae.

### Biological Pesticide

A chemical which is derived from plants, fungi, protozoa, bacteria, or other non-man-made synthesis and which can be used for aquatic weed and/or algae control.

**Comment [SF31]:** Delete. Unused.

### Coalition

Specifically refers to a monitoring coalition which is a collaborative monitoring partnership of dischargers to develop a monitoring plan that addresses the monitoring requirements of this General Permit. The Coalition's monitoring plan will be submitted for Coalition members in lieu of individual monitoring plans from each member.

### Cold Freshwater Habitat

Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

**Comment [SF32]:** Add all other beneficial uses and make description, definition, and add abbreviation consistent with Basin Plans or SWRCB definitions.

Note these definitions will be needed in the table per comments on beneficial use designation.

### Enclosed Bays

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays do not include inland surface waters or ocean waters.

### Estuaries

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams

that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuaries do not include inland surface waters or ocean waters.

**Freshwater Replenishment**

Uses of water for natural or artificial maintenance of surface water quantity or quality.

**Half-Life**

Half-life is the time required for half of the compound introduced into an ecosystem to be eliminated or disintegrated by natural processes.

**Hydropower Supply**

Uses of water for hydropower supply.

**Inert Ingredients**

Inert ingredients are additional ingredients and are often trade secrets; therefore, they are not always disclosed by the manufacturer.

**Inland Surface Waters**

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

**Insecticides**

A chemical agent used to control insects in various life stages.

**Mutual Water Company**

A mutual water company is defined in the Public Utilities Code, section 2725 as “[a]ny private corporation or association organized for the purpose of delivering water to its stockholders and members at cost, including use of works for conserving, treating, and reclaiming water.”

**Migration of Aquatic Organisms**

Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

**Municipal and Domestic Supply (MUN)**

Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

**Navigation**

Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

**Non-Contact Water Recreation**

Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, etc.

### Point Source

Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

### Priority Pollutants

Priority pollutants are listed within the California Toxics Rule in 40 Code of Federal Regulations, section 131.38(b)(1). Criteria to protect aquatic life and human health are set for priority pollutants in the California Toxics Rule.

### Public Entity

Public entity includes the federal government or a state, county, city and county, city, district, public authority, or public agency.

### Rare, Threatened, or Endangered Species Habitat

Uses of water that support aquatic habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

### Receiving Waters

Receiving waters are waters of the US anywhere outside of the treatment area at any time and anywhere inside the treatment area after completion of the treatment event.

### Self Monitoring

Sampling and analysis performed by the Discharger or Coalition to determine compliance with the Permit. All laboratory analyses must be conducted by a laboratory certified by the California Department of Public Health.

### Representative Monitoring Location

To be considered "representative," at a minimum, a location must be similar in hydrology, pesticide use, and other factors that affect the residual discharge to the areas being represented in that environmental setting.

### Residual Pesticides

Residual pesticides are those portions of the pesticides that remain in the water after the application and its intended purpose (elimination of targeted pests) have been completed.

### Treatment Area

The treatment area is the area being treated by the algaecide or aquatic herbicide for algae and aquatic weed controls and, therefore, the area being targeted to receive lethal doses of algaecide or aquatic herbicide. It is the responsibility of the Discharger to define the treatment area for each specific location that it discharges to.

**Comment [MSB33]:** See previous comments on terminology consistency.

**Comment [SF34]:** Make terminology consistent. Use "algaecides and aquatic herbicides"

**Comment [MSB35]:** See comment above.

**Comment [MB36]:** Delete "s"

**Comment [MSB37]:** Not always true as achieving injury to stunt or reduce rate of growth is sometimes all that can be done..

Suggest that "lethal doses" be replaced with "an appropriate rate of application consistent with product label requirements"

**Comment [MB38]:** This sentence is a little confusing.

Suggest delete and change to "It is the responsibility of the Discharger to define the treatment area for each algaecide and aquatic pesticide application."

### Warm Freshwater Habitat

Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

### Water Contact Recreation

Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

**Comment [MB39]:** Good to see these. Add others as appropriate per comments to tables regarding beneficial use designation.

### Waters of the United States (Waters of the U.S.)

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate "wetlands;"
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
  - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
  - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - c. Which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the U.S. under this definition;
5. Tributaries of waters identified in items 1 through 4 of this definition;
6. The territorial sea; and
7. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the U.S. [See Note 1 of this section.] Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

**Comment [SF40]:** Do you mean 1 through 6, not a through f?

### Wildlife Habitat

Uses of water that support terrestrial or wetland ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.



## **Attachment B – Standard Provisions**

### **I. STANDARD PROVISIONS – PERMIT COMPLIANCE (IF APPLICABLE)**

#### **A. Duty to Comply**

1. The Discharger must comply with all of the conditions of this General Permit. Any noncompliance constitutes a violation of the CWA and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. §122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement. (40 C.F.R. §122.41(a)(1).)

#### **B. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit. (40 C.F.R. §122.41(c).)

#### **C. Duty to Mitigate**

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this General Permit that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. §122.41(d).)

#### **D. Proper Operation and Maintenance**

The Discharger shall at all times properly operate and maintain all facilities and systems of control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this General Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. (40 C.F.R. §122.41(e).)

#### **E. Property Rights**

1. This General Permit does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. §122.41(g).)
2. The issuance of this General Permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. §122.5(c).)

## **F. Inspection and Entry**

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. §122.41(i); Water Code, §13383) to:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this General Permit (40 C.F.R. §122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this General Permit (40 C.F.R. §122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this General Permit (40 C.F.R. §122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring General Permit compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. §122.41(i)(4).)

## **II. STANDARD PROVISIONS – PERMIT ACTION**

### **A. General**

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any General Permit condition. (40 C.F.R. §122.41(f))

### **B. Duty to Reapply**

If the Discharger wishes to continue an activity regulated by this General Permit after the expiration date of this General Permit, the Discharger must apply for and obtain authorization as required by the new permit. (40 C.F.R. §122.41(b))

### **C. Transfers**

This General Permit is not transferable to any person except after notice to the State Water Board. The State Water Board may require modification or revocation and reissuance of the General Permit to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §122.41(l)(3); §122.61.)

#### **D. Continuation of this Permit**

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 40 C.F.R. §122.6 and remain in full force and effect.

### **III. STANDARD PROVISIONS – MONITORING**

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. §122.41(j)(1).)

Monitoring results must be conducted according to test procedures under Part 136 unless other test procedures have been specified in this General Permit. (40 C.F.R. §122.41(j)(4); §122.44(i)(1)(iv).)

### **IV. STANDARD PROVISIONS – RECORDS**

#### **A. Records Retention**

The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this General Permit, and records of all data used to complete the application for this General Permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Deputy Director at any time. (40 C.F.R. §122.41(j)(2).)

#### **B. Records of monitoring information shall include:**

1. The date, exact place, and time of sampling or measurements (40 C.F.R. §122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. §122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. §122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. §122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. §122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. §122.41(j)(3)(vi).)

#### **C. Claims of confidentiality for the following information will be denied (40 C.F.R. §122.7(b)):**

1. The name and address of any permit applicant or Discharger (40 C.F.R. §122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. §122.7(b)(2).)

## V. STANDARD PROVISIONS – REPORTING

### A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this General Permit or to determine compliance with this General Permit. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this General Permit. (40 C.F.R. §122.41(h); Water Code, §13267.)

### B. Signatory and Certification Requirements

All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

1. **For a municipality, state, federal, or other public agency:** All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. §122.22(a)(3).)
2. All reports required by this General Permit and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.1 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.1 above (40 C.F.R. §122.22(b)(1));
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity or an individual or a position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. §122.22(b)(2)); and
  - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. §122.22(b)(3).)
3. If an authorization under Standard Provisions – Reporting V.B.1 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of

Standard Provisions – Reporting V.B.1 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. §122.22(c).)

Any person signing a document under Standard Provisions – Reporting V.B.1 or V.B.3 above shall make 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 C.F.R. §122.22(d).)

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment C) in this General Permit. (40 C.F.R. §122.22(l)(4).)
2. Monitoring results must be reported on a Self Monitoring\* Report (SMR) form as agreed to by the Deputy Director and the Discharger.
3. If the Discharger monitors any pollutant more frequently than required by this General Permit using test procedures approved under Part 136 or as specified in this General Permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the SMR or sludge reporting form specified by the State Water Board. (40 C.F.R. §122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this General Permit. (40 C.F.R. §122.41(l)(4)(iii).)

### **D. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this General Permit, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. §122.41(l)(5).)

### **E. Planned Changes**

The Discharger shall give notice to the State and the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted activity or discharge. Notice is required under this provision (40 C.F.R. §122.41(l)(1)) only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither

to effluent limitations in this General Permit nor to notification requirements under section 122.42(a)(1).

**F. Anticipated Noncompliance**

The Discharger shall give advance notice to the Regional Water Board and the State Water Board of any planned changes in the permitted discharge or activity that may result in noncompliance with General Permit requirements. (40 C.F.R. §122.41(l)(2).)

**G. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.F above. (40 C.F.R. §122.41(l)(7).)

**H. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. §122.41(l)(8).)

**VI. STANDARD PROVISIONS – ENFORCEMENT**

The State and the Regional Water Board are authorized to enforce the terms of this General Permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

**Attachment C – Monitoring and Reporting Program**

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## **ATTACHMENT C – MONITORING AND REPORTING PROGRAM**

Section 122.8 of Title 40 of the Code of Federal Regulations (40 C.F.R., §122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code sections 13267 and 13383 also authorize the State Water Resources Control Board (the State Water Board) and the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements which implement federal and California State laws and regulations.

This MRP is designed to address the two key questions shown below. It also encourages Dischargers to form monitoring coalitions with others doing similar applications within a given watershed or doing applications of similar environmental settings (flowing water and non-flowing water). The Coalition or Discharger may select sites representing worst case scenarios or high use areas for each active ingredient in each environmental setting. If the Discharger elects in its Aquatic Pesticide Application Plan (APAP) to undertake monitoring and reporting through a Coalition, then the Coalition will prepare and implement an MRP (pursuant to this Attachment C) and act on behalf of the Discharger with respect to monitoring and reporting. Otherwise, the Discharger will prepare and implement an individual MRP.

**Question No. 1:** Does the residual algaecides and aquatic herbicides discharge cause an exceedance of receiving water limitations?

**Question No. 2:** 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?

If the Discharger elects in its APAP to undertake monitoring and reporting through a Coalition, the APAP should reference and attach the Coalition’s monitoring plan.

### **I. GENERAL MONITORING PROVISIONS**

- A.** Samples and measurements taken as required herein shall be representative of the nature of the monitored discharge. All samples shall be taken at the anticipated monitoring locations specified in the Discharger’s or Coalition’s APAP.
- B.** All laboratory analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with California Water Code section 13176. Laboratories that perform sample analyses shall be identified in all monitoring reports. The Discharger shall institute a Quality Assurance-Quality Control Program for any onsite field measurements such as electric conductivity, pH, turbidity, and temperature. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by the State Water Board and the appropriate Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the State Water Board and the appropriate Regional Water Board.



- C. All analyses shall be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants", promulgated by the USEPA in 40 C.F.R. Part 136 or equivalent methods that are commercially and reasonably available and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 CFR 136 if the method is available in the 40 CFR 136, and must be approved for use by the Regional Water Board Executive Officer.

Any procedures to prevent the contamination of samples as described under the Monitoring Program in the APAP shall be implemented.

- D. Records of monitoring information shall include the following:
1. The date, exact place, and time of sampling or measurements;
  2. The individuals who performed the sampling or measurements;
  3. The dates analysis were performed;
  4. The individuals who performed the analyses;
  5. The analytical techniques or methods used; and
  6. Results of analyses.
- E. All monitoring instruments and devices used to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their accuracy.
- F. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP.

## II. MONITORING LOCATIONS AND SAMPLE TYPES

### A. Monitoring Locations

Each Discharger or Coalition shall establish monitoring locations specified in the APAP to demonstrate compliance with the receiving water limitations, discharge specifications, and other requirements in this General Permit. The number and location of samples shall be selected to answer the two key questions. A Discharger or Coalition may use representative monitoring locations to characterize water quality for all waters of the US within the Discharger's or Coalition's boundaries for each environmental setting (flowing water and non-flowing water). However, the Discharger or Coalition must provide justification for the selection of the representative monitoring locations. To be considered "representative," at a minimum, a location must be similar in hydrology, algaecides and aquatic herbicides use, and other factors that affect the discharge of algaecides and aquatic herbicides and their residues to surface waters as a result of applications to the areas being represented in that environmental setting. Each Discharger or Coalition must provide technical justification and identify which areas are to be considered representative. Monitoring location information

shall include a description of the treatment area, GPS coordinates, and algaecides and aquatic herbicides being applied. The specific monitoring locations initially identified as representative monitoring locations may be changed based on surveillance of the Discharger or Coalition.

