

ATTACHMENT X

Surface Water Quality Management Plan Requirements For GENERAL WASTE DISCHARGE REQUIREMENTS FOR THE XXXXX COALITION

I. Introduction

The Coalition must develop and submit for Executive Officer approval a surface water quality management plan (SQMP) for any parameter that exceeds receiving water limits (**Attachment X, Appendix A** presents a table of applicable limits) in a given water body two or more times within a 3-year period¹. The Executive Officer may require the Coalition or its members to develop a management plan or take additional actions for other parameters and water bodies if monitoring data indicates that water quality may be at risk due to irrigated agriculture operations.

Existing SQMPs that were developed and approved under the ILRP's previous waiver program (Conditional Waiver Order No. R5-2006-0053 and MRP Order No. R5-2008-0005) must continue to be implemented under the current WDR Order. Changes to any management plan may be implemented by the Coalition only after approval by the Executive Officer. The Executive Officer may require changes to a management plan if the current management plan approach is not making adequate progress towards addressing the water quality problem or if the information reported by the Coalition does not allow the Central Valley Water Board to determine the effectiveness of the management plan.

For new parameters and waters that require a management plan, the Coalition shall submit a surface water quality management plan within one year from when the management plan requirement was triggered. Prior to approval, the Central Valley Water Board will post the Draft Management Plan for a 30 day review and comment period. Stakeholder comments will be considered by Central Valley Water Board staff to determine if additional revisions to the Draft Management Plan are appropriate.

At the request of the Coalition or upon recommendation by the Central Valley Water Board staff, the Executive Officer may exempt the Coalition from the development of a management plan for a given parameter and water body. Such an exemption may be issued if the Executive Officer determines that sufficient evidence was provided indicating that exceedances are not likely to be remedied or addressed through grower implementation of management practices.

¹ Exceedances will be determined based on available data and application of the appropriate averaging period. The averaging period will either be defined in the Basin Plan, as part of the water quality standard established by the U.S. EPA, or as part of the criteria being used to interpret narrative objectives. If averaging periods are not defined in the Basin Plan, U.S. EPA standard, or criteria, the Central Valley Water Board will use the best available information to determine an appropriate averaging period.

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The Executive Officer may also require the Coalition or its members to develop a management plan or to take additional actions if monitoring data or other information indicates that water quality may be threatened, including any parameter for which there is degradation of high quality waters. Degradation that may threaten a beneficial use or cause a nuisance would be given higher priority. The Coalition may also be required to develop and implement a management plan in coordination with other coalition groups. The Executive Officer may also increase monitoring requirements where monitoring results, pesticide use patterns, chemical characteristics, or other indicators suggest that an increase is warranted.

When a management plan has been triggered, the Coalition will ascertain, and provide supporting evidence, as to whether irrigated agriculture is known to cause or contribute to the water quality problem. If the potential sources are not known, a study design must be developed to determine the source(s) or eliminate agriculture as a potential source, as described in Section VIII. If the Coalition has determined that there is an agricultural contribution to the identified water quality problem, source identification efforts will focus on determining the commodities, practices, and/or locations that are discharge sources, as described in Section III E.

II. Requirements and Responsibilities of Irrigated Agriculture Operators

To meet the requirements of Coalition membership and to retain good standing, dischargers (irrigated agriculture operators) within the Coalition that have the potential to discharge to surface waters must become informed of any water quality issues in their watershed area and what practices or controls must be considered for implementation. The Coalition will provide informational materials to these members by mail and/or email and hold timely meetings at convenient venues to facilitate distribution of the necessary information. Documented participation in outreach events for these Coalition members must occur at least annually.

When requested, dischargers must provide the Coalition with the information needed to help meet ILRP compliance requirements. Dischargers must also evaluate their operations to determine the types of water quality management practices necessary to prevent or reduce discharges of waste to surface water bodies.

