

Order R5-2013-0120-09

Waste Discharge Requirements General Order for Growers within the Tulare Lake Basin Area that are Members of a Third-Party Group

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Order R5-2013-0120-09

Waste Discharge Requirements General Order for Growers within the Tulare Lake Basin Area that are Members of a Third-Party Group

The California Regional Water Quality Control Board, Central Valley Region (hereafter, Central Valley Water Board or Water Board), finds that:

Findings

Scope and Coverage of this Order

1. This Order serves as general waste discharge requirements (WDRs) for waste discharges from irrigated lands (or “discharges”) that could affect ground and/or surface waters of the state. The discharges result from runoff or leaching of irrigation water and/or stormwater from irrigated lands. Discharges can reach waters of the state directly or indirectly.¹
2. This Order applies to owners and operators of irrigated lands within the Tulare Lake Basin, excluding the area of the Westlands coalition (hereafter the Tulare Lake Basin Area). Either the owner or operator may enroll an irrigated lands parcel under this Order. The owners or operators that enroll the respective irrigated lands parcels are considered members of a Third-Party representing all or a portion of this area (hereinafter “Members”). The Member is required to provide written notice to the non-Member owner or operator that the parcel has been enrolled under the Order. Enforcement action by the Board for non-compliance related to an enrolled irrigated lands parcel may be taken against both the owner and operator. This Order applies throughout the Tulare Lake Basin Area, within which one or more third parties may represent Members based on geographic area. If multiple Third-Parties apply to serve different portions of the Tulare Lake Basin Area, the applications, along with the proposed boundaries of Third-Party responsibility, shall be coordinated to ensure that all areas within the Tulare Lake Basin Area may be represented by a Third-Party.
3. The Tulare Lake Basin Area is bounded by the crest of the Sierra Nevada Mountain Range to the east, the San Joaquin River to the north, the Westlands coalition and the crest of the Southern Coast Ranges to the west, and the crest of the San Emigdio and Tehachapi

¹ Definitions for “waste discharges from irrigated lands,” “waste,” “groundwater,” “surface water,” “stormwater runoff,” and “irrigation runoff,” as well as all other definitions, can be found in Attachment E to this Order. It is important to note that irrigation water, the act of irrigating cropland, and the discharge of irrigation water unto itself is not “waste” as defined by the California Water Code, but that irrigation water may contain constituents that are considered to be a “waste” as defined by California Water Code section 13050(d).

Mountains to the south. This area is referred to as the “Tulare Lake Basin Area”, or “Order watershed area” in this Order. See Figure 1 for a map of the Tulare Lake Basin Area.

4. “Irrigated lands” means land irrigated to produce crops or pasture used for commercial purposes including lands that are planted to commercial crops that are not yet marketable (e.g., vineyards and tree crops) and nurseries.
5. This Order is not intended to regulate water quality as it travels through or remains on the surface of a Member’s agricultural fields or the water quality of soil pore liquid within the root zone.²
6. This Order does not apply to discharges of waste that are regulated under other Central Valley Water Board issued WDRs or conditional waiver of WDRs (waiver). If the other Central Valley Water Board WDRs/waiver only regulate some of the waste discharge activities (e.g., application of treated wastewater to crop land) at the regulated site, the owner/operator of the irrigated lands must obtain regulatory coverage for any discharges of waste that are not regulated by the other WDRs/waiver. Such regulatory coverage may be sought through enrollment under this Order or by obtaining appropriate changes in the owner/operator’s existing WDRs or waiver.
7. This Order implements the long-term Irrigated Lands Regulatory Program (ILRP) in the Tulare Lake Basin Area. The long-term ILRP has been conceived as a range of potential alternatives and evaluated in a programmatic environmental impact report (PEIR).³ The PEIR was certified by the Central Valley Water Board on 7 April 2011; however, the PEIR did not specify any single program alternative. The regulatory requirements contained within this Order fall within the range of alternatives evaluated in the PEIR. This Order, along with other orders to be adopted for irrigated lands within the Central Valley, will constitute the long-term ILRP. Upon adoption of this Order, Order R5-2006-0053, Coalition Group Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Coalition Group Conditional Waiver), is rescinded as applied to irrigated lands within the Tulare Lake Basin Area. Existing Members that had previously enrolled under the Coalition Group Conditional Waiver will be enrolled under this Order upon timely submittal of a Notice of Confirmation (see section VII.A of this Order).
8. This Order implements the Salt and Nitrate Control Program for the Central Valley, which was incorporated into the Central Valley Water Board’s *Water Quality Control Plan for the Tulare Lake Basin* (hereafter Basin Plan) on 17 January 2020. The Salt and Nitrate Control Program is designed to address both legacy and ongoing salt and nitrate