## B. Sample Types

The following monitoring is required for each sampling:

1. **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\*.
2. **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 **will** have exited the treatment area.
3. **Post-Event Monitoring.** Post-event monitoring samples shall be collected within the treatment area within one week after application.

Comment [MSB41]: Replace "will" with "would"

## III. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

### A. General Monitoring Requirements

The monitoring program described in the APAP shall be designed to answer the two key questions stated above. The monitoring program in the APAP shall describe the tasks and time schedules in which these two key questions will be addressed. Monitoring shall take place at locations that are being planned to be applied or may be applied as described in the Discharger's APAP.

The monitoring program described in the APAP must consider watershed specific attributes and waste constituents, based on the characteristics of applications within the Coalition's or Discharger's area, as well as the receiving water quality conditions. Developing the details of a monitoring design requires clearly defining several inputs to the design and then organizing these in a logical framework that supports effective decision making about indicators, monitoring locations, and monitoring frequency. The logical framework should describe:

1. The basic geographic and hydrographic features of the area, particularly application points and the pathways(s) of residue flows;
2. Algaecides and aquatic herbicides application practices and how they are distributed in space and time;
3. Relevant knowledge about the transport, fates, and effects of algaecides and aquatic herbicides, including best- and worst-case scenarios;
4. Description of the designated beneficial uses in each water body;
5. Relevant knowledge about the action of cumulative and indirect effects;

6. Mechanisms through which algaecides and aquatic herbicides applications could lead to designated use impacts, given the basic features of the area;
7. Known and potential impacts of algaecides and aquatic herbicides applications on water quality, ranked in terms of relative risk, based on factors such as magnitude, frequency and duration;
8. Sufficient number of sampling areas to assess the entire Discharger's or Coalition's area of influence; and
9. A description of sampling methods and a sampling schedule.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by the treatment area. 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.

## B. Visual, Physical, and Chemical Monitoring Requirements

Monitoring shall take place at locations that are described and scheduled in the Coalition's or Discharger's APAP. Monitoring for all active ingredients must include frequent and routine monitoring on a pre-determined schedule, as summarized in the Table C-1 below:

**Comment [SF42]:** Inconsistent use of terms. Suggest replacing the first sentence with:

"During event and post event sampling, a log shall be kept of the water conditions within the treatment area."

**Table C-1 Monitoring Requirements**

Sample Type	Constituent/Parameter	Units	Sample Method	Minimum Sampling Frequency	Sample Type Requirement	Required Analytical Test Method
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.)	Not applicable	Visual Observation	1	Background, Event and Post-event Monitoring	Not applicable
Physical	1. Temperature <sup>2</sup>	°F	Grab <sup>4</sup>	5	Background, Event and Post-event Monitoring	6
	2. pH <sup>3</sup>	Number				
	3. Turbidity <sup>3</sup>	NTU				
	4. Electric Conductivity <sup>3</sup> @ 25°C	µmhos/cm				
Chemical	1. Active Ingredient <sup>7</sup>	µg/L	Grab <sup>4</sup>	5	Background, Event and Post-event Monitoring	6
	2. Hardness (if copper is monitored)	mg/L				
	3. Dissolved Oxygen <sup>2</sup>	mg/L				

<sup>1</sup> All applications at all sites.  
<sup>2</sup> Field testing.  
<sup>3</sup> Field or laboratory testing.  
<sup>4</sup> Samples shall be collected at the surface of the water body.  
<sup>5</sup> Collect samples from a minimum of six application events for each active ingredient in each environmental setting (flowing water and non-flowing water) per year, except for glyphosate. If there are less than six application events in a year, collect samples during each application event for each active ingredient in each environmental setting (flowing water and non-flowing water). If the results from six consecutive application events show concentrations that are less than the receiving water limitation/trigger for an active ingredient in an environmental setting, sampling shall be reduced to one application event per year for that active ingredient in that environmental setting. For glyphosate, collect samples from one application event from each environmental setting (flowing water and non-flowing water) per year.  
<sup>6</sup> Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or equivalent method (see item I.C of Attachment C for details).  
<sup>7</sup> 2,4-D, acrolein, dissolved copper, diquat, endothall, fluridone, glyphosate, nonylphenol, imazapyr, penoxsulam, and triclopyr TEA.

**Comment [SF43]:** This is: inconsistent with USGS recommendations.  
 Recommend that "or at mid water column depth if the depth is greater than approximately 3 ft."

**Comment [SF44]:** Clarify that no sampling for sodium carbonate Peroxyhydrate is required.

**Comment [SF45]:** This report is not defined.  
 Suggest that "summary monitoring report" is replaced with "data used to prepare the SMR"

**IV. REPORTING REQUIREMENTS**

**A. General Monitoring and Reporting Requirements**

1. The Coalition or Discharger shall comply with all Standard Provisions (Attachment B) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the State Water Board or the appropriate Regional Water Board, the Coalition or Discharger shall submit a summary monitoring report.

3. The Coalition or Discharger shall report to the State Water Board and appropriate Regional Water Board any toxic chemical release data that are reported to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986 (42 U.S.C. §11001 et. seq.)

## B. Annual Reports

1. Annual reports shall contain the following information:
  - a. An Executive Summary discussing compliance or violation of this General Permit and the effectiveness of the APAP to reduce or prevent the discharge of pollutants associated with algaecide and aquatic herbicide applications;
  - b. A summary of monitoring data, including the identification of water quality improvements or degradation, and recommendations for improvements to the APAP (including proposed BMPs) and monitoring program based on the monitoring results. All receiving water monitoring data shall be compared to Receiving Water Monitoring limitations and triggers;
  - c. Identification of BMPs currently in use and a discussion of their effectiveness in meeting the requirements in this General Permit;
  - d. A discussion of BMP modifications addressing violations of this General Permit;
  - e. A map showing the location of each treatment area;
  - f. Types and amounts of algaecides and aquatic herbicides used at each application event\*;
  - g. Information on surface area and/or volume of treatment areas and any other information used to calculate dosage, concentration, and quantity of each algaecides and aquatic herbicides used;
  - h. Sampling results shall indicate the name of the sampling agency or organization, detailed sampling location information (including latitude and longitude or township/range/section if available), detailed map or description of each sampling area (i.e., address, cross roads, etc.), collection date, name of constituent/parameter and its concentration detected, minimum levels, method detection limits for each constituent analysis, name or description of water body sampled, and a comparison with applicable water quality standards, description of analytical QA/quality control plan. Sampling results shall be tabulated so that they are readily discernible; and
  - i. Recommendations to improve the monitoring program, BMPs, and APAP to ascertain compliance with this General Permit.
  - j. Algaecide and aquatic herbicide application log.
2. At any time during the term of this General Permit, the State Water Board or the appropriate Regional Water Board may notify the Coalition or Discharger of the requirement to submit electronically Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS)

**Comment [MSB46]:** Delete "showing" and insert before "map" the following:

"or table describing"...

**Comment [MSB47]:** Remove asterisk or define.

**Comment [SF48]:** Delete This is a reiteration of section B.1.b above

**Comment [SF49]:** Delete This is a reiteration of section B.1.f above

**Comment [SF50]:** This can be an enormous amount of data.

Suggest insert 'Summary of ' in front of "algaecide."

Program (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Coalition or Discharger shall submit hard copy SMRs. The CIWQS website will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

3. The Coalition or Discharger shall report the results for all monitoring specified in this Monitoring and Reporting Program in the SMR. The Coalition or Discharger shall submit annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this General Permit. If the Coalition or Discharger monitors any pollutant more frequently than required by this General Permit, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
4. Monitoring reports shall be submitted to the Deputy Director and the appropriate Regional Water Board Executive Officer in accordance with the following schedule:

**Comment [MSB51]:** Insert "if so notified" in front of "The".

**Table C-2. Reporting Schedule**

Reporting Frequency	Reporting Period	Annual Report Due
Annual	January 1 through December 31	March 1

If there is no discharge of algacides and aquatic herbicides, their residues, or their degradation byproducts, the Coalition or Discharger shall provide the Deputy Director and the appropriate Regional Water Board Executive Officer a certification that algacide and aquatic herbicide application activities did not result in a discharge to any water body.

**C. Reporting Protocols**

The Coalition or Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Minimum Detection Limit, as determined by the procedure in 40 C.F.R. Part 136.

The Coalition or Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

1. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
2. Sample results less than the Report Limit, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

**Comment [SF52]:** From a practical standpoint, most labs do not report estimates when <RL and >MDL. If <RL, report typically indicates ND (not detectable).

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the

reported result. Numerical estimates of data quality may be percent accuracy (plus a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

3. Sample results less than the laboratory's MDL shall be reported as "<" followed by the MDL.
4. The Coalition or Discharger shall instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Coalition or Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. Multiple Sample Data: If two or more sample results are available, the Coalition or Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Coalition or Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
  - a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
  - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
6. The Annual Report shall comply with the following requirements:
  - a. The Coalition or Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the algaecide and aquatic herbicide applications are conducted in compliance with effluent and receiving water limitations. The Coalition or Discharger is not required to duplicate the submittal of data that are entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Coalition or Discharger shall submit electronically the data in a tabular format as an attachment.
  - b. The Coalition or Discharger shall attach a cover letter to the Annual Report that clearly identifies violations of the permit; discusses corrective actions taken or planned; and provides a time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

- c. Annual Report must be submitted to the State Water Board and the appropriate Regional Water Board, signed and certified as required by the Standard Provisions (Attachment B).

#### D. Other Reporting Requirements

##### 1. Twenty-Four Hour Report

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

**Comment [MSB53]:** If these terms are used as synonyms, then this needs either to be defined early or the term "Coalition or Discharger" needs to globally replace Discharger

- a. The caller's name and telephone number;
- b. Applicator name and mailing address;
- c. Waste Discharge Identification (WDID) number;
- d. The name and telephone number of a contact person;
- e. How and when the Coalition or Discharger become aware of the noncompliance;
- f. Description of the location of the noncompliance;
- g. Description of the noncompliance identified and the USEPA pesticide registration number for each product the Discharger applied in the area of the noncompliance; and
- h. Description of any steps that the Coalition or Discharger has taken or will take to correct, repair, remedy, cleanup, or otherwise address any adverse effects.

If the Coalition or Discharger is unable to notify the State and the appropriate Regional Water Board within 24 hours, the Coalition or Discharger must do so as soon as possible and also provide the rationale for why the Discharger was unable to provide such notification within 24 hours.

##### 2. Five-Day Written Report

The Coalition or Discharger shall also provide a written submission within five (5) days of the time the Discharger becomes aware of the noncompliance. The written submission shall contain the following information:

- a. Date and time the Coalition or Discharger 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 (Twenty-Four Reporting);
- b. 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);



- c. Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity, etc);
- d. Magnitude and scope of the affected area (e.g. aquatic square area or total stream distance affected);
- e. Algaecide and 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 USEPA registration number;
- f. 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);
- g. Laboratory tests performed, if any, and timing of tests. Provide a summary of the test results within five days after they become available;
- h. If applicable, explain why the Coalition or Discharger believes the noncompliance could not have been caused by exposure to the algaecides and or aquatic herbicides from the Coalition's or Discharger's application; and
- i. Actions to be taken to prevent recurrence of adverse incidents.

The State Water Board 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.

**Attachment D – Fact Sheet**

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## Attachment D – Fact Sheet

As described in Section III, Findings, of this General Permit, the State Water Board incorporates this Fact Sheet as findings of the State Water Board that support the issuance of this General Permit. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this General Permit.

This General Permit has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California.

### I. PERMIT INFORMATION

#### A. Background

##### 1. The Regulatory Background

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act or CWA) was amended to provide that the discharge of pollutants to waters of the US from any point source is effectively prohibited unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit.

On September 22, 1989, the U.S. Environmental Protection Agency (USEPA) granted the State of California, through the State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Boards (Regional Water Boards), the authority to issue general NPDES permits pursuant to Title 40 Code of Federal Regulations Parts 122 and 123.