Dischargers that have the potential to discharge to surface waters must implement water quality management practices in accordance with any water quality management plan approved by the Central Valley Water Board that is applicable to their operations. Water quality management practices can be instituted on an individual basis, or be installed to serve a group of growers that discharge to a single location. Dischargers must provide documentation of management practice implementation to the Coalition, as described in the management plan.

Irrigated agricultural operators that do not meet the requirements for being a member of the Coalition or fail to comply with WDRs or the management Plan may be required to obtain WDRs from the Central Valley Water Board.

III. Contents of a Surface Water Quality Management Plan

This section describes the minimum required components for a SQMP where irrigated agriculture is a known source of the water quality problem(s). The Executive Officer may require modification of any existing management plan that does not fully address all of the elements described below.

A. Management Plan Description

The management plan shall describe the watershed areas and associated parameters being addressed. For a water body that is representative of other water bodies, those areas being represented must also be identified in the management plan.

B. Water Quality Data Summary

A summary and assessment of the available water quality data for surface waters and parameters addressed by the management plan is required, including monitoring history and exceedances.

C. Assigned Beneficial Uses

A list of the assigned beneficial uses, as identified in the applicable Basin Plan, is required for all water bodies that are part of the management plan.

D. Priority Status

If the Coalition has developed a prioritization strategy as part of their overall management plan approach, the priority level should be described for each parameter in the management plan. The background for justifying the prioritization strategy may be referenced in other Coalition documents, if already developed and approved. Section III of this attachment discusses the types of considerations that should be used to develop a prioritization strategy.

E. Source Identification

- i. The Coalition shall develop a plan to identify the irrigated agriculture source(s), general or specific practice(s), specific locations, and/or commodities that may be the cause of the water quality problem. A source identification plan shall include the following elements.
 1. An evaluation of the types of commodities, practices, and locations that may be a source.
 2. Continued monitoring at the management plan site and increased monitoring if appropriate.
 3. An assessment of the potential pathways through which waste discharges can occur.
 4. A schedule for conducting the study.

Source identification may include more intensive sampling in the watershed or field studies to quantify the relevant waste discharge from irrigated lands. If field studies are not included as part of the plan, the Coalition must describe how their proposed approach will provide equivalent or more robust

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information to allow determination of the agricultural contribution to the identified water quality problem.

- ii. In lieu of conducting more intensive source analysis or field studies, the management plan can focus on ensuring that growers are implementing practices that achieve water quality objectives and prevent degradation for the parameters of concern. This approach must be adopted by member growers that have the potential to discharge to surface waters within the watershed area(s) being addressed. The crop types, agricultural practices, and local land characteristics must be described. The following elements must be included:
 1. A set of management objectives by crop type or type of operation,
 2. A set of management practices that will be effective in addressing agricultural discharge-related impacts to water quality and achieving objectives,
 3. An approach that will be used by the Coalition to promote implementation of the management objectives and practices, and
 4. A mechanism that will be used to track the watershed-wide level of management practice implementation.

To verify implementation and adequacy of practices, on-site farm visits by a person(s) with proven expertise that can verify and document the implementation of visually observable management practices are required for at least XX% of the total irrigated acreage annually. The Coalition must identify measures to verify that management practices are functioning properly. On-site visits must represent the major crop types and practices in the area and must rotate to new farms each year such that 100% of farms are visited within XX years. Where on-site visits determine that a farm does not have adequate practices in place, those farms shall be visited annually until adequate practices are certified.

F. Management Practices Baseline Inventory

The Coalition must provide a baseline inventory of water quality management practices based on information obtained directly from all applicable member growers within the drainage area(s) that comprises the management plan. This information should be collected as part of the individual Farm Evaluation Plans, which will require annual updates from each grower that is a member of the Coalition. In the annual updates, growers must report changes in water quality management practices, crops grown, pesticides used, and nutrients applied.

G. Management Practices Identification

Based on the results of source identification studies, the Coalition shall identify the types of management practices that growers can implement to prevent or reduce discharges of the parameter(s) of concern. Based on growers' evaluations of their individual operations, including the appropriate and necessary practices that they will employ, the Coalition shall identify the specific practices that will be implemented to address the management plan.

