

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

INFORMATION SHEET
FOR
ORDER NO. R5-2008-_____
COALITION GROUP MONITORING AND REPORTING PROGRAM
UNDER AMENDED ORDER NO. R5-2006-0053
COALITION GROUP CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

I. REGULATORY BACKGROUND

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) adopts this Monitoring and Reporting Program Order (MRP Order) pursuant to California Water Code (Water Code) sections 13267 and 13269.

This Order is developed to conform to the “*Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program*,” May 2004 (NPS Policy). The NPS Policy identifies five key elements that must be utilized by NPS implementation program as follows:

ELEMENT 1: An NPS control implementation program’s ultimate purpose shall be explicitly stated. Implementation programs must, at a minimum, address NPS pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable anti-degradation requirements.

ELEMENT 2: An NPS control implementation program shall include a description of the MPs and other program elements that are expected to be implemented to ensure attainment of the implementation program’s stated purpose(s), the process to be used to select or develop MPs, and the process to be used to ensure and verify proper MP implementation.

ELEMENT 3: Where a RWQCB determines it is necessary to allow time to achieve water quality requirements, the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements.

ELEMENT 4: An NPS control implementation program shall include sufficient feedback mechanisms so that the RWQCB, dischargers, and the public can determine whether the program is achieving its stated purposes(s) or whether additional or different MPs or other actions are required.

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ELEMENT 5: Each RWQCB shall make clear, in advance, the potential consequences for failure to achieve an NPS control implementation program's stated purposes.

II. MRP PLAN OBJECTIVES

The Irrigated Lands Regulatory Program (ILRP) oversees implementation of the terms and conditions of the Coalition Group Conditional Waiver, including development of the Coalition Group Monitoring and Reporting Program Plan (MRP Plan). Attachment B, Section B, Item 4 of the Conditional Waiver lists the objectives (purposes) of the MRP Plan. These MRP Plan objectives are consistent with the NPS Policy and include the following:

1. To determine whether the discharge of waste from irrigated lands within the Coalition Group boundaries causes or contributes to exceedances of applicable water quality standards or causes nuisance;
2. To provide information about the Coalition Group area characteristics, including but not limited to, land use, crops grown, and chemicals used;
3. To monitor the effectiveness of management practices implemented to address exceedances of applicable water quality standards;
4. To determine which management practices are most effective in reducing wastes discharged to surface waters from irrigated lands;
5. To specify details about monitoring periods, parameters, protocols, and quality assurance;
6. To support the development and implementation of the Conditional Waiver;
7. To verify the adequacy and effectiveness of the Conditional Waiver's conditions; and
8. To evaluate the Coalition Group's compliance with the terms and conditions of the Conditional Waiver.

There are five Program questions identified in the MRP Order that will assist Coalition Groups in producing information to achieve these objectives. The MRP Plan and its associated Monitoring Strategy shall be designed to address the five Program questions identified in the MRP Order. The Monitoring Strategy shall describe the tasks and time schedule in which the Program questions will be addressed. The Regional Water Board recognizes that a Coalition Group may not be able to address all five Program questions at one time, given the complexity of agricultural discharges to surface waters and identification of sources, the process needed to assess effective management practices, and other issues.

The submittal of an acceptable MRP Plan that meets the requirements of this Order is a condition of the Coalition Group Conditional Waiver. The Coalition Group-specific MRP

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Plans will be reviewed by Regional Water Board staff (Staff) to determine if it meets or exceeds the minimum requirements of this MRP Order, and must be approved by the Executive Officer. If changes to the MRP Plans are needed, the Coalition Group will be notified and a schedule for providing those changes will be designated.

The Regional Water Board encourages the use of collaboration for the development of Coalition Group-specific MRP Plans. Frequent meetings held between Coalition Group representatives, Regional Water Board staff and other relevant stakeholders to discuss the critical aspects of the monitoring design, is considered to be the most efficient and effective strategy for plan development. This type of process can help increase the communications that are necessary to implement appropriate flexibility in monitoring design and schedules, can reduce any misinterpretation of the goals and objectives of the MRP Order, improve the acceptability of the final submitted MRP Plan, and provide for more rapid approval by the Regional Water Board.