Section 122.28 of 40 C.F.R. provides for issuance of general permits to regulate a category of point sources if the sources involve the same or substantially similar types of operations; discharge the same type of waste; require the same type of effluent limitations or operating conditions; require similar monitoring; and are more appropriately regulated under a general permit rather than individual permits.

On March 12, 2001, the Ninth Circuit Court of Appeals held that discharges of pollutants from the use of aquatic pesticides in waters of the United States require coverage under an NPDES permit. (*Headwaters, Inc. v. Talent Irrigation District*)<sup>4</sup>. The *Talent* decision was issued just prior to the major season for applying aquatic pesticides.

Because of the serious public health, safety, and economic implications of delaying pesticide applications, in 2001 the State Water Board adopted Water Quality Order (Order) No. 2001-12-DWQ, Statewide General NPDES Permit for Discharges of Aquatic Pesticides to Waters of the US on an emergency basis to

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<sup>4</sup> 243 F.3d 526 (9<sup>th</sup> Cir 2001).

provide immediate NPDES permit coverage for broad categories of aquatic pesticide use in California.

Order No. 2001-12-DWQ imposed requirements on any discharge of aquatic pesticides by public entities to waters of the US in accordance with the Policy which establishes procedures for implementing water quality standards for priority pollutants in NPDES permits.

Section 5.3 of the Policy allows for short-term or seasonal exceptions from its requirements for resource or pest management conducted by public entities or mutual water companies. In order to qualify for an exception from meeting priority pollutant standards, a public entity must fulfill the requirements listed in section 5.3 and the State Water Board must decide to grant the exception. Among other requirements, entities seeking an exception to complying with water quality standards for priority pollutants must submit documents in compliance with California Environmental Quality Act (CEQA)<sup>5</sup>. Because of the emergency adoption of Order No. 2001-12-DWQ, the State Water Board invoked an exemption to the requirements of section 5.3 of the Policy and issued the permit incorporating a categorical exception to water quality standards for priority pollutants.

Order No. 2001-12-DWQ required that Dischargers develop a best management practices (BMPs) plan that minimizes adverse impacts to receiving waters and a monitoring and reporting plan that is representative of each type of aquatic pesticide application.

In August 2001, Waterkeepers Northern California (Waterkeepers) filed a lawsuit against the State Water Board challenging several aspects of Order No. 2001-12-DWQ. Major aspects of the challenge included the emergency adoption of the Order without compliance with CEQA and other exception requirements of the Policy; failure to address cumulative impacts; and failure to comply with the California Toxics Rule (CTR)<sup>6</sup>.

In a settlement of the Waterkeepers' lawsuit, the State Water Board agreed to fund a comprehensive aquatic pesticide monitoring program that would assess receiving water toxicity caused by aquatic pesticides and alternatives for pesticide use. The State Water Board contracted with the San Francisco Estuary Institute (SFEI) to conduct the program. SFEI published the final report on February 5, 2004.

In November 2002, the Ninth Circuit issued another opinion concerning the need for an NPDES permit for pesticide application. (*League of Wilderness Defenders v. Forsgren*<sup>7</sup>.) In this case, the court held that the USDA Forest Service must obtain an NPDES permit before it sprays insecticides\* from an aircraft directly into or over rivers as part of silviculture activities. The court found that the insecticides

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<sup>5</sup> Cal. Pub. Resources Code §§ 21000 et. seq.

<sup>6</sup> 40 CFR § 131.38.

<sup>7</sup> 309 F.3d 1181 (9<sup>th</sup> Cir., 2002).

are pollutants under the CWA. The court also defined the exemption for silvicultural pest control from the definition of “point source” in USEPA’s regulations to be limited to pest control activities from which there is natural runoff.

Also in 2002, the Second Circuit issued an unpublished decision regarding the need for an NPDES permit for application of pesticides for mosquito control in federal wetland areas. (*Altman v. Town of Amherst*.) The lower court had dismissed a citizens’ suit, holding that pesticides, when used for their intended purpose, do not constitute a “pollutant” for purposes of the CWA, and are more appropriately regulated under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The appeals court vacated the trial court’s decision and remanded the matter. In its unpublished decision, the Second Circuit expressed concern that: “[u]ntil the EPA articulates a clear interpretation of current law - among other things, whether properly used pesticides released into or over waters of the United States can trigger the requirements for NPDES permits - the question of whether properly used pesticides can become pollutants that violate the [Clean Water Act] will remain open”.

Order No. 2001-12-DWQ expired on January 31, 2004. In 2004, it was replaced by two general permits: a vector control permit for larvicides (Order No. 2004-0008-DWQ) and a weed control permit (Order No. 2004-0009-DWQ). The State Water Board determined that adoption of these two permits was consistent with the Ninth Circuit decisions.

In 2005, the Ninth Circuit held that a pesticide that is applied consistent with FIFRA is not a “chemical waste” (*Fairhurst v. Hagner*<sup>8</sup>), but also stated that it would not change its decision in *Headwaters*. The court stated that whether an NPDES permit was required depends on whether there was any “residue or unintended effect” from application of the pesticide. In *Fairhurst*, the court found neither residue nor unintended effect was present. Therefore, the pesticide application at issue did not require an NPDES permit.

**USEPA’s Final Rule:** On November 20, 2006, USEPA adopted a final regulation providing that NPDES permits are not required for pesticide applications as long as the Discharger follows FIFRA label instructions. According to the regulation, pesticides applied under the following two circumstances are not pollutants and, therefore, are not subject to NPDES permitting requirements:

- a. The application of pesticides directly to waters of the United States in order to control pests. Examples of such applications include applications to control mosquito larvae, aquatic weeds, or other pests that are present in waters of the United States; and
- b. The application of pesticides to control pests that are present over waters of the United States, including near such waters, where a portion of the pesticides will unavoidably be deposited to waters of the United States in order to target the pests effectively; for example, when insecticides are

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<sup>8</sup> 422 F.3d 1146 (9<sup>th</sup> Cir. 2005).

aerially applied to a forest canopy where waters of the United States may be present below the canopy or when pesticides are applied over or near water for control of adult mosquitoes or other pests.

**Lawsuits Against USEPA's Final Rule:** After USEPA's new regulation was adopted in 2006, lawsuits were filed by both the pesticide industry and environmental groups in 11 of the 13 Circuits, including the Ninth Circuit Court, challenging USEPA's Final Rule.

***The National Cotton Council of America v. USEPA***<sup>9</sup>: The petitions for review were consolidated in the Sixth Circuit Court by an order of the Judicial Panel on Multidistrict Litigation.

On January 7, 2009, the Sixth Circuit Court of Appeals determined that USEPA's Final Rule is not a reasonable interpretation of the CWA and vacated the Final Rule. USEPA did not request reconsideration of the decision, but did file a motion for a two-year stay of the effect of the decision in order to provide agencies time to develop, propose, and issue NPDES general permits for pesticide applications covered by the ruling. On June 8, 2009, the Sixth Circuit granted the motion, such that the USEPA exemption was to remain in place until April 9, 2011. Subsequently, USEPA was granted an extension of the stay, which allowed the exemption to continue until October 31, 2011.

## 2. **Related Pesticide Regulation Information**

Pesticide formulations may include "active ingredients" and "inert ingredients". Adjuvants or surfactants may be added to the ingredients in the application equipment that is used in the delivery of the aquatic pesticide.

As part of the registration process of pesticides for use in California, USEPA and the California Department of Pesticide Regulation (DPR) evaluate data submitted by registrants to ensure that a product used according to label instructions will cause no harm or adverse impact on non-target organisms that cannot be reduced or mitigated with protective measures or use restrictions. Registrants are required to submit data on the effects of pesticides on target pests (efficacy) as well as non-target effects. Data on non-target effects include plant effects (phytotoxicity), fish and wildlife hazards (ecotoxicity), impacts on endangered species, effects on the environment, environmental fate, degradation byproducts, leachability, and persistence. Requirements that are specific to use in California are included in many pesticide labels that are approved by USEPA. Use must be reported to the County Agricultural Commissioner where required by law or by agreement with DPR.

The Clean Water Act (CWA), at section 301(a), broadly prohibits the discharge of any pollutant to waters of the US, except in compliance with an NPDES permit. Since FIFRA is not necessarily as protective of water quality as the CWA, pesticides discharged into surface waters may constitute pollutants within the

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<sup>9</sup> 553 F.3d 927 (6<sup>th</sup> Cir. 2009).

meaning of the CWA even if the discharge is in compliance with the registration requirements of FIFRA, thus, requiring coverage under a valid NPDES permit.

DPR and the County Agricultural Commissioners regulate the sale and use of pesticides in California. Pesticide applications subject to this General Permit must be consistent with permits issued by County Agricultural Commissioners and the pesticide label instructions approved by USEPA under FIFRA. According to federal law, pesticide label language is under the sole jurisdiction of USEPA. Label language and any changes thereto must be approved by USEPA before the product can be sold in this country. DPR cannot require manufacturers to make changes on labels; however, DPR can refuse to register products unless manufacturers address unmitigated hazards by amending the pesticide label.

State regulations require that the County Agricultural Commissioners determine if a substantial adverse environmental impact will result from the proposed use of a restricted material. If the County Agricultural Commissioner determines that this is likely, the commissioner may deny the restricted pesticide use permit or may issue it under the condition that site-specific use practices be followed (beyond the label and applicable regulations) to mitigate potentially adverse effects. DPR conducts scientific evaluations of potential health and environmental impacts and provides commissioners with information in the form of suggested permit conditions. DPR's suggested permit conditions reflect minimum measures necessary to protect people and the environment. County Agricultural Commissioners use this information and its evaluation of local conditions to set site-specific limits in permits.

## **B. General Criteria**

1. This General Permit serves as a general NPDES Permit for the discharge of residual algaecides and aquatic herbicides to surface waters as a result of algaecides and aquatic herbicides applications for algae and aquatic weed controls.
2. Dischargers who submit a complete application under this General Permit are not required to submit an individual permit application. The State Water Board's Deputy Director of the Division of Water Quality (Deputy Director) may request additional information or determine that a Discharger is not eligible for coverage under this General Permit and would be better regulated under an individual permit or other general NPDES permit adopted by the appropriate Regional Water Board. If the discharge becomes covered by an individual or another general permit, the applicability of this General Permit to the specified discharge will be immediately terminated on the effective date of the individual permit or coverage under the other general permit.

## **II. NOTIFICATION REQUIREMENTS**

### **A. General Permit Application**

To obtain authorization under this General Permit, Dischargers must submit to the State Water Board a complete application as described below:



1. A Notice of Intent (NOI shown as Attachment E) signed in accordance with the signatory requirements of the Standard Provisions in Attachment B;
2. An application fee; and
3. An Aquatic Pesticide Application Plan (APAP).

State Board staff will post the APAP on the website for 30 days for public review. In the meantime, the State and Regional Water Board staff will review the application package for completeness and applicability to this General Permit. If deemed complete, the Deputy Director will issue a Notice of Applicability (NOA). The NOA will specify the permitted active ingredients of algaecides and aquatic herbicides that may be used, and any Regional Water Board specific conditions and requirements not stated in this General Permit. Any such region-specific conditions and requirements shall be enforceable. The Discharger is authorized to discharge starting on the date of the NOA.

Alternatively, the Deputy Director may issue a Notice of Exclusion, which either terminates permit coverage or requires submittal of an application for an individual permit or alternative general permit.

#### **B. Fee**

The annual fee for enrollment under this General Permit, shall be based on Category 3 in section 2200(b)(9) of Title 23, California Code of Regulations (CCR). This category is appropriate because algaecide and aquatic herbicide applications incorporate BMPs to control potential impacts to beneficial uses, and this General Permit prohibits pollutant discharge associated with algaecide and aquatic herbicide applications from causing exceedance of CTR criteria or water quality objectives. Information concerning the applicable fees can be found at [http://www.waterboards.ca.gov/resources/fees/docs/fy1112fee\\_schdl\\_npdes\\_prmt.pdf](http://www.waterboards.ca.gov/resources/fees/docs/fy1112fee_schdl_npdes_prmt.pdf)

#### **C. Public Notification**

The State Water Board has notified interested agencies and persons of its intent to prescribe waste discharge requirements in this General Permit and provided them with an opportunity to submit their written comments and recommendations.

### **III. DISCHARGE DESCRIPTION**

This General Permit covers the point source discharges of algaecides and aquatic herbicides and their residues resulting from algae and aquatic weed control using 2,4-D, acrolein, copper, diquat, endothall, fluridone, glyphosate, imazapyr, penoxsulam, sodium carbonate peroxyhydrate, and triclopyr Triethylamine (triclopyr TEA).

