

EVOLVING APPROACHES TO REGULATION OF DISCHARGES FROM IRRIGATED LANDS IN THE CENTRAL VALLEY

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ABSTRACT

It has been a year since the Central Valley Regional Water Quality Control Board adopted a conditional waiver of waste discharge requirements for irrigated lands in the Central Valley. There was a predecessor, a waiver adopted in 1982 for multiple categories of waste discharges, including agricultural discharges. There is now a successor as well, in the form of two conditional waivers. Further, the Central Valley Regional Water Quality Control Board has directed staff to prepare an Environmental Impact Report and start developing a ten-year program. The process in developing and refining an approach to address agricultural discharges has been, and will continue to be, a dynamic and evolving one. It is important that industry, academic and agency representatives involved in addressing nonpoint source pollution, resource management and agricultural production are fully engaged to inform this process.

Regional Water Quality Control Boards regulate discharges of waste primarily through issuance of waste discharge requirements and National Pollutant Discharge Elimination System permits. The California Water Code provides that anyone discharging or proposing to discharge waste that could affect water quality must file a report of waste discharge. This includes irrigation return flows and storm water runoff from agricultural lands. Regional Water Quality Control Boards can waive the requirement for waste discharge requirements for a specific discharge or type of discharge, where such a waiver is not against the public interest. On July 11, 2003, the Central Valley Regional Water Quality Control Board adopted Resolution No. R5-2003-0105 which adopted two interim conditional waivers that expire on December 31, 2005. One conditional waiver is for Coalition Groups and the other is for individual dischargers to comply with the California Water Code and the Regional Board plans and policies. Resolution No. R5-2003-0105 is a first or interim step in an evolving irrigated lands program. These next few years will be about building the foundation for the ten-year program. It will involve the organization of groups, the formation or strengthening of partnerships for collaborative efforts, watershed assessment and planning, water quality monitoring, and implementation and evaluation of management practices to ensure the beneficial uses of the waters of the state are protected.

Key Words: Coalition Group, conditional waiver, irrigated lands, waste discharge requirements

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INTRODUCTION

The State Water Resources Control Board (State Board) and Regional Water Quality Control Boards (Regional Boards) are responsible for ensuring compliance with both federal and state water quality laws, the Clean Water Act and Division 7 of the California Water Code², respectively. The State Board was created by the Legislature in 1967 and its primary functions are water quality protection and water rights allocation. It also serves as an appellate body for Regional Board decisions. There are nine Regional Boards. The mission of the Regional Boards is to develop and enforce water quality objectives and implementation plans that will best protect the beneficial uses of the state's waters, recognizing local differences in climate, topography, geology and hydrology. Regional Boards develop pollution control plans (Basin Plans) for their hydrologic areas that identify water bodies within their geographic region and beneficial uses for those bodies, objectives to protect those uses, and implementation plans to achieve those objectives. The Regional Boards have principal authority for permitting and enforcing pollution control requirements for any discharge to surface water or groundwater. They issue National Pollutant Discharge Elimination System (NPDES) permits and waste discharge requirements to control discharges from both point and non-point sources, take enforcement action against violators, and monitor water quality.

The California Water Code provides that anyone discharging or proposing to discharge waste that could affect the quality of the waters of the state must file a report of waste discharge.³ This includes irrigation return flows and storm water runoff from agricultural lands.⁴ After receipt of a report of waste discharge, Regional Boards have a statutory obligation to prescribe waste discharge requirements or an NPDES Permit Order.⁵ A Regional Board may waive the requirement for waste discharge requirements for a specific discharge or type of discharge where such a waiver is not against the public interest.⁶

APPROACHES FOR ADDRESSING DISCHARGES FROM IRRIGATED LANDS

In 1982, the Central Valley Regional Water Quality Control Board (Regional Board) adopted Resolution No. 82-036 “*Waiving Waste Discharge Requirements For Specific Types Of Discharge.*” The resolution listed 23 categories of waste discharges, including irrigation return flows and storm water runoff from agricultural lands. This waiver had conditions, but due to insufficient resources, verification that dischargers were complying with conditions was not conducted, and thus the 1982 waiver was largely a passive program.

² Commonly known as the Porter-Cologne Water Quality Control Act.

³ California Water Code § 13260.

⁴ Waste is broadly defined in the California Water Code as, “[s]ewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.” (California Water Code § 13050(d).) “Waste” includes return flows from irrigated agriculture and drainage water from agricultural operations. (See 27 Ops.Cal.Atty.Gen. 182 (1956); 43 Ops.Cal.Atty.Gen. 302, 304 (1964); 48 Ops.Cal.Atty.Gen. 30, 34 (1966).)