² Water that travels through or remains on the surface of a Member’s agricultural fields includes ditches and other structures (e.g., ponds, basins) that are used to convey supply or drainage water within that Member’s parcel or between contiguous parcels owned or operated by that Member.

³ ICF International. 2011. *Irrigated Lands Regulatory Program, Program Environmental Impact Report*. Final and Draft. March. (ICF 05508.05.) Sacramento, CA. Prepared for: Central Valley Regional Water Quality Control Board, Sacramento, CA.

accumulation issues in surface and groundwater. The over-arching management goals and priorities of the control program are to:

- a) Ensure safe drinking water supply
 - b) Reduce salt and nitrate loading so that ongoing discharges neither threaten to degrade high quality waters absent appropriate findings by the Central Valley Water Board nor cause or contribute to exceedances of water quality objectives⁴
 - c) Implement long-term, managed restoration of impaired water bodies
9. For the purposes of implementing the Nitrate Control Program, the Basin Plan has established priority designations for select groundwater basins/sub-basins. These priority designations will dictate timelines for certain requirements under this Order and associated Monitoring and Reporting Program Requirements. A community or permittee may request that the Central Valley Water Board advance or defer the issuance of Notices to Comply for a basin, sub-basin, or portion of a sub-basin. For requests to change a Notice to Comply issuance timeline, the Central Valley Water Board will make a decision for all requests that include a basin, sub-basin, or portion of a sub-basin that is in a previously designated Priority Basin. The Executive Officer will make a decision for a request to change a Notice to Comply issuance timeline if the request is for a basin, sub-basin, or portion of a sub-basin that is not in a previously designated Priority Basin. Requests for deferrals must be provided no later than six months prior to the scheduled issuance of a Notice to Comply.

Growers Regulated Under this Order

10. This Order regulates both landowners and operators of irrigated lands from which there are discharges of waste that could affect the quality of any waters of the state. In order to be covered by this Order, the landowners or operators must be Members. Because this Order regulates both landowners and operators, but does not require enrollment of both parties, the provisions of this Order require that the Member provide notification to the non-Member responsible party of enrollment under this Order. A Third-Party group representing Members will assist with carrying out the conditions of this Order. Both the landowner and operator are ultimately responsible for complying with the terms and conditions of this Order.
11. A Third-Party entity proposing to represent Members in the Tulare Lake Basin Area, or a portion thereof, (the Third-Party) is required to submit to the Central Valley Water Board an application to represent growers within this Order's coverage area or identify the area the Third-Party proposes to cover. The Third-Party representation will become effective upon Central Valley Water Board Executive Officer approval of the Third-Party's application. If a Third-Party proposes to cover a portion of the Order's coverage area, the Executive Officer will determine and identify the geographic area covered by the Third-

⁴ This provision is a requirement in the revised Salt and Nitrate Control Program that was adopted by the Central Valley Water Board in December 2020 and is pending approval by the State Water Board, the Office of Administrative Law (OAL), and the U.S. Environmental Protection Agency (USEPA).

Party in the Notice of Applicability. The Southern San Joaquin Valley and Buena Vista Water Quality Coalitions served as the Third-Party groups representing owners and operators of irrigated lands within the Order watershed area during the interim irrigated lands regulatory program, Order R5-2006-0053 (Coalition Group Conditional Waiver).