## A. Existing Discharge Description

Currently, there are 131<sup>10</sup> Dischargers enrolled under Water Quality Order No. 2004-0009-DWQ, Statewide General National Pollutant Discharge Elimination System Permit for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States, General Permit No. CAG990005 (Order No. 2004-0009-DWQ). Most of the enrollees are local public agencies such as cities and irrigation, flood control, or reclamation districts. The other enrollees include six state of California agencies: (Department of) Boating and Waterways, Fish and Game, Food and Agriculture, Parks and Recreation, Transportation, and Water Resources; a federal agency, US Department of Fish and Wildlife Service; and a few private entities such as home owner associations and mobile home park owners.

The State Water Board granted exceptions to public agencies and mutual water companies that met the criteria stated in section 5.3 of the Policy for short-term or seasonal exceptions from meeting the receiving water limitations for priority pollutants of acrolein and copper.

Order No. 2004-0009-DWQ permits the discharge of aquatic pesticides with the following active ingredients: 2,4-D, acrolein, copper, diquat, endothall, fluridone, glyphosate, and tricopyr. The State Water Board reopened Order No. 2004-0009-DWQ after its adoption to add two more active ingredients: (1) imazapyr, a non-selective herbicide, for control of cordgrass and broad-leaf weeds and other emergent aquatic species; and (2) sodium carbonate peroxyhydrate as an alternative to copper for algae control.

## B. Annual Report Review

State Water Board staff reviewed annual reports from 2004 through 2008<sup>11</sup> submitted under Order No. 2004-0009-DWQ. The data are summarized in Table D-1 below. As shown in Table D-1, all constituent concentrations from post-event application samples were below receiving water limitations except for the following: three exceedances each for acrolein and glyphosate and 82 exceedances for copper out of 288 monitoring events. For glyphosate, it is likely that the three exceedances were not the result of aquatic pesticide applications because the pre-application samples also showed exceedances and the remaining 151 sampling events showed no exceedance. For copper, 43 of the 82 exceedances were from public agencies or mutual water companies that were excepted from meeting priority pollutant limitations during the exception period. Thus, staff did not consider these exceedances as violations of the receiving water limitations. However, 39 of the exceedances were from entities that did not have a Policy exception. Therefore, staff considered these exceedances as true violations of the receiving water limitations.

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<sup>10</sup> As of JUNE 12, 2012.

<sup>11</sup> The data are submitted to the Regional Water Boards per Order No. 2004-0009-DWQ. When State Water Board staff started collecting data from the Regional Water Boards, the data available covered only this period.

**Table D-1. Monitoring Data Summary, 2004-2008  
Order No. 2004-0009-DWQ**

Pollutant	Number of Samples	Number of Exceedance
2,4-D	3	0
Acrolein	213	3
Copper	288	85
Diquat	17	0
Endothall	6	0
Fluridone	12	0
Glyphosate	154	3
Nonylphenol	53	0

Under Order No. 2004-0009-DWQ, the most commonly used aquatic pesticide products contained copper, acrolein, and glyphosate in descending order.

### C. Receiving Water Description

The annual reports showed that most algae and aquatic weed control applications were performed in fresh inland surface waters such as lakes, ponds, flood control and drainage channels, or canals. Some applications were performed in coastal waters, marina lagoons, and slough with brackish water.

## IV. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this General Permit are based on the applicable plans, policies, and regulations identified below.

### A. Legal Authorities

This General Permit is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code, commencing with section 13370. It shall serve as an NPDES permit for point source discharges of residual algaecides and aquatic herbicides to surface waters. This General Permit also serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).

This General Permit shall serve as a General NPDES permit for point source discharges of aquatic pesticides and their residues from aquatic pesticide applications for algae and aquatic weed control. This General Permit also serves as general Waste Discharge Requirements pursuant to article 4, chapter 4, and division 7 of the California Water Code (commencing with section 13260).

## **B. California Environmental Quality Act (CEQA)**

Pursuant to California Water Code section 13389, State and Regional Water Boards are exempt from the requirement to comply with Chapter 3, Division 13 of the Public Resources Code when adopting NPDES permits.

## **C. State and Federal Regulations, Policies, and Plans**

### **1. Water Quality Control Plans**

The Regional Water Boards have adopted Water Quality Control Plans (hereinafter Basin Plans) that designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters addressed through the plans. In addition, the Basin Plans implement State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. The Basin Plans identify typical beneficial uses as follows: municipal and domestic supply, agricultural irrigation, stock watering, process supply, service supply, hydropower supply, water contact recreation, canoeing and rafting recreation, other non-contact water recreation\*, warm freshwater aquatic habitat, cold freshwater habitat\*, warm fish migration habitat, cold fish migration habitat, warm and cold spawning habitat, wildlife habitat, navigation, rare, threatened, or endangered species habitat, groundwater recharge\*, and freshwater replenishment.

Requirements of this General Permit implement provisions contained in the applicable Basin Plans.

### **2. National Toxics Rule (NTR) and California Toxics Rule (CTR)**

USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

### **3. State Implementation Policy (Policy)**

On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Policy). The Policy became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plans. The Policy became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by USEPA through the CTR. The State Water Board adopted amendments to the Policy on February 24, 2005 that became effective on July 13, 2005. The Policy establishes implementation

provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this General Permit implement the Policy.

#### 4. **Policy Exception**

The Policy provides categorical exceptions allowing short-term or seasonal exceptions from meeting the priority pollutant criteria/objectives if it is determined to be necessary to implement control measures for resource or pest management conducted by public entities or mutual water companies to fulfill statutory requirements. The Policy specifically refers to vector or weed control, pest eradication, or fishery management as the basis for categorical exceptions. The exceptions are only granted to public entities or mutual water companies that have adequately provided the following information as required by the Policy:

- a. A detailed description of the proposed action which includes the proposed method of completing the action;
- b. A time schedule;
- c. A discharge and receiving water monitoring plan that specifies monitoring prior to application events\*, during application events, and after completion with the appropriate quality control procedures;
- d. CEQA documentation including notifying potentially affected public and government agencies; and
- e. Any necessary contingency plans.

The public entities and mutual water companies listed in Attachment G have met the above requirements before the issuance or during the term of the Order No. 2004-0009-DWQ.

The final Negative Declaration or Mitigated Negative Declarations (ND/MND) prepared by the public entities or mutual water companies have determined that the water quality impacts identified in the environmental assessments of the ND/MND from algaecide and aquatic herbicide applications are less than significant, and would not have a significant effect on the environment. The boards of each public entity and mutual water company, as the lead agencies under CEQA, approved the final ND/MND. Therefore, each public entity or mutual water company is not required to meet priority pollutant criteria during the exception period.

During the issuance of the Order No. 2004-0009-DWQ, as required in section 15096 of the CEQA Guidelines, the State Water Board, as a Responsible Agency under CEQA, considered the ND/MND approved by the board of each public entity or mutual water company. The State Water Board found that the projects will have less than significant water quality impact if the Dischargers meet the requirements in this General Permit. Accordingly, the Policy 5.3 exception granted previously will continue to be valid under this Order.

Any Discharger not listed in Attachment G is required to meet all applicable priority pollutant criteria for receiving waters.

## 5. Antidegradation Policy

Section 131.12 of 40 C.F.R. requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plans implement, and incorporate by reference, both the state and federal antidegradation policies.

The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. § 131.12 and Resolution No. 68-16. The conditions of this General Permit require residual algaecide and aquatic herbicide discharges to meet applicable water quality objectives. Specifically, the General Permit sets receiving water limitations for 2,4-D, acrolein, copper, diquat, endothall, fluridone and glyphosate and receiving water monitoring triggers for imazapyr and triclopyr TEA.

The BMPs and other controls required pursuant to the General Permit constitute Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT).

The General Permit requirements are protective of the broad range of beneficial uses set forth in basin plans throughout the state, constituting best control available consistent with the purposes of the algaecide and aquatic herbicide application in order to ensure that pollution or nuisance will not occur. The nature of pesticides is to be toxic in order to protect beneficial uses such as human health or long-term viability of aquatic life. For example, blue-green algae are bacteria that live in both fresh and marine waters. In California, certain forms of blue green algae have been a particular problem in the Klamath River watershed and on the Central Coast. Blooms of these bacteria can poison livestock, wildlife, and humans; they can also damage drinking water sources. The use of an algaecide is one of the effective ways to control the harmful blooms of blue-green algae. Although algaecide application will temporarily degrade the water quality and result in short-term toxicity in the receiving water, it prevents the toxicities in the entire water body for a long period of time. While surface waters may be temporarily degraded; water quality standards and objectives will not be exceeded after project completion.

Another example of benefits of pesticide application is the control of aquatic weeds in flood control channels. Aquatic herbicides used to control emerging aquatic weeds in flood control channel will effectively prevent full growth and bloom of aquatic weeds that may block the channel and cause flooding in the surrounding communities. Although the water quality is temporarily degraded while the herbicide is taking its effect in eliminating the weeds, the water quality will not be exceeded after the project is completed. In addition, the receiving water limitations and other requirements of this General Permit will ensure maintenance of the highest water quality consistent with maximum benefit to the people of the State.

Given the nature of a General Permit and the broad range of beneficial uses to be protected across the state, data analysis of specific water bodies is infeasible. While surface waters may be temporarily degraded, water quality standards and objectives will not be exceeded. The nature of pesticides is to be toxic in order to protect human health and water resources. However, compliance with receiving water limitations is required. Therefore, this General Permit is consistent with state and federal antidegradation policies.

**6. 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.

**7. Impaired Water Bodies on CWA 303(d) List**

This General Permit does not authorize the discharge of residual aquatic pesticides and their degradation byproducts to waters of the US that are impaired by the same active ingredients and their degradation byproducts. The links to California's impaired waters bodies are provided at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2010.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml).

**8. Other Plans, Policies, and Regulations**

The State Water Board adopted the *Water Quality Control Policy for the Enclosed Bays and Estuaries of California*. The requirements within this General Permit are consistent with the policy.

**V. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: (1) 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards; and (2) 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 C.F.R. 122.44(d)(1)]. NPDES permits must incorporate

discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to numeric criteria specifying maximum amounts of particular pollutants. Pursuant to 40 C.F.R. § 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*” Section 122.44(d)(1)(vi) of 40 C.F.R. further provides that “[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits”.

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in 40 C.F.R.: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established.

With respect to narrative objectives, the State Water Board must establish effluent limitations using one or more of three specified sources: (1) USEPA’s published water quality criteria; (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria; or (3) an indicator parameter (i.e., 40 C.F.R. 122.44(d)(1)(vi)(A), (B) or (C)). Basin Plans contain a narrative objective requiring that: “*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*”. Basin Plans require the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. Basin Plans state that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. Basin Plans also limit chemical constituents in concentrations that adversely affect surface water beneficial uses. Basin Plans further state that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

#### **A. Discharge Prohibitions**

1. The discharge of residual algaecides, residual aquatic herbicides, and their degradation byproducts in a manner different from that described in this General Permit is prohibited.

This prohibition is based on California Water Code (CWC) section 13260, which requires filing a Report of Waste Discharge before discharges can occur.



Discharges not described in the NOI, and subsequently not discharged in the manner permitted by this General Permit, are prohibited.

2. The discharge of residual algaecides, residual aquatic herbicides, and their degradation byproducts shall not create a nuisance as defined in section 13050 of the California Water Code.

This prohibition is based on CWC section 13050 for water quality control for achieving water quality objectives.

3. The discharge shall not cause, have a reasonable potential to cause, or contribute to an in-stream excursion above any applicable standard or criterion promulgated by USEPA pursuant to section 303 of the CWA, or water quality objective adopted by the State or Regional Water Boards.

This prohibition is based on CWA section 301 and CWC.

4. All pesticides are prohibited from the waters of the Lahontan Region (Region 6). The use of this permit is invalid in the Lahontan Region unless the discharger has requested a prohibition exemption from the Lahontan Water Board and the Lahontan Water Board has granted an exemption for the use of algaecides or aquatic herbicides.

## **B. Effluent Limitations**

### **1. Technology-Based Effluent Limitations**

The intent of technology-based effluent limitations in NPDES permits is to require a minimum level of treatment of pollutants based on available treatment technologies while allowing the discharger to use any available control technique to meet the limitations. For industrial and other non-municipal facilities, technology-based effluent limitations are derived by using: (1) [national effluent limitations guidelines](#) and standards established by USEPA; or best professional judgment on a case-by-case basis in the absence of [national effluent limitations guidelines](#) and standards. In the case of pesticide applications, USEPA has not developed guidelines and standards other than the requirement to follow the labels when applying pesticides. At this point, it is not appropriate to establish technology-based effluent limitations other than following the label when applying algaecides and aquatic herbicides.