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In addition, the Coalition will provide an estimate of the effectiveness of the proposed practices and discuss any known limitations on their effectiveness. This information may be obtained from documentation that references peer-reviewed field studies, directly from peer-reviewed studies, or from field studies conducted by the Coalition. Practices may include those that are required by local, State, or federal law².

H. Management Practices Implementation Schedule

The Coalition shall provide a schedule for implementation of management practices by the growers. The schedule can take into consideration the time and resources that would be needed to implement costly and/or large physical practices, especially those requiring construction (e.g., tailwater recirculation ponds, sedimentation ponds, underground drip irrigation systems). However, implementation must be scheduled such that water quality improvements are realized within **XX** years.

I. Identification of Implementing Participants

The Coalition shall identify the responsible parties that will be implementing management practices and other components or steps of the management plan.

J. Management Practices Implementation Tracking

A process for tracking the implementation of management practices must be described and utilized. The process must include a description of how the information will be collected from growers, the type of information being collected (with semi-quantitative or quantitative results), how the information will be verified³, and how the information will be reported.

K. Management Plan Monitoring Schedule

A monitoring plan and schedule for the parameter(s) of concern must be prepared to determine whether the management plan is improving water quality. The monitoring plan may need to include additional sites and/or different timing or frequency of sample collection to adequately assess the effectiveness of the management plan. Management plan monitoring must be conducted every year during appropriate periods and with adequate frequency until the management plan has been deemed completed. The monitoring plan must include an associated Quality Assurance Project Plan, and the data must be submitted electronically on a quarterly basis in the format required by the Central Valley Water Board.

L. Management Practices Effectiveness Evaluation

An approach for determining the effectiveness of the management practices implemented must be described, including a schedule. Acceptable approaches include field studies of management practices at representative sites and

² For example, specific practices required by the Department of Pesticide Regulation or County Agricultural Commissioner regulations or permit requirements may be referenced.

³ The intent of data verification is to provide confidence that the information being reported is accurate. This must include annual field visits (i.e., on-farm verification) to a subset of growers reporting on their practices. Other methods to confirm data validity may be needed for verification of non-visual practices.

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modeling or assessment to associate the degree of management practice implementation to changes in water quality.

M. Education and Outreach Strategy

The management plan must describe a strategy for informing growers of the water quality issues that need to be addressed and relevant management practices that can be employed. The outreach strategy must describe the methods that will be used to inform growers and how the effectiveness of outreach efforts will be evaluated. The Coalition may conduct outreach efforts or work with the assistance of other appropriate resource management groups or agencies.

N. Performance Goals and Schedule

Performance goals and schedules must be established for the identified actions to be taken (e.g., outreach, management practice implementation), as well as for anticipated improvements in water quality (e.g., reduced frequency of exceedances; achievement of water quality objectives). The schedule for achieving compliance with water quality objectives must be consistent with any compliance dates established in the relevant water quality control plan.

O. Identified Reporting Schedule

The Coalition must identify a routine schedule of management plan progress reporting. Section VI lists the required elements for reporting.

IV. Prioritization Considerations

If the SQMP addresses multiple exceedances of different types of constituents at multiple locations, a prioritization of the water quality problems to be addressed may be developed. The prioritization may include considerations such as extent, magnitude, and duration, or be based on a design that assumes that resolution of one type of contaminant (such as sediment) may help resolve other types of exceedances (such as pesticides, toxicity, dissolved oxygen, and pH). Additionally, if the Coalition provides adequate evidence that a beneficial use does not actually exist in a water body where the beneficial use is assigned in the Basin Plan, the Coalition may adjust the priority of the related management plan. The assumptions and prioritizations will be developed in coordination with the Central Valley Water Board.

The Coalition can utilize the prioritization scheme described in their previously approved Management Plan. Any new management plan components will need to be incorporated into the overall prioritization strategy, with any additions and changes in priorities requiring Executive Officer approval.