⁵ NPDES permits are issued for point source and municipal storm water discharges, but irrigation return flows and storm water discharges from irrigated lands are currently exempted from the NPDES permit program.

⁶ California Water Code § 13269.

In 1999, Senate Bill 390 was adopted and changed the section of the California Water Code authorizing waivers of waste discharge requirements. As a result of the changes, all waivers in place on January 1, 2000 would sunset January 1 2003 if the Regional Board had not readopted them. This change in the law meant that the 1982 waiver would sunset. Additionally, waivers could no longer exceed five years in duration.

In the fall of 2001, the Regional Board directed staff to prepare recommendations on how to regulate this category of discharges by the end of 2002. Agricultural representatives during this process expressed the desire for retaining regulatory oversight within the framework of a waiver as an option. After a series of public workshops and hearings, on December 5, 2002, the Regional Board adopted Resolution No. R5-2002-0201 and the associated two-year conditional waiver of waste discharge requirements for discharges to surface water from irrigated lands. Public comment on the December conditional waiver was significant and came from a broad spectrum of interests. Additionally, Regional Board members had questions on certain aspects of the newly adopted waiver. At the December meeting, the Regional Board directed staff to consider comments and questions, and synthesize this input into key issues, to analyze these issues, and provide options and recommendations that could address them. Modifications to the waiver were proposed in April 2003, and based upon further public comment and Regional Board direction, further modifications were proposed in June 2003.

On July 10, 2003, the Regional Board rescinded Resolution R5-2002-0201 and on July 11, 2003, adopted Resolution R5-2003-0105. Resolution R5-2003-0105 adopted two conditional waivers to clarify conditions contained in the December 2002 waiver. Under Resolution R5-2003-0105, one conditional waiver is for Coalition Groups or other entities that form on behalf of individual dischargers to comply with the California Water Code and the Regional Board plans and policies. The second conditional waiver is for individual dischargers. Both waivers apply to discharges to surface water, require water quality monitoring, implementation and evaluation of management practices to address water quality problems, and reporting to the Regional Board. Applying for coverage under these waivers is not mandatory. The adoption of these waivers essentially means that owners and operators of irrigated lands now have three options for obtaining regulatory coverage for their waste discharges - group waiver coverage, individual waiver coverage, or filing a report of waste discharge and receiving individual waste discharge requirements.

Why a Group Approach?

Incorporating a group model in a regulatory program is a new approach for the Regional Board. Before discussing the factors involved in developing and implementing a program to address water quality impairments from agricultural discharges, we must first put in perspective the scope and complexity of this undertaking. Consider the following points:

- There are over 7 million acres of irrigated lands in the Central Valley,⁷ with over \$12 billion gross value of agricultural production in 2002.⁸

⁷ Bulletin 160-98 California Water Plan, California Department of Water Resources, 1998.

⁸ Summary of County Agricultural Commissioners' Reports, Gross values by Commodity Groups – California 2001-02, September 2003, California Agricultural Statistics Service.

- Preliminary estimates placed the number of irrigated lands dischargers at over 25,000; industry representatives have indicated the number is potentially two to three times that figure.
- In an assessment conducted in the early 1990s, in the three hydrologic basins in the Central Valley, there were 160 Category (b) natural water bodies, comprising a total of 1,512 miles, dominated by agricultural drainage and/or agricultural supply water, and 6,291 Category (c) constructed agricultural channels with a total length of 19,812 miles.⁹
- Agricultural discharges can commonly carry higher levels of sediment, pesticides, nutrients, salt, and trace elements, and can alter temperature. These constituents and effects can degrade the natural environment, diminish the health and diversity of wildlife, and impact aquatic life.
- Agricultural discharges can also carry constituents of concern for drinking water providers, including total dissolved solids, total organic carbon and pathogens.
- In 2001, over 100 million pounds of pesticide active ingredients were used in the Central Valley Region.¹⁰
- The 2002 CWA section 303(d) list of water quality limited segments lists over 40 water quality limited segments within the Central Valley Region as impaired from agricultural sources. This translates to impairment of over 800 miles of waterways in the Central Valley and over 40,000 acres in the Sacramento-San Joaquin Delta, and these are just the impairments that have been documented to date.
- In 1998, it was estimated that just 7.5% of waters inventoried in the state have been assessed.¹¹

Factor into this the significant variety of crops grown and types of irrigated land operations in the Central Valley, and regional differences in cultural practices, pest pressures, hydrology, climate, soil type, etc. Given all of these factors, the Regional Board recognizes that addressing water quality impairments from agricultural discharges will be a long-term process. It also recognizes that efficient use of resources will be of critical importance for the agency, and for owners and operators of irrigated lands.

