Public Workshop
Eastern San Joaquin General Order
Deadline: 6/1/16 by 12:00 noon

RECEIVED
6-1-16
SWRCB Clerk

June 1, 2016

Chair Felicia Marcus and Board Members
c/o Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

VIA E-MAIL: commentletters@waterboards.ca.gov

Re: Comment Letter – Comments to A-2239(a)-(c)

Dear Chair Marcus and Members of the State Water Resources Control Board:

On behalf of the Wishtoyo Foundation ("Wishtoyo") and its Water Initiative, we appreciate the opportunity to comment on the Eastern San Joaquin River Watershed Agricultural Order SWRCB/OCC Files A-2239(a)–(c) ("Draft Order"). Wishtoyo hereby incorporates by reference the entirety of the comments in the public interest group sign on letter dated June 1, 2016 of which Wishtoyo is a signatory to, including the comments in the letter regarding the Draft's Order's compliance with the Water Code, the Porter-Cologne Act, the Non Point Source Policy, and the Antidegradation Policy. ("Public Interest Group Comment Letter"). In addition to the reasons stated in the Public Interest Group Comment Letter, Wishtoyo opposes the adoption of the Draft Order because it is inconsistent with the Water Code for the 3 reasons presented below.

Legal Background

The Draft Order must adhere to the plain language of the Water Code. Water Code Section 13263, which applies to Waste Discharge Requirements ("WDRs") and thus this Draft Order, requires that the Draft Order be consistent with and implement the Central Valley Basin Plan ("Basin Plan"). Because the Basin Plan incorporates the State Board's 2004 Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program ("Nonpoint Source Policy"), to adhere to Water Code Section 13263, the Draft Order must also adhere to the requirements set forth in the Nonpoint Source Policy.

The Draft Order's Non- Compliance with Water Code Section 13263

1.) The Absence of Enforceable Discharge Limitations Demonstrates the Draft Order Impermissibly Fails to Require Compliance with Basin Plan Water Quality Objectives Within a Time Certain

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The Draft Order is not consistent with the Basin Plan, and thus does not adequately protect Central Valley waterways in the Eastern San Joaquin River Watershed because it lacks the specific, enforceable standards and prohibitions needed for receiving waters and groundwater to meet the Basin Plan's water quality objectives and to protect receiving water beneficial uses. This is primarily because the Draft Order does not require grower compliance with Basin Plan water quality objectives within a time certain.

Without requiring compliance with water quality objectives within a time certain, and without providing sufficient mechanisms to verify individual grower compliance with these objectives such as edge of field monitoring, the Draft Order impermissibly provides no assurances that Basin Plan water quality objectives for receiving waters in the Eastern San Joaquin River Watershed will ever be met. This is inconsistent and non compliant with Water Code section 13263.

To achieve consistency with the Basin Plan, for all Benchmark and Basin Plan water quality objective exceedances detected at representative monitoring sites, the Draft Order must provide that growers in the sub-watershed where the exceedance is detected shall be subject to discharge effluent limitations at the point of discharge for their individual irrigated land equal to the Draft Order's water quality Benchmarks and Basin Plan water quality objectives within one year from the detection of the Water Quality Benchmark or Basin Plan water quality objective exceedance. This is necessary to ensure the Draft Order adheres to the Basin Plan and assures compliance with its water quality objectives within a time certain. This is supported by the Appendix 2 section 2.d. of the Los Angeles Regional Board Order No. R4-2016-0143, the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Agricultural Lands within the Los Angeles Region ("Ventura/LA AG Waiver"), which provides for Los Angeles County that:

> "For Discharger Group representative monitoring sites that do not show decreasing trends in concentrations, or for which a deadline in Table 3 has passed, the representative monitoring sites shall be subject to discharge limitations equal to Water Quality Benchmarks at the points of discharge from the deadline forward. In addition, monitoring sites shall be added at the discharges from the individual irrigated agricultural lands represented by the Discharger Group monitoring sites to determine if the individual sites are attaining Water Quality Benchmarks. If individual irrigated agricultural lands represented by the Discharger Group monitoring sites are not attaining Water Quality Benchmarks based on one year of sampling (one wet-weather event and one dry- weather event), then these individual sites shall have an additional year before they are subject to discharge limitations equal to Water Quality Benchmarks at the points of discharge." See Exhibit 1 for Ventura/LA AG Waiver)

In addition, once a discharge from the individual irrigated agricultural land is subject to a discharge effluent limitation, the Draft Order should require individual edge of field monitoring be equivalent to the requirements set forth in Appendix 3, Section 1.c. of the Ventura/LA AG Waiver. While edge of field monitoring is the best way, and is needed to

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verify individual grower compliance with the Basin Plan, if the Board opts not to require edge of field monitoring or limited edge of field monitoring, to adhere to Water Code section 13263, where edge of field monitoring is not implemented and where receiving water sites are not attaining the Draft Order's water quality Benchmarks the Draft Order must provide that the receiving water sites are subject to discharge limitations equal to water quality Benchmarks one year from detection of a Benchmark exceedance, and that all growers discharging to the receiving waters are joint and severally liable if discharge effluent limitations are not being met in the receiving water one year after detection of the exceedance.

2.) The Draft Order Impermissibly Does Not Require the Implementation of Management Practices that are Designed to Ensure Achievement of Basin Plan Water Quality Objectives within a Time Certain

The Draft Order's lacking management practice implementation requirements further demonstrate the Draft Order fails to require compliance with water quality objectives within a time certain. This is because the Draft Order entirely omits requirements to ensure that adoption of management practices at individual farms are actually designed and engineered to attain Basin Plan water quality objectives. To be legally adequate, the Draft Order's management practice requirements must require that grower management practices must be designed and engineered to attain Basin Plan water quality objectives, and that such design must be supported by an accompanying reasonable assurance analysis that demonstrates the management practices implemented are in fact designed to ensure compliance with Basin Plan water quality objectives.

To provide an example illustrating this deficiency, a discharger may decide to implement vegetated filter strips to reduce sedimentation of tail water discharges and comply with the Draft Order. However, if the filter strips are not sized and placed appropriately, they will not effectively achieve Basin Plan water quality objectives. No verification mechanism, such as a quantitative reasonable assurance analysis, is required by the Draft Order to ensure that such management practices will in fact be designed and implemented adequately.

For the grower management practice requirements in the Draft Order to be legally adequate, they must require that management practices must be designed and engineered to attain Basin Plan water quality objectives, and that such design must be supported by an accompanying reasonable assurance analysis that demonstrates the management practices implemented are in fact designed to ensure compliance with Basin Plan water quality objectives.

3.) The Draft Order is not consistent with the Basin Plan because it fails to adhere to the Nonpoint Source Policy

The Basin Plan incorporates the State Board's 2004 *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* ("Nonpoint Source Policy"). A violation of the Nonpoint Source Policy is thus a violation of the Basin Plan. For the Draft

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Order to be consistent with and implement the Basin Plan as required by Water Code section 13263, it thus must adhere to the requirements in the Nonpoint Source Policy. The Non Point Source Policy requires that the Draft Order must meet all five of the Non Point Source Policy's specific key elements. Nonpoint Source Policy at 11.

Element one provides that the Draft Order "must address nonpoint source pollution in a manner that achieves and maintains water quality objectives and beneficial uses." Nonpoint Source Policy at 11-12. Element three provides that "where it is necessary to allow time to achieve water quality requirements, the program must include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching specified requirements." Nonpoint Source Policy at 13. Read together, elements one and three require that the Draft Order achieve and maintain water quality objectives and beneficial uses of receiving waters in the Central Valley within a time certain, and that if the Draft Order allows time for achieving water quality requirements – which normally should be achieved expeditiously – the reason for allowing a certain schedule and milestones must be supported with evidence.

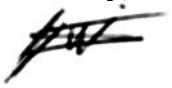
The Regional Board ran afoul of all of these Elements in adoption of the Draft Order. As discussed in sections 1.) and 2.) in this letter, the Draft Order fails to require compliance with Basin Plan water quality objectives within a time certain. For these reasons, the Draft Order violates Elements one and three of the Nonpoint Source Policy. As addressed in the Public Interest Group Comment Letter, the lacking monitoring requirements in the Draft Order are also inconsistent with the Non-Point Source Policy and Water Code Section 13263.

About Wishtoyo Foundation

Founded in 1997, Wishtoyo is a 501(c)(3) nonprofit grassroots organization with over 700 members consisting of California's diverse residents and Chumash Native Americans. Wishtoyo's mission is to preserve and protect Chumash culture, and the environment that our current and future generations depend upon. More information about Wishtoyo, Wishtoyo's Water Initiative, and our programs can be found at www.wishtoyo.org.

Thank you for considering our comments.

Sincerely,



Jason Weiner, M.E.M.
Water Initiative Director, General Counsel
Wishtoyo Foundation

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EXHIBIT 1

Ventura / Los Angeles AG Waiver

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. R4-2016-0143

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS WITHIN THE LOS ANGELES REGION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) finds:

PURPOSE OF ORDER

1. For the reasons set forth below, the Regional Water Board concludes that it is in the public interest to establish a Conditional Waiver for Discharges from Irrigated Agricultural Lands (Conditional Waiver or Order). The conditions established in this Order are intended to ensure that discharges from irrigated agricultural lands are managed such that they do not degrade water quality or impair beneficial uses of waters of the state within the Los Angeles Region.

2. The Los Angeles Region has approximately 97,000 acres of agriculture under irrigation and approximately 2,100 operations that are or may be discharging waste from irrigated agricultural lands to waters of the state. The Region's agriculture is concentrated in Ventura County, in the Calleguas Creek, Santa Clara River, and Ventura River watersheds. It is estimated that approximately 3,500 acres of Los Angeles County irrigated agricultural lands lie within the Los Angeles Region. These areas are dispersed, non-contiguous, and interspersed with other land uses, such as urban and industrial land uses.

3. Agricultural activities can generate wastes such as sediment, pesticides, nutrients, and oxygen-demanding organic matter that, upon discharge to waters of the state, can degrade water quality and impair beneficial uses.

4. The 2008-10 Clean Water Act Section 303(d) list of impaired water bodies in the Los Angeles Region identifies agriculture as a potential source of pollutants that impair water quality and beneficial uses of numerous waters of the state within the Region.

5. The Regional Water Board and the United States Environmental Protection Agency (USEPA) have established 16 Total Maximum Daily Loads (TMDLs) in the Los Angeles Region to address water bodies that are impaired due to sediment, pesticides, nutrients, bacteria, trash, and salts, and which identify irrigated agricultural lands as a source of pollutants and assign load allocations to discharges from irrigated agricultural lands.

6. The Regional Water Board has established this Conditional Waiver, including the specific requirements herein, based on data and information submitted through the Dischargers' past annual monitoring reports, water quality management plans, and other available information. A Staff Report has been prepared to explain the principal

facts and the significant factual, legal, methodological, and policy questions considered in preparing this Order. The Regional Water Board has considered the Staff Report in setting the requirements of this Order.

7. Annual monitoring reports, submitted during the first and second term of the conditional waiver of waste discharge requirements adopted by Order No. R4-2005-0080 and Order No. R4-2010-0186, have documented water quality that exceeds Water Quality Benchmarks in receiving waters (agriculture drains and tributaries) and edge of field monitoring sites. Water Quality Benchmark exceedances have been documented in every monitored watershed within the Los Angeles Region. Two categories of wastes frequently reported in agricultural discharges that impair waters of the state in the Los Angeles Region are pesticides and biostimulatory substances (e.g., nitrogen). Analysis of the data demonstrates some decreasing trends in waste concentrations, and several instances of specific monitoring sites attaining Water Quality Benchmarks. However, there are also many instances where there has been little change in water quality and waste concentrations are still well above Water Quality Benchmarks. In some rare cases, trends in waste concentrations appear to be increasing.

8. Irrigated agricultural discharges can impact groundwater quality. A review of groundwater quality data in the Los Angeles Region reveals that groundwater is polluted with wastes, such as nitrate, which are contained in irrigated agricultural discharges. Data obtained from the State's Groundwater Ambient Monitoring and Assessment (GAMA) program and the Ventura County Watershed Protection District groundwater monitoring program demonstrate that groundwater basins underlying areas with irrigated agricultural lands contain levels of nitrate that exceed water quality objectives, including state drinking water standards. A recent study of the effects of discharges from irrigated agricultural lands on groundwater quality funded by the State Water Board showed that nitrate applied to irrigated agricultural lands is not completely taken up in the root zone of crops and can percolate to groundwater (Modifying Agricultural Practices, Nutrients, and Pesticides, Calleguas Creek and Santa Clara River. United Water Conservation District, August 31, 2007, SWRCB Grant No. 04-073-554-1). The study did not quantify the loading of nitrate from irrigated agricultural lands to groundwater, but it provides evidence that irrigated agricultural practices are a potential source of groundwater pollution in the Los Angeles Region, specifically in Ventura County.

9. As authorized by Water Code section 13269, this Order adopts a conditional waiver of waste discharge requirements for discharges from irrigated agricultural lands that requires persons who obtain coverage under the waiver to, in part, (1) prepare monitoring plans, conduct monitoring, and report annually on monitoring results, including the identification of Water Quality Benchmark exceedances; (2) develop, as required, a water quality management plan (WQMP), which identifies management practices that will address Water Quality Benchmark exceedances; (3) implement the WQMP and management practices to attain Water Quality Benchmarks; and (4) assess the effectiveness of implemented management practices in attaining Water Quality Benchmarks and, when necessary to attain Water Quality Benchmarks, identify, implement, or upgrade management practices. This Order also requires that, if TMDL-associated Water Quality Benchmarks are not attained within a reasonable time

schedule (as set forth in Section D, Table 2 of this Order), then discharges from irrigated agricultural lands comply with discharge limitations. Finally, this Order requires Dischargers to implement management practices that minimize excess nutrient application relative to crop need and to conduct groundwater monitoring in Ventura County to assess trends in groundwater quality beneath irrigated agricultural lands to evaluate whether management practices implemented to improve groundwater quality are effective.

10. This Order sets forth conditions that apply to discharges of waste from irrigated agricultural lands. This conditional waiver of waste discharge requirements constitutes the Los Angeles Region Irrigated Lands Regulatory Program.

11. The Regional Water Board adopted a Waiver of Waste Discharge Requirements for discharges from irrigated agricultural lands on November 3, 2005 for a five year term. On October 7, 2010, the Regional Water Board renewed the Waiver for a new five year term that expired on October 7, 2015. On October 8, 2015, the Regional Water Board renewed the Waiver for a six-month period. The expiration date of Order No. R4-2015-0202 is April 15, 2016.

12. This Order differs from previous orders by containing more specific monitoring and reporting requirements for the preparation of WQMPs in order to better assess effectiveness of management practices, and more specific time schedules and requirements to ensure that Water Quality Benchmarks are ultimately attained.

13. Irrigated agriculture in Los Angeles and Ventura Counties is different in terms of the size of operations, number of operations, types of crops grown, surrounding land uses, and TMDL findings and requirements. Therefore, this Order contains separate Monitoring and Reporting Requirements for Discharger Groups in Los Angeles and Ventura Counties (Appendix 2 and 3).

DEFINITIONS

14. "Discharger" means the owner and/or operator of irrigated agricultural lands that discharge, have the potential to discharge, or propose to discharge waste that could directly or indirectly affect the quality of waters of the state.

15. A "Discharger Group" is any group of dischargers and/or organizations that forms to comply with this Order. Discharger Groups can be, but are not limited to, organizations formed on a geographic basis or formed with other factors in common, such as commodities.

16. "Discharges" are discharges of waste from irrigated agricultural lands, including surface discharges (also known as irrigation return flows or tailwater), subsurface discharges through drainage systems that lower the water table below irrigated agriculture lands (also known as tile drains), discharges to groundwater, and stormwater runoff flowing from irrigated agricultural lands.

17. "Discharge Limitation" means a numeric restriction or a numerically expressed narrative restriction, on the quantity, discharge rate, concentration, or toxicity units of a

pollutant or pollutants that may be discharged from an authorized location as set forth in Appendices 4 and 5. A discharge limitation may be final or interim, and may be expressed as a prohibition. A discharge limitation does not include a receiving water limitation, a compliance schedule, or a management practice.

18. "Hobby Growing/Gardening" activities include growing crops for personal use (includes moderate fundraising and minor secondary incomes from sales at direct marketing locations only) and consumption only. Furthermore:

    • The crop is not sold, including but not limited to (1) an industry cooperative, (2) harvest crew/company, or (3) a direct marketing location, except in the case of moderate funding or minor secondary incomes.

    • The property owner/operator does not hold a current Operator Identification Number/Permit Number for pesticide use reporting.

    • The federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is not used to file federal taxes.

19. "Irrigated Agricultural Lands" means lands where water is applied for producing crops and, for the purpose of this Order, includes, but is not limited to, lands planted for row, vineyard, pasture, field and tree crops, nurseries, nursery stock production, wholesale nurseries, and greenhouse operations with permeable floors, which are not subject to waste discharge requirements, including Municipal Separate Storm Sewer System (MS4) or other National Pollutant Discharge Elimination System (NPDES) permits.

20. "New Discharges" are defined as irrigated agriculture operations that did not commence the discharge of stormwater and/or irrigation water at a particular site prior to April 14, 2016.

21. "Waste" includes sewage 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 (Cal. Wat. Code § 13050 (d)).

22. "Water Quality Benchmark" means discharge prohibitions and narrative or numeric surface water quality objectives, a water quality objective established by an applicable Statewide plan or policy, criteria established by USEPA (including those in the California Toxics Rule and the applicable portions of the National Toxics Rule), and load allocations established pursuant to a total maximum daily load (TMDL) (whether established in the Basin Plan or other lawful means). Water Quality Benchmarks for Discharges from Irrigated Agricultural Lands are identified in Appendices 4 and 5 of this Order.