Therefore, the effluent limitations contained in this General Permit are narrative and include requirements to develop and implement an APAP that describes appropriate BMPs, including compliance with all algaecide and aquatic herbicide label instructions, and to comply with numeric receiving water limitations and actions required if monitoring triggers are exceeded.

The BMPs required herein constitute BAT and BCT and will be implemented to minimize the area and duration of impacts caused by the discharge of algaecides and aquatic herbicides in the treatment area and to allow for restoration of water quality and protection of beneficial uses of the receiving waters to pre-application quality following completion of an application event\*. In addition, for those enrollees that have been granted exception to meeting receiving water limitations

for acrolein and copper, in accordance with the Policy, this General Permit requires that upon completion of a pesticide application project, the Discharger shall provide certification by a qualified biologist that the receiving water beneficial uses have been restored.

The development of BMPs provides the flexibility necessary to establish controls to minimize the area extent and duration of impacts caused by the discharge of algaecides and aquatic herbicides. This flexibility allows Dischargers to implement appropriate BMPs for different types of applications and different types of waters.

Much of the BMP development has been incorporated into the algaecide and aquatic herbicide regulation process by the USEPA, DPR, and County Agricultural Commissioners. The Dischargers must be licensed by DPR if such licensing is required for the algaecide and aquatic herbicide application project. The algaecide and aquatic herbicide use must be consistent with the algaecide and aquatic herbicide label instructions and any Restricted Material Use Permits issued by County Agricultural Commissioners.

USEPA and DPR scientists review algaecide and aquatic herbicide labels to ensure that a product used according to label instructions will cause no harm (or "adverse impact") on non-target organisms that cannot be reduced (or "mitigated") with protective measures or use restrictions. Many of the label directions constitute BMPs to protect water quality and beneficial uses. Label directions may include: precautionary statements regarding toxicity and environmental hazards; directions for proper handling, dosage, application, and disposal practices; prohibited activities; spill prevention and response measures; and restrictions on type of water body and flow conditions.

A Restricted Material Use Permit issued by the County Agricultural Commissioner incorporates applicable suggested permit conditions from DPR and local site-specific conditions necessary to protect the environment. State regulations require that specific types of information be provided in an application to the County Agricultural Commissioners for a Restricted Material Use Permit. The County Agricultural Commissioners review the application to ensure that appropriate alternatives were considered and that any potential adverse effects are mitigated. The County Agricultural Commissioners also conduct pre-project inspections on at least five percent of projects.

This General Permit requires that Dischargers use BMPs when implementing control programs in order to mitigate effects to water quality resulting from algaecide and aquatic herbicide applications. Dischargers are required to consider alternative control measures to determine if there are feasible alternatives to the selected algaecide and aquatic herbicide application project that could reduce potential water quality impacts. If the Discharger identifies alternative control measures to the selected algaecide and aquatic herbicide application project that could reduce potential water quality impacts and that are also feasible, practicable, and cost-effective, the Discharger shall implement the identified alternative measures. The selection of control measures that use non-toxic and less toxic alternatives is an example of an effective BMP.

## 2. Water Quality-Based Effluent Limitations (WQBELs)

### a. Scope and Authority

Section 122.44(d)(1)(i) of 40 C.F.R. mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 C.F.R. § 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plans, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

Section 122.44(k)(3) of 40 C.F.R. allows the use of other requirements such as BMPs in lieu of numeric effluent limits if the latter are infeasible. It is infeasible for the State Water Board to establish numeric effluent limitations in this General Permit because:

- i. The application of algaecides and aquatic herbicides is not necessarily considered a discharge of pollutants according to the *National Cotton Council of America v. USEPA* 553 F.3d 927 (6<sup>th</sup> Cir. 2009) and other applicable case law. The Sixth Circuit Court of Appeals ruled that residual pesticides associated with the application of pesticides at, over, or near water constitute pollutants within the meaning of the CWA and that the discharge must be regulated under an NPDES permit;
- ii. This General Permit regulates the discharge of residual algaecides and aquatic herbicides used for algae and aquatic weed control to waters of the US. These are algaecides and herbicides with registration labels that explicitly allow direct application to water bodies. In algaecides and aquatic herbicides applications to control pests, any algaecides and aquatic herbicides residue or degradation byproduct that is deposited in waters of the US is a pollutant. However, at what point the algaecides and aquatic herbicides become a residue is not precisely known and varies depending on the type of algaecides and aquatic herbicides, application method and quantity, water chemistry, etc. Therefore, in the application of algaecides and aquatic herbicides, the exact effluent is unknown;
- iii. It would be impractical to provide effective treatment of the algaecides and aquatic herbicides residue to protect water quality, given typically,

algaecides and aquatic herbicides applications consist of numerous short duration intermittent algaecides and aquatic herbicides residue releases to surface waters from many different locations; and

- iv. Treatment may render the algaecides and aquatic herbicides useless for algae and aquatic weed control.

Therefore, as stated in Technology-Based Effluent Limitations, Section V.B.1 above, the effluent limitations contained in this General Permit are narrative and include requirements to develop and implement an APAP that describes appropriate BMPs, including compliance with all algaecides and aquatic herbicides label instructions, and to comply with narrative receiving water limitations and triggers.

**b. Receiving Water Beneficial Uses**

Algaecide and aquatic herbicide applications for algae and aquatic weed control may potentially deposit residual algaecides and aquatic herbicides to surface waters. Beneficial uses of receiving waters are as follows: municipal and domestic supply, agricultural irrigation, agricultural stock watering, process water supply, service water supply, and hydropower supply, water contact recreation, canoeing and rafting recreation, other non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm and cold spawning habitat, wildlife habitat, navigation, groundwater recharge, and freshwater replenishment. Requirements of this General Permit implement the applicable Basin Plans.

**c. Determining the Need for WQBELs**

Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR, as well as antidegradation policies. The Basin Plans include numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. The narrative toxicity objective states: *“All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.”* With regard to the narrative chemical constituent’s objective, the Basin Plans state that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, *“...water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)” in Title 22 of CCR.* The narrative tastes and odors objective states: *“Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses”.*

**Comment [SF54]:** This text supports the use of WQOs that are specific to designated beneficial uses as called for by our comments in the tables.

No change needed.

Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard.

d. **Antidegradation Policy**

The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. § 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. Due to the low volume of discharge expected from discharges regulated under this General Permit, the impact on existing water quality will be insignificant. Dischargers seeking authorization to discharge under this General Permit are required to demonstrate compliance with receiving water limitations during the application. If, however, the appropriate Regional Water Board, subsequent to review of any application, finds that the impact of a discharge will be significant, then authorization for coverage under this General Permit will be denied and coverage under an individual permit will be required (including preparation of an antidegradation analysis).

**VI. RATIONALE FOR RECEIVING WATER LIMITATIONS AND MONITORING TRIGGERS**

**A. Groundwater**

[Not Applicable]

**B. Surface Water**

CWA section 303(a-c), requires states to adopt water quality standards, including criteria necessary to protect beneficial uses. Regional Water Boards adopted water quality criteria as water quality objectives in the Basin Plans. The Basin Plans state that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses”. The Basin Plans include numeric and narrative water quality objectives for various beneficial uses and water bodies. This General Permit contains receiving water limitations based on the Basin Plans’ numerical and narrative water quality objectives for bio-stimulatory substances, chemical constituents, color, temperature, floating material, settleable substances, suspended material, tastes and odors, and toxicity. This General Permit also requires compliance with any amendment or revision to the water quality objectives contained in the Basin Plans adopted by Regional Water Boards subsequent to adoption of this General Permit.

Once algaecides and aquatic herbicides have been applied to a treatment area, the algaecide and aquatic herbicide product can actively control pests within the treatment area. The discharge of algaecides and aquatic herbicides, their residues, and their degradation byproducts from the applications to surface water must meet applicable water quality criteria and objectives. The receiving water limitations ensure that an

**Comment [SF55]:** See comment above related to WQOs as per the beneficial use and this being used in the tables.

No change needed.

application event\* does not result in an exceedance of a water quality standard in the receiving water.

To protect all designated beneficial uses of the receiving water, the most protective (lowest) and appropriate (to implement the CTR criteria and WQOs in the *Water Quality Control Plans*) criteria should be selected as the permit limitation for a particular water body and constituent. In many cases, water quality standards include narrative, rather than numerical, water quality objectives. In such cases, numeric water quality limits from the literature or publicly available information may be used to ascertain compliance with water quality criteria.

Algaecide and aquatic herbicide formulations contain disclosed “active” ingredients that yield toxic effects on target organisms and may also have toxic effects on non-target organisms. Algaecide and aquatic herbicide active ingredients that do not contain pollutants for which there are applicable numeric CTR criteria may still have toxic effects on receiving water bodies. In addition, the inactive or “inert” ingredients of Algaecides and aquatic herbicides, which are trade secrets and have not been publicly disclosed, may also contain toxic pollutants or pollutants that could affect water quality.

DPR is responsible for reviewing toxic effects of product formulations and determining whether an algaecide or aquatic herbicide is suitable for use in California’s waters. In this General Permit, inert ingredients are also considered on a constituent-by-constituent basis. USEPA regulates pesticide use through strict labeling requirements in order to mitigate negative impacts to human health and the environment, and DPR environmental and medical toxicologists review toxicity data on formulations and can deny registration or work with registrants or County Agricultural Commissioners to impose additional requirements in order to protect human health or the environment.

USEPA and DPR require that pesticides undergo toxicity testing and meet specific toxicity requirements before registering the pesticide for application to surface waters. USEPA has found that the application of properly registered pesticides pose a minimal threat to people and the environment. In addition, the effects of these pesticides on water quality will be mitigated through compliance with FIFRA label requirements, application of BMPs, and monitoring.

Basin Plan water quality objectives to protect the beneficial uses of surface water and groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity, and tastes and odors. The toxicity objective requires that surface water and groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective requires that surface water and groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the MCLs set forth in Title 22, CCR. The tastes and odors objective states that surface water and groundwater shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. **The Basin Plans require the application of the most**

stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply\*, or any other beneficial use.

**Comment [MSB56]:** Remove or define asterisk

**Comment [SF57]:** This statement seems true only in the absence of a designated beneficial use. WQOs cannot be assigned indiscriminately.

**1. Receiving Water Limitations**

The instantaneous maximum receiving water limitations are based on promulgated water quality criteria such as those provided in the CTR, water quality objectives adopted by the State and Regional Water Boards in their water quality control plans, water quality criteria adopted by the California Department of Fish and Game, water quality standards such as drinking water standards adopted by USEPA or the California Department of Public Health (CDPH), or USEPA National Recommended Ambient Water Quality Criteria.

This General Permit provides receiving water limitations based on the lowest water quality criteria/objectives to protect all designated beneficial uses of the receiving water. The receiving water limitations in this General Permit are the same as those in Order No. 2004-0009-DWQ. The rationale for each limitation is summarized below.

**Comment [SF58]:** The range of WQO's based on the designated beneficial use should be presented. Default to the lowest WQO is unnecessarily conservative and not consistent with the concept of WQOs specific to a particular designated beneficial use.

**Table D-2. Summary of Receiving Water Limitations**

Ingredient	Unit	Instantaneous Maximum Limitation	Basis
2,4,-D	µg/L	70	USEPA MCL
Acrolein <sup>1</sup>	µg/L	21	USEPA Gold Book
Copper <sup>1</sup>	µg/L	Dissolved freshwater <sup>2</sup> Copper Chronic = $0.960 \exp\{0.8545[\ln(\text{hardness}^3)] - 1.702\}^{4,5}$ Dissolved saltwater <sup>2</sup> Copper Chronic = $0.83 \exp\{0.8545[\ln(\text{hardness}^3)] - 1.702\}^{4,5}$	CTR
Diquat	µg/L	20	USEPA MCL
Endothall	µg/L	100	USEPA MCL
Fluridone	µg/L	560	USEPA Integrated Risk Information System
Glyphosate	µg/L	700	USEPA MCL
Nonylphenol	µg/L	Freshwater <sup>2</sup> Chronic Criterion = 6.6 Saltwater <sup>2</sup> Chronic Criterion = 1.7	USEPA National Recommended Ambient Water Quality Criteria
Toxicity		Algaecides and aquatic herbicides applications shall not cause or contribute to toxicity in receiving water(s).	Regional Water Boards' Basin Plans

**Comment [SF59]:** All these WQO values are based on the most conservative, not necessarily applicable designated beneficial use. This is different from the previous permit where the beneficial use determined the WQO.