⁹ Staff Report: Considerations of Water Body Designations to Comply with the Provisions of the Water Quality Control Plan for ISWP, California Regional Water Quality Control Board, Central Valley Region, 1992.

¹⁰ Pesticide Use Reports (PUR), 2001, Department of Pesticide Regulation (DPR). According to a DPR October 16, 2002 press release, reported uses include production agriculture and postharvest fumigation of crops, structural pest control, landscape maintenance, and other uses; reporting exempts home and garden applications of pesticides, and most industrial and institutional uses; production agriculture accounts for most reported pesticide uses. (PUR information can be accessed at: <http://www.cdpr.ca.gov/docs/pur/purmain.htm> The press release can be accessed at: <http://www.cdpr.ca.gov/docs/pressrls/october16.htm>).

¹¹ Strategic Vision, California Environmental Protection Agency, July 2000, p.6.

A key benefit in a group or regional approach is that the Regional Board can provide regulatory oversight for irrigated lands discharges with fewer staff and resources. It has been estimated that a staff of 500 would be required if individual waste discharge requirements were the sole regulatory tool implemented for these discharges.¹² This was based upon the estimate of 25,000 dischargers – with the recent information from industry representatives that the number of dischargers is far higher, we can expect the number of staff required to be higher. With a group approach as an option for dischargers, it has been estimated that somewhere between 10 to 30 staff would be needed, depending upon the number of groups and individuals that apply for coverage under the waivers.¹³

This approach can also be more efficient and cost effective for owners and operators of irrigated lands by having groups conduct the monitoring on a regional scale and prepare the reports for submission to the Regional Board. Further, some water quality issues can be best addressed on a regional scale. Storm water is one example. Landowners and operators are not responsible for waste discharges that occur upstream of their property, but they are responsible for any waste discharged from their operations. This means that monitoring conducted by individuals would need sample collection sites upstream and downstream of their operations to determine the waste loads their operations are contributing. With a group approach that incorporates regional monitoring, samples can be collected at representative sites within the watershed to identify where and to what extent water quality problems exist. Where problems are identified, monitoring can then be conducted to identify sources. This is a more efficient approach than having every owner and operator monitoring upstream and downstream of their operations.

What is a Coalition Group?

A Coalition Group is any group receiving Regional Board approval for their plan to address water quality problems resulting from waste discharges from irrigated lands. What has developed is Coalition Groups covering broad areas within the Central Valley, with smaller local groups that will operate under the umbrella of these larger regional groups. At this juncture, groups appear to vary greatly in size and composition. In addition to groups forming on a regional basis, the California Rice Commission has submitted a notice of intent for coverage under the waiver for Coalition Groups.¹⁴ Leadership in the Coalition Groups and smaller local groups includes water districts, agencies, associations and authorities; Resource Conservation Districts; the California Farm Bureau Federation; County Agricultural Commissioners; local growers; the Coalition for Urban/Rural Environmental Stewardship; and other industry representatives. Participation by commodity groups, UC Cooperative Extension farm advisors and other university representatives, the Natural Resource Conservation Service and others with expertise in addressing nonpoint source pollution, resource management, agricultural production, management practice development and evaluation, technology transfer to growers, water quality monitoring, etc., will also be highly beneficial.

¹² A Review of Options for Controlling Discharges from Irrigated Lands: Irrigation Return Water, Storm Water Runoff, Regional Water Quality Control Board, Central Valley Region, July 2001.

¹³ Staff Presentation to the Central Valley Regional Water Quality Control Board: Irrigated Lands Conditional Waiver; 24 April 2003. This estimate was based upon the assumption that the number of applicants for waiver coverage (groups and individuals) would range between 100 to 1000. The staff presentation can be accessed at: http://www.swrcb.ca.gov/rwqcb5/programs/irrigated_lands/AgWBoardPres.pdf.

¹⁴ This group incorporates regional aspects also in that it will be focused on rice operations in the Sacramento Valley, building on the existing rice pesticide program.

Waiver conditions focus on the nature and quality of the information the Coalition Groups must generate and the activities they undertake to ensure water quality objectives are met and beneficial uses are protected. It is not as important what the Coalition Groups look like or how they choose to operate. What is important is the information they develop, and the monitoring and implementation activities they conduct. Thus, Coalition Group “form” conditions were not incorporated into the waiver. Further, what these groups look like will most likely vary greatly depending upon the individuals in the given localities and organizational structures/efforts that may already exist. Coalition Groups and local groups should be afforded flexibility to determine what structure and operations will work best for their respective areas in developing locally driven efforts to address water quality issues within their watersheds. Thus, waiver conditions are centered on information and activities.