23. "Waters of the State" means any surface water or groundwater, including saline waters, within the boundaries of the state. (Cal. Wat. Code § 13050(e))

24. Unless otherwise specified above, all other terms used in this Order shall have the same definition as that set forth in California Water Code Division 7.

LEGAL AND REGULATORY CONSIDERATIONS

25. Water Code section 13260(a)(1) requires that any person discharging waste or proposing to discharge waste within the Regional Water Board's jurisdiction that could affect the quality of the waters of the state, shall file a Report of Waste Discharge (ROWD) with the Regional Water Board. The Regional Water Board may, in its discretion, issue Waste Discharge Requirements (WDRs) pursuant to Water Code section 13263(a). Water Code section 13269 authorizes the Regional Water Board to conditionally waive the provisions of Water Code sections 13260(a)(1) and 13263(a).

26. Water Code section 13269 requires that any waiver of ROWDs and/or WDRs ("Conditional Waiver") must (i) be consistent with any applicable water quality control plans; (ii) be "in the public interest;" (iii) contain conditions; (iv) not exceed five years in duration, but may be renewed in up to five-year increments; and (v) include monitoring provisions. In addition, Water Code section 13269(a)(4)(A) authorizes the State Water Resources Control Board (State Water Board) to adopt annual fees for recipients of waivers. Water Code section 13269(e) mandates that the regional water boards shall require compliance with the conditions of a waiver of waste discharge requirements.

27. All requirements for monitoring and reporting are established in this Order pursuant to Water Code sections 13267 and 13269. These monitoring and reporting requirements are necessary to evaluate the following: (1) compliance with the terms and conditions of this Conditional Waiver of waste discharge requirements for discharges from irrigated agriculture lands; (2) the effectiveness of any measures or actions taken pursuant to this Order (including water quality management plans); and (3) whether revisions to this Conditional Waiver and/or additional regulatory programs or enforcement actions are warranted. The burden of preparing technical and monitoring reports in accordance with these monitoring and reporting requirements is reasonable given the need and benefit of the reports. The costs of monitoring and reporting were evaluated prior to adoption of this Order and are included in the staff report supporting this Order entitled, "Review of Conditional Waiver Order No. R4-2010-0186 and Recommendations for Waiver Renewal."

28. Section 13267(b)(1) of the California Water Code provides, in part, that:

"*In conducting an investigation..., 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 . . .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.*"

29. Section 13269 of the California Water Code provides, in part, that:

"*Monitoring requirements shall be designed to support the development and implementation of the waiver program, including, but not limited to, verifying the adequacy and effectiveness of the waiver's conditions. In establishing monitoring requirements, the regional board may consider the volume, duration, frequency, and constituents of the discharge; the extent and type of existing monitoring activities, including, but not limited to, existing watershed-based, compliance, and effectiveness monitoring efforts; the size of the project area; and other relevant factors. Monitoring results shall be made available to the public.*"

30. Failure to submit a report in accordance with schedules established by this Order, Monitoring and Reporting Requirements (Appendices 1-3) approved by the Regional Water Board Executive Officer, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer, or failure to comply with the conditions of the waiver, may subject a Discharger to enforcement action pursuant to section 13268 and/or 13350 of the Water Code and/or the directive to submit a ROWD.

31. The Regional Water Board's Water Quality Control Plan for the Los Angeles Region (Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation programs, plans and policies for protecting waters of the region, contains prohibitions on discharges of waste, and references the plans and policies adopted by the State Water Board.

32. This Conditional Waiver is consistent with State and Regional Board water quality control plans because it requires compliance with water quality objectives, prohibitions, and TMDLs set forth in the Regional Board Basin Plan and pertinent state water quality control plans and policies and federal water quality criteria, and it requires protection of the beneficial uses of the waters of the state within the Los Angeles Region.

33. Beneficial uses designated for groundwater and surface water in the Basin Plan include:

- Municipal and Domestic Supply
- Agricultural Supply
- Industrial Process Supply
- Industrial Service Supply
- Groundwater Recharge
- Freshwater Replenishment
- Navigation
- Hydropower Generation
- Water Contact Recreation
- Non-contact Water Recreation
- Commercial and Sport Fishing
- Aquaculture
- Water Freshwater Habitat
- Cold Freshwater Habitat
- Inland Saline Water Habitat
- Marine Habitat
- Estuarine Habitat
- Wetland Habitat
- Wildlife Habitat
- Preservation of Biological Habitat
- Rare, Threatened, or Endangered Species
- Migration of Aquatic Organisms
- Spawning, Reproduction, and Early Development
- Shellfish Harvesting

34. This Order implements the Basin Plan, other statewide plans and policies, and the California Water Code by requiring the implementation of management practices to achieve compliance with applicable water quality objectives, prohibitions, and TMDLs and to protect the beneficial uses of the waters of the state within the Los Angeles Region. This Order requires implementation of a monitoring and reporting program to determine effects of discharges on water quality and the effectiveness of management practices designed to ensure that discharges comply with applicable water quality objectives.

35. The intent of this Order is to establish a regulatory program for irrigated agricultural lands that requires Dischargers to attain Water Quality Benchmarks through a process that quantitatively assesses the in-stream water quality impacts of discharges and, when necessary to attain Water Quality Benchmarks, requires Dischargers to implement effective management practices designed to resolve water quality impairments. Where a Discharger is determined to be causing or contributing to exceedances of Water Quality Benchmarks, this Order requires the Discharger or Discharger Group to identify and implement or upgrade management practices to attain the Water Quality Benchmarks.

36. The State Water Board has adopted the "Plan for California's Nonpoint Source Pollution Control Program" (Nonpoint Source Program Plan) dated August 2015 and the "Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program" (Nonpoint Source Policy) dated May 2004. The purpose of the Nonpoint Source Program Plan is to improve the State's ability to effectively manage nonpoint source pollution and conform to the requirements of the federal Clean Water Act and the federal Coastal Zone Management Act. The Nonpoint Source Policy explains the authorities used to implement and enforce the Nonpoint Source Program Plan and describes three options for addressing nonpoint source pollution: (1) waste discharge requirements, (2) conditional waivers of waste discharge requirements, and (3) discharge prohibitions. The policy also describes implementation programs to prevent and/or reduce nonpoint source pollution including antidegradation requirements, management practices, time schedules, feedback to Regional Water Board to evaluate the program progress, and appropriate Board actions to correct program deficiencies, if necessary.

37. This Order constitutes a Nonpoint Source Implementation Program for the discharges regulated by the Order and it is consistent with the five key elements required by the Nonpoint Source Policy. These elements include (1) the purpose of the program must be stated and the program must address nonpoint source pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements; (2) the program must describe the practices to be implemented and processes to be used to select and verify proper implementation of practices; (3) where it is necessary to allow time to achieve water quality requirements, the program must include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching specified requirements; (4) the program must include feedback mechanisms to determine whether the program is achieving its purpose or whether additional or different practices are required; and (5) the program must state the consequences of failure to achieve the stated purpose.

38. This Order is consistent with the provisions of State Water Board Resolution No. 68-16 (Statement of Policy With Respect to Maintaining High Quality of Waters in California). Regional Water Boards, in regulating the discharge of waste, must maintain high quality waters of the state unless it is demonstrated that any degradation will be consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality worse than that described in the Regional Board or State Water Board plans and policies. This Order, appendices, and attachments require a Discharger who obtains coverage under the Conditional Waiver[1] to protect beneficial uses and prevent nuisance by implementing monitoring and reporting programs and management practices to attain Water Quality Benchmarks[2]. This Order does not authorize degradation of waters of the state. Rather, this Order is intended to improve the quality of existing waters by establishing conditions on discharges from irrigated agricultural lands, including those to implement load allocations assigned to discharges from irrigated agricultural lands in order to restore impaired waters, and including monitoring of such discharges that is designed to determine compliance with the conditions.

39. USEPA promulgated the California Toxics Rule (CTR) on May 18, 2000.[3] The CTR contains water quality criteria that, when combined with beneficial use designations in Regional Water Boards' basin plans, constitute enforceable water quality standards for priority toxic pollutants in California surface waters. The CTR contains numeric water quality criteria (i.e., objectives) that implement the narrative toxicity objective in the Basin Plan, such that compliance with CTR criteria is consistent with the Basin Plan. The State Water Board adopted the "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California" (known as the State Implementation Policy or SIP), which contains guidance on implementation of the CTR. The SIP states that implementation of the CTR for agricultural nonpoint sources of pollution shall be consistent with the Nonpoint Source Policy. Adoption of this Order is consistent with the Nonpoint Source Implementation and Enforcement Policy.

40. Water Code section 13141 states that prior to implementation of any agricultural water quality control program, an estimate of the total cost of such a program and potential sources of financing must be indicated in any regional water quality control plan. The Regional Water Board is not required to adopt a basin plan amendment to issue an order pursuant to Water Code section 13269. However, to assist the Regional Water Board in generally considering the economic impacts of this action, the Regional Water

[1] Dischargers are required either to enroll in this waiver or file a report of waste discharge for individual waste discharge requirements.

[2] "Water Quality Benchmark" means discharge prohibitions and narrative or numeric surface water quality objectives, a water quality objective established by an applicable Statewide plan or policy, criteria established by USEPA (including those in the California Toxics Rule and the applicable portions of the National Toxics Rule), and load allocations established pursuant to a total maximum daily load (TMDL) (whether established in the Basin Plan or other lawful means). Water Quality Benchmarks for Discharges from Irrigated Agricultural Lands are identified in Appendices 4 and 5 of this Order.

[3] 40 CFR §131.38. Minor, non-substantive typographical corrections were made to the CTR by the USEPA on February 13, 2001.

Board has considered the estimated costs (set forth in the Review of Conditional Waiver Order R4-2010-0186) to Dischargers to implement this agricultural water quality control program in order to protect water quality consistent with section 13141 of the California Water Code. In addition, the Regional Water Board has considered costs of implementation of agricultural water quality control programs in numerous TMDLs adopted as Basin Plan amendments that assign load allocations to irrigated agricultural discharges. The Regional Water Board has identified potential sources of funding in the Basin Plan, Chapter 4.

41. In California, the Department of Pesticide Regulations (DPR), State Water Board, and the Regional Boards have mandates and authorities related to pesticides and water quality. In order to promote cooperation to protect water quality from the adverse effects of pesticides, DPR and the State Water Board signed a Management Agency Agreement (MAA) in 1997. The MAA, and its companion document, "The California Pesticide Management Plan for Water Quality," strives to coordinate interaction, facilitate communication, promote problem solving, and ultimately assure the protection of water quality. The intent of this Order is to support and implement the MAA.

42. This Order does not authorize any act which results in the taking of a threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & Game Code section 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. section 1531 to 1544).

43. The TMDLs listed in the table below assign load allocations to agricultural discharges. The interim and final TMDL load allocations are presented in Appendix 5.

Table 1. Effective TMDLs with load allocations assigned to discharges from irrigated agricultural lands, listed by pollutant category

Pesticides and PCBs
Calleguas Creek Watershed and Mugu Lagoon Organochlorine Pesticides, PCBs, and Siltation TMDL (Resolution No. R05-010)
Calleguas Creek Watershed and Mugu Lagoon Toxicity, Chlorpyrifos, and Diazinon TMDL (Resolution No. R05-009)
McGrath Lake PCBs, Pesticides, and Sediment Toxicity TMDL (Resolution No. R09-006)
Oxnard Drain No. 3 Pesticides, PCBs, and Sediment Toxicity TMDL (U.S. EPA-established TMDL)
Nutrients
Santa Clara River Nitrogen Compounds TMDL (Resolution No. R03-011)
Calleguas Creek Watershed Nitrogen Compounds and Related Effects TMDL (Resolution No. R08-009)
Malibu Creek Watershed Nutrients TMDL (U.S. EPA-established TMDL)
Ventura River Algae TMDL (Resolution No. R12-011)
Malibu Creek and Lagoon TMDLs for Sedimentation and Nutrients to Address Benthic Community Impairments (U.S. EPA-established TMDL)
Trash
Ventura River Estuary Trash TMDL (Resolution No. R07-008)
Revolon Slough and Beardsley Wash Trash TMDL (Resolution No. R07-007)
Metals

Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL (Resolution No. R06-012)
Salts
Calleguas Creek Watershed Boron, Chloride, Sulfate, and TDS (Salts) TMDL (Resolution No. R07-016)
Upper Santa Clara River Chloride TMDL & Revisions (Resolution No. R14-010)
Bacteria
Santa Clara River Bacteria TMDL (Resolution No. R10-006)

44. The Santa Clara River Estuary is identified on the 1998, 2002, 2006, and 2008-10 Clean Water Act Section 303(d) list of impaired water bodies as impaired due to Chem A and toxaphene in fish tissue. Approved 303(d) listings require the development of a TMDL in most cases. The Regional Water Board prepared a detailed technical document that provides the factual basis and analysis supporting a TMDL for toxaphene in fish tissue in the Santa Clara River Estuary, including a problem statement, numeric targets, source analysis, linkage analysis, load allocations, a margin of safety, and a consideration of seasonal variations and critical conditions. Based on the source analysis, the Regional Water Board finds that the implementation of the TMDL for toxaphene in fish tissue can effectively focus on source control and reduction of sediment loading from irrigated agriculture dischargers in the TMDL subwatershed area. According to the "Water Quality Control Policy for Addressing Impaired Waters" (State Water Board Resolution 2005-0050), "[i]f the solution to an impairment can be implemented with a single vote of the regional board, it may be implemented by that vote … there is no legal requirement to first adopt the plan [TMDL] through a basin plan amendment. The plan [TMDL] may be adopted directly in that single regulatory action" (p. 5). The Regional Water Board finds, based on the technical documentation, that a single regulatory action through the Conditional Waiver can be used to implement this TMDL. This Order contains additional requirements for water, sediment, and fish tissue monitoring for toxaphene, chlordane, and dieldrin in the Santa Clara River Estuary and its subwatershed. In addition, this Order incorporates the toxaphene load allocation for sediment and the toxaphene numeric target for fish tissue as Water Quality Benchmarks (Appendix 5). Based on these requirements and other requirements in this Order, the Conditional Waiver will implement the Santa Clara River Estuary toxaphene TMDL.

45. The Regional Water Board is the lead agency for this project under the California Environmental Quality Act (Public Resources Code section 21000 et seq.) and has conducted an Initial Study in accordance with section 15063 of the "State CEQA Guidelines" beginning at California Code of Regulations, title 14, section 15000 et seq. Based on the Initial Study, the Regional Water Board prepared a Mitigated Negative Declaration. Adoption of a waiver for discharges from irrigated agricultural lands, as mitigated, will not have a significant adverse effect on the environment. The action to adopt a conditional waiver is intended to protect, maintain, and improve water quality. The waiver sets forth conditions that will require dischargers to implement management practices to protect water quality and to ensure through monitoring that such practices are effective and are improving water quality. This Order requires monitoring and reporting to document compliance with mitigation measures that are set forth in the monitoring and requirements. The Regional Water Board approves the Initial Study and adopts the Mitigated Negative Declaration concurrently with its adoption of this Order, No. R4-2016-0143.

46. In adopting this order, the Regional Water Board has considered Water Code Section 106.3, which states that that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order requires dischargers to implement management practices to meet water quality objectives intended to protect water for municipal and domestic uses.

RATIONALE FOR CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS

47. Discharges from irrigated agricultural lands can and/or do contain wastes, as defined in Water Code section 13050 that could affect the quality of the waters of the state. The goal of this Order is to improve and protect water quality and attain Water Quality Objectives in waters of the state by providing a program to regulate and manage discharges from irrigated agricultural lands. This Order does not authorize the discharge of hazardous waste or human wastes. Discharges of such waste to waters of the state are prohibited unless regulated by waste discharge requirements.

48. The Monitoring and Reporting Requirements of this Order satisfy section 13269 of the California Water Code. As set forth in Appendices 1-3, an Individual Discharger and/or Discharger Group subject to this Order is required to monitor locations where discharges from irrigated agricultural lands enter waters of the state according to a monitoring program approved by the Executive Officer. If results from the monitoring programs indicate that applicable Water Quality Benchmarks are exceeded, the individual and/or group is required to submit a WQMP, as described Appendices 1-3. The WQMP requires improved management practices and additional monitoring, if necessary, to achieve and document compliance with Water Quality Benchmarks. If TMDL-associated Water Quality Benchmarks are not attained within a reasonable time schedule (as set forth in Section D, Table 2 of this Order), then this Order requires compliance with discharge limitations. This Order also requires dischargers to implement management practices that minimize excess nutrient application relative to crop need and to conduct groundwater monitoring in Ventura County to assess trends in groundwater quality beneath irrigated agricultural lands and evaluate monitoring results to confirm whether management practices implemented to improve groundwater quality are effective.

49. The adoption of this Order is in the public interest because, in part: (1) it was adopted in compliance with Water Code sections 13260, 13263, 13267, and 13269 and other applicable law, (2) it includes conditions that are intended to reduce and prevent pollution and nuisance and protect the beneficial uses of the waters of the state, (3) it requires compliance with State and Regional Water Board's water quality control plans, (4) it implements the Nonpoint Source Implementation and Enforcement Policy, (5) it provides for an efficient and effective use of limited staff resources given the magnitude and number of waste discharges from irrigated agricultural lands, and (6) it provides reasonable flexibility for the Dischargers who seek coverage under the Conditional Waiver by providing them with the option of complying with the Water Code through participation in Discharger Groups or as individuals.

50. The requirements of the Conditional Waiver adopted by Order No. R4-2005-0080 and R4-2010-0186 have thus far resulted in extensive water quality monitoring, ongoing grower education and outreach, and implementation of new and/or improved management practices. These activities represent significant strides toward the improvement and protection of water quality. At this time, the Regional Water Board finds the continuation of similar activities and requirements under this Order, with some enhancements and additions to provide assurance that discharges from irrigated agricultural lands will be adequately managed to attain water quality objectives in receiving waters, an appropriate approach for regulation of discharges of waste from irrigated agriculture lands. The Regional Water Board may consider reasonable and appropriate bases for the adoption of individual or general WDRs, where necessary, in the future.