In the event that agreement cannot be reached regarding the ability of the Coalition Group MRP Plan to meet the objectives and requirements of this MRP Order, the Executive Officer will issue a specific MRP Order to the Coalition Group with a deadline to fully implement the Plan.

III. MONITORING AND REPORTING ORDER NO. R5-2008- ____ STRUCTURE

The development of a science-based water quality monitoring program is critical to determine actual and potential impacts on water quality of waste discharges from irrigated lands and on beneficial uses of water in the Central Valley Region. Determining the existing ecological conditions of agriculturally dominated water bodies is a critical goal of a water quality monitoring program and should be achieved by multiple assessment tools such as toxicity, chemical monitoring, and bioassessment, as necessary. The MRP Plan is a part of the Regional Water Board Program to assess the impacts of these discharges on waters of the State, as well as to evaluate the efficacy of management practices that are being implemented.

The MRP Order is divided into three parts, as described below:

MRP Part I. Components of a Coalition Group-specific MRP Plan - The Coalition Group shall submit to the Regional Water Board a detailed MRP Plan that goes through the steps to answer the Program questions described in this Order, meets the requirements of this Order, and that demonstrates the Coalition Group's ability to comply with conditions of the Coalition Group Conditional Waiver, applicable TMDLs and Basin Plan requirements. Required components for a Coalition Group MRP Plan, including sample site selection and submittal of all information are described in Part I of this Order.

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Coalition Groups may develop an MRP Plan approach that differs from the approach described in this Order with respect to monitoring parameters, monitoring frequency, and follow-up to exceedances, providing that certain conditions are met as described below:

Variations in a Coalition Group-specific MRP Plan must:

- Be designed to answer the five Program questions described in this Order;
- Provide valid, scientific rationale for variations in monitoring parameters, frequency or follow-up to exceedances;
- Be approved by the Executive Officer.
- Demonstrate the Coalition Group's ability to comply with conditions of the Coalition Group Conditional Waiver, applicable TMDLs, and Basin Plan requirements.

MRP Part II. Monitoring Parameters and Schedule. Monitoring data must be collected by the Coalition Group in a format that provides a complete assessment of the conditions of waters of the State within the Coalition Group boundaries, and that provides an evaluation of trends in conditions over time. Special projects will be necessary to address TMDL water bodies, and Management Plan requirements. All data must be generated in accordance with a Quality Assurance Program Plan (QAPP), which must be included as part of the Coalition Group's MRP Plan. The Coalition Group's Monitoring Schedule and identified Monitoring Parameters shall include all elements of the schedule and waste constituent list that is described in Part II of this Order.

MRP Part III. Reporting Requirements

Routine reports include the initial Watershed Evaluation Report (WER) the Coalition Group's MRP Plan, the Quarterly Data Reports, and the Annual Monitoring Reports (AMRs) as described in Part III of the Order. Components of the AMR shall include an update on management practices and current chemical use reports. Exceedance Reports are required any time an exceedance occurs and Management Plans are required when more than one exceedance of a water quality standard occurs within a three-year period and when required by the Executive Officer.

IV. MONITORING AND REPORTING PROGRAM DESIGN

The design of the MRP Plan includes a Monitoring Strategy made up of Assessment Monitoring, Core Monitoring for tracking of trends, and Special Project Monitoring components. This monitoring design reflects an approach that will help address the ILRP objectives.

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The assessment monitoring is a key component of the Monitoring Strategy and shall consist of a more comprehensive suite of analyses including water column toxicity, pesticides and metals that will be used to assess the effects of irrigated agriculture on waters of the State within Coalition Group boundaries.

Assessment monitoring shall be used to obtain a comprehensive characterization and evaluation of water quality conditions within the Coalition Group boundaries. Sites shall be selected to represent varying sizes and flows of water bodies and land uses (e.g., agricultural activities, crops and pesticide use), focusing on diversity across the watershed, and must include water bodies that carry or directly or indirectly receive agricultural drainage into natural water bodies. Assessment Monitoring will include toxicity analyses in the water column and in sediment in order to provide information about the cumulative effects of multiple stressors on water column and sediment biota. Toxicity data also allows for water quality information regarding the effects of new-use chemicals or other contaminants that may not be included in the Coalition Group's Core monitoring program.