12. The Third-Party on behalf of its enrolled members will be responsible for fulfilling the regional requirements and conditions (e.g., implementation of the Salt and Nitrate Control Program, surface and groundwater monitoring, regional management plan development and tracking) of this Order and associated Monitoring and Reporting Program Order R5-2013-0120-09 (MRP). By retaining its Third-Party membership or establishing a new membership, a Member is agreeing to be represented by the Third-Party for the purposes of this Order. Any requirements or conditions not fulfilled by the Third-Party are the responsibility of the individual Member. The Member and non-Member owners and operators are responsible for conduct of operations on the Member's enrolled property.
13. To enroll under this Order, a grower that is not a current Member will obtain membership in the applicable Third-Party group (see section VII.A of this Order for specific requirements).

Reason for the Central Valley Water Board Issuing this Order

14. The Tulare Lake Basin Area has approximately 2.89 million acres of cropland under irrigation⁵ and approximately 10,700 growers⁶ with "waste discharges from irrigated lands," as defined in Attachment E to this Order. Currently, approximately 350,000 acres are regulated under the Water Board's General Order for Existing Milk Cow Dairies (R5-2007-0035) and 1.04 million acres are regulated under the Coalition Group Conditional Waiver. Approximately 7,200 new growers and an additional 1,500,000 associated irrigated acres will require regulatory coverage under this Order or other WDRs or waivers. Small Farming Operations are those with a total farming operation that comprises less than 60 acres of irrigated land. In counties within the Tulare Lake Basin Area, Small Farming Operations are operated by approximately 58 percent of the growers, but account for approximately 4.6 percent of the total irrigated lands.⁷
15. The Tulare Lake Basin Area region contains all or portions of seventeen groundwater basins/sub basins and has approximately 10,600 linear miles of surface water courses that are, or could be, affected by discharges of waste from irrigated lands. This does not include surface water courses in the foothill and mountainous regions of the Third-Party area, where there are few irrigated lands operations. Discharges of waste from irrigated

⁵ Calculated using values reported in the ICF International. 2010, Draft Technical Memorandum Concerning the Economic Analysis of the Irrigated Lands Regulatory Program and Westlands Coalition and Pleasant Valley GIS layers.

⁶ For the purposes of this estimate, the number of farms in the Tulare Lake Basin Area as reported in the United States Department of Agriculture, 2007, *Census of Agriculture* has been used to approximate the number of growers.

⁷ Data are for Tulare County and portions of Fresno, Kings, and Kern Counties; United States Department of Agriculture, 2007, *Census of Agriculture*.

lands could adversely affect the quality of the “waters of the state,” as defined in Attachment E to this Order.

16. Within the Third-Party area, there are approximately 981,000 acres of irrigated lands within Department of Pesticide Regulation (DPR) Groundwater Protection Areas (GWPA)s. DPR identifies these areas as vulnerable to groundwater contamination from the agricultural use of certain pesticides, based upon either pesticide detections in groundwater or upon the presence of certain soil types (leaching and/or runoff) and a depth to groundwater shallower than 70 feet. Of the 981,000 acres, approximately 490,000 acres of the irrigated lands are within DPR GWPA)s that are characterized as vulnerable to leaching of pesticides (leaching areas), approximately 491,000 acres are within GWPA)s that are characterized as vulnerable to movement of pesticides to groundwater by runoff from fields to areas where they may move to groundwater (runoff areas). For leaching areas, certain water soluble pesticides are carried mainly with excess irrigation water or rainwater through the soil profile and potentially to the underlying aquifer. For runoff areas, certain water soluble pesticides are carried mainly with runoff over the land surface to potential conduits to groundwater. However, DPR has not established or analyzed the GWPA)s with fertilizers and nitrate in mind, and its GWPA)s are established based upon detections of certain pesticides, many of which are of lower solubility. Solubility is one factor that can lead to groundwater contamination. Depending on the frequency of application and amount applied, certain water soluble constituents, such as nitrate, may share common pathways to groundwater with soluble pesticides. This Order includes consideration of DPR’s vulnerability factors and GWPA)s by the Third-Party in the determination of high vulnerability areas for nitrate.
17. The Central Valley Water Board’s *Irrigated Lands Regulatory Program Existing Conditions Report* (ECR)⁸ identifies waters of the state with impaired water quality attributable to or influenced by irrigated agriculture, including within the Third-Party area. The *Irrigated Lands Regulatory Program Environmental Impact Report* (PEIR) describes that “[f]rom a programmatic standpoint, irrigated land waste discharges have the potential to cause degradation of surface and groundwater...”
18. Approximately 11 water bodies encompassing 300 linear miles of surface water courses have been listed as impaired pursuant to Clean Water Act section 303(d)⁹ within the Third-Party area. Approximately 5 of those water bodies identify the potential source of the impairment as agriculture, and the remaining water bodies identify an unknown source impairment. For example, Elk Bayou and Kings River (Pine Flat to Island Weir) are listed as impaired by the pesticide chlorpyrifos. Agriculture is identified as a potential source of impairment.
19. Elevated levels of nitrates in drinking water can have significant negative health effects on sensitive individuals. The Basin Plan contains a water quality objective for nitrate to protect the drinking water uses. The water quality objective for nitrate is the maximum