51. Where other federal, State, and local agencies have a regulatory role for activities or pollution addressed by the conditions of this Order, the Regional Water Board will work cooperatively with the other agencies in order to effectively regulate discharges from irrigated agricultural lands.

52. The Regional Water Board may consider adoption of waste discharge requirements to regulate discharges from irrigated agricultural lands that do not meet the requirements for participation in the Conditional Wavier as described herein.

SCOPE OF CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS

53. This Order applies to discharges of waste from irrigated agricultural lands to waters of the state.

54. This Order does not apply to discharges that are subject to the NPDES permit program under the federal Clean Water Act and does not relieve discharges of the obligation to apply for an NPDES permit if required. This Order does not apply to discharges of waste that are regulated under another conditional waiver, or regulated by individual or general waste discharge requirements.

55. This Order applies to return flows from irrigated agriculture because such discharges are excluded from coverage under the NPDES permit program (40 CFR § 122.2).

56. This Order does not preempt or supersede the authority of municipalities, flood control agencies, agricultural commissioners, pesticide regulators or other agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.

57. This Order does not apply to confined animal operations, parks, golf courses, cemeteries, and recreational fields. These are regulated under other regulatory programs and permits.

58. This Order does not apply to hobby growing and or gardening.

59. This action to waive the requirement to submit ROWDs and to waive the issuance of waste discharge requirements for discharges from irrigated agricultural lands: (a) is

conditional, (b) may be terminated at any time, (c) does not permit an illegal activity, (d) does not preclude the need for permits that may be required by other State or local government agencies, and (e) does not preclude the Regional Water Board or Executive Officer from taking other actions authorized by the Water Code, including requiring additional technical reports or administering enforcement remedies (including civil liability).

GENERAL FINDINGS

60. The Regional Water Board will periodically evaluate whether the Conditional Waiver is adequate to restore and/or protect water quality and beneficial uses. The evaluation will include a consideration of the character of the discharges covered by this Order, the effect of those discharges on waters of the state, and the effectiveness of any management practices that were implemented to meet Water Quality Benchmarks and to address impairments of waters of the state.

61. The Regional Water Board recognizes that the overall effectiveness of this Order is based on a myriad of factors. When assessing the effectiveness of this Order, the Regional Water Board will consider the monitoring and reporting results, the effectiveness of management practices in reducing or eliminating discharges of waste and meeting Water Quality Benchmarks, changes in water quality, and other factors, including, without limitation, the level of participation and cooperation of Dischargers.

62. The formation, operation, and funding of Discharger Groups are the responsibilities of the local entities and/or members who are represented by the Discharger Group.

63. A Discharger Group collects and maintains enrollment information, financial records, monitoring data, and fulfills the reporting requirements on behalf of a specific set of Dischargers. Discharger Groups must manage and comply with the Monitoring and Reporting Requirements in Appendices 2-3.

64. The Regional Water Board may review compliance with this Order at any time and may modify or terminate the Conditional Waiver for Individual Dischargers, members of a Discharger Group, or an entire Discharger Group, as appropriate.

65. Pursuant to Water Code section 13263(g), discharge of waste to waters of the state is a privilege, not a right, and adoption of this Order establishing a Conditional Waiver, and the receipt of a Notice of Applicability from the Executive Officer, does not create a vested right to continue the discharge.

66. The Regional Water Board has notified interested agencies and persons of its intent to adopt a Conditional Waiver as described in this Order, and has provided them with an opportunity to submit written comments and recommendations regarding the tentative requirements. This notice complied with the requirements of Government Code section 11125.

67. The Regional Water Board, in a public meeting on April 14, 2016, heard and considered all comments pertaining to the discharges to be regulated under this Order and to the tentative requirements of the Conditional Waiver.

68. Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, Title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of adoption of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality

69. As specified in California Code of Regulations, title 23, section 2511(a), discharges covered by the Conditional Waiver established by this Order are exempt from the provisions of title 23 of the California Code of Regulations, Division. 3, Chapter 15, Discharge of Hazardous Waste to Land.

IT IS HEREBY ORDERED that:

In order to meet the provisions contained in Division 7 of the Water Code and regulations adopted there under, and those of the Regional Water Board's Basin Plan, the Regional Water Board hereby waives the requirement to obtain waste discharge requirements for discharges of wastes from irrigated agricultural lands provided that the Discharger is enrolled in and satisfies all conditions and requirements of this Conditional Waiver. This Order does not waive the requirement to pay fees.

A. ELIGIBILITY

1. Existing and future discharges from irrigated agricultural lands to waters of the state are potentially eligible for coverage under this Order.

2. Dischargers eligible under this Order bear the responsibility of complying with the provisions and conditions contained in this Order and others related thereto.

3. Dischargers eligible under this Order shall comply with the terms and conditions of the Conditional Waiver and take action to improve and protect waters of the State.

Individual Dischargers

Individual Dischargers eligible for coverage under this Order shall:

4. File a Notice of Intent (NOI) that provides Individual Discharger information, billing address, site information, water supply, type of discharge, facility information (including type and volume of crops; type, quantity and frequency of pesticide applications; irrigation schedule; and management practices in place to mitigate waste loadings). The Individual NOI form is provided in Appendix 6.

5. Submit a Monitoring and Reporting Plan (MRP) in accordance with the Monitoring and Reporting Requirements in Appendix 1 and attach it to the NOI.

6. Provide any additional technical or monitoring program reports that the Executive Officer deems necessary to evaluate the discharge pursuant to California Water Code section 13267.

7. After the required documents are reviewed and approved by the Executive Officer, the Executive Officer will issue a Notice of Applicability (NOA).

8. Upon receipt of an NOA, Individual Dischargers shall implement the approved MRP in accordance with the requirements of Appendix 1.

9. The Discharger shall complete 2 hours of educational training every year on water quality impairments related to irrigated agricultural discharges, regulatory requirements, and management practices that treat or control discharges of waste.

10. One year after issuance of an NOA and annually thereafter the Individual Discharger shall submit an annual monitoring report in accordance with the Monitoring and Reporting Requirements in Appendix 1.

11. If water quality monitoring data collected under the MRP indicate exceedances of applicable Water Quality Benchmarks, then the Discharger shall develop a water quality management plan (WQMP). The WQMP shall be revised every year, if Water Quality Benchmarks are not attained, based on ongoing monitoring data collected under the MRP.

12. Each Individual Discharger shall pay a fee to the State Water Resources Control Board in compliance with the fee schedule contained in Title 23 California Code of Regulations.

Discharger Groups

Discharger Groups eligible for coverage under this Order shall:

13. File an NOI within six months after this Order is adopted by the Regional Water Board. The NOI shall include a participant list that identifies the Dischargers participating in the group. The participant list shall include: (1) assessor parcel number, 2) parcel owner and operator name, (3) parcel size, (4) parcel watershed, and (5) parcel owner and operator mailing address. The NOI shall also include the billing address for the Group; general site information for group participants; and descriptions of water supplies used by group participants, types of discharges, types of crops, types of pesticides and application practices, irrigation practices, and other management practices.

14. Submit an MRP in accordance with the Monitoring and Reporting Requirements in Appendix 2 or 3 and attach it to the NOI.

15. Discharger Groups and members shall provide any additional monitoring or technical reports that the Executive Officer deems necessary to evaluate the discharge pursuant to California Water Code section 13267.

16. After the required documents are reviewed and approved by the Executive Officer, the Executive Officer will issue an NOA.

17. Upon receipt of an NOA Discharger Groups shall implement the approved MRP in accordance with the requirements of Appendix 2 or 3. Discharger Groups shall implement the existing MRP approved under Order No. R4-2010-0186 until the MRP is approved and the NOA is issued under this Order.

18. All members of the Discharger Group shall complete 2 hours of educational training every year on water quality impairments related to agriculture discharges, regulatory requirements, and management practices that control waste discharges.

19. The Discharger Group shall submit an annual monitoring report, including a WQMP progress report, in accordance with the Monitoring and Reporting Requirements in Appendix 2 or 3.

20. The WQMP shall be revised, if necessary, based on ongoing monitoring data collected under the MRP according to the schedule in Appendix 2 or 3.

21. Each Discharger Group shall pay a fee to the State Water Resources Control Board in compliance with the fee schedule contained in Title 23 California Code of Regulations.

B. DISCHARGE PROHIBITIONS

1. The discharge of wastes from irrigated agricultural lands that are not authorized by this Conditional Waiver or by another Order issued by the State or Regional Water Board is prohibited.

2. Wastes discharged from irrigated agricultural lands shall be limited to agricultural wastewater only; no residential, municipal, industrial, hazardous or commercial wastes shall be discharged.

3. Except in conformance with the conditions of this Order, the discharge of wastes containing any substance in concentrations toxic to human, animal, plant or aquatic life is prohibited.

4. The discharge of pollutants subject to Clean Water Act section 301, 402, or 404 is not authorized by this Order.

C. GENERAL PROVISIONS

1. Dischargers shall comply with applicable Water Quality Benchmarks according to Section D.

2. Dischargers may not discharge any waste not specifically regulated by this Order except in compliance with the Water Code.

3. Dischargers shall comply with all applicable provisions of the Basin Plan and State Water Board plans and policies.

4. All dischargers shall implement management practices that minimize excess nutrient application relative to crop need, including a consideration of crop-specific applied/removed ratios for nitrogen, where available, in order to protect designated beneficial uses of waters of the state within the Los Angeles Region.

5. The Executive Officer shall issue Water Code section 13267 orders within two years of the effective date of this Order to dischargers that will require direct sampling for nitrate of all supply wells on the discharger's irrigated agricultural lands that provide drinking water. The Executive Officer shall require annual or more frequent repeat sampling of any wells that exceed 80% of maximum contaminant levels (MCLs) for nitrate (i.e., more than 36 mg/L nitrate as NO_3 or 8 mg/L nitrate + nitrite as N). Dischargers will be required to notify the well users of any exceedances of drinking water MCLs, or report the information to the County and provide confirmation to the Regional Water Board that the County notified well users.

6. This Order does not relieve the Discharger from responsibility to obtain other required local, State, and federal permits to construct facilities necessary for compliance with this Order, nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency.

7. The Discharger shall furnish, within a reasonable time not to exceed 30 days, any information the Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the Discharger's coverage under this Order. The Discharger shall also furnish to the Regional Water Board, upon request, copies of records required to be kept by this Order.

8. After notice, coverage of an Individual Discharger or participant of a Discharger Group under this Order may be terminated or modified for cause by the Executive Officer, including but not limited to the following:

    a. Violation of any term or condition contained in this Order;

    b. Obtaining this Order by misrepresentation or failure to disclose all relevant facts; or

    c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

9. The filing of a request by the Discharger for an Order modification, revocation and issuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

10. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the discharger from liability under federal, State or local laws, nor do they create a vested right for the discharger to continue the waste discharge (Water Code section 13263(g)).

11. All Dischargers shall obtain a minimum of 2 hours of educational training every year. Training shall focus on water quality impairments from irrigated agricultural discharges, regulatory requirements, and management practices to reduce or eliminate discharges of waste to waters of the state. At least one hour of the educational training shall focus on requirements of, and compliance with, this regulatory program. Documentation of participation in educational training is required. All educational training programs must be approved by the Executive Officer in order to provide accredited hours.

D. SPECIFIC PROVISIONS

Provisions for Individual Dischargers

1. Dischargers shall develop an MRP and conduct monitoring in accordance with the Monitoring and Reporting Requirements in Appendix 1.

2. Dischargers shall submit the results of water quality monitoring to the Regional Water Board every year in accordance with the Monitoring and Reporting Requirements in Appendix 1.

   If the monitoring results demonstrate an exceedance of any Water Quality Benchmark, identified in Appendices 4 and 5, then the Individual Discharger shall develop a WQMP, and implement management practices identified in the WQMP in order to attain Water Quality Benchmarks. Water Quality Benchmarks must be attained by the deadlines specified in Table 2. The deadlines in Table 2 take into consideration the relative difficulty in achieving Water Quality Benchmarks for different constituents and are based on TMDL compliance dates. Requirements for a WQMP are set forth in the Monitoring and Reporting Requirements, Appendix 1.

3. An Individual Discharger shall maintain, for inspection by the Regional Water Board, the NOI, MRP, WQMP, monitoring data, information documenting implementation of the WQMP, and records of pesticide and fertilizer application information as required by other regulatory programs.

   The Individual Discharger understands that the Regional Water Board or its authorized representatives, may, at reasonable hours, inspect the facilities and irrigated agricultural lands of persons subject to this Order to ascertain whether the objectives of the Porter-Cologne Water Quality Control Act are being met and

whether the Discharger is complying with the conditions of this Order. To the extent required by Water Code section 13267(c) or other applicable law, the inspection shall be made with the consent of the Discharger or authorized representative, or if consent is withheld, with a duly issued warrant pursuant to the procedure set forth in Title 13 Code of Civil Procedure Part 3 (commencing with section 1822.50). In the event of an emergency affecting the public health and safety, an inspection may be performed without the consent or the issuance of a warrant.

Provisions for Discharger Groups

4. The Discharger Group will assist its members in complying with the relevant terms and provisions of this Order, including required monitoring and reporting as described in Appendix 2 or 3, Monitoring and Reporting Requirements. However, members of the Discharger Group continue to bear ultimate responsibility for complying with this Order.

5. Discharger Groups shall develop an MRP and conduct monitoring in accordance with the Monitoring and Reporting Requirements in Appendix 2 or 3.

6. Discharger Groups shall submit the results of water quality monitoring, including a WQMP progress report to the Regional Water Board every year in accordance with the Monitoring and Reporting Requirements in Appendix 2 or 3.

7. Discharger Groups shall submit a WQMP according to the schedule and requirements set forth in the Monitoring and Reporting Requirements, Appendix 2 or 3. Dischargers shall continue to implement the existing WQMPs required by Order No. R4-2010-0186 and Order No. R4-2015-0202 until the WQMPs required by this Order are approved by the Executive Officer. The WQMP shall be revised according to the schedule in Appendix 2 or 3, if Water Quality Benchmarks are not attained, based on the results of continued water quality monitoring.

8. The Discharger Group shall prepare a farm evaluation plan template or survey/questionnaire to be completed by its members for the purpose of assessing management practice implementation in accordance with the requirements in Appendix 2 or 3. The Discharger Group shall submit the farm evaluation plan template or survey/questionnaire for review and approval by the Executive Officer and will make the farm evaluation plan template or survey/questionnaire available to its members according to the schedule in Appendix 2 or 3.

9. The Discharger Group in Ventura County shall submit a groundwater quality assessment report and plan for ongoing trend monitoring in accordance with the requirements in Appendix 3 to the Executive Officer for review and approval within six months of the adoption of this Order.

10. The Discharger Group in Ventura County shall submit a workplan for a study to correlate management practice activities on the land surface with the effect of those activities on underlying groundwater quality in accordance with the requirements in Appendix 3 to the Executive Officer for review and approval within

one year of the adoption of this Order. The Discharger Group in Ventura County shall begin conducting the study as soon as possible after Executive Officer approval of the plan and submit the results of the study annually, beginning December 15, 2018.

11. The Discharger Group shall work cooperatively with the Los Angeles Water Board to ensure all members are providing required information and taking necessary actions to address Water Quality Benchmark exceedances. As part of the annual water quality monitoring and WQMP report, the Discharger Group shall identify the growers who have: (1) responded and not responded to an information request associated with a WQMP or other provisions of this Order, including completion of a farm evaluation plan or survey/questionnaire developed by the Discharger Group; (2) participated and not participated in Discharger Group monitoring or studies for which the Discharger Group is the lead; (3) provided and not provided confirmation of participation in an outreach event; or (4) submitted and not submitted required fees to the third-party.

12. Members of the Discharger Group shall complete a farm evaluation plan or respond to the survey/questionnaire developed by the Discharger Group for the purpose of assessing management practice implementation and respond to any other request for information from the Discharger Group to comply with a WQMP or other provisions of this Order.

13. Members of the Discharger Group shall implement the management practices as set forth in the WQMP according to the time schedule in the WQMP in order to attain Water Quality Benchmarks. TMDL-associated Water Quality Benchmarks must be attained by the deadlines specified in Table 2. The deadlines in Table 2 are based on TMDL compliance dates and take into consideration the relative difficulty in achieving Water Quality Benchmarks for different constituents.

14. Members of the Discharger Group shall review outreach materials provided by the Discharger Group to become informed of any water quality problems and the management practices that are available to address those problems. The member shall provide annual confirmation to the Discharger Group that the member has attended two hours of educational classes and reviewed the applicable outreach materials.

15. Members of a Discharger Group shall maintain, for inspection by the Regional Water Board, proof of participation in a Discharger Group, contact information for the Discharger Group, individual pesticide information as required by other regulatory programs, the Discharger Group WQMP, a copy of the farm evaluation plan or completed survey questionnaire, and a copy of the nutrient management plan, if specified in the WQMP. Digital documents and/or access to web-based documents may satisfy this requirement.

    The member understands that the Regional Water Board or its authorized representatives, may, at reasonable hours, inspect the facilities and irrigated agricultural lands of persons subject to this Order to ascertain whether the purposes of the Porter-Cologne Act are being met and whether the member is

complying with the conditions of this Order. To the extent required by Water Code section 13267(c) or other applicable law, the inspection shall be made with the consent of the member or authorized representative, or if consent is withheld, with a duly issued warrant pursuant to the procedure set forth in Title 13 Code of Civil Procedure Part 3 (commencing with section 1822.50). In the event of an emergency affecting the public health and safety, an inspection may be performed without the consent or the issuance of a warrant.

16. The member shall provide the Discharger Group with the phone number(s) of the individual(s) with authority to provide consent to access its facilities as described in the section above.