Assessment monitoring shall be used to provide supporting data for sites that a Coalition Group wishes to select as Core monitoring sites. Supporting data may also allow consideration for the use of some monitoring sites as being representative of other locations throughout the Coalition Group boundaries. In order to be considered 'representative', each Coalition Group must provide technically valid justification for the representative nature of the monitoring locations to include similarities in hydrology, crop types, pesticide use, etc. This 'representativeness' must also be supported by data from at least one full year of Assessment Monitoring. Each Coalition Group must provide this technical justification and identify which sites are to be considered to be representative of other designated sites in the MRP Plan, or in a subsequent technical report, that must be approved by the Executive Officer. When representative sites are approved, the monitoring data collected through the Core and Assessment monitoring shall be considered to 'represent' conditions at the referenced designated sites. Similarly, when action must be taken based on exceedances at the representative sites such as management practice implementation, the same action(s) shall be taken throughout the irrigated lands that are represented and contribute to the identified designated locations.

Core monitoring sites shall be selected from Assessment Monitoring locations and be used to track trends at selected representative sites over extended periods of time. Core monitoring shall occur at fixed stations and must include a repetition of the Assessment Monitoring analytical regime at a minimum of every three years. The purpose of periodically repeating Assessment Monitoring is to evaluate changes in land-use practices and provide information about long-term trends and effectiveness of the

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Monitoring and Reporting Program. Core monitoring shall not be limited to largest volume water bodies that would dilute contaminants that may be in higher concentrations in tributary streams and drainages. The Regional Water Board will also indicate additional Core Monitoring parameters should a particular pesticide, metal or toxicity test exhibit an exceedance of standards during the first year of Assessment monitoring. Should this occur, continued monitoring of that parameter(s) through the Core Monitoring cycles may be necessary in order to interpret whether or not there would be an exceedance of more than one parameter within a three-year period. Exceedances of standards more than once during a three year period triggers a Management Plan, pursuant to recent Regional Water Board action.

Bioassessment monitoring protocols are at the developing stage and there are no Basin Plan requirements or biocriteria to evaluate the results of bioassessment monitoring at this time. Coalition Groups are encouraged to conduct bioassessments to collect data that may be used as reference sites and to provide information for scientific and policy decision-making in the future. Bioassessments may serve a Coalition Group's monitoring needs through three primary functions: 1) screening or initial assessment of conditions; 2) characterization of impairment and diagnosis; and 3) trend monitoring to evaluate improvements through the implementation of management practices. Bioassessment data from all wadeable impaired water bodies may serve as a benchmark for measuring existing conditions and could provide evidence for the success of management practices. Bioassessment monitoring shall not be done at the expense of required MRP Order Assessment Monitoring.

Special Project Monitoring will include monitoring for implementation of a TMDL and will also provide the mechanism for each Coalition Group to implement Management Plans under Amended Order No. R5-2006-0053. A Management Plan is required when more than one exceedance of a parameter occurs at a site within a three-year period. The Executive Officer may require a Management Plan for any exceedance.

Special Project Monitoring via a Management Plan also provides relief from follow-up monitoring within 5 days of every exceedance, as well as the submittal of Evaluation and Compliance Reports required under MRP Order No. R5-2005-0833.

Although monitoring frequency can be reduced and tailored by technical rationale specific to the exceedance parameter, accountability for management practice implementation and periodic effectiveness monitoring are significant aspects of the Special Project Monitoring and must be addressed in detail.

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V. MRP ORDER DEVELOPMENT BACKGROUND

2003 MRP

On 11 July 2003, the Regional Water Board adopted Resolution No. R5-2003-0105, *Conditional Waivers of Waste Discharge Requirements for Discharges From Irrigated Lands Within the Central Valley Region (Conditional Waivers)* and associated Monitoring and Reporting Programs (MRPs). In August 2003, six agricultural interests and one environmental interest submitted petitions to the State Water Resources Control Board (State Water Board) regarding the Conditional Waivers and MRPs. On 22 January 2004, the State Water Board adopted Order WQO 2004-0003, which upheld the Conditional Waivers and MRPs with minor revisions. The Conditional Waivers expired on 31 December 2005.