⁸ California Regional Water Quality Control Board, Central Valley Region, and Jones and Stokes. 2008. *Irrigated Lands Regulatory Program Existing Conditions Report*. Sacramento, CA.

⁹ 2008-2010 303(d) List.

contaminant level (MCL) of 10 mg/L for nitrate plus nitrite as nitrogen (or 45 mg/L of nitrate as nitrate) established by the California Department of Public Health (22 CCR section 64431) that has been set at a level to protect the most at risk groups – infants under six months old and pregnant women.¹⁰

In some areas, nitrate from both agricultural and non-agricultural sources has resulted in degradation and/or pollution of groundwater beneath agricultural areas in the Central Valley.¹¹ Available data (see Information Sheet and the PEIR) indicate that there are a number of wells within the Tulare Lake Basin Area that have exceeded the MCL for nitrate. Groundwater in the Tulare Lake Basin Area has been designated for drinking water uses; therefore, the water quality objective of 10 mg/L for nitrate plus nitrite (as nitrogen) applies to groundwater in the Tulare Lake Basin Area. Where nitrate groundwater quality data are not available, information on the hydrogeological characteristics of the area suggest that significant portions of the Tulare Lake Basin Area are vulnerable to nitrate contamination. Sources of nitrate in groundwater include leaching of excess fertilizer, confined animal feeding operations, septic systems, discharge to land of wastewater, food processor waste, unprotected well heads, improperly abandoned wells, and lack of backflow prevention on wells.

20. The Central Valley Water Board's authority to regulate waste discharges that could affect the quality of the waters of the state, which includes both surface water and groundwater, is found in the Porter-Cologne Water Quality Control Act (California Water Code Division 7).
21. California Water Code section 13263 requires the Central Valley Water Board to prescribe WDRs, or waive WDRs, for proposed, existing, or material changes in discharges of waste that could affect water quality. The Board may prescribe waste discharge requirements although no discharge report under California Water Code section 13260 has been filed. The WDRs must implement relevant water quality control plans and the California Water Code. The Central Valley Water Board may prescribe general waste discharge requirements for a category of discharges if all the following criteria apply to the discharges in that category:
 - a) The discharges are produced by the same or similar operations;
 - b) The discharges involve the same or similar types of waste;
 - c) The discharges require the same or similar treatment standards; and
 - d) The discharges are more appropriately regulated under general requirements than individual requirements.

The rationale for developing general waste discharge requirements for irrigated agricultural lands in the Tulare Lake Basin Area includes: (a) discharges are produced by similar operations (irrigated agriculture); (b) waste discharges under this Order involve

¹⁰ See, for example, the [California Department of Public Health Nitrate Fact Sheet](http://www.cdph.ca.gov/certlic/drinkingwater/Documents/Nitrate/FactSheet-Nitrate-05-23-2012.pdf)
<www.cdph.ca.gov/certlic/drinkingwater/Documents/Nitrate/FactSheet-Nitrate-05-23-2012.pdf>

¹¹ PEIR, Appendix A

similar types of wastes (wastes associated with farming); (c) water quality management practices are similar for irrigated agricultural operations; (d) due to the large number of operations and their contiguous location, these types of operations are more appropriately regulated under general rather than individual requirements; and (e) the geology and the climate are similar, which will tend to result in similar types of water quality problems¹² and similar types of solutions.