Table 2. Water Quality Benchmark Compliance Deadlines

TMDL Constituents	Compliance Date
Malibu Creek Watershed Nutrients TMDL	October 14, 2022
Santa Clara River Nitrogen Compounds TMDL	October 14, 2022
Ventura River Estuary Trash TMDL	October 14, 2020
Calleguas Creek Nitrogen Compounds and Related Effects TMDL	October 14, 2025
Revolon Slough and Beardsley Wash Trash TMDL	October 14, 2020
Upper Santa Clara River Chloride TMDL	October 14, 2020
Calleguas Creek Watershed and Mugu Lagoon Siltation TMDL*	March 24, 2015
Calleguas Creek Watershed and Mugu Lagoon Toxicity, Chlorpyrifos, and Diazinon TMDL	March 24, 2022
Ventura River Algae TMDL	June 28, 2019
McGrath Lake OC Pesticides and PCBs TMDL	June 30, 2021
Malibu Creek Watershed Sedimentation and Nutrients TMDL	July 2, 2021
Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL	March 26, 2022
Calleguas Creek Watershed Boron, Chloride, Sulfate and TDS (Salts) TMDL	Dec. 23, 2023
Santa Clara River Estuary Toxaphene TMDL	October 7, 2025
Calleguas Creek Watershed and Mugu Lagoon OC Pesticides & PCBs TMDL	March 24, 2026
Oxnard Drain #3 Pesticides, PCBs, and Sediment Toxicity TMDL	April 14, 2026
Santa Clara River Bacteria TMDL	March 21, 2023 dry March 21, 2029 wet

*Additional time may be added to this TMDL deadline should a TMDL reconsideration revise the implementation schedule based on the results of special studies.

E. SCHEDULE

1. Existing Discharger Groups seeking to discharge under this Order shall submit an NOI and MRP (Appendix 2 or 3) within six months after adoption of this Order.

2. New Individual Dischargers or Discharger Groups shall file a complete NOI at least 45 days before commencement of the discharge.

3. Table 3 presents a summary of the tasks for Dischargers enrolling under this Conditional Waiver. Detailed schedules for additional tasks are specified in Appendices 1-3.

Table 3. Schedule of Tasks

Task	Responsible Party	Due Date
Submit NOI and MRP	Existing Discharger Groups	6 months after adoption of Conditional Waiver
Submit WQMP	Existing Discharger Groups	One year after adoption of Conditional Waiver
Annual Monitoring Report	Existing Discharger Groups	December 15th, annually
Submit NOI and MRP	Each Individual Discharger or New Discharger Group	45 days before commencement of discharge
Annual Monitoring Report	Each Individual Discharger or New Discharger Group	Within 12 months after issuance of NOA and annually thereafter
Submit WQMP, if necessary	Each Individual Discharger or New Discharger Group	6 months after submittal of annual monitoring report if necessary, and annually thereafter, if necessary

F. COMPLIANCE AND ENFORCEMENT

1. Individual Dischargers and members of a Discharger Group are the responsible parties for meeting the conditions of this Order. Failure by a Discharger to maintain compliance with conditions of this Order may result in enforcement actions including imposition of civil liability under Water Code 13268 or 13350, and/or withdrawal of the Conditional Waiver and issuance of waste discharge requirements by the Regional Water Board (Water Code sections 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350).

2. Under the terms of this Order, both owners and operators of irrigated agricultural lands have responsibility for compliance with the conditions of this Order. Many management practices will be operational in nature and under the direct control of the operator, while structural practices which remain in place through changes in

leaseholders will more likely be the responsibility of the landowner. In the event that the Regional Water Board undertakes enforcement action, the owner and the operator may be held accountable. Owners and operators may consider delineating these responsibilities in lease agreements; however both the owner and operator will retain full legal responsibility for complying with all provisions of this Order.

3. The conditions of this Order require the identification and implementation of management practices to attain Water Quality Benchmarks. To satisfy the conditions of this Order, an Individual Discharger or Discharger Group must submit technical reports and conduct required monitoring programs. In addition to the foregoing, a Discharger must, where necessary to attain Water Quality Benchmarks, implement management practices, evaluate the effectiveness of those practices, and upgrade those practices to improve their effectiveness as necessary to attain Water Quality Benchmarks. If a Discharger fails to implement any of the conditions in this Order, including implementation of management practices and upgraded management practices as necessary to attain Water Quality Benchmarks, then the Discharger may be subject to enforcement. If TMDL-associated Water Quality Benchmarks are not attained by the deadlines in Table 2, then Dischargers shall comply with discharge limitations, using individual discharge monitoring as described in Section 2.d of Appendix 2 or 3.

4. If a Discharger fails to meet the requirements and conditions of this Order, the Executive Officer may, upon providing the Discharger with reasonable notice and an opportunity to submit information and be heard, terminate the Discharger's coverage under this Conditional Waiver.

5. Individual Dischargers and members of a Discharger Group in compliance with the conditions of this Order will not be required to file ROWDs or be subject to waste discharge requirements during the term of this Conditional Waiver.

6. This Order and Conditional Waiver shall become effective on April 14, 2016 and expire on April 14, 2021, except for enforcement purposes, unless rescinded, renewed, or extended by the Regional Water Board.

G. TERMINATION

1. The Regional Water Board may review this Order at any time and may modify or terminate the Conditional Waiver in its entirety. Upon providing a Discharger or Discharger Group with reasonable notice and opportunity to be heard, the Executive Officer may terminate applicability of the Conditional Waiver with respect to that Individual Discharger or Discharger Group.

2. The Regional Water Board may reopen this Order to incorporate conditions, including Water Quality Benchmarks, to implement any new or revised TMDL load allocations (assigned to irrigated agricultural discharges) that become effective during the term of this Order.

3. If an Individual Discharger or member of a Discharger Group wishes to terminate coverage under this Order, the Discharger shall submit a complete Notice of Termination (NOT) (Appendix 5). Termination from coverage will occur on the date specified in the NOT, unless otherwise specified. All discharges of waste shall cease before the date of termination, and any discharges on or after that date shall be considered in violation of the California Water Code, unless the discharge is regulated by another conditional waiver or other waste discharge requirements.

4. Administrators of a Discharger Group shall notify the Regional Water Board of an individual's failure to participate in the group efforts. The Discharger Group shall not be liable for individual compliance with the terms of this Order or the Water Code in general. The Discharger Group shall provide at least 30 days' notice to a member before informing the Regional Water Board of the member's failure to participate, which may result in the Regional Water Board issuing a NOT to the participant. Termination from coverage will occur on the date specified in the NOT, unless otherwise specified. All discharges shall cease before the date of termination, and any discharges on or after that date shall be considered in violation of the California Water Code, unless the discharge is regulated by another conditional waiver or waste discharge requirements.

5. In the event that the Regional Water Board issues an individual order with more specific requirements to a Discharger, the applicability of this Order to that Discharger is automatically terminated, except for enforcement purposes, on the effective date of the individual order.

I, Samuel Unger, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on April 14, 2016.

Samuel Unger

Samuel Unger, P.E.
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

APPENDIX 1

MONITORING AND REPORTING REQUIREMENTS

INDIVIDUAL ENROLLMENT

UNDER

ORDER NO. R4-2016-0143

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS

These Monitoring and Reporting Requirements are issued by the Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) pursuant to Water Code sections 13267 and 13269, as set forth in Findings 25-28 of the Order. As conditioned by the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Agricultural Lands (Conditional Waiver), Order No. R4-2016-0143, Individual Dischargers shall develop a Monitoring and Reporting Plan (MRP) to verify the adequacy and effectiveness of the conditions contained in the Conditional Waiver. The MRP shall be sufficient to (1) assess the impacts of waste discharges from irrigated agricultural lands on waters of the state, (2) evaluate the effectiveness of management practices to control waste discharges, (3) track progress in reducing the amount of waste discharged to waters of the state to improve water quality and protect beneficial uses, and (4) assess compliance with water quality limitations, where applicable. The Executive Officer of the Regional Water Board may revise monitoring and reporting requirements as appropriate.

1) MONITORING AND REPORTING PLAN

Individual Dischargers shall submit an MRP to the Regional Water Board for Executive Officer approval within six months after adoption of Order No. R4-2016-0143. A template individual monitoring and reporting plan is included as an attachment to these monitoring and reporting requirements.

The sections below outline the requirements for the MRP.

Monitoring Sites

Individual Dischargers shall monitor discharges to waters of the state from their operations under these requirements. The number and location of monitoring sites must be based on site-specific characteristics and be supported by scientific rationale and a detailed discussion of the drainage characteristics of the Individual Discharger site. Monitoring sites must be selected to adequately characterize the majority of the discharge from the Individual Discharger site, based on its typical discharge patterns, including tail water discharges, discharges from tile drains, and stormwater runoff.

The MRP shall describe the characteristics of each sampling site, including crop type and cultivation practices, and provide a maps and GPS coordinates for each monitoring site.

Monitoring Frequency and Seasonality

The frequency of monitoring shall be twice per year, once during the dry season and once during the wet season. Based on a review of annual monitoring reports, the Executive Officer may increase or decrease the frequency of monitoring. Factors that may inform the Executive Officer's evaluation of the monitoring frequency include, but are not limited to, the exceedances or attainment of applicable Water Quality Benchmarks and the effectiveness of any management measures as a result of WQMP implementation.

Monitoring shall be conducted during the dry season and wet season. The dry season is from May 15 to October 15. The wet season is from October 15 to May 15. The wet-season samples shall be collected within the first 24 hours of a storm with greater than 0.5 inch rain as measured by the nearest National Weather Service rain gauge, to the extent practicable. Practical constraints on wet season sampling events include but are not limited to (1) lab closures on weekends and holidays, (2) sample holding times, and (3) safety of the monitoring team. Dry-season samples shall be collected after the site has applied pesticides or fertilizers and during an irrigation event. If there is no runoff at the monitoring site, then the observation shall be documented with photos showing the occurrence of irrigation and the lack of runoff at the monitoring site.

Monitoring Constituents

All Individual MRPs shall include monitoring for all constituents list in Table 1. An Individual MRP shall also include monitoring for the additional constituents in Table 2, where those agricultural lands are located within the subwatersheds listed in Table 2.

The MRP shall include chronic toxicity testing to evaluate compliance with the narrative toxicity objective in the Basin Plan. During the first year, chronic toxicity testing shall be conducted for three test species: *Pimephales promelas* (fathead minnow), *Ceriodaphnia dubia* (water flea) and *Selenastrum capricornutum* (green algae). Based on the test results, the Discharger shall select the most sensitive species for subsequent toxicity monitoring and document its rationale in its annual monitoring report. In addition to the three species toxicity screening, the MRP plan may propose the most relevant species for toxicity testing based on pesticide usage, sample nutrient concentrations, and site conditions for consideration by the Executive Officer. If sampling sites are located in tidally influenced areas, alternative species that are suitable for more brackish conditions may be selected for toxicity testing, subject to Executive Officer approval.

The results of toxicity testing will be used to trigger further investigations to determine the cause of observed toxicity. If toxicity tests indicate the presence of significant toxicity in the sample, Toxicity Identification Evaluation (TIE) procedures shall be

initiated to investigate the cause of toxicity. For the purposes of triggering a TIE, significant toxicity is defined as at least 50% mortality. This threshold is consistent with the approach recommended in guidance published by US EPA for conducting TIEs (US EPA, 1996b). During the field collection of samples an adequate volume of water to conduct both toxicity tests and TIEs should be collected from each monitoring site.

Table 1. List of constituents to be monitored Regionwide

Constituent	Units
Flow	CFS (Ft^3/Sec)
pH	pH units
Temperature	^{0}F
Dissolved Oxygen	mg/L
Turbidity	NTU
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Hardness (as $CaCO_3$)	mg/L
Chloride	mg/L
Ammonia	mg/L
Nitrate-Nitrogen	mg/L
Total Nitrogen	mg/L
Phosphate	mg/L
Total Phosphorus	mg/L
Sulfate	mg/L
Total Copper	μg/L
Organophosphate Suite[1]	μg/L
Organochlorine Suite[2]	μg/L
Toxaphene	μg/L
Pyrethroids[3]	μg/L
Toxicity	TU_c[4]
E. coli	MPN/100 mL
Trash[5]	Observations

[1] Organophosphate Suite: Bolstar, Chlorpyrifos, Demeton, Diazinon, Dichlorvos, Dimethoate, Disulfoton, Ethoprop, Fenchlorophos, Fensulfothion, Fenthion, Malathion, Merphos, Methyl Parathion, Mevinphos, Phorate, Tetrachlorvinphos, Tokuthion, Trichloronate

[2] Organochlorine Suite: 2,4' – DDD, 2,4' – DDE, 2,4'DDT, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Aldrin, BHC-alpha, BHC-beta, BHC-delta, BHC-gamma, Chlordane-alpha, Chlordane-gamma, Dieldrin, Endosulfan sufate, Endosulfan-I, Endosulfan-II, Endrin, Endrin Aldehyde, Endrin Ketone

[3] Pyrethroid Pesticides include: allethrin, bifenthrin, cyfluthrin, cypermethrin, danitol, deltamethrin, esfenvalerate, fenvalerate, lambda-cyhalothrin, permethrin, and prallethrin

[4] Chronic Toxic Unit is the reciprocal of the sample concentration that causes no observable effects on the test organism by the end of a chronic toxicity test.

[5] Methods used in previously approved MRPs under Order No. R4-2010-0186 or adopted Trash TMDLs may be used. The assessment methodology should produce consistent results across watersheds and across counties.

Table 2. List of constituents to be monitored in specific subwatersheds based on TMDL requirements

Subwatershed	Constituent	Units
Calleguas Creek - Reach 2 Revolon Slough Mugu Lagoon	Nickel	μg/L
Calleguas Creek - Reach 2 Revolon Slough Mugu Lagoon	Selenium	μg/L
Calleguas Creek - Reach 2 Revolon Slough Mugu Lagoon	Mercury	μg/L
Mugu Lagoon Calleguas Creek Revolon Slough Arroyo Las Posas Arroyo Simi Conejo Creek	In Sediment: PCBs Chlordane Dieldrin Toxaphene 4,4 DDD 4,4 DDE 4,4 DDT	ng/g
Simi Revolon Slough	Boron	mg/L
Channel Islands Harbor	Total Coliform Fecal Coliform Enterococcus *E. coli*	MPN/100 mL
Santa Clara River	Total Coliform Fecal Coliform Enterococcus *E. coli*	MPN/100mL
Santa Clara River Estuary	In Water: Chlordane Dieldrin Toxaphene In Suspended Sediment[1] Chlordane Dieldrin Toxaphene	µg/L µg/kg
Malibu Creek Watershed – Hidden Valley Creek	Total Nitrogen Total Phosphorus	mg/L
Santa Clara River Bacteria TMDL	Total Coliform Fecal Coliform Enterococcus E. coli	MPN/100 mL
Ventura River Algae TMDL		

Subwatershed	Constituent	Units
	Total Nitrogen Total Phosphorus	mg/L
Oxnard Drain #3 Pesticides, PCBs, and Sediment Toxicity TMDL	In Water and Sediment: Chlorpyrifos 4-4'-DDT 4,4'-DDE 4,4'-DDD Dieldrin PCBs Sediment toxicity Toxaphene In Water: Bifenthrin Chlordane	 µg/L µg/dry kg µg/L

[1] Santa Clara River Estuary monitoring for constituents in suspended sediment is only required during wet weather events.

If other Regional Water Board programs (e.g. TMDLs) are used to monitor the constituents in Table 2 the results of that monitoring must be reported in the Annual Monitoring Report required in Section 3 of this document.

Methods and Quality Assurance Project Plan

The MRP shall include a description of monitoring event preparation and field protocols for sample collection and sample handling (including chain of custody requirements). Additionally, the MRP shall present the quality control (QC) samples that will be collected in conjunction with environmental samples to verify data quality. All samples shall be collected utilizing field techniques consistent with the State Water Resources Control Board's (State Water Board) Surface Water Ambient Monitoring Program (SWAMP). Moreover, all monitoring instruments and devices used by the Discharger for the prescribed field monitoring and sample collection shall be properly maintained and calibrated to ensure proper working condition and continued accuracy.

The MRP shall include a Quality Assurance Project Plan (QAPP) . The QAPP shall describe the quality assurance requirements for the MRP. The QAPP will ensure that data are collected and analyzed consistent with State and Regional Water Board monitoring programs and are of high quality. The QAPP shall be consistent with the SWAMP QAPP. As such, the Discharger's QAPP shall include at least the following four sections (1) Project Management, (2) Data Generation and Acquisition, (3) Assessment and Oversight, and (4) Data Validation and Usability. A QAPP template is available at http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml.
The QAPP shall include the location of sample site(s) and the sampling schedule. The

QAPP shall include data quality objectives including, but not limited to the following:

- Representativeness
- Comparability
- Accuracy
- Precision
- Recovery
- Reporting limits
- Completeness

The analytical methods, including method detection limits and reporting limits shall be presented in the QAPP. In general, the method detection limits shall be at or below applicable Water Quality Benchmarks. However, several of the constituents of concern have Water Quality Benchmarks that are lower than the readily available detection limits. As analytical methods and detection limits continue to improve (i.e., development of lower detection limits) and become more environmentally relevant, Dischargers shall incorporate new method detection limits in the MRP and QAPP. In the meantime, the detection limits for these constituents shall be set at levels achievable by professional analytical labs, subject to discharger requests and Executive Officer approval.

A laboratory that is certified by the State Water Board's Environmental Laboratory Accreditation Program (ELAP) shall conduct all laboratory analysis according to standard methodologies (e.g. USEPA methods and/or Standard Methods for the Examination of Water and Wastewater). Laboratory analytical methods must be included as an appendix of the QAPP. All data shall be submitted in electronic tabular format to the Regional Water Board using existing formats in CEDEN at http://www.ceden.org/ceden_datatemplates.shtml. The QAPP shall include the laboratory's Standard Operating Procedures (SOPs).