Requests for management plan additions and changes will be considered once per year, following submittal of the Annual Management Plan Progress Report.

V. Management Plan Progress Reviews

The Central Valley Water Board intends to conduct formal reviews of surface water quality management plans at least every 3 years to determine whether approved SQMPs are resulting in improvements in water quality. Central Valley Water Board

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staff will meet at least annually, and more frequently as needed, to informally review progress with the coalitions. The triennial formal review process will include an opportunity for public input on the effectiveness of the SQMPs. Based on input from all parties, the Board or Executive Officer will determine whether and how the SQMP should be updated based on new information and progress in achieving compliance with water quality objectives. The Board or Executive Officer also may require revision of the SQMP based on available information indicating that exceedances of water quality objectives or degradation of water call for the inclusion of additional waters or constituents of concern in the SQMP.

Based on a review to determine progress in achieving water quality objectives, the Board or Executive Officer will determine whether progress is adequate or inadequate.

a) Adequate Progress

The Executive Officer or Board will make a determination of adequate progress in implementing the SQMP if water quality improvement milestones and compliance time schedules have been met or water quality objectives have been attained.

b) Inadequate Progress

The Executive Officer or Board will make a determination of inadequate progress in implementing the SQMP if recurring exceedances of objectives or degradation have occurred with no demonstrated improvement in water quality or achieving water quality improvement milestones and if compliance time schedules in the approved management plan have not been met.

The actions taken by the Executive Officer or Board upon a determination of inadequate progress include, but are not limited to; one or more of the following for the area in which inadequate progress has been made:

- i. BMP field monitoring studies – The Coalition will be required to develop and implement a field monitoring study plan to characterize the commodity-specific discharge of the constituent of concern and evaluate the pollutant reduction efficacy of specific management practices. Based on the study and evaluation, the Executive Officer will require the SQMP to be revised to included improved practices to achieve water quality objectives or prevent degradation.
- ii. Independent, on-site verification of implementation of management practices and evaluation of their adequacy.
- iii. Individual farm water quality management plans (FWQMPs) – Individual irrigated agriculture operations will be required to develop and implement a FWQMP certified by a certified crop advisor.
- iv. Individual WDRs or waiver of WDRs – The Board or the Executive Officer may revoke the third-party coverage for individual irrigated

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agricultural operations and require submittal of a report of waste discharge.

VI. Reporting Requirements

On an annual basis, the Coalition must prepare a Management Plan Progress Report that summarizes the progress in implementing management plans. The Management Plan Progress Report shall be submitted by 1 April, covering the period of the previous water year (1 October to 30 September). The Management Plan Progress Report shall include the following components:

1. Signed transmittal letter
2. Title page
3. Table of contents
4. Executive Summary
5. Location map(s) and a brief summary of management plans covered by the report
6. Updated table that tallies all exceedances for the management plans
7. A list of new management plans since the previous report
8. Status update on preparation of new management plans
9. A summary and assessment of management plan monitoring data collected
10. A summary of grower outreach conducted
11. A summary of the degree of implementation of management practices
12. Results from evaluation of management practice effectiveness
13. A summary of progress in meeting performance goals and schedules
14. Any recommendations for changes to the management plan

As part of individual farm evaluations, member growers must report to the Coalition on any changes in operations and surface water quality management practices during the previous year. The Coalition must provide a summary of the information as part of the annual Management Plan Progress Report.

VII. Management Plan Completion

The goal of all management plans is to identify the source(s), implement effective practices, and ultimately eliminate water quality impairments caused by agriculture. The Coalition will be addressing two types of management plans, those where irrigated agriculture is a known cause of, or contributor to, water quality problem (Tier 3), and those where it is not clear whether agriculture is a source (Tier 2). If an approved Tier 2 study shows that agriculture is not a source, then the Coalition can request approval for closure of the associated management plan from the Executive Officer.