See previous comment. Need to add a column to identify the designated beneficial use-specific WQO.

**Comment [MSB60]:** See all applicable comments on Table 1.

**Comment [MSB61]:** See earlier Table 1 comment on source

**Comment [MSB62]:** See earlier Table 1 comment on the use of the BLM.

Notes

- Public entities and mutual water companies listed in Attachment G are not required to meet this receiving water limitation during the exception period described in Section VIII.C.10, Limitations and Discharge Requirements, Aquatic Pesticides Application Plan (APAP).
- For waters in which the salinity is equal to or less than 1 part per thousand 95% or more of the time, the freshwater criteria apply. For waters in which the salinity is equal to or greater than 10 parts per thousand 95% or more of the time, saltwater criteria apply. For waters in which the salinity is between 1 and 10 parts per thousand, the applicable criteria are the more stringent of the freshwater or saltwater criteria.



3. For freshwater aquatic life criteria, waters with a hardness 400 mg/L or less as calcium carbonate, the actual ambient hardness of surface water shall be used. For waters with a hardness of over 400 mg/L as calcium carbonate, a hardness of 400 mg/L as calcium carbonate shall be used with a default Water-Effect Ratio of 1.
4. Values should be rounded to two significant figures.
5. This limitation does not apply to the Sacramento River and its tributaries above the State Highway 32 Bridge at Hamilton City. See Table III-1 of the Water Quality Control Plan for the Sacramento and San Joaquin River Basins for copper limitation.

The copper limitation in Order No. 2004-0009-DWQ was based on the CTR's Criteria Continuous Concentration (CCC) expressed in total recoverable concentration. This General Permit also uses CCC from the CTR as the basis of the copper limitations; however, the copper limitation is now expressed in dissolved concentration. Since the copper criterion in the CTR is expressed in dissolved concentration, the receiving water limitation must also be expressed in dissolved rather than total concentration since it is the dissolved portion of copper that is bioavailable to aquatic life.

Based on Policy section 5.3, this General Permit grants public entities and mutual water companies listed in Attachment G a short-term or seasonal exception from meeting receiving water limitations for acrolein and copper during treatment. As a condition of the exception, this General Permit requires Dischargers to provide the length and justification of required exception periods in their APAPs. There is no discrete definition for short-term; but the intent is to allow the exception to apply during the treatment period. It is up to the Discharger to make this demonstration.

The receiving water dissolved oxygen limitation is based on the Regional Water Board Basin Plans' dissolved oxygen objectives.

## 2. Receiving Water Monitoring Triggers

In algaecide or aquatic herbicide applications, it is reasonable to conclude that some residual algaecides or aquatic herbicides will remain in the receiving waters. These residual algaecides or aquatic herbicides may cause toxicity to aquatic life. However, information regarding the specific amount of algaecide or aquatic herbicide residues (described below) in the receiving water as a result of direct applications for weed control is not adequate to develop receiving water limitations for these algaecides and aquatic herbicides. Therefore, this General Permit only contains Receiving Water Monitoring Triggers and/or monitoring requirements for these algaecides or aquatic herbicides. The monitoring triggers and monitoring data will be used to assess whether the discharges of these algaecide or aquatic herbicide residues have the reasonable potential to cause or contribute to an excursion of a water quality standard, including numeric and narrative objectives within a standard.

In the absence of adopted criteria, objectives, or standards, the State Water Board used U.S. EPA's Ambient Criteria for the Protection of Freshwater Aquatic Life (Ambient Water Quality Criteria) which are directly applicable as a regulatory level to implement narrative toxicity limitations included in all Regional Water Board Basin Plans. Where adopted criteria, objectives, standards, or Ambient Water Quality Criteria are unavailable, the State Water Board used data from the

**Comment [SF63]:** Do all RWQCBs have the same DO objective? Clarify as needed.



*Ecotoxicity Database* to develop the Receiving Water Monitoring Triggers to protect all beneficial uses of the receiving water.

For constituents that do not have Ambient Water Quality Criteria, the Instantaneous Maximum Receiving Water Monitoring Trigger is based on one-tenth of the lowest 50 Percent Lethal Concentration (LC50) from the *Ecotoxicity Database*. Using one-tenth of the lowest LC50 as the receiving water monitoring trigger is consistent with the Central Valley Regional Water Board's Basin Plan approach when developing the Daily Maximum Limitation for algaecides or aquatic herbicides that do not have water quality criteria.

Comment [MSB64]: Add "EPA"

This General Permit may be re-opened to add receiving water limitations to the algaecides or aquatic herbicides listed below if the monitoring triggers are exceeded or the monitoring data indicate re-opening of the permit is appropriate. The following is a detailed discussion of toxicity data, applicable water quality criteria, and Receiving Water Monitoring Triggers, if applicable, for these algaecide or aquatic herbicide:

a. Imazapyr

The active ingredient imazapyr is marketed by the trade names Arsenal, Chopper, and Assault. Upon contact, imazapyr can interfere with DNA synthesis and cell growth of the plants. The target weed species are grasses, broadleaves, vines, brambles, shrubs and trees, and riparian and emerged aquatics. The result of exposure is death of new leaves. It was first registered in the United States in 1984.

Imazapyr is a slow-acting amino acid synthesis inhibitor. It has an average water half-life of four days with photodegradation as the primary form of degradation in water. Imazapyr acts more quickly and is less toxic than other low-volume herbicides. According to the San Francisco Estuary Invasive *Spartina* Project's May 4, 2005 report titled *Use of Imazapyr Herbicide to Control Invasive Cordgrass (Spartina spp.) in the San Francisco Estuary*, imazapyr in water rapidly degrades via photolysis. The report further states that a number of field studies demonstrated that imazapyr rapidly dissipated from water within several days, and no detectable residues of imazapyr were found in either water or sediment within two months; in estuarine systems, dilution of imazapyr with the incoming tides contributes to its rapid dissipation, suggesting that imazapyr is not environmentally persistent in the estuarine environment and does not result in significant impacts to water quality. The report concludes that imazapyr herbicides can be a safe, highly effective treatment for control and eradication of non-native *Spartina* species in the San Francisco Estuary and offers an improved risk scenario over the existing treatment regime with glyphosate herbicides. On August 30, 2005, DPR registered imazapyr for aquatic application as an aquatic herbicide.

Toxicity data for imazapyr were obtained from the *Ecotoxicity Database* to assess the toxicity of imazapyr to freshwater aquatic life. Tables D-3 and D-4 summarize the toxicity data for imazapyr and imazapyr salt.

**Table D-3. Toxicity Data Summary for Imazapyr (CAS#81334-34-1)**

Type of Organism	Study Length	Study Date	LC50 (mg/L)
Pink shrimp	96 h	1988	> 189
Atlantic silverside	96 h	1988	> 184
Bluegill sunfish	96 h	1983	> 100
		1983	> 100
Channel catfish	96 h	1983	> 100
Rainbow trout	96 h	1983	> 100
		1995	> 110
<b>Lowest LC50/10 &gt; 10</b>			

**Table D-4. Toxicity Data Summary for Imazapyr Isopropylamine Salt (CAS#81510-83-0)**

Type of Organism	Study Length	Study Date	LC50 (mg/L)
Water flea	48 h	1984	350
Rainbow trout	96 h	1984	<b>112</b>
Bluegill sunfish	96 h	1984	>1000
<b>Lowest LC50/10 = 11.2</b>			

Ambient Water Quality Criteria are unavailable for imazapyr and imazapyr salt. Tables D-3 and D-4 show that the lowest one-tenth of LC50 to protect the most sensitive freshwater aquatic life for imazapyr is 11.2 mg/l.

Due to its safe use in the environment and low toxicity to aquatic life as indicated in the Ecotoxicity Database, this General Permit does not have a receiving water limitation for imazapyr. However, this General Permit contains a monitoring trigger of 11.2 mg/l based on one-tenth of the lowest LC50 from the *Ecotoxicity Database* and requires receiving water monitoring to collect data, which will provide information on whether imazapyr has water quality impacts.

b. Penoxsulam

Penoxsulam is the active ingredient for Galleon SC, a selective systemic aquatic herbicide for management of freshwater aquatic vegetation in ponds, lakes, reservoirs, marshes, wetlands, non-irrigation canals, slow-moving water bodies, etc. Penoxsulam is a post-emergence acetolactate synthase (ALS) inhibitor developed by Dow AgroSciences to be used as a foliar spray on dry-seeded rice crops. The mode of action is to inhibit the acetolactate synthases enzyme in the target weed.

The USEPA Pesticide Fact Sheet states that penoxsulam is expected to be very mobile, but not very persistent, in either aqueous or terrestrial environments. Penoxsulam exists almost exclusively in a disassociated state at pH values normally found in rice paddy water (averaging about 8), but not in terrestrial environments where lower pH values may be found.

Penoxsulam degrades by two different transformation mechanisms, producing thirteen different identified transformation products, eleven of which meet the criteria to be classified as major degradation byproducts<sup>12</sup>, six of which reached peak concentrations at study termination, indicating a greater degree of persistence than penoxsulam and a potential to reach concentrations even greater than those reported at study termination. The results of the screening-level risk assessment suggest that penoxsulam will not pose a threat to aquatic or terrestrial animals, however, this conclusion must be tempered by the fact that testing has not been conducted on several major degradation byproducts.

Toxicity data for penoxsulam were obtained from the *Ecotoxicity Database* to assess the toxicity of penoxsulam to freshwater aquatic life. Table D-5 summarizes the toxicity data for penoxsulam.

**Table D-5. Toxicity Data Summary for Penoxsulam (CAS#219714-96-2)**

Type of Organism	Study Length	Study Date	LC50 (mg/L)
Bluegill sunfish	96 h	2000	>103
Common carp fish	96 h	2001	>101
Mysid	96 h	2000	>114
Rainbow Trout	96 h	2002	>147
		2000	> 102
Scud	96 h	2000	>126
<b>Lowest LC50/10 &gt; 10.1</b>			

Ambient Water Quality Criteria are unavailable for penoxsulam. Table D-5 shows that the lowest one-tenth of LC50 to protect the most sensitive freshwater aquatic life for penoxsulam is greater than 10.1 mg/l.

Due to its safe use in the environment, low toxicity to aquatic life as indicated in the *Ecotoxicity Database*, and lack of accurate toxicity value, this General Permit does not have a receiving water monitoring trigger. However, this General Permit requires receiving water monitoring to collect data, which will provide information on whether penoxsulam has water quality impacts.

c. Sodium Carbonate Peroxyhydrate

Sodium carbonate hydroxyhydrate has been registered as an algaecide since early 2006. The most common brand names are PAK 27, Phycomycin, and Green Clean. It is an alternative to traditional copper based algaecides. It acts as an oxidizing agent and thus kills the target algae. When it is applied

<sup>12</sup> USEPA defines major degradation byproducts to be BSA, 2-amino-TP, TPSA, BSTCA methyl, BSTCA, 2-amino-TCA, 5-OH-penoxsulam, SFA, sulfonamide, 5,8-di-OH and 5-OH, 2 aminoTP.

into water, the compound quickly breaks down into hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) and sodium carbonate. The hydrogen peroxide oxidizes and thus kills the target pests. After contact, the hydrogen peroxide breaks down into water and oxygen.

USEPA has waived toxicity testing for freshwater fish and invertebrate during the registration process. According to the USEPA fact sheet, when the pesticide is applied in accordance with directions on the label, no harm is expected to freshwater fish or freshwater invertebrates.

There are no toxicity data for sodium carbonate peroxyhydrate in the *Ecotoxicity Database*. Therefore, this General Permit does not have a monitoring trigger for sodium carbonate peroxyhydrate. However, this General Permit requires monitoring for sodium carbonate peroxyhydrate to collect receiving water quality data, which will provide information on whether sodium carbonate peroxyhydrate has water quality impacts.

**Comment [SF65]:** If this is requested, then so state in the appropriate M&RP table (it is not currently included).

d. Triclopyr Triethylamine Salt (TEA)

Triclopyr TEA is a systemic herbicide used to control broadleaf weeds and woody plants.