Toxicity testing shall be conducted in accordance with USEPA *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (EPA-821-R-02-013) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition* (EPA-821-R-02-014), as appropriate. Additionally, toxicity testing will be implemented in accordance with State Water Board and Regional Water Board plans, policies and guidance at the time that toxicity monitoring is conducted. The Regional Water Board may revise Order No. R4-2016-0143 and modify these Monitoring and Reporting Requirements pertaining to toxicity monitoring and TIEs following the State Water Board's adoption of a policy for toxicity assessment and control . Toxicity testing shall be implemented as a trigger for initiation of the TIE process as outlined in USEPA's *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program* (2000) and *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program* (March 27, 2001).

The fish collection and analysis shall be conducted in accordance with the USEPA *Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories: Volume 1 Fish Sampling and Analysis* (EPA 823-B-00-0007) or updates.

2) WATER QUALITY MANAGEMENT PLAN

If water quality monitoring data, collected as described above, indicate exceedances of applicable Water Quality Benchmarks, the Discharger shall develop a WQMP and, upon approval of and in accordance with the WQMP, implement targeted management practices intended to attain Water Quality Benchmarks. Individual dischargers shall submit a WQMP within six months after the submittal of the annual monitoring report. The WQMP shall outline specific actions with milestones intended to attain of Water Quality Benchmarks through the implementation of management practices. Management practices must be designed and implemented to reduce or eliminate waste discharges to surface waters and groundwater in order to achieve Water Quality Benchmarks. Management practices may include those recommended by organizations such as Natural Resources Conservation Service and University of California Cooperative Extension. The WQMP is subject to Executive Officer approval. In order to address high priority water quality problems, the Executive Officer may require additional monitoring.

The elements of the WQMP shall include:

a) Summary of Existing Conditions

i. A review of monitoring objectives and detailed description of sample location(s), including GPS coordinates and a map(s).

ii. For each constituent that has exceeded a Water Quality Benchmark, a graph showing the concentrations of the constituent over time since 2007 and a trend analysis for that constituent[6].

iii. A report of existing management practices being implemented , including the degree of implementation (e.g., size of area treated), for each type of management practice, as follows:

- For all types of management practices that require linear installation, report linear feet installed per corresponding total length. For example, list how many feet of roads are covered with gravel per total length of roads.

- For all types of management practices that require linear installation to treat an area of irrigated agricultural land, report linear feet installed and acres treated. For example, list how many feet of filter socks are installed at the property to treat how many acres of land.

- For all types of management practices that are installed to treat a specific area, report acres treated. For example, for runoff collection, report how many acres of runoff from irrigated agricultural land are treated.

[6] Discharger shall propose a method for trend analysis in the WQMP.

iv. A summary of pesticide/herbicide/fungicide and fertilizer application practices. Compare changes in pesticide and nutrient concentrations at monitoring site(s) to pesticide and fertilizer use patterns for site.

v. Comparison of existing management practice implementation specified in 2.a.iii in order to assess management practice effectiveness and determine if additional or upgraded management practices are necessary to meet Water Quality Benchmarks.

b) Proposed Additional or Upgraded Management Practices

Based on the analysis completed under section 2.a.v., provide:

i. Description of additional or upgraded management practices, which shall be implemented to address Water Quality Benchmark exceedances, as follows:

- For exceedances of Water Quality Benchmarks for nutrients, the WQMP must specify the following types of management practices:
  - Improved irrigation efficiency to reduce runoff
  - Certified nutrient management plans, including crop-specific applied/removed ratios for nitrogen[7]
- For exceedances of Water Quality Benchmarks for historic pesticides and their degradation products, such as DDT, DDE, chlordane, and dieldrin, the WQMP must specify the following types of management practices:
  - Improved irrigation efficiency to reduce runoff
  - Erosion and runoff control measures
  - Stormwater runoff filtration and/or infiltration
- For exceedances of Water Quality Benchmarks for copper and current use pesticides, such as chlorpyrifos, diazinon, and pyrethroids, the WQMP must specify the following types of management practices:
  - Pesticide management plans
  - Improved irrigation efficiency to reduce runoff
  - Erosion and runoff control measures
  - Stormwater runoff filtration and/or infiltration
- Additional or upgraded management practices must be based on a comparison to existing BMPs, as follows:
  - If source reduction and non-structural management practices are not fully implemented, then the WQMP shall require increased

[7] A certified nutrient management plan must be certified by a Crop Advisor certified by the American Society of Agronomy, or Technical Service Providers certified in nutrient management in California by the National Resource Conservation Service (NRCS)

implementation of source reduction and non-structural management practices

- If source reduction and non-structural management practices are fully implemented8, then the WQMP shall require implementation of structural/treatment BMPs

- For sites located under a utility easement, additional or upgraded management practices may be based on "Best Management Practices: A Water Quality Field Guide for Nurseries, Southern California Edition" prepared by the University of California Agriculture and Natural Resources.

ii. Description of TMDL-specific management practices, which shall be implemented by members in watersheds addressed by TMDLs, as follows:

- For the Ventura River Algae TMDL, certified nutrient management plans

- For the McGrath Lake OC Pesticides and PCBs TMDL, practices to reduce sediment runoff and improve irrigation efficiency on individual farms, and reduce sediment runoff in the Central Ditch

- For the Santa Clara River Estuary Toxaphene TMDL, practices to reduce sediment runoff and improved irrigation efficiency

iii. A time-certain schedule for implementation of additional or upgraded management practices to ultimately attain Water Quality Benchmarks within ten years from the date the WQMP is submitted, unless otherwise specified in Table 3.

c) WQMP Process

The iterative WQMP implementation process shall continue as long as there are decreasing trends in concentrations at the Individual Discharger monitoring sites[9] and until the deadlines specified in Table 3. The deadlines in Table 3 are based on TMDL compliance dates and take into consideration the relative difficulty in achieving Water Quality Benchmarks for different constituents. For sites where there are not decreasing trends in concentrations or a deadline in Table 3 has passed, the site shall be subject to discharge limitations equal to Water Quality Benchmarks from the deadline forward.

[8] Or cannot be fully implemented. For example, if irrigation runoff cannot be reduced or eliminated by replacing inefficient irrigation systems with drip irrigation because of plant propagation needs or other considerations, then irrigation runoff must be treated before leaving the property, or recycled (tailwater recovery).

[9] According to method specified in 2.a.ii

Table 3. Water Quality Benchmark Compliance Deadlines

TMDL Constituents	Compliance Date
Malibu Creek Watershed Nutrients TMDL	October 14, 2022
Santa Clara River Nitrogen Compounds TMDL	October 14, 2022
Ventura River Estuary Trash TMDL	October 14, 2020
Calleguas Creek Nitrogen Compounds and Related Effects TMDL	October 14, 2025
Revolon Slough and Beardsley Wash Trash TMDL	October 14, 2020
Upper Santa Clara River Chloride TMDL	October 14, 2020
Calleguas Creek Watershed and Mugu Lagoon Siltation TMDL*	March 24, 2015
Calleguas Creek Watershed and Mugu Lagoon Toxicity, Chlorpyrifos, and Diazinon TMDL	March 24, 2022
Ventura River Algae TMDL	June 28, 2019
McGrath Lake OC Pesticides and PCBs TMDL	June 30, 2021
Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL	March 26, 2022
Calleguas Creek Watershed Boron, Chloride, Sulfate and TDS (Salts) TMDL	Dec. 23, 2023
Santa Clara River Estuary Toxaphene TMDL	October 7, 2025
Calleguas Creek Watershed and Mugu Lagoon OC Pesticides & PCBs TMDL	March 24, 2026
Oxnard Drain #3 Pesticides, PCBs, and Sediment Toxicity TMDL	April 14, 2026
Malibu Creek Watershed Sedimentation and Nutrients TMDL	July 2, 2021
Santa Clara River Bacteria TMDL	March 21, 2023 dry March 21, 2029 wet

*Additional time may be added to this TMDL deadline should a TMDL reconsideration revise the implementation schedule based on the results of special studies.

3) REPORTING REQUIREMENTS

Pursuant to Water Code Section 13267 and 13269, the following reports are required to be submitted to the Regional Water Board by the deadlines identified below.

Monitoring and Reporting Plan
Due: six months from the adoption of Order No. R4-2016-0143

The MRP must include the components of the monitoring and reporting requirements as stated in Section 1 of this document. The MRP shall also include the following elements:

1. Title page and Table of Contents
2. Description of the Individual Discharger, including size and location of irrigated agricultural land(s), crop type(s), cultivation method(s), etc.
3. Summary of the historical data and/or on-going monitoring at the monitoring site(s)
4. GPS coordinates for the monitoring site(s)

5. Maps showing property boundaries, land use, topography, waters of the state, crop types, and any other features which may affect water qualitySummary of current pesticide use practices (including top 5 pesticides applied by volume and 5 most frequently applied pesticides).
6. Monitoring constituents and frequency of sampling (including all constituents in Table 1 and those applicable to the irrigated agricultural lands covered by the MRP in Table 2)
7. A QAPP consistent with the requirements described in Section 1
8. Documentation of monitoring protocols including sample collection and handling methods
9. Individual Discharger contact information

Water Quality Management Plan
Due: Annually 6 months after first Annual Monitoring Report with documented exceedances of Water Quality Benchmarks

The WQMP shall be prepared if monitoring results document the exceedances of Water Quality Benchmarks. The required elements of a WQMP are presented in Section 2 of these Monitoring and Reporting Requirements.

Annual Monitoring Report
Due: Annually beginning 1 year after issuance of NOA

The Annual Monitoring Report (AMR) shall be prepared after monitoring events have been completed and shall include a review of the results of the data collected and data evaluation. The AMR shall include the following components:

1. Title page
2. Table of contents
3. Description/Summary of Individual Discharger Group setting
4. Monitoring objectives
5. Sampling and analytical methods used, submitted in a tabular format
6. For each monitoring site:
    a. Site description, including photographs
    b. Location map of sampling site(s), including GPS coordinates and map(s) of sampling site(s)
    c. Parameters monitored and frequency
    d. Tabulated results of analyses
    e. Data interpretation including assessment of compliance and/or noncompliance with Water Quality Benchmarks and/or discharge limitations
    f. Results of toxicity tests and results of TIE, where performed
7. Copy of chain of custody, submitted electronically
8. Associated laboratory and field quality control samples results
9. Summary of precision and accuracy

10. Quality control data interpretation, including assessment of data quality objectives
11. If Water Quality Benchmarks are not attained as demonstrated by monitoring, the AMR shall include a statement of intent to prepare a WQMP within six months to address all benchmark exceedances.
12. Documentation that education requirements have been fulfilled

Dischargers eligible under this Order bear the responsibility to inform the Regional Water Board, maintain records, and submit regular technical and monitoring reports detailing the types of discharges, monitoring results for required constituents, the type of management practices implemented (including changes in pesticides applied), how those measures have changed water quality, and other basic information that the Executive Officer may determine is required. Copies of all field documentation and laboratory original data must be included in the annual monitoring report in a CEDEN-compatible format (and may be included as attachments). The annual monitoring report should also provide a characterization of the field conditions during each sampling event, including a description of the weather, rainfall, temperature, photographs, stream flow, color of the water, odor, crop type, cultivation practices and pesticide, fertilizer or sediment control measures, which may affect water quality, and other relevant information that can assist in data interpretation.

Monitoring and analyses event records shall include the following information: (1) date and time of sampling, (2) sample location (GPS coordinates), (3) photograph of the sampling site (4) individual(s) who performed the sampling or measurements, (5) date(s) analyses were performed, (6) laboratory and/or individual(s) who performed the analyses, (7) the analytical techniques or method used along with method detection limits and reporting limits, and (8) the results of such analyses.

The monitoring data will be submitted in an electronic CEDEN-compatible format.

Other Reporting Requirements

1. A transmittal letter shall accompany each report. This letter shall include a brief discussion of any violations of the Conditional Waiver that were found during the reporting period and cite to the pages in the report that note these violations. The transmittal letter shall be signed and shall contain a perjury statement by the Individual Discharger. This statement shall state:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment for perjury."

2. If Dischargers monitor any constituent (at locations established in the MRP), for the purposes of evaluating compliance with the provisions of this Order, more frequently

than required by the Conditional Waiver, the discharger shall submit the monitoring results to the Regional Water Board.

3. The Dischargers shall retain records of all monitoring information including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order.

4. Records shall be maintained for a minimum of five years from the date of the sample, measurement, or report. This period may be extended during the course of any unresolved enforcement action, including, but not limited to, litigation regarding this discharge, or when requested by the Executive Officer.

5. Each monitoring report must affirm in writing that "All analyses were conducted at a laboratory certified for such analyses by the Environmental Laboratory Accreditation Program, and in accordance with current USEPA guideline procedures, or as specified in this Monitoring Program."

6. If there is no discharge during any reporting period, the report shall so state. The Discharger shall submit an annual report to the Regional Water Board within one year of the date of Notice of Applicability and at the same date each year thereafter. Monitoring reports must be provided in electronic format to be specified by the Executive Officer.

7. Records and reports submitted to the Regional Water Board are public documents and shall be made available for inspection during normal business hours at the Regional Water Board office.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

APPENDIX 2

MONITORING AND REPORTING REQUIREMENTS

GROUP ENROLLMENT – LOS ANGELES COUNTY

UNDER

ORDER NO. R4-2016-0143

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS

These Monitoring and Reporting Requirements are issued by the Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) pursuant to Water Code sections 13267 and 13269, as set forth in Findings 25-28 of the Order. As conditioned by the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Agricultural Lands (Conditional Waiver), Order No. R4-2016-0143, Discharger Groups shall develop a Monitoring and Reporting Plan (MRP) to verify the adequacy and effectiveness of the conditions contained in the Conditional Waiver. The MRP shall be sufficient to (1) assess the impacts of waste discharges from irrigated agricultural lands on waters of the state, (2) evaluate the effectiveness of management practices to control waste discharges, (3) track progress in reducing the amount of waste discharged to waters of the state to improve water quality and protect beneficial uses, and (4) assess compliance with discharge limitations, where applicable. The Executive Officer of the Regional Water Board may revise monitoring and reporting requirements as appropriate.

1) MONITORING AND REPORTING PLAN

Discharger Groups shall submit an MRP to the Regional Water Board for Executive Officer approval six months after adoption of Order No. R4-2016-0143.

Other Regional Water Board programs (e.g. TMDLs) may contain requirements similar to the monitoring requirements for Discharger Groups. If such requirements are in place in another regulatory program, the Executive Officer may modify the monitoring tasks of Discharger Groups, upon a request by the Discharger Group, to coordinate with other monitoring programs required by Regional Water Board Programs.

The sections below outline the requirements for the MRP.

Monitoring Sites

The Discharger Group shall monitor discharges from irrigated agricultural lands to waters of the state under these requirements. Due to the dispersed nature of irrigated agriculture in Los Angeles County, the Discharger Group may propose representative monitoring sites to determine discharge quality for all enrolled irrigated agricultural land in the Discharger Group. The discharge quality measured at a representative monitoring

site shall be assumed to be the same as the discharge quality at other sites of the same size, crop type, and location. The number and location of representative monitoring sites shall be based on the specific characteristics of irrigated agricultural land within the Discharger Group, and shall be justified in the MRP based on a detailed description of the characteristics of each representative monitoring site relative to the characteristics of the irrigated agricultural land. Several criteria should be used to identify locations for representative monitoring. These include, but are not limited to the following:

- previous or existing monitoring locations
- proximity to waterbodies for which TMDLs have been established
- proximity to waterbodies that are on or proposed for inclusion on the 303(d) list of impaired waterbodies
- potential runoff characteristics
- amount of pesticide and fertilizer use
- type of crop
- safe all-weather access locations

The MRP shall describe the characteristics of each monitoring site and provide a map and GPS coordinates for each monitoring site. The MRP shall list the Discharger Group member sites that are being represented by each monitoring site. Selected representative monitoring sites may be changed with the approval of the Executive Officer if, over time, they prove to no longer accurately represent Discharger Group members. Sites that are removed from representing other Discharger Group members will still require sampling and reporting until Water Quality Benchmarks are met.

Monitoring Frequency and Seasonality

The frequency of monitoring shall be twice yearly: once during the dry season and once during the wet season. Based on a review of annual monitoring reports, the Executive Officer may increase or decrease the frequency of monitoring. Factors that may inform the Executive Officer's evaluation of the monitoring frequency include, but are not limited to, the exceedances or attainment of applicable Water Quality Benchmarks and the effectiveness of any management measures as a result of WQMP implementation.

Monitoring shall be conducted during the dry season and wet season. The dry season is from May 15 to October 14. The wet season is from October 15 to May 15. The wet-season samples shall be collected within the first 24 hours of a storm with greater than 0.5 inch rain as measured by the nearest National Weather Service rain gauge, to the extent practicable. Practical constraints on wet season sampling events include but are not limited to (1) lab closures on weekends and holidays, (2) sample holding times, and (3) safety of the monitoring team. Dry-season samples shall be collected after the pesticides or fertilizers have been applied to the irrigated agricultural land that drains to the monitoring site, and during an irrigation event. If there is no runoff at the monitoring site, then the observation shall be documented with photos showing the occurrence of irrigation and the lack of runoff at the monitoring site. If there is consistently no runoff during irrigation events at representative monitoring sites, then the MRP shall be revised to include new representative monitoring sites.

Monitoring Constituents

The MRP shall include monitoring at representative monitoring sites for all constituents listed in Table 1. Additionally, the MRP shall include monitoring for the constituents listed in Table 2 at the representative monitoring sites within the subwatersheds listed in Table 2. If discharges from irrigated agricultural lands within a subwatershed in Table 2 are represented by a monitoring site outside of the subwatershed, then the representative monitoring site shall include monitoring for the additional constituents listed in Table 2.