In April 2005, staff began outreach efforts by holding meetings and public workshops and participating in site tours to obtain feedback on how the Program has worked and what modifications should be considered. Staff evaluated this feedback; the analytical results from the Phase I and II UC Davis sampling and the monitoring conducted by Coalition Groups, Individual Dischargers, and Water Districts; the Irrigated Lands Programs in other Regions; and the State Water Board's Non Point Source Policy in an effort to improve the Conditional Waivers and MRPs.

2005 Tentative MRP

On 5 October 2005, staff circulated for a 30-day public comment period Tentative Renewal Documents consisting of Orders, Attachment A and Attachment B for Coalition Groups and Individual Dischargers and three MRPs for Coalition Groups, Individual Dischargers, and Water Districts enrolled as Individual Dischargers.

The comment period ended on 4 November 2005, and based on the comments received by the Regional Water Board and the complexity of the issues related to the Conditional Waivers, stakeholders and staff agreed to take the proposed MRPs to the Technical Issues Committee to discuss resolution of outstanding issues and develop the framework for the revised MRPs.

Technical Issues Committee

The ILRP Technical Issues Committee (TIC) brings together Coalition Group representatives, consultants, and other stakeholders who have technical expertise and/or an interest in the Coalition Group MRP. Monthly TIC meetings and multiple TIC Focus Group meetings were held since December 2005 to consider technical issues, develop options, and make recommendations for revisions to the Coalition Group MRP. The TIC developed fifteen recommendations, all of which were considered in development of this Order.

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Stakeholder MRP Discussions

The Regional Water Board held publicly-noticed stakeholder meetings in January, February and March 2007 to discuss non-technical aspects of the Coalition Group and Individual Discharger MRP Orders. The first five meetings were held on 9 and 23 January, 6 and 20 February, and 8 March of 2007 in the Water Board office in Rancho Cordova. All meetings were well attended. These meetings were designed to provide opportunity for stakeholders to express their concerns with the existing MRP Orders and provide solutions or alternatives that would make the monitoring and reporting process more effective and efficient. These meetings also allowed ILRP staff to provide feedback and information, and to answer stakeholder questions before the Tentative Coalition Group and Individual Discharger MRPs were finalized.

Third Party Technical Review

The Southern California Coastal Water Research Project (SCCWRP), represented by Dr. Brock Bernstein, independently reviewed the draft MRP. The purpose of this external review was to obtain a third party assessment of the technical soundness of the proposed monitoring and reporting program framework. In his review of the draft MRP, Dr. Bernstein concluded that all necessary components of a monitoring plan framework were present and he could effectively address many specific concerns by preparing a guidance document in collaboration with the TIC. Dr. Bernstein facilitated four TIC meetings (23 July, 14 August, 11 September, and 9 October 2007) to obtain input from the TIC and other stakeholders and discuss the guidance document. The result is a guidance document that provides additional clarity for preparation of a MRP Plan and implementation of the MRP Order. In addition, the guidance document provides a structure for understanding the relationship among the various elements of the MRP.

VI. TIC PROCESS FOR DEVELOPING RECOMMENDATIONS

A specific protocol for reviewing and adopting the TIC recommendations was developed by the TIC members. First, recommendations were developed by one of the three focus groups: Toxicity Triggers Focus Group, Sediment Toxicity Focus Group, or Lab Round Table Focus Group. Focus group members collaborated to develop background information and a justification for each recommendation, as well as the specific recommendation language. Second, upon completion each recommendation was presented at a TIC meeting. During the meeting, TIC members provided comment, asked questions and stated any disagreement they may have with a recommendation. Third, if no changes or only very minor changes were needed in a recommendation, it was to be brought forth at the next TIC meeting for final consensus by the TIC. If a recommendation needed significant revision based on TIC member comments, it was revised and presented again at the next TIC meeting for further discussion and comment. This process was repeated as many times as needed. Lastly, when

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consensus was reached, each recommendation was forwarded to Regional Water Board staff for review and comment.