USEPA concluded in its re-registration document that triclopyr TEA is practically non-toxic to freshwater fish and aquatic invertebrates on an acute basis and triclopyr TEA is slightly toxic to practically non-toxic to estuarine/marine fish and invertebrates on an acute basis.

Triclopyr produces the metabolite or degradate 3,5,6-trichloro-2-pyridinol (TCP). Based on its analysis, USEPA concludes that the existing uses of triclopyr are unlikely to result in acute or chronic dietary risks from TCP. Based on limited available data and modeling estimates, with less certainty, the USEPA concluded that existing uses of triclopyr are unlikely to result in acute or chronic drinking water risks from TCP.

Toxicity data for triclopyr TEA were obtained from the *Ecotoxicity Database* to assess the toxicity of triclopyr TEA to freshwater aquatic life. Table D-6 summarizes the toxicity data for Triclopyr TEA.

**Table D-6. Toxicity Data Summary for Triclopyr Triethylamine Salt (CAS#57213-69-1)**

Type of Organism	Study Length	Study Date	LC50 (mg/L)
Bluegill Sunfish	96 h	1978	891
	96 h	1973	471
Fathead Minnow	96 h	1978	947
	96 h	1983	546
	96 h	1983	279
Grass Shrimp	96 h	1992	326
Inland Silverside fish	96 h	1989	<b>130</b>

Type of Organism	Study Length	Study Date	LC50 (mg/L)
Pink Shrimp	96 h	1975	895
Rainbow Trout	96 h	1973	240
	96 h	1978	552
<b>Lowest LC50/10 = 13.0</b>			

Ambient Water Quality Criteria are unavailable for triclopyr TEA. Table D-6 shows that the lowest one-tenth of LC50 to protect the most sensitive freshwater aquatic life for triclopyr TEA is 13 mg/l.

Due to its safe use in the environment and low toxicity to aquatic life as indicated in the *Ecotoxicity Database*, this General Permit does not have a receiving water limitation for triclopyr TEA. However, this General Permit contains a monitoring trigger of 13.0 mg/l based on one-tenth of the lowest LC50 from the *Ecotoxicity Database* and requires receiving water monitoring to collect data, which will provide information on whether triclopyr TEA has water quality impacts.

## VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

### A. MRP Goals

Section 122.48 of 40 C.F.R. 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 (MRP) in Attachment C of this General Permit establishes monitoring and reporting requirements to implement federal and state requirements.

The goals of the MRP are to:

1. Identify and characterize algaecide or aquatic herbicide application projects conducted by the Discharger;
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 Discharger.

The MRP in the Attachment C of this General Permit is considered as baseline monitoring requirements. Monitoring plans proposed by Dischargers in their APAP must meet the minimum requirements prescribed in the MRP. Public entities and mutual water companies that have a Policy section 5.3 exception should comply with the MRP in this General Permit as well as monitoring plan proposed in their CEQA document where the two plans differ.

## B. Effluent Monitoring

Pursuant to the requirements of 40 C.F.R. § 122.44(i), effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and assess the impacts of the discharge on the receiving water and groundwater.

The application of pesticides for pest control is not necessarily considered a discharge of pollutants according to the *National Cotton Council of America v. USEPA* decision and other applicable case law. The regulated discharge is the discharge of biological and residual pesticides. At what point the pesticide becomes a residue is not precisely known. Therefore, in the application of pesticides, the exact effluent is unknown. Thus, effluent monitoring requirement is not applicable for algaecide or aquatic herbicide applications.

Comment [MSB66]: Not applicable to this permit. Delete. Global.

## C. Toxicity Testing Requirements

The State Water Board, pursuant to the Porter-Cologne Act and the federal Clean Water Act, customarily requires the Discharger to conduct toxicity monitoring. In fact, both Acts anticipate Discharger self-monitoring. However, this General Permit does not require toxicity testing based on the 2004 toxicity study funded by the State Water Board and data collected from 2004 to 2008. The toxicity study found the following: (1) There was no toxicity with the use of 2,4-D, glyphosate, and tricopyr; (2) Toxicity testing was difficult for acrolein due to its volatility; (3) Results were inconclusive for diquat and fluridone; and (4) Peak copper concentrations did not exceed toxicity values. The monitoring data collected under Order No. 2004-0009-DWQ from 2004 to 2008 showed that all constituent concentrations from post-event application samples were below receiving water limitations except for the following: three exceedances each for acrolein and glyphosate and 82 exceedances for copper out of 288 monitoring events. For glyphosate, it is likely that the three exceedances were not the result of aquatic herbicide applications because the pre-application samples also showed exceedances and the remaining 151 samples showed no exceedance. For copper, 43 of the 82 exceedances were from public agencies or mutual water companies that were excepted from meeting priority pollutant limitations during the exception period. The Policy allows the exception. Thus, staff did not consider these exceedances as violations of the receiving water limitations. However, 39 of the exceedances were from entities that did not have a Policy exception. Although staff considered these exceedances as true violations of the receiving water limitations,

staff is not aware of any long-term impacts from these exceedances. Long-term impacts from exceedances are likely not going to occur for the following reasons: (1) water quality criteria, which are used directly as receiving water limitations in this General Permit, have built-in factors of safety; (2) as shown in the 2004 toxicity study, the actual peak concentrations after applications of copper did not exceed toxicity values; and (3) the applications are short-term in duration. All of the foregoing information indicates that widespread acute ecosystem impacts will not occur from algaecide or aquatic herbicides applied according to their label instructions and requirements of this General Permit. Therefore, toxicity monitoring requirements are not necessary.

#### **D. Receiving Water Monitoring**

Receiving water monitoring is necessary to determine the impacts of the discharge on the receiving stream.

All forms of testing have some degree of uncertainty associated with them. The more limited the amount of test data available, the larger the uncertainty. The intent of this General Permit's sampling program is to select a number that will detect most events of noncompliance without requiring needless or burdensome monitoring.

Table 3-1 of the EPA Region 9 and 10 Toxicity Training Tool provides guidance on the selection of the appropriate sample number. It shows that six is the minimum number of samples where there is about a 50 percent chance of detecting at least one toxic event for the three probabilities of occurrence shown on the table.

Staff also used EPA's Technical Support Document for Water Quality-Based Toxics Control (TSD) to determine the appropriate number of samples that would be needed to characterize the impacts of the residual pesticide discharge from pesticide applications. Page 53 of the TSD recommends using a coefficient of variation (CV) 0.6 when the data set contains less than 10 samples. Table 3-1 of the TSD shows that with a CV of 0.6, the multiplying factors used to determine whether a discharge causes, has the reasonable potential to cause, or contributes to an excursion above a State water quality standard begin to stabilize when the sample number is six. Thus, this General Permit requires six samples per year for each active ingredient in each environmental setting (flowing water and non-flowing water) to characterize the effects of residual pesticide discharge from pesticide applications. However, after a Discharger or Coalition has provided results from six consecutive application events showing concentrations that are less than the receiving water limitation/trigger for an active ingredient in a specific environmental setting, sampling shall be reduced to one application event per year for that active ingredient in that environmental setting.

Similarly, this General Permit contains a reduced monitoring frequency of once per year (instead of six) at each environmental setting for glyphosate. The reduced monitoring frequency is based on staff's review of available data from 2004 to 2008 that showed no exceedance of the permit limitation for glyphosate under Order No. 2004-0009-DWQ.

## VIII. RATIONALE FOR AQUATIC PESTICIDE USE REQUIREMENTS

### A. Application Schedule

The Discharger shall provide a phone number or other specific contact information for all persons who request the Discharger's application schedule.

### B. Application Notification Requirements

The Policy section 5.3, Categorical Exception, requires public agencies and mutual water companies that have been granted the short-term or seasonal exception for compliance with priority pollutant limitations to notify potentially affected public and government agencies of algaecide or aquatic herbicide application.

### C. APAP

This General Permit contains narrative effluent limitations, which include implementing BMPs described in the APAP, which is a requirement of this General Permit. See Section VI, Rationale for Effluent Limitations and Discharge Specifications, for more detailed explanation of the need for an APAP.

### D. APAP Processing, Approval, and Modifications

Upon receipt of a new or an amended APAP, staff will post it on the State Water Board's website. Major changes to the APAP shall be submitted to the Deputy Director for approval. Examples of major changes include using a different product other than what is specified in the APAP, changing an application method that may result in different amounts of algaecide or aquatic herbicides being applied, or adding or deleting BMPs. Since the APAP shall include ALL (1) the water bodies or water body systems in which algaecide or aquatic herbicides are being planned to be applied or may be applied to control algae and aquatic weeds and (2) the application areas and the target areas in the system that are being planned to be applied or may be applied, changes in monitoring locations are not considered major changes. However, these changes need to be reported in the annual report.

### E. Aquatic Pesticide Application Log

An application log to record all algaecide or aquatic herbicide applications is necessary. This application log will help Dischargers and the Water Boards' staff to investigate any exceedance of receiving water limitations and/or toxicity.

**Comment [SF67]:** Remove reference to "and/or toxicity" as this is not part of the existing proposed permit.

## IX. RATIONALE FOR PROVISIONS

### A. Standard Provisions

#### 1. Standard Provisions in Attachment B

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. § 122.41, and additional conditions applicable to specified categories of



permits in accordance with 40 C.F.R. § 122.42, are provided in Attachment B. The Discharger must comply with applicable standard provisions and with those additional conditions that are applicable under 40 C.F.R. § 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the General Permit. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. § 123.25, this General Permit omits federal conditions that address enforcement authority specified in 40 C.F.R. § 122.41(j)(5) and (k)(2) because the enforcement authority under the California Water Code is more stringent. In lieu of these conditions, this General Permit incorporates by reference California Water Code section 13387(e).

## 2. Discharge to Impaired Water Bodies

Impaired water bodies are water quality limited segments listed under CWA 303(d) listings. The water bodies on these lists do not meet water quality standards, even if the discharge itself meets water quality standards. The Basin Plans state that “*Additional treatment beyond minimum federal standards will be imposed on Dischargers to Water Quality Limit Segments. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment*”. The allocated loads are Discharger and receiving water specific. It is infeasible to assign a uniform load in a statewide general permit. Therefore, this General Permit does not authorize the discharge of active ingredients of algaecides or aquatic herbicides, their residues, and their degradation byproducts to water bodies that are already impaired due to the same product active ingredients, their residues, and their degradation byproducts.

## B. Special Provisions

### 1. Reopener Provisions

The reopener provisions allow future modification to this General Permit in accordance with 40 CFR §122.62.

#### a. Addition to Policy Exception List in Attachment G

This General Permit may be reopened to add a public entity or a mutual water company which may not otherwise meet the receiving water limitations for acrolein and copper and meets the requirements for an exception from meeting those limitations, consistent with Section 5.3 of the Policy.

#### b. Addition of Aquatic Pesticide Active Ingredients

This General Permit may be reopened to add newly registered algaecide or aquatic herbicide active ingredients so that Dischargers can be covered by this General Permit when they apply the algaecide or aquatic herbicide products with the new active ingredients.

c. Acute and Chronic Toxicity

When the State Water Board revises the Policy's toxicity control provisions that would require the establishment of numeric chronic toxicity limitations or other actions, this General Permit may be reopened to comply with those requirements.

d. Receiving Water Limitations

If monitoring data for residual pesticides show exceedance of monitoring triggers, the Discharger or Coalition shall conduct additional investigations to determine the cause of exceedance. At a minimum, the Discharger or Coalition shall evaluate its application methods, BMPs, and the appropriateness of using alternative products. As a result of the evaluation, this General Permit may be re-opened to add numeric Receiving Water Limitations for the residual pesticides exceeding the triggers.

e. Endangered Species Act

If U.S. EPA develops biological opinions regarding pesticides included in this General Permit, this General Permit may be re-opened to add or modify Receiving Water Limitations/Monitoring Triggers for residual pesticides of concern, if necessary.

2. **Special Studies, Technical Reports, and Additional Monitoring Requirements**

a. Additional Investigation

This General Permit requires Dischargers to conduct additional investigations if the monitoring results exceed the receiving water monitoring limitations. These investigations are necessary in order to address the exceedance caused by the algaecide or aquatic herbicide application and meet the General Permit's limitations and requirements including Basin Plans' narrative water quality objective of no toxics in toxic amount.

b. Qualified Biologist Certification Following Project Completion

The requirement is retained from Order No. 2004-0009-DWQ and is based on Policy section 5.3 exception.

3. **Corrective Action**

When receiving water limitations or triggers are exceeded, Dischargers are expected to assess the cause of exceedance and take appropriate actions as necessary to prevent recurrence of the problem.