The MRP shall include chronic toxicity testing to evaluate compliance with the narrative toxicity objective in the Basin Plan. Chronic toxicity testing shall be conducted for three test species: *Pimephales promelas* (fathead minnow), *Ceriodaphnia dubia* (water flea) and *Selenastrum capricornutum* (green algae). Once one toxicity sample has been collected and analyzed in the first year, the Discharger Group shall select the most sensitive species for subsequent toxicity monitoring. In addition to the three species toxicity screening, the MRP plan may propose the most relevant species for toxicity testing based on pesticide usage, sample nutrient concentrations, and site conditions for consideration by the Executive Officer. If sampling sites are located in tidally influenced areas, alternative species that are suitable for brackish conditions may be selected for toxicity testing, subject to Executive Officer approval.

Table 1. List of constituents to be monitored Regionwide

Constituent	Units
Flow	CFS (Ft^3/Sec)
pH	pH units
Temperature	^{0}F
Dissolved Oxygen	mg/L
Turbidity	NTU
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Hardness (as $CaCO_3$)	mg/L
Chloride	mg/L
Ammonia	mg/L
Nitrate-Nitrogen	mg/L
Total Nitrogen	mg/L
Phosphate	mg/L
Total Phosphorus	mg/L
Sulfate	mg/L
Total Copper	μg/L
Organophosphate Suite[1]	μg/L
Organochlorine Suite[2]	μg/L

[1] Organophosphate Suite: Bolstar, Chlorpyrifos, Demeton, Diazinon, Dichlorvos, Dimethoate, Disulfoton, Ethoprop, Fenchlorophos, Fensulfothion, Fenthion, Malathion, Merphos, Methyl Parathion, Mevinphos, Phorate, Tetrachlorvinphos, Tokuthion, Trichloronate

[2] Organochlorine Suite: 2,4' – DDD, 2,4' – DDE, 2,4'DDT, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Aldrin, BHC-alpha, BHC-beta, BHC-delta, BHC-gamma, Chlordane-alpha, Chlordane-gamma, Dieldrin, Endosulfan sufate, Endosulfan-I, Endosulfan-II, Endrin, Endrin Aldehyde, Endrin Ketone

Constituent	Units
Toxaphene	µg/L
Pyrethroids[3]	µg/L
Toxicity	TU_c[4]
E. coli	MPN/100mL
Trash[5]	Observations

Table 2. List of constituents to be monitored in specific subwatersheds based on TMDL requirements

Subwatershed	Constituent	Units
Malibu Creek Watershed	Total Nitrogen Total Phosphorus	mg/L
Santa Clara River	Total Nitrogen	mg/L
Santa Clara River	*E. coli*	MPN/100mL
Santa Clara River	Chloride	mg/L

If other Regional Water Board programs (e.g. TMDLs) are used to monitor the constituents in Table 2 the results of that monitoring must be reported in the Annual Monitoring Report required in Section 3 of this document.

Methods and Quality Assurance Project Plan

A discussion of monitoring event preparation and field protocols for sample collection and sample handling (including chain of custody requirements) shall be included in the MRP. Additionally, the MRP shall present the quality control (QC) samples that will be collected in conjunction with environmental samples to verify data quality. All samples shall be collected utilizing field techniques consistent with the State Water Resources Control Board's (State Water Board) Surface Water Ambient Monitoring Program (SWAMP). Moreover, all monitoring instruments and devices used by the Discharger Group for the prescribed field monitoring and sample collection shall be properly maintained and calibrated to ensure proper working condition and continued accuracy.

The MRP shall include a Quality Assurance Project Plan (QAPP). The QAPP shall describe the quality assurance requirements for the MRP. The QAPP will ensure that data are collected and analyzed consistent with State and Regional Water Board monitoring programs and are of high quality. The QAPP shall be consistent with the SWAMP QAPP. As such, the Discharger Group's QAPP shall include at least the following four sections (1) Project Management, (2) Data Generation and Acquisition, (3) Assessment and Oversight, and (4) Data Validation and Usability. A QAPP template is

[3] Pyrethroid Pesticides include: allethrin, bifenthrin, cyfluthrin, cypermethrin, danitol, deltamethrin, esfenvalerate, fenvalerate, lambda-cyhalothrin, permethrin, and prallethrin

[4] Chronic Toxic Unit is the reciprocal of the sample concentration that causes no observable effects on the test organism by the end of a chronic toxicity test.

[5] Methods used in previously approved MRPs under Order No. R4-2010-0186 or adopted Trash TMDLs may be used. The assessment methodology should produce consistent results across watersheds and across counties.

available through the SWAMP website at http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml.

The QAPP shall include the location of sample site(s) and the sampling schedule. The QAPP shall include data quality objectives including, but not limited to the following:

- Representativeness
- Comparability
- Accuracy
- Precision
- Recovery
- Reporting limits
- Completeness

The analytical methods, including method detection limits and reporting limits shall be presented in the QAPP. In general, the method detection limits shall be at or below applicable Water Quality Benchmarks. However, several of the constituents of concern have Water Quality Benchmarks that are lower than the readily available detection limits. As analytical methods and detection limits continue to improve (i.e., development of lower detection limits) and become more environmentally relevant, Dischargers shall incorporate new method detection limits in the MRP and QAPP. In the meantime, the detection limits for these constituents shall be set at levels achievable by professional analytical labs, subject to discharger requests and Executive Officer approval.

A laboratory that is certified by the State Water Board's Environmental Laboratory Accreditation Program (ELAP) shall conduct all laboratory analysis according to standard methodologies (e.g. USEPA methods and/or Standard Methods for the Examination of Water and Wastewater). Laboratory analytical methods must be included as an appendix of the QAPP. All data shall be submitted in electronic format to the Regional Water Board using existing formats in CEDEN at http://www.ceden.org/ceden_datatemplates.shtml. The QAPP shall include the laboratory's Standard Operating Procedures (SOPs).

Toxicity testing shall be conducted in accordance with USEPA *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (EPA-821-R-02-013) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition* (EPA-821-R-02-014), as appropriate. Additionally, toxicity testing will be implemented in accordance with State Water Board and Regional Water Board plans, policies and guidance at the time that toxicity monitoring is conducted. The Regional Water Board may review Order No. R4-2016-0143 and modify the Monitoring and Reporting Requirements pertaining to toxicity monitoring at the time the State Water Board adopts a policy for toxicity assessment and control. Toxicity testing shall be implemented as a trigger for initiation of the TIE process as outlined in USEPA's *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program* (2000) and *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program* (March 27, 2001).

The fish collection and analysis shall be conducted in accordance with the USEPA *Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories: Volume 1 Fish Sampling and Analysis* (EPA 823-B-00-0007) or updates.

2) WATER QUALITY MANAGEMENT PLAN

A Discharger Group shall develop a water quality management plan (WQMP) to address exceedances of Water Quality Benchmarks. The WQMP shall outline specific steps with milestones that work toward attainment of Water Quality Benchmarks through the implementation of management practices. The first WQMP shall be submitted one year from the adoption of Order No. R4-2016-0143 based on water quality monitoring data from 2007-2015 and a report of existing management practices obtained from farm evaluation plans or surveys completed by Discharger Group members as described in section 2.a.iii. WQMPs shall be updated every two years if Water Quality Benchmarks are not attained based on results of revised farm evaluation plans or surveys completed by Discharger Group members. WQMPs are subject to Executive Officer approval and shall be noticed for public comment prior to Executive Officer approval. The elements of the WQMP shall include:

a) Summary of Existing Conditions

Discharger Group members may be separated into groups based on their operational patterns. The WQMP shall be organized by representative monitoring site and the associated irrigated agricultural lands in order to correlate management practice implementation with water quality monitoring results and to evaluate management practice effectiveness. For each representative monitoring site provide:

i. A list of the Discharger Group members and their operational grouping, if applicable, represented by the monitoring site.

ii. For each constituent that has exceeded a Water Quality Benchmark, a graph showing the concentrations of the constituent over time since 2007 and a trend analysis for that constituent[6].

iii. A report of existing management practices[7] being implemented at the monitoring site and at the Discharger Group member sites represented by the monitoring site. In addition to adoption rates, report on the degree of implementation (e.g., size of area treated), for each type of management practice, as follows:

[6] Discharger group shall propose a method for trend analysis in the WQMP.

[7] To determine existing management practice implementation, a discharger group may survey its members or compile information from farm evaluation plans completed by members. The survey questions or farm evaluation plans must be specific enough to produce the required level of detail for management practice reporting. The Discharger Group shall submit the farm evaluation plan template or survey/questionnaire for review and approval by the Executive Officer within 30 days of the adoption of this order and will make the farm evaluation plan template or survey/questionnaire available to its members within 30 days of its approval by the Executive Officer.

- For all types of management practices that require linear installation, report linear feet installed per corresponding total length. For example, list how many feet of roads are covered with gravel per total length of roads.
- For all types of management practices that require linear installation to treat an area of irrigated agricultural land, report linear feet installed and acres treated. For example, list how many feet of filter socks are installed at the property to treat how many acres of land.
- For all types of management practices that are installed to treat a specific area, report acres treated. For example, for runoff collection, report how many acres of runoff from agricultural land are treated.

iv. A summary of pesticide/herbicide/fungicide and fertilizer application practices. Compare changes in pesticide and nutrient concentrations at monitoring sites to pesticide and fertilizer use patterns for site.

v. Comparison of existing management practice implementation (type of management practices, adoption rates, and degree of implementation specified in 2.a.iii) at the monitoring site and at the Discharger Group member sites represented by the monitoring site to long-term monitoring data for the monitoring site using graphical comparisons and statistical analysis, as specified in 2.a.ii, in order to assess management practice effectiveness and determine if additional or upgraded management practices are necessary to meet Water Quality Benchmarks.

b) Proposed Additional or Upgraded Management Practices

Based on the analysis completed under section 2.a.v., for each monitoring site provide:

i. Description of additional or upgraded management practices, which shall be implemented by the monitoring site and at the Discharger Group member sites represented by the monitoring site to address Water Quality Benchmark exceedances, as follows:

- For exceedances of Water Quality Benchmarks for nutrients, the WQMP must specify the following types of management practices:
  - Improved irrigation efficiency to reduce runoff
  - Certified nutrient management plans[8], including a consideration of crop-specific applied/removed ratios for nitrogen[9] where available.

[8] A certified nutrient management plan must be certified in one of the following ways:
a. Self-certified by the Member who attends a California Department of Food and Agriculture or other Executive Officer approved training program for nutrient plan certification
b. Self-certified by the Member that the plan adheres to a site-specific recommendation from the Natural Resources Conservation Service (NRCS) or the University of California Cooperative Extension

- For exceedances of Water Quality Benchmarks for historic pesticides and their degradation products, such as DDT, DDE, chlordane, and dieldrin, the WQMP must specify the following types of management practices:

  - Improved irrigation efficiency to reduce runoff
  - Erosion and runoff control measures
  - Stormwater runoff filtration and/or infiltration

- For exceedances of Water Quality Benchmarks for copper and current use pesticides, such as chlorpyrifos, diazinon, pyrethroids, and toxicity the WQMP must specify the following types of management practices:

  - Pesticide management plans
  - Improved irrigation efficiency to reduce runoff
  - Erosion and runoff control measures
  - Stormwater runoff filtration and/or infiltration

- Additional or upgraded management practices must be based on a comparison to existing management practices, as follows:

  - If source reduction and non-structural management practices are not fully implemented by all members represented by the monitoring site, then the WQMP must specify increased implementation of source reduction and non-structural management practices
  - If source reduction and non-structural management practices are fully implemented[10] by all members represented by the monitoring site, then the WQMP must specify implementation of structural/treatment management practices

- For member sites located under a utility easement, additional or upgraded management practices may be based on "Best Management Practices: A Water Quality Field Guide for Nurseries, Southern California Edition" prepared by the University of California Division of Agriculture and Natural Resources.

ii. A time-certain schedule for implementation of additional or upgraded management practices to ultimately attain Water Quality Benchmarks within ten

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c. Certified by a Crop Advisor certified by the American Society of Agronomy, or Technical Service Providers certified in nutrient management in California by the National Resource Conservation Service (NRCS)

[9] Crop-specific applied/removed ratios for nitrogen have not been determined for all crops grown in Los Angeles County and will be used when they are available.

[10] Or cannot be fully implemented. For example, if irrigation runoff cannot be reduced or eliminated by replacing inefficient irrigation systems with drip irrigation because of plant propagation needs or other considerations, then irrigation runoff must be treated before leaving the property, or recycled (tailwater recovery).

years from the date the WQMP is submitted, unless otherwise specified in Table 3.

c) Outreach Plan

The WQMP shall include a strategy for communicating to growers the need to implement additional or upgraded management practices. The Discharger Group shall:

i. Provide regular communication (a minimum of twice per year) to members alerting them of additional and upgraded management practice requirements specific to their site as specified in section 2.b.

ii. Provide education classes and field trainings, referrals to technical assistance providers, and notices of available funding to members, targeting the constituents specific to their site as specified in section 2.b.

The WQMP shall be updated based on monitoring data since 2007, as follows:

Submit first WQMP: April 14, 2017
Submit second WQMP: December 15, 2018
Submit final report for 2016 Waiver[11]: October 31, 2020

d) WQMP Process

The iterative WQMP process shall continue until Water Quality Benchmarks are attained as long as there are decreasing trends in concentrations at the Discharger Group monitoring sites[12] and until the deadlines specified in Table 3. The deadlines in Table 3 take into consideration the relative difficulty in achieving Water Quality Benchmarks for different constituents and are based on TMDL compliance dates, where applicable.

Table 3. TMDL-Associated Water Quality Benchmark Compliance Deadlines

TMDL Constituents	Compliance Date
Malibu Creek Watershed Nutrients TMDL	October 14, 2022
Santa Clara River Nitrogen Compounds TMDL	October 14, 2022
Upper Santa Clara River Chloride TMDL	October 14, 2020
Malibu Creek Watershed Sedimentation and Nutrients TMDL	July 2, 2021
Santa Clara River Bacteria TMDL	March 21, 2023 dry March 21, 2029 wet

For Discharger Group representative monitoring sites that do not show decreasing trends in concentrations, or for which a deadline in Table 3 has passed, the

[11] Final report shall include presentation of data in section 2.a. and a summary of progress under the 2016 Waiver.
[12] According to method specified in 2.a.ii

representative monitoring sites shall be subject to discharge limitations equal to Water Quality Benchmarks at the points of discharge from the deadline forward. In addition, monitoring sites shall be added at the discharges from the individual irrigated agricultural lands represented by the Discharger Group monitoring sites to determine if the individual sites are attaining Water Quality Benchmarks. If individual irrigated agricultural lands represented by the Discharger Group monitoring sites are not attaining Water Quality Benchmarks based on one year of sampling (one wet-weather event and one dry-weather event), then these individual sites shall have an additional year before they are subject to discharge limitations equal to Water Quality Benchmarks at the points of discharge.

3) REPORTING REQUIREMENTS

Pursuant to Water Code Section 13267 and 13269, the Discharger Group shall submit the following reports to the Regional Water Board by the deadlines identified below.

Monitoring and Reporting Plan
Due: twelve months from the adoption of Order 2016-0143, and updated, if needed, within three months of the submittal of the annual monitoring report

The MRP must include the components of the monitoring and reporting requirements as stated in Section 1 of these Monitoring and Reporting Requirements. The MRP shall also include the following elements:

1. Title page and Table of Contents
2. Description of the Discharger Group, including formation and background information
3. Summary of Discharger Group membership and setting, including characteristics relevant to the monitoring
4. Summary of the historical data and/or on-going monitoring at each monitoring site
5. GPS coordinates for each monitoring site
6. Maps showing sampling property boundaries, land use, topography, waters of the state, crop types, and any other features which may affect water quality
7. Summary of current pesticide use practices (including top 5 pesticides applied by volume and 5 most frequently applied pesticides) totaled by irrigated lands associated with a representative monitoring site. Self-reported information collected yearly in the form of the WQMP questionnaire will be adequate.
8. Monitoring constituents and frequency of sampling to include all constituents in Table 1 and 2
9. A QAPP consistent with the requirements described in Section 1
10. Documentation of monitoring protocols including sample collection and handling methods
11. Discharger Group contact information

Water Quality Management Plan
First WQMP due: April 14, 2017
Second WQMP due: December 15, 2018, combined with the third AMR
Final report for 2016 Waiver due: October 31, 2020

The WQMP shall be based on water quality monitoring data from 2007-2015 and a report of existing management practices obtained from farm evaluation plans or surveys completed by Discharger Group members as described in section 2.a.iii. The WQMP shall be updated based on results of revised farm evaluation plans or surveys completed by Discharger Group members. The required elements of a WQMP are presented in Section 2 of these Monitoring and Reporting Requirements.

Annual Monitoring Report
Due: Annually beginning December 15th

The Discharger Group shall prepare the Annual Monitoring Report (AMR) based on data collected through the previous water year (October 15 to October 14) and it shall include a review of the results of the data collected and data evaluation and a WQMP progress report. The AMR shall include the following components:

1. Title page
2. Table of contents
3. Description/Summary of Discharger Group membership and setting
4. Updated membership list, submitted electronically
5. Monitoring objectives
6. Sampling and analytical methods used, submitted in a tabular format
7. For each monitoring site:
    a. Site description, including photographs
    b. Location map of sampling sites including GPS coordinates and maps of sampling sites
    c. Parameters monitored and frequency
    d. Tabulated results of analyses and comparison with applicable Water Quality Benchmarks and/or discharge limitations
    e. Data interpretation including assessment of compliance and/or noncompliance with Water Quality Benchmarks and/or discharge limitations
    f. Results of toxicity tests
    g. List of Discharger Group members represented by monitoring site
8. Copy of chain of custody, submitted electronically
9. Associated laboratory and field quality control samples results
10. Summary of precision and accuracy
11. Quality control data interpretation, including assessment of data quality objectives
12. WQMP Progress Report
    For each representative monitoring site and the irrigated agricultural lands associated with the monitoring site:

a. Copies of outreach materials (mailings, handouts from education classes)
b. Report on members who have not completed surveys/farm evaluation plans
c. Documentation that education requirements have been fulfilled by members
d. Photo documentation of implementation by members of recommended BMPs in 2.b.