Industry representatives have expressed concern that these groups should not be put in the position of being “water cops.” The California Water Code does not authorize a delegation of such responsibility to a group. The waiver for Coalition Groups **does not** result in Coalition Groups stepping into the shoes of the dischargers and becoming the responsible party for all discharges by members of the Group. Under the waiver, the individual dischargers participating in a Coalition Group remain ultimately responsible under the California Water Code for their discharges and for compliance with waiver conditions. The role of Coalition Groups and the local groups can best be viewed as facilitators, assisting the individual discharger members in complying with the law and waiver conditions.

Environmental representatives have expressed concern that large groups can be unwieldy and ineffective, and thus the waiver should include specific group criteria or requirements. We recognize this concern. Smaller local groups have formed and are operating under the umbrella of the larger Coalition Groups which may address this concern, and the Regional Board will evaluate the effectiveness of the Coalition Groups and the smaller local groups as the work progresses.

CONSIDERATIONS FOR THE FUTURE

With the changes Senate Bill 390 brought to the law with respect to waivers, and the mounting body of data documenting water quality impairments from agricultural discharges, the passive approach of the 1982 waiver is no longer viable. Given the scope and complexity involved in developing and implementing a program to address water quality impairments from agricultural discharges, and the desire to use resources efficiently, a group model has been incorporated the Regional Board’s approach. It is expected that fully addressing water quality impacts from agricultural discharges will be a longer-term effort than the time span of the July 2003 waivers.¹⁵ To this end, the Regional Board has directed staff to prepare an environmental impact report and develop a ten-year program for bringing irrigated lands discharges into compliance with water quality objectives. The waivers adopted in July 2003 are a preliminary or initial step, focused on building the foundation upon which the longer-term program can rest.

¹⁵ The July 2003 waivers expire December 31, 2005.

Given the number and variety of operations in the Central Valley that fall within the definition of “irrigated lands,” regional differences in operations and conditions, and regional differences that may exist in water quality conditions throughout the region, different or refined approaches, and different regulatory tools, may need to be incorporated in the ten-year program. Other tools authorized by the California Water Code include industry specific waivers, general waste discharge requirements (general orders), individual waste discharge requirements and prohibitions of discharge. The Regional Board has directed staff to prepare a draft general order so it may begin evaluating and comparing the various tools available.¹⁶

The Regional Board recognizes that there are irrigated lands operations that may constitute a lower threat to water quality and thus warrant lower regulatory oversight. Another tool staff would like to develop is a “low threat” waiver. A draft has been developed, but given existing staff resource limitations, a finalized low threat waiver, complete with the analysis required by the California Environmental Quality Act and ready for Regional Board consideration and adoption will not be available in the near term. A key issue with the low threat waiver will be the identification of the types of operations and conditions that would be appropriate for a low threat waiver. To determine this, data demonstrating that these operations and conditions have discharges that are a lower threat to water quality and truly warrant lesser regulatory oversight will be needed. We will need industry representatives to assist in identifying existing data and/or to help develop the data that will be needed for this analysis, along with their recommendations and proposals for the nature of the monitoring and reporting that they believe would be appropriate. This analysis will need to incorporate more than just criteria based upon crop type, operation size, pesticide and fertilizer inputs, practices being used, etc., but also the type of water bodies potentially impacted by the discharges and the water quality impacts from the discharges. The work being conducted under the July 2003 waivers by the Coalition Groups and local groups can potentially develop information that can feed into the “low threat” analysis.

Some have commented that ideally the waivers would incorporate not just irrigated lands, but be expanded to cover dry land farming and non-irrigated pasture as well, to provide for a more fully inclusive watershed approach in addressing agricultural discharges. When developing the existing waivers, staff prioritized and the “irrigated land” criteria provided regulatory coverage for a majority of agricultural discharges. The position on expansion has merit however, and will be brought to the Regional Board’s attention. Whether the existing waivers should be reopened and modified to include these types of operations, or if it would be more appropriate to address these operations after December 2005 (when the existing waivers expire) is a question for the Regional Board.

Optimally, these next few years will be about building the foundation for the ten-year program. It will involve the organization of groups, the formation or strengthening of partnerships for collaborative efforts, watershed assessment and planning, water quality monitoring, and implementation and evaluation of practices - activities that will support locally driven program efforts for resource and watershed management to ensure the beneficial uses of the waters of the

¹⁶ This draft general order will be presented to the Regional Board in January 2004 as an information item only (i.e., the order will not be at a stage where it could be adopted by the Regional Board because the work required for compliance with the California Environmental Quality Act will not have been completed).

state are protected. The information developed during this first phase, this interim period of the July 2003 waivers, will assist this evolving process.