To request approval for completion of a Tier 3 management plan that was originally known to be caused in part or in whole by agricultural operations will require credible

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evidence that the issue has been resolved. The Central Valley Water Board will evaluate each request on a case-by-case basis. The following key components must be met to request completion:

- a) Demonstration through evaluation of monitoring data that exceedances are no longer occurring.
- b) Documentation of Coalition education and outreach to applicable growers in the watershed where water quality impairment occurred.
- c) Documentation of grower implementation of management practices that address the water quality problem.
- d) Demonstration that the management practices implemented by growers are effective in addressing the water quality problem.

When Executive Officer approval is given for completion of a management plan constituent, the constituent shall revert to regular, ongoing assessment monitoring and long-term trend monitoring requirements (See Attachment XX). The Coalition must also continue tracking on-going implementation of appropriate management practices by growers. If an exceedance of the constituent is observed following management plan completion, the Coalition must immediately notify Central Valley Water Board Staff and plan follow up actions to address the source and conduct outreach. The constituent must also be monitored according to an appropriate schedule and frequency during each of the following three years.

Any requests for management plan completion must summarize and discuss all information and data being used to justify completion and must be presented in technically sound and clearly written language. A management plan must receive Executive Officer approval for completion prior to the Coalition discontinuing any of the associated requirements.

VIII. Source Identification Study Requirements

For parameters where the irrigated agriculture contribution to water quality exceedances or degradation has not been established, the Coalition will develop and perform source identification studies to determine whether or not irrigated agriculture is a contributor to water quality impairment.

The minimum components for a source identification study are:

1. An evaluation of the types of commodities, practices, and locations that may be a source.
2. Continued monitoring at the management plan site and increased monitoring if appropriate.
3. An assessment of the potential pathways through which waste discharges can occur.
4. A schedule for conducting the study.

Commodity specific and/or management practice specific field studies (including edge-of field studies) may be required to approximate the contribution of irrigated agriculture. Where field studies are deemed appropriate, the Coalition should identify a reasonable number and variety of field study sites that are representative of the particular commodity or management practice being evaluated. The Coalition will not be required to provide the specific locations of field study sites, but will need to indicate the watershed and conditions of the study sites. At a minimum, the Coalition must evaluate the feasibility of field studies as part of their study proposal. If field studies are not proposed, the Coalition must demonstrate how the alternative source identification method will produce data that are equivalent or superior to field studies in being able to determine agricultural contributions to the water quality problem.

IX. Total Maximum Daily Load (TMDL) Management Plan Requirements

All TMDLs identified in the Basin Plan that apply to water bodies within the Coalition's geographic area and have agriculture as a source of impairment must be addressed by dischargers in the Coalition's region that have the potential to discharge to surface waters. The Coalition must develop and submit a strategy that addresses all Basin Plan requirements for a given TMDL and includes all management plan elements described above. The Coalition shall coordinate with Central Valley Water Board staff to develop a monitoring design for the TMDL. Follow-up actions must be identified by the Coalition if monitoring results show non-compliance with the TMDL.

TMDL monitoring, implementation, and follow-up actions must fully address TMDL requirements, and it is likely that additional resources will be needed by the Coalition to do so. Proposed monitoring and activities must not be limited to those being conducted for ILRP constituents.

X. Regional Management Plan Requirements

The Central Valley Water Board Executive Officer may require a regional approach to address some management plan constituents. A regional plan may be requested when management plans for a given parameter (e.g., *E. coli*) are common throughout the Central Valley region and when source identification studies will be more effectively carried out by more than one coalition. This approach is expected to more cost-effective and to result in the development of better methods to address the given type of management plan.

XI. Sediment Management Requirements

As part of their individual farm evaluations, all growers within the Central Valley region will be required to identify potential sources of erosion and sediment within their operations and develop a sediment and erosion control and prevention plan. All growers will be required to implement erosion control and prevention practices, where applicable, and to report on their activities to the Coalition annually. The Coalition must provide a summary of the reported sediment and erosion control practices implemented in their annual Management Plan Progress Report.