Discharger Groups eligible under this Order bear the responsibility to provide required information to the Regional Water Board, maintain records, and submit regular reports detailing the types of discharges, monitoring results for required constituents, members of the Group, the type of management practices implemented, how those measures have changed water quality, and other basic information that the Executive Officer may determine is required. Copies of all field documentation and laboratory original data must be included in the annual monitoring report in a CEDEN-compatible format (and may be included as attachments). The annual monitoring report should also provide a characterization of the field conditions during each sampling event, including a description of the weather, rainfall, temperature, photographs, stream flow, color of the water, odor, crop type, cultivation practices and pesticide, fertilizer or sediment control measures, which may affect water quality, and other relevant information that can assist in data interpretation.

Monitoring and analyses event records shall include the following information: (1) date and time of sampling, (2) sample location (GPS coordinates), (3) photograph of monitoring site, (4) individual(s) who performed the sampling or measurements, (5) date(s) analyses were performed, (6) laboratory and/or individual(s) who performed the analyses, (7) the analytical techniques or method used along with method detection limits, and (8) the results of such analyses.

The monitoring data will be submitted in a format consistent with SWAMP reporting requirements, both electronically and in written tabular form.

Other Reporting Requirements

1. A transmittal letter shall accompany each report. This letter shall include a brief discussion of any violations of the Conditional Waiver that were found during the reporting period and cite to the pages in the report that note these violations. The transmittal letter shall be signed and shall contain a penalty of perjury statement by the Discharger Group's authorized agent. This statement shall state:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and

imprisonment for perjury."

2. If Dischargers monitor any constituent (at locations established in the MRP), for the purposes of evaluating compliance with the provisions of this Order, more frequently than required by the Conditional Waiver, the discharger shall submit the monitoring results to the Regional Water Board.

3. The Discharger Groups shall retain records of all monitoring information including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order.

4. Records shall be maintained for a minimum of five years from the date of the sample, measurement, or report. This period may be extended during the course of any unresolved enforcement action, including, but not limited to, litigation regarding this discharge, or when requested by the Executive Officer.

5. Each monitoring report must affirm in writing that "All analyses were conducted at a laboratory certified for such analyses by the Environmental Laboratory Accreditation Program, and in accordance with current USEPA guideline procedures, or as specified in this Monitoring Program."

6. Monitoring reports must be provided in electronic format to be specified by the Executive Officer.

7. Records and reports submitted to the Regional Water Board are public documents and shall be made available for inspection during normal business hours at the Regional Water Board office.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

APPENDIX 3

MONITORING AND REPORTING REQUIREMENTS

GROUP ENROLLMENT – VENTURA COUNTY

UNDER

ORDER NO. R4-2016-0143

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS

These Monitoring and Reporting Requirements are issued by the Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) pursuant to Water Code sections 13267 and 13269, as set forth in Findings 25-28 of the Order. As conditioned by the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Agricultural Lands (Conditional Waiver), Order No. R4-2016-0143, Discharger Groups shall develop a Monitoring and Reporting Plan (MRP) to verify the adequacy and effectiveness of the conditions contained in the Conditional Waiver. The MRP shall be sufficient to (1) assess the impacts of waste discharges from irrigated agricultural lands on waters of the state, (2) evaluate the effectiveness of management practices to control waste discharges, (3) track progress in reducing the amount of waste discharged to waters of the state to improve water quality and protect beneficial uses, and (4) assess compliance with discharge limitations, where applicable. The Executive Officer of the Regional Water Board may revise monitoring and reporting as appropriate.

1) MONITORING AND REPORTING PLAN

Discharger Groups shall submit an MRP to the Regional Water Board for Executive Officer approval within six months after adoption of Order No. R4-2016-0143.

Other Regional Water Board programs (e.g. TMDLs) may contain requirements similar to the monitoring requirements for Discharger Groups. If such requirements are in place in another regulatory program, the Executive Officer may modify the monitoring tasks of Discharger Groups, upon a request by the Discharger Group, to coordinate with other monitoring programs required by Regional Water Board Programs.

The sections below outline the requirements for the MRP.

a) Surface Water Quality Monitoring Requirements

Monitoring Sites

Monitoring sites selected for compliance with the Conditional Waiver adopted by Order No. R4-2010-0186 shall be maintained (16 sites for Conditional Waiver constituents and 10 sites for TMDL constituents). More sites shall be added in the lower Ventura River watershed to assess compliance with the Ventura River Algae TMDL, and representative sites shall be proposed from among the existing sites to assess compliance with the

Malibu Creek Nutrients and Sedimentation TMDLs. The identification of waterbodies and locations for monitoring should be based on, but are not limited to, the following:

- waterbodies for which TMDLs have been developed
- size and complexity of watershed
- watershed hydrology
- size of waterbodies
- flow of waterbodies
- proximity to agriculture operations
- safe all-weather access locations

Monitoring Frequency and Seasonality

The frequency of monitoring shall be four times per storm year (i.e., October 15-October 14): twice during the dry season and twice during the wet season. Toxicity shall be monitored during one wet season event and the second dry-season sampling event each storm year. The minimum frequency for fish tissue analysis shall be once every three years. Based on a review of annual monitoring reports, the Executive Officer may increase or decrease the frequency of monitoring. Factors that may be considered in the Executive Officer's evaluation of the monitoring frequency include, but are not limited to, the exceedances or attainment of applicable Water Quality Benchmarks and the effectiveness of any management measures as a result of WQMP implementation.

Monitoring shall be conducted during the dry season and wet season. The dry season is from May 15 to October 15. The wet season is from October 15 to May 15. The wet season samples shall be collected within the first 24 hours of a storm with greater than 0.5 inch rain as measured by the nearest National Weather Service rain gauge, to the extent practicable. Practical constraints on wet season sampling events include, but are not limited to (1) lab closures on weekends and holidays, (2) sample holding times, and (3) safety of the monitoring team. The first wet season samples shall be collected after the first storm of the year. The dry season samples shall be collected after the majority of growers in the area draining to the monitoring site have applied fertilizers and during the period where irrigation is required.

Monitoring Constituents

The MRP shall include monitoring for all constituents listed in Table 1. Additionally, the MRP shall include monitoring for the additional constituents specified in Table 2 for those irrigated agricultural lands discharging to the subwatersheds listed in Table 2.

The MRP shall include chronic toxicity testing to evaluate compliance with the narrative toxicity objective in the Basin Plan. During the first year, chronic toxicity testing shall be conducted for three test species: *Pimephales promelas* (fathead minnow), *Ceriodaphnia dubia* (water flea) and *Selenastrum capricornutum* (green algae). Based on the test results, the Discharger Group shall select the most sensitive species for subsequent toxicity monitoring and document its rationale in its annual monitoring report. In addition to the three species toxicity screening, the MRP plan may propose the most relevant species for toxicity testing based on pesticide usage, sample nutrient concentrations, and site conditions for consideration by the Executive Officer. If sampling sites are

located in tidally influenced areas, alternative species that are suitable for more brackish conditions may be selected for toxicity testing, subject to Executive Officer approval.

The results of toxicity testing will be used to trigger further investigations to determine the cause of observed toxicity. If toxicity tests indicate the presence of significant toxicity in the sample, Toxicity Identification Evaluation (TIE) procedures shall be initiated to investigate the cause of toxicity. For the purposes of triggering a TIE, significant toxicity is defined as at least 50% mortality. This threshold is consistent with the approach recommended in guidance published by US EPA for conducting TIEs (US EPA, 1996b). During the field collection of samples an adequate volume of water to conduct both toxicity tests and TIEs should be collected from each monitoring site.

Table 1. List of constituents to be monitored Regionwide

Constituent	Units
Flow	CFS (Ft^3/Sec)
pH	pH units
Temperature	^{0}F
Dissolved Oxygen	mg/L
Turbidity	NTU
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Hardness (as $CaCO_3$)	mg/L
Chloride	mg/L
Ammonia	mg/L
Nitrate-Nitrogen	mg/L
Total Nitrogen	mg/L
Phosphate	mg/L
Total Phosphorus	mg/L
Sulfate	mg/L
Total Copper	μg/L
Organophosphate Suite[1]	μg/L
Organochlorine Suite[2]	μg/L
Toxaphene	μg/L
Pyrethroids[3]	μg/L
Toxicity	TU_c[4]
E. coli	MPN/100 mL
Trash	Observations[5]

[1] Organophosphate Suite: Bolstar, Chlorpyrifos, Demeton, Diazinon, Dichlorvos, Dimethoate, Disulfoton, Ethoprop, Fenchlorophos, Fensulfothion, Fenthion, Malathion, Merphos, Methyl Parathion, Mevinphos, Phorate, Tetrachlorvinphos, Tokuthion, Trichloronate

[2] Organochlorine Suite: 2,4' – DDD, 2,4' – DDE, 2,4'DDT, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Aldrin, BHC-alpha, BHC-beta, BHC-delta, BHC-gamma, Chlordane-alpha, Chlordane-gamma, Dieldrin, Endosulfan sufate, Endosulfan-I, Endosulfan-II, Endrin, Endrin Aldehyde, Endrin Ketone

[3] Pyrethroid Pesticides include: allethrin, bifenthrin, cyfluthrin, cypermethrin, danitol, deltamethrin, esfenvalerate, fenvalerate, lambda-cyhalothrin, permethrin, and prallethrin

[4] Chronic Toxic Unit is the reciprocal of the sample concentration that causes no observable effects on the test organism by the end of a chronic toxicity test.

[5] Methods used in previously approved MRPs under Order No. R4-2010-0186 or adopted Trash TMDLs may be used. The assessment methodology should produce consistent results across watersheds and across counties.

Table 2. List of constituents to be monitored in specific subwatersheds based on TMDL requirements

Subwatershed	Constituent	Units
Calleguas Creek - Reach 2 Revolon Slough Mugu Lagoon	Nickel	µg/L
Calleguas Creek - Reach 2 Revolon Slough Mugu Lagoon	Selenium	µg/L
Calleguas Creek - Reach 2 Revolon Slough Mugu Lagoon	Mercury	µg/L
Mugu Lagoon Calleguas Creek Revolon Slough Arroyo Las Posas Arroyo Simi Conejo Creek	In Sediment: PCBs Chlordane Dieldrin Toxaphene 4,4 DDD 4,4 DDE 4,4 DDT	ng/g
Simi Revolon Slough	Boron	mg/L
Channel Islands Harbor	Total Coliform Fecal Coliform Enterococcus	MPN/100 mL
Santa Clara River Estuary	In Fish Tissue[1]: Chlordane Dieldrin Toxaphene In Water: Chlordane Dieldrin Toxaphene In Suspended Sediment[2]: Chlordane Dieldrin Toxaphene	µg/kg µg/L µg/kg
Malibu Creek Watershed – Hidden Valley Creek	Total Nitrogen Total Phosphorus	mg/L
Santa Clara River Bacteria TMDL	Total Coliform Fecal Coliform Enterococcus *E. coli*	MPN/100 mL
Ventura River Algae TMDL	Total Nitrogen Total Phosphorus	mg/L

Subwatershed	Constituent	Units
Oxnard Drain #3 Pesticides, PCBs, and Sediment Toxicity TMDL	In Water and Sediment: Chlorpyrifos 4-4'-DDT 4,4'-DDE 4,4'-DDD Dieldrin PCBs Sediment toxicity Toxaphene In Water: Bifenthrin Chlordane	 µg/L µg/dry kg µg/L

[1] The minimum frequency for fish tissue analysis in the Santa Clara River Estuary shall be once every three years.
[2] Santa Clara River Estuary monitoring for constituents in suspended sediment is only required during wet weather events.

If other Regional Water Board programs (e.g. TMDLs) are used to monitor the constituents in Table 2 the results of that monitoring must be reported in the annual monitoring report required in Section 3 of this document.

b) Groundwater Monitoring Requirements

The purpose of groundwater monitoring is to assess trends in groundwater quality beneath irrigated agricultural lands and to confirm that management practices implemented to improve groundwater quality are effective.

i. In order to assess trends in groundwater quality, Discharger Groups shall analyze existing monitoring data from groundwater basins below irrigated agricultural lands and propose wells that will be used to compare historical and future data to evaluate long-term groundwater trends.

ii. In order to assess the effectiveness of management practices in protecting groundwater quality, Discharger Groups shall submit a work plan to monitor areas where irrigated agricultural lands have the potential to impact groundwater basins, exceedances of nitrate have been confirmed, and groundwater is a significant drinking water source, to determine if management practices implemented on the land surface are protective of underlying groundwater quality. The same monitoring wells in 1.b.i and previous studies can be used where available and appropriate for the monitoring objectives.

The Discharger Group may explore using existing monitoring networks and programs such as those being conducted in accordance with local groundwater management

plans (e.g., Salt and Nutrient Management Plans and Groundwater Sustainability Plans developed under the Sustainable Groundwater Management Act).

c) Individual Discharge Monitoring Requirements – For Certain Members

For Discharger Group monitoring sites where TMDL-associated Water Quality Benchmarks are not attained by the deadlines in Section 2.d, Table 3, either:

1. all members with sites draining to the Discharger Group monitoring site and all members with sites in the encompassing and adjacent HUC-12 watersheds as defined in Section 2.a.i shall submit individual MRPs within three months or

2. the Discharger Group may submit a revised group MRP within three months to include individual discharge monitoring for the affected member sites.

The Discharger Group shall not be held responsible for failure of a member to submit an individual MRP if the Discharger Group elects not to submit a revised group MRP on behalf of its members.

The individual MRPs or revised group MRP shall include a brief sampling and analysis plan for each member site, including:

- The number and location of individual discharge monitoring points: Individual discharge monitoring points must be selected to adequately characterize the majority of the discharge from the portion of the member site that drains to the Discharger Group monitoring site, based on its typical discharge patterns, including tail water discharges, discharges from tile drains, and stormwater runoff.

- A description of sample collection procedures: Samples may be collected according to the MRP for the Discharger Group monitoring sites.

- Description of how samples will be handled, transported, and received by the laboratory: The QAPP for the Discharger Group monitoring sites may be used.

Samples shall be collected from each individual discharge monitoring point. One sample shall be collected per year in wet weather and/or dry weather, depending on the nature of the exceedance at the Discharger Group monitoring site, until Water Quality Benchmarks are attained at each individual discharge monitoring point or at the Discharger Group monitoring site.

Dry-weather monitoring must be conducted during an irrigation event of the type and length that would produce the most runoff on the portion of the site draining to the monitoring point. If there is no runoff at the monitoring point, then the observation of no runoff shall be documented in the field data sheet. The sampling event shall be rescheduled or the discharger shall submit a declaration that their irrigation practices produce no runoff. Dry-weather sampling for toxicity and for currently applied pesticides

(e.g., chlorpyrifos, diazinon, pyrethroids) must occur during the first irrigation event following pesticide application.

Wet-weather monitoring must occur within 24 hours of a storm that produces enough rain to generate runoff from the member site, preferably between half an hour and 6 hours after runoff starts.

d) Methods and Quality Assurance Project Plan

A discussion of monitoring event preparation and field protocols for sample collection and sample handling (including chain of custody requirements) shall be included in the MRP. Additionally, the MRP shall present the quality control (QC) samples that will be collected in conjunction with environmental samples to verify data quality. All samples shall be collected utilizing field techniques consistent with the State Water Resources Control Board's (State Water Board) Surface Water Ambient Monitoring Program (SWAMP). Moreover, all monitoring instruments and devices used by the Discharger for the prescribed field monitoring and sample collection shall be properly maintained and calibrated to ensure proper working condition and continued accuracy.

The MRP shall include a Quality Assurance Project Plan (QAPP). The QAPP shall describe the quality assurance requirements for the MRP. The QAPP will ensure that data are collected and analyzed consistent with State and Regional Water Board monitoring programs and are of high quality. The QAPP shall be consistent with the SWAMP QAPP. As such, the Discharger's QAPP shall include at least the following four sections (1) Project Management, (2) Data Generation and Acquisition, (3) Assessment and Oversight, and (4) Data Validation and Usability. A QAPP template is available through the SWAMP website at http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml.

The QAPP shall include the location of sample site(s) and the sampling schedule. The QAPP shall include data quality objectives including, but not limited to the following:

- Representativeness
- Comparability
- Accuracy
- Precision
- Recovery
- Reporting limits
- Completeness

The analytical methods, including method detection limits and reporting limits shall be presented in the QAPP. In general, the method detection limits shall be at or below applicable Water Quality Benchmarks. However, several of the constituents of concern have Water Quality Benchmarks that are lower than the readily available detection limits. As analytical methods and detection limits continue to improve (i.e., development of lower detection limits) and become more environmentally relevant, Dischargers shall incorporate new method detection limits in the MRP and QAPP. In the meantime, the detection limits for these constituents shall be set at levels achievable by professional

analytical labs, subject to discharger request and Executive Officer approval.

A laboratory that is certified by the State Water Board's Environmental Laboratory Accreditation Program (ELAP) shall conduct all laboratory analysis according to standard methodologies (e.g. USEPA methods and/or Standard Methods for the Examination of Water and Wastewater). Laboratory analytical methods must be included as an appendix of the QAPP. All data shall be submitted in electronic format to the Regional Water Board using existing formats in CEDEN at http://www.ceden.org/ceden_datatemplates.shtml. The QAPP shall include the laboratory's Standard Operating Procedures (SOPs).