The TIC initially developed a list of technical topics that it proposed to address, and established TIC Focus Groups to develop recommendations on the specific topics. Over the course of 13 months, 15 different recommendations were proposed, adopted by the TIC and forwarded to Regional Water Board staff as recommendations.

The recommendations by the TIC have been taken into consideration, and in many instances utilized fully, in the development of the MRP Order. For this reason, the Order is intended to improve each Coalition Group's ability to achieve the ILRP goals and to build appropriate linkages between the monitoring activities and answers to the five Program questions identified in the MRP Order.

Some of the TIC recommendations had to do with providing the opportunity for Coalition Groups to propose Coalition Group-specific approaches to monitoring, pending approval by the Executive Officer of scientifically valid alternatives. Based on the TIC recommendations, the MRP Order continues to allow for Coalition Group-specific approaches to monitoring.

VII. OTHER CHANGES IN MRP MINIMUM MONITORING REQUIREMENTS

- A. Regional Water Board staff made changes to the October 2005 Tentative MRP table which lists the minimum monitoring requirements in addition to those recommended by the TIC. These changes are as follows:
- Pyrethroids in water, which were removed due to the hydrophobic nature of the pesticides. Their detection is much greater in the sediment. Sufficient sediment will be collected when the sediment toxicity tests are processed so that pyrethroids can be analyzed if the sediments indicate the presence of toxicity. Water column monitoring for pyrethroids has been conducted and are detected relatively infrequently.
 - Pyrethroids in sediment will be tested only when tests indicate the presence of significant toxicity. Sufficient sample volume will be collected during toxicity sample collection to allow for pesticide analyses if necessary.
 - TOC in sediment was added to provide more complete information to evaluate sediment toxicity.

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- Monitoring for Color, which was required under MRP Order RB5-2003-0833, was removed due to the fact that Total Suspended Solids and turbidity are more applicable measurements.
 - Fenproprathin (a pyrethroid) was added to the sediment monitoring, which should be conducted following sediment toxicity. This is a TIC recommendation, and it was based on the premise that fenproprathin is a commonly used agriculture pyrethroid.
 - Molybdenum was added because it is often added as a soil enhancement for alfalfa and melons, and some of the water bodies in the Central Valley are CWA 303(d) listed for molybdenum.
 - Unionized ammonia was added to the MRP list because the Tulare Lake Basin has a numeric limit for unionized ammonia and not total ammonia. This does not constitute an additional analysis, as it is calculated from total ammonia using pH and temperature. Those parameters are already on the monitoring list.
 - Trifluralin was added to the list of herbicides monitored in the water column because it has been detected in many samples collected by the Coalition Groups at concentrations that warrant further investigation. Trifluralin is a pre-emergent pesticide that is typically applied between September 1 and December 31.
 - The importance of pathogen monitoring in waterbodies receiving agricultural discharges has been emphasized over the past year for various reasons. A number of Water Board programs and the Coalition Groups have been collecting pathogen indicator water quality data. The results of this information have identified pathogens as an emerging water quality issue in many water bodies of the Central Valley Region. For this reason, it is critical to continue to monitor for indicator bacteriological parameters. This MRP Order includes minimum monitoring requirements for both *E-coli* and fecal coliform.
 - Photo-monitoring was added to the monitoring requirements, because it provides valuable information to validate a Coalition Group's discussions regarding monitoring site conditions. This was a component of several of the TIC recommendations.
- B. Required laboratory reporting limits are defined and specified in this Order in the requirements for Quality Assurance Program Plans (QAPPs) to ensure optimum consistency in laboratory data reporting within the ILRP. The following steps were used to identify specific method detection limits (MDLs) and reporting limits (RLs).

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- Review of quantitation levels that were being reported by laboratories for Coalition Group and Individual Discharger monitoring.
- Evaluation of quantitation levels necessary to comply with water quality standards.
- Survey of a larger pool of laboratories to determine what can be reasonably achieved.
- Decision-making when the existing commercial laboratory levels are higher than water quality standards. Decision-making also includes the feasibility of commercial laboratories to develop the capabilities to achieve the needed detection levels.
- Development of the tabulated list of minimum monitoring requirements with reporting limit requirements, included in Attachment C.

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