22. Whether an individual discharge of waste from irrigated lands may affect the quality of the waters of the state depends on the quantity of the discharge, quantity of the waste, the quality of the waste, the extent of treatment, soil characteristics, distance to surface water, depth to groundwater, crop type, management practices and other site-specific factors. These individual discharges may also have a cumulative effect on waters of the state. Waste discharges from some irrigated lands have impaired or degraded and will likely continue to impair or degrade the quality of the waters of the state within the Central Valley Region if not subject to regulation pursuant to the Porter-Cologne Water Quality Control Act (codified in California Water Code Division 7).
23. California Water Code section 13267(b)(1) states: *“(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports. (2) When requested by the person furnishing a report, the portions of a report that might disclose trade secrets or secret processes may not be made available for inspection by the public but shall be made available to governmental agencies for use in making studies. However, these portions of a report shall be available for use by the state or any state agency in judicial review or enforcement proceedings involving the person furnishing the report.”*
24. Technical reports are necessary to evaluate Member compliance with the terms and conditions of this Order and to assure protection of waters of the state. Consistent with California Water Code section 13267, this Order requires the implementation of a monitoring and reporting program (MRP) that is intended to determine the effects of Member waste discharges on water quality, to verify the adequacy and effectiveness of the Order's conditions, and to evaluate Member compliance with the terms and conditions of the Order. The requirements for reports and monitoring specified in this Order and attached MRP are based in part on whether an operation is within a high or low vulnerability area. The Third-Party is tasked with describing high and low vulnerability

¹² “Water quality problem” is defined in Attachment E

areas based on definitions provided in Attachment E to this Order and guidance provided in the MRP for development of the Groundwater Quality Assessment Report. The Executive Officer will review Third-Party proposed high and low vulnerability areas and make the final determination of these areas. High and low vulnerability areas will be reviewed and updated throughout the implementation of this Order. A Member who is covered under this Order must comply with MRP Order R5-2013-0120-09 which is part of this Order, and future revisions thereto by the Executive Officer or Board.

25. The surface water quality monitoring and trend groundwater quality monitoring under this Order are regional and representative in nature and do not measure individual field discharge. The surface water quality monitoring will take place in surface water bodies that are representative of surface waters receiving irrigated agricultural discharges. The trend groundwater monitoring will take place in aquifers that are representative of aquifers receiving irrigated agricultural discharges. The benefits of regional monitoring include the ability to determine whether water bodies accepting discharges from numerous irrigated lands are meeting water quality objectives and to determine whether practices, at the watershed level, are protective of water quality. There is a cost savings with representative monitoring, since all surface waters or all groundwater aquifers that receive irrigated agricultural discharges do not need to be monitored. Surface water and groundwater monitoring sites are selected to represent areas with similar conditions (e.g., crops grown, soil type). However, there are limitations to regional monitoring's effectiveness in determining possible sources of water quality problems, the effectiveness of management practices, and individual compliance with this Order's requirements.

Therefore, through the reporting and evaluation of applied nitrogen versus removed nitrogen, the Management Practices Evaluation Program, development and utilization of Groundwater Protection Targets, Surface Water Quality Management Plans, and Groundwater Quality Management Plans, the Third-Party must evaluate the effectiveness of management practices in protecting water quality. In addition, Members must report the practices they are implementing to protect water quality and comply with Surface and Groundwater Quality Management Plans as applicable. Through the evaluations and studies conducted by the Third-Party, the reporting of applied and removed nitrogen as well as the management practices used by the Members, and the Board's compliance and enforcement activities, the Board will be able to determine whether a Member is complying with the Order.

Where required monitoring and evaluation does not allow the Central Valley Water Board to determine potential sources of water quality problems or identify whether management practices are effective, this Order requires the Third-Party to provide technical reports at the direction of the Executive Officer. Such technical reports are needed when monitoring or other available information is not sufficient to determine the effects of irrigated agricultural waste discharges to state waters. It may also be necessary for the Central Valley Water Board to conduct investigations by obtaining information directly from Members to address individual compliance.

26. The Basin Plan designates beneficial uses, establishes water quality objectives, contains programs of implementation needed to achieve water quality objectives, and references