**X. COMPLIANCE DETERMINATION**

This General Permit specifies that compliance be based on event and post-event sampling results. The event sample results will determine if exceedance occurred outside the Treatment Area\* during treatment. Post-event samples will determine if exceedance occurred in the Application or Treatment Area after treatment. Since the minimum effective concentration and time needed to effectively kill or control target weeds or algae vary due

**Comment [MSB68]:** Delete or define the asterisk

**Comment [SF69]:** See earlier comments. Delete "minimum effective."

to site specific conditions, such as flow, target species, water chemistry, and type of algaecides or aquatic herbicides, this General Permit allows Dischargers to determine when treatment is completed.

## **XI. PUBLIC PARTICIPATION**

The State Water Board is considering the issuance of WDRs that will serve as a general NPDES permit for algaecide or aquatic herbicide applications. As a step in the WDR adoption process, the State Water Board staff has developed tentative WDRs. The State Water Board encourages public participation in the WDR adoption process.

### **A. Notification of Interested Parties**

The State Water Board has notified interested agencies, parties, and persons of its intent to prescribe general WDRs for algaecide or aquatic herbicide applications and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided to interested parties through specific mailings, distribution through publication in major newspapers for the following communities: throughout California. The State Water Board, in a public meeting, heard and considered all comments pertaining to discharges to be regulated by this General Permit. Details of the Public Hearing are provided in the Fact Sheet of this General Permit.

### **B. Written Comments**

Interested persons were invited to submit written comments concerning this tentative WDR. Comments were due at the State Water Board offices by 12:00 noon on **August 21, 2012**. XXXXXX comment letters were received.

### **C. Public Hearing and Meeting**

The State Water Board held a public hearing on the tentative WDRs during its regular Board meeting on **August 7, 2012**. The State Water Board will consider adoption of the WDRs at a public meeting on the following date, time, and location:

Date: **November 6, 2012**  
Time: 9:00 a.m.  
Location: State Water Resources Control Board  
1001 I Street  
Sacramento, CA 95814

Interested persons are invited to attend. At the public hearing, the State Water Board will hear testimony, if any, pertinent to the discharge, General Permit, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is [www.waterboards.ca.gov](http://www.waterboards.ca.gov) where you can access the current agenda for changes in dates and locations.

**D. Information and Copying**

The tentative effluent limitations, receiving water limitations, and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the State Water Board by calling (916) 379-9152.

**E. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding this general WDR and NPDES permit should contact the State Water Board, reference the general WDR and NPDES permit, and provide a name, address, and phone number.

**F. Additional Information**

Requests for additional information or questions regarding this General Permit should be directed to [NPDES\\_Wastewater@waterboards.ca.gov](mailto:NPDES_Wastewater@waterboards.ca.gov).

**Attachment E – Notice of Intent**

**WATER QUALITY ORDER NO. 2012-XXXX-DWQ  
GENERAL PERMIT NO. CAG990005**

**STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
(NPDES) PERMIT FOR 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. <input type="checkbox"/> New Applicator	B. <input type="checkbox"/> Change of Information: WDID# _____
	C. <input type="checkbox"/> Change of ownership or responsibility: WDID# _____	

**Comment [SF70]:** Need a category for those that currently have a permit, but are required to resubmit a revised NOI and APAP

**II. DISCHARGER INFORMATION**

A. Name			
B. Mailing Address			
C. City	D. County	E. State	F. Zip
G. Contact Person	H. Email address	I. Title	J. Phone

**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. Email address	H. Title	I. Phone	

**IV. RECEIVING WATER INFORMATION**

A. Algaecide and aquatic herbicide residues 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: \_\_\_\_\_

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

**Comment [MSB71]:** Delete this and replace with "are used to treat" so that there is consistency with the instructions.

**V. AQUATIC PESTICIDE APPLICATION INFORMATION**

A. Target Organisms: \_\_\_\_\_

B. Algaecide and Aquatic Herbicide Used: List Name and Active ingredients \_\_\_\_\_

C. Period of Application: Start Date \_\_\_\_\_ End Date \_\_\_\_\_

D. Types of Adjuvants Used: \_\_\_\_\_

**Comment [MSB72]:** See global comment on change to algaecide and aquatic herbicide

**Comment [SF73]:** Need more space in this box to list all Aquatic pesticides that may be used by an applicator

**VI. AQUATIC PESTICIDES APPLICATION PLAN**

Has an Algaecide and Aquatic Herbicide 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

**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: \_\_\_\_\_

B. Signature: \_\_\_\_\_ Date: \_\_\_\_\_

C. Title: \_\_\_\_\_

**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 NOI**

**WATER QUALITY ORDER NO. 2012-XXXX-DWQ  
GENERAL PERMIT NO. CAG990005**

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

These instructions are intended to help you, the Discharger, to complete the Notice of Intent (NOI) form for the Statewide General 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 Division of Water Quality, State Water Resources Control Board. Please also send a copy of the form and supporting documentation to the appropriate Regional Water Quality Control Board (Regional 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**

Enter the name of the Discharger.  
Enter the street number and street name where correspondence should be sent (P.O. Box is acceptable).  
Enter the city that applies to the mailing address given.  
Enter the county that applies to the mailing address given.  
Enter the state that applies to the mailing address given.  
Enter the zip code that applies to the mailing address given.  
Enter the name (first and last) of the contact person.  
Enter the email address of the contact person.  
Enter the contact person's title.  
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**

Please be reminded that 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](http://www.nmfs.noaa.gov)) for anadromous or marine species or FWS ([www.fws.gov](http://www.fws.gov)) for terrestrial or freshwater species.

- A. Check all boxes that apply. At least one box must be checked.
  - 1. Check this box if the treatment area is a canal, ditch or other constructed conveyance system. Print the name of the conveyance system.
  - 2. Check this box if the treatment area is not a constructed conveyance system (including application to river, lake, creek, stream, bay, ocean) and enter the name of the water body.
  - 3. Check this box if the treatment area is not listed in Items 1 and 2 above. Provide a description of the treatment area and the names of the water body(s) that algaecide and aquatic herbicide residues discharge to.
- B. List all Regional Water Board numbers where algaecide and aquatic herbicide 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](http://www.waterboards.ca.gov/waterboards_map.shtml)

**Comment [SF74]:** With change made in the NOI form, this is OK.

**Comment [SF75]:** This is the same as A1 except that it is controlled by an entity other than the discharger.  
Need to change text here to be consistent with text in the NOI form.

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

Regional Water Board Numbers	Regional Water Board Names
8	Santa Ana
9	San Diego

**Section V – Aquatic pesticide Application Information**

- A. Check the appropriate target organism(s).
- B. List the name and active ingredients of each algaecide and aquatic herbicide to be used.
- C. List the start and end date of proposed aquatic algaecide and aquatic herbicide application event\*.
- D. List the name(s) and type(s) of adjuvants that will be used.

Comment [SF76]: Replace "check" with "list"

The Discharger must submit a new NOI if any information stated in this section will be changed. If the Discharger plans to use an algaecide and aquatic herbicide product not currently covered under its Notice of Applicability (NOA), and the algaecide and aquatic herbicide product may be discharged to a water of the US as a result of algaecide and aquatic herbicide application, the Discharger must receive a revised NOA from the State Water Board's Deputy Director of the Division of Water Quality before using that product.

**Section VI – Aquatic pesticides Application Plan**

The Coalition or Discharger must prepare and complete an Aquatic Pesticide Application Plan (APAP). The minimum contents of APAP are specified in the permit under Section VIII.C, Limitations and Discharge Requirements, of the General Permit. The Discharger must ensure that its applicator is familiar with the APAP contents before algaecide and aquatic herbicide application.

If an APAP 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?

**Section VIII – Fee**

The amount of Annual fee shall be based on Category 3 discharge specified in section 2200(b)(9) of Title 23, California Code of Regulations. Fee information can be found at [http://www.waterboards.ca.gov/resources/fees/docs/fy1112fee\\_schdl\\_npdes\\_prmt.pdf](http://www.waterboards.ca.gov/resources/fees/docs/fy1112fee_schdl_npdes_prmt.pdf).

Check the YES box if you have included payment of the annual fee. Check the NO box if you have not included this payment. **NOTE:** You will be billed annually and payment is required to continue coverage.

**Section IX– Certification**

- A. Print the name of the appropriate official. The person who signs the NOI must meet the signatory and certification requirements stated in Attachment B Standard Provisions item V.B.
- B. The person whose name is printed above must sign and date the NOI.
- C. Enter the title of the person signing the NOI.

**Attachment F – Notice of Termination**

**WATER QUALITY ORDER NO. 2012-XXXX-DWQ  
GENERAL PERMIT NO. CAG990005**

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

**I. WDID**

WDID# _____
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**II. DISCHARGER INFORMATION**

A. Name			
B. Mailing Address			
C. City	D. County	E. State	F. Zip
G. Contact Person	H. Email address	I. Title	J. Phone

**III. BASIS FOR TERMINATION**

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**IV. CERTIFICATION**

"I certify under penalty of law that 1) I am not required to be permitted under this General Permit No.CAG990005, and 2) 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 understand that the submittal of this Notice of Termination does not release an algaeicide or aquatic herbicide applicator from liability for any violations of the Clean Water Act".

**A. Printed Name:** \_\_\_\_\_

**B. Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**C. Title:** \_\_\_\_\_

**V. FOR STATE WATER BOARD USE ONLY**

**Approved for Termination**                       **Denied and Returned to the Discharger**

**A. Printed Name:** \_\_\_\_\_

**B. Signature:** \_\_\_\_\_

**C. Date:** \_\_\_\_\_

**NOT Effective Date:**     /     /

## Attachment G – Exception List

### **LIST OF PUBLIC AGENCIES AND MUTUAL WATER COMPANIES GRANTED AN EXCEPTION PURSUANT TO STATE WATER RESOURCES CONTROL BOARD POLICY FOR IMPLEMENTATION OF TOXICS STANDARDS FOR INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES OF CALIFORNIA**

The public entities and mutual water companies listed herein have prepared Initial Studies, Negative Declarations (ND), Mitigated Negative Declarations (MND), and Notices of Determination for the discharge of algaecides and aquatic herbicides in accordance with the California Environmental Quality Act [CEQA (Public Resources Code Section 21000 et seq.)] to comply with the exception requirements of section 5.3 of the Policy. The boards of each public entity, as the lead agencies under CEQA, approved the Final ND/MND and determined that the discharge of algaecides and aquatic herbicides in their respective projects would not have a significant effect on the environment. These public entities and mutual water companies have determined that the water quality or related water quality impacts identified in the environmental assessments of the ND/MND are less than significant.

In addition to submitting the CEQA documentation, these public entities and mutual water companies have also complied with the other exception requirements of section 5.3 of the Policy.

As required in Section 15096 of the CEQA Guidelines, the State Water Resources Control Board (State Water Board), as a Responsible Agency under CEQA, considered the ND/MND approved by the board of each public entity and finds that the projects will have less than significant water quality impact if the waste discharge requirements in this General Permit are followed. Accordingly, the public entities and mutual water companies listed herein are hereby granted an exception pursuant to section 5.3 of the Policy.

1. Byron-Bethany Irrigation District
2. City of Antioch Department of Public Works
3. Contra Costa Water District
4. Contra Costa County Flood Control and Water Conservation District
5. Department of Food and Agriculture
6. Department of Water Resources
7. Friant Water Users Authority
8. Glenn-Colusa Irrigation District
9. Maine Prairie Water District
10. Marin Municipal Water District
11. Metropolitan Water District of Southern California
12. Modesto Irrigation District
13. Nevada Irrigation District
14. North Marin Water District

GENERAL NPDES PERMIT FOR RESIDUAL PESTICIDE DISCHARGES  
FROM ALGAE AND AQUATIC WEED CONTROL APPLICATIONS

ORDER NO. 2012-XXXX-DWQ  
NPDES NO. CAG990005

15. Oakdale Irrigation District
16. Placer County Water Agency
17. Potter Valley Irrigation District
18. Princeton-Cordora-Glenn Irrigation District
19. Provident Irrigation District
20. Reclamation District 1004
21. Santa Cruz Water Department
22. Solano Irrigation District
23. South Feather Water and Power Agency
24. South Sutter Water District
25. Tehama Colusa Canal Authority
26. Turlock Irrigation District
27. Woodbridge Irrigation District
28. Yolo County Flood Control and Water Conservation District