Toxicity testing shall be conducted in accordance with USEPA *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (EPA-821-R-02-013) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition* (EPA-821-R-02-014), as appropriate. Additionally, toxicity testing will be implemented in accordance with State Water Board and Regional Water Board plans, policies and guidance at the time that toxicity monitoring is conducted. The Regional Water Board may review Order No. R4-2016-0143 and modify the Monitoring and Reporting Requirements pertaining to toxicity monitoring and TIEs at the time the State Water Board adopts a policy for toxicity assessment and Control. Toxicity testing shall be implemented as a trigger for initiation of the TIE process as outlined in USEPA's *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program* (2000) and *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program* (March 27, 2001).

The fish collection and analysis shall be conducted in accordance with the USEPA *Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories: Volume 1 Fish Sampling and Analysis* (EPA 823-B-00-0007) or updates.

2) WATER QUALITY MANAGEMENT PLAN

A Discharger Group shall develop a water quality management plan (WQMP) to address exceedances of Water Quality Benchmarks. The WQMP shall outline specific steps with milestones that work toward attainment of Water Quality Benchmarks through the implementation of management practices. The first WQMP shall be submitted one year from the adoption of Order No. R4-2016-0143 based on water quality monitoring data from 2007-2016 and a report of existing management practices obtained from farm evaluation plans or surveys completed by Discharger Group members as described in section 2.a.iii. WQMPs shall be updated according to the schedule in 2.d, if Water Quality Benchmarks are not attained, based on results of revised farm evaluation plans or surveys completed by Discharger Group members. WQMPs are subject to Executive Officer approval and shall be noticed for public comment prior to Executive Officer approval. The elements of the WQMP shall include:

a) Summary of Existing Conditions

The WQMP shall be organized by monitoring site. For each monitoring site provide:

i. A map showing the monitoring site, the land area draining to the monitoring site, the HUC-12 watershed in which the monitoring site is located, any adjacent HUC-12 watersheds that do not include a monitoring site[6], and the enrolled and non-enrolled irrigated agricultural parcels within the HUC-12 watershed(s). Maps shall be submitted electronically in GIS format in addition to being included in the written WQMP.

ii. For each constituent that has exceeded a Water Quality Benchmark (considering applicable averaging periods[7]), a graph showing the concentrations of the constituent over time since 2007.

iii. A report of existing management practices[8] being implemented in the land area draining to the monitoring site, the HUC-12 watershed in which the monitoring site is located, and any adjacent HUC-12 watersheds that do not include a monitoring site. In addition to adoption rates, report on the degree of implementation (e.g., size of area treated), for each type of management practice, as follows:

- For all types of management practices that require linear installation, report linear feet installed per corresponding total length. For example, list how many feet of windbreak are installed on the property per total wind-facing property line.
- For all types of management practices that require linear installation to treat an area of irrigated agricultural land, report linear feet installed and acres treated. For example, list how many feet of filter strip are installed at the property to treat how many acres of land.
- For all types of management practices that are installed to treat a specific area, report acres treated. For example, for a sedimentation retention basin,

[6] Discharger groups shall propose a method for associating adjacent HUC-12 watersheds with monitoring sites in the WQMP.

[7] The averaging period is typically defined in the Basin Plan, as part of water quality criteria promulgated by the USEPA, or as part of the criteria being used to interpret narrative objectives. If averaging periods are not defined in the Basin Plan, USEPA promulgated criteria, or other water quality criteria, or approved water quality trigger, the Regional Water Board will use the best available information to determine an appropriate averaging period.

[8] To determine existing management practice implementation, a discharger group may survey its members or compile information from farm evaluation plans completed by members. The survey questions or farm evaluation plans must be specific enough to produce the required level of detail for management practice reporting. The Discharger Group shall submit the survey or template farm evaluation plan to the Executive Officer for review and approval within 120 days of the adoption of Order No. R4-2016-0143 and shall make the farm evaluation plan template or survey available to its members according to the schedule in Section 3 of these monitoring and reporting requirements.

report how many acres of runoff from agricultural land are treated by this basin.

iv. A pesticide use evaluation assessment, including the timing of pesticide applications, the application rates, the amounts of pesticide applied, and the points of application. Compare changes in pesticide concentrations at specific monitoring sites to pesticide use patterns for land area draining to the monitoring site.

v. Comparison of existing management practice implementation (type of management practices, adoption rates, and degree of implementation specified in 2.a.iii) in the land area draining to the monitoring site to long-term monitoring data for the monitoring site using graphical comparisons, as specified in 2.a.ii, in order to assess management practice effectiveness and determine if additional or upgraded management practices are necessary to meet Water Quality Benchmarks.

b) Proposed Additional or Upgraded Management Practices

Based on the analysis completed under section 2.a.v., for each monitoring site provide:

i. Description of additional or upgraded management practices, which shall be implemented by members in the land area draining to the monitoring site (and in the HUC-12 watershed in which the monitoring site is located and any adjacent HUC-12 watersheds that do not include a monitoring site) to a degree appropriate to adequately address Water Quality Benchmark exceedances within 10 years or according to the schedule in Table 3, as follows:

- For exceedances of Water Quality Benchmarks for nutrients, the WQMP must specify the following types of management practices:

  - Improved irrigation efficiency to reduce runoff
  - Certified nutrient management plans[9], including a consideration of crop-specific applied/removed ratios for nitrogen[10] where available
  - Treatment systems or control systems to remove nitrogen from discharges

[9] A certified nutrient management plan must be certified in one of the following ways:

a. Self-certified by the Member who attends a California Department of Food and Agriculture or other Executive Officer approved training program for nutrient plan certification
b. Self-certified by the Member that the plan adheres to a site-specific recommendation from the Natural Resources Conservation Service (NRCS) or the University of California Cooperative Extension
c. Certified by a Crop Advisor certified by the American Society of Agronomy, or Technical Service Providers certified in nutrient management in California by the National Resource Conservation Service (NRCS)

[10] Crop-specific applied/removed ratios for nitrogen have not been determined for all crops grown in Ventura County and will be used when they are available.

- For exceedances of Water Quality Benchmarks for historic pesticides and their degradation products, such as DDT, DDE, chlordane, and dieldrin, the WQMP must specify the following types of management practices:
  - Improved irrigation efficiency to reduce runoff
  - Practices to reduce sediment in runoff
  - Stormwater runoff filtration and/or infiltration
- For exceedances of Water Quality Benchmarks for copper and current use pesticides, such as chlorpyrifos, diazinon, and pyrethroids, the WQMP must specify the following types of management practices:
  - Pesticide management plans
  - Improved irrigation efficiency to reduce runoff
  - Practices to reduce sediment in runoff
  - Stormwater runoff filtration and/or infiltration
- Additional or upgraded management practices must be based on a comparison to existing management practices, as follows:
  - If source reduction and non-structural management practices are not fully implemented by all members in the land area draining to the monitoring site, then the WQMP must specify increased implementation of source reduction and non-structural management practices
  - If source reduction and non-structural management practices are fully implemented[11] by all members in the land area draining to the monitoring site, then the WQMP must specify implementation of structural/treatment management practices

ii. Description of TMDL-specific management practices, which shall be implemented by members in watersheds addressed by TMDLs to a degree appropriate to achieve TMDL load allocations, as follows:

- For the Ventura River Algae TMDL, certified nutrient management plans
- For the McGrath Lake OC Pesticides and PCBs TMDL, practices to reduce sediment runoff and improve irrigation efficiency on individual farms, and reduce sediment runoff in the Central Ditch
- For the Santa Clara River Estuary Toxaphene TMDL, practices to reduce sediment runoff and improved irrigation efficiency

[11] Or cannot be fully implemented. For example, if irrigation runoff cannot be reduced or eliminated by replacing inefficient irrigation systems with drip irrigation because of plant propagation needs or other considerations, then irrigation runoff must be treated before leaving the property, or recycled (tailwater recovery).

iii. A time-certain schedule for implementation of additional or upgraded management practices to ultimately attain Water Quality Benchmarks within ten years from the date the WQMP is submitted, unless otherwise specified in Table 3.

c) Outreach Plan

The WQMP shall include a strategy for communicating to growers the need to implement additional or upgraded management practices. For each monitoring site:

i. Provide regular communication (a minimum of twice per year) to members alerting them of additional and upgraded management practice requirements specific to their monitoring site/HUC-12 or TMDL watershed as specified in section 2.b.

ii. Provide education classes, referrals to technical assistance providers, and notices of available funding to members, targeting the constituents specific to their monitoring site/HUC-12 or TMDL watershed as specified in section 2.b.

d) WQMP Process

The WQMP process is an iterative process. The Discharger Group shall submit the first WQMP one year from the adoption of Order No. R4-2016-0143 based on data collected since 2007 and results from farm evaluation plans or surveys completed by its members. The Discharger Group shall update the WQMP with the latest monitoring data since 2007; new information about existing management practices based on updated farm evaluation plans or surveys completed by its members, according to Section 2.a; and additional or new management practices proposed for the next year, according to Section 2.b; as well as an updated outreach plan, according to Section 2.c. The schedule for submittal of updated WQMPs is as follows:

Submit first WQMP: April 14, 2017
Submit second WQMP: December 15, 2018
Submit final report for 2016 Waiver[12]: October 31, 2020

In addition to the iterative WQMP process for Discharger Group monitoring sites that exceed Water Quality Benchmarks, beginning with the second WQMP submitted under this Waiver term, there are additional requirements if these sites do not show decreasing trends in the concentrations of constituents that exceed Water Quality Benchmarks. If a Discharger Group monitoring site does not show a decreasing trend in concentrations of constituents that exceed Water Quality Benchmarks[13], then the Discharger Group shall investigate the source(s) of the constituents that exceed Water Quality Benchmarks. The Discharger Group shall submit a work plan for the investigation to the Executive Officer for approval by October 1, 2018. The work plan

[12] Final report shall include presentation of data in section 2.a. and a summary of progress under the 2016 Waiver.
[13] Discharger groups shall propose a method for trend analysis in the source investigation work plan.

shall be noticed for public comment prior to Executive Officer approval. The Discharger Group shall begin implementation of the source investigation as soon as possible after Executive Officer approval of the work plan and no later than January 2019.

The work plan shall provide the justification for the proposed investigation, specifically identifying how the investigation will identify the source(s) of a Water Quality Benchmark exceedance and evaluate management practice effectiveness on member sites draining to the Discharger Group monitoring site. The investigation shall include some individual discharge monitoring of member sites that drain to the Discharger Group monitoring site based on an evaluation of relative locations, existing management practice implementation, pesticide application, and fertilizer application and irrigation practices of member sites. The specific investigation may include monitoring upstream of member sites to demonstrate that member sites that drain to the Discharger Group monitoring site are not causing or contributing to a Water Quality Benchmark exceedance at the Discharger Group monitoring site.

The iterative WQMP implementation process shall continue until the deadlines specified in Table 3. The deadlines in Table 3 take into consideration the relative difficulty in achieving Water Quality Benchmarks for different constituents and are based on TMDL compliance dates.

Table 3. Water Quality Benchmark Compliance Deadlines

TMDL Constituents	Compliance Date
Malibu Creek Watershed Nutrients TMDL	October 14, 2022
Santa Clara River Nitrogen Compounds TMDL	October 14, 2022
Ventura River Estuary Trash TMDL	October 14, 2020
Calleguas Creek Nitrogen Compounds and Related Effects TMDL	October 14, 2025
Revolon Slough and Beardsley Wash Trash TMDL	October 14, 2020
Upper Santa Clara River Chloride TMDL	October 14, 2020
Calleguas Creek Watershed and Mugu Lagoon Siltation TMDL*	March 24, 2015
Calleguas Creek Watershed and Mugu Lagoon Toxicity, Chlorpyrifos, and Diazinon TMDL	March 24, 2022
Ventura River Algae TMDL	June 28, 2019
McGrath Lake OC Pesticides and PCBs TMDL	June 30, 2021
Malibu Creek Watershed Sedimentation and Nutrients TMDL	July 2, 2021
Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL	March 26, 2022
Calleguas Creek Watershed Boron, Chloride, Sulfate and TDS (Salts) TMDL	Dec. 23, 2023
Santa Clara River Estuary Toxaphene TMDL	October 7, 2025
Calleguas Creek Watershed and Mugu Lagoon OC Pesticides & PCBs TMDL	March 24, 2026
Oxnard Drain #3 Pesticides, PCBs, and Sediment Toxicity TMDL	April 14, 2026

TMDL Constituents	Compliance Date
Santa Clara River Bacteria TMDL	March 21, 2023 dry March 21, 2029 wet

*Additional time may be added to this TMDL deadline should a TMDL reconsideration revise the implementation schedule based on the results of special studies.

For Discharger Group monitoring sites where a deadline in Table 3 has passed, all member sites draining to the Discharger Group monitoring site and all member sites in the encompassing and adjacent HUC-12 watersheds as defined in Section 2.a.i shall be subject to discharge limitations equal to Water Quality Benchmarks from the deadline forward. MRPs with individual discharge monitoring shall be submitted according to the requirements in Section 1.c. Individual discharge monitoring shall continue at affected member sites until there are two consecutive years without an exceedance of the discharge limitation.

3) REPORTING REQUIREMENTS

Pursuant to Water Code Section 13267 and 13269, the Discharger Group shall submit the following reports to the Regional Water Board by the deadlines identified below.

Monitoring and Reporting Plan
Due: six months from the adoption of Order 2016-0143, and updated, if chosen, within three months of the submittal of the annual monitoring report

The MRP must include the components of the monitoring and reporting requirements as stated in Section 1 of these Monitoring and Reporting Requirements. The MRP shall also include the following elements:

1. Title page and Table of Contents
2. Description of the Discharger Group, including formation and background information
3. Summary of Discharger Group membership and setting, including characteristics relevant to the monitoring
4. Summary of the historical data and/or on-going monitoring at each monitoring site
5. GPS coordinates for each monitoring site
6. Maps showing property boundaries, land use, topography, waters of the state, crop types, and any other features which may affect water quality
7. Summary of current pesticide use practices (including top 5 pesticides applied by volume and 5 most frequently applied pesticides).
8. Monitoring constituents and frequency of sampling to include all constituents in Tables 1 and 2
9. A QAPP consistent with the requirements described in Section 2.d
10. Documentation of monitoring protocols including sample collection and handling methods
11. Discharger Group contact information
12. Individual discharge monitoring plan, if chosen, according to Section 1.c

Groundwater Quality Trend Monitoring Plan
Due: six months from the adoption of Order 2016-0143

The Groundwater Quality Trend Monitoring Plan shall be completed according to the requirements of Section 1.b.i. Trend monitoring shall begin upon Executive Officer approval of the plan. The results of the Groundwater Quality Trend Monitoring Plan shall be reported with annual monitoring reports beginning December 15, 2017.

Groundwater Management Practice Evaluation Plan
Due: April 14, 2018

The Groundwater Management Practice Evaluation Plan shall be developed according to the requirements of Section 1.b.ii.

Groundwater Management Practice Evaluation Report
Due: Annually, beginning December 15, 2020

The results of the Management Practice Evaluation Plan shall be reported with annual monitoring reports beginning December 15, 2020, including a determination regarding the effect of management practices implemented on the land surface on underlying groundwater quality.

Annual Monitoring Report
Due: Annually beginning December 15th

The Discharger Group shall prepare the Annual Monitoring Report (AMR) after monitoring events have been completed and it shall include a review of the results of the data collected and data evaluation and a WQMP progress report. The AMR shall include the following components:

1. Title page
2. Table of contents
3. Description/Summary of Discharger Group membership and setting
4. Updated membership list, submitted electronically
5. Monitoring objectives
6. Sampling and analytical methods used, submitted in a CEDEN compatible tabular format
7. For each monitoring site:
    a. Site description, including photographs
    b. GPS coordinates of the site and a map showing the land area draining to the site and the HUC-12 watershed in which the site is located.
    c. Parameters monitored and frequency. Tabulated results of analyses and comparison with applicable Water Quality Benchmarks and/or discharge limitations (if chosen according to section 1.c)
    d. Data interpretation including assessment of compliance and/or noncompliance with Water Quality Benchmarks and/or discharge limitations (if chosen according to section 1.c)

e. Results of toxicity tests and results of TIE, where performed
f. List of enrolled and non-enrolled parcels

8. Copy of chain of custody, submitted electronically
9. Associated laboratory and field quality control samples results
10. Summary of precision and accuracy
11. Quality control data interpretation, including assessment of data quality objectives
12. WQMP Progress Report

For each monitoring site:

a. Copies of outreach materials (mailings, handouts from education classes)
b. Report on members who have completed and not completed surveys/farm evaluation plans
c. Report on members who have completed and not completed education requirements
d. Report on individual discharge monitoring results, if chosen

Discharger Groups eligible under this Order bear the responsibility to provide required information to the Regional Water Board, maintain records, and submit regular reports detailing the types of discharges, monitoring results for required constituents, members of the Group, the type of management practices implemented, how those measures have changed water quality, and other basic information that the Executive Officer may determine is required. Copies of all field documentation and laboratory original data must be included as part of the annual monitoring report in a CEDEN-compatible format (and may be included as attachments). The annual monitoring report should also provide a characterization of the field conditions during each sampling event, including a description of the weather, rainfall, temperature, photographs, stream flow, color of the water, odor, crop type, cultivation practices and pesticide, fertilizer or sediment control measures, which may affect water quality, and other relevant information that can help in data interpretation.

Monitoring and analyses event records shall include the following information: (1) date and time of sampling, (2) sample location (GPS coordinates), (3) photograph of the site, (4) individual(s) who performed the sampling or measurements, (5) date(s) analyses were performed, (6) laboratory and/or individual(s) who performed the analyses, (7) the analytical techniques or method used along with method detection limits and reporting limits, and (8) the results of such analyses.

The monitoring data will be submitted in an electronic CEDEN-compatible format.

Annual Monitoring Report – Individual Discharge Monitoring
Due: Annually beginning December 15th upon commencement of individual discharge monitoring

If necessary, Discharger Group members shall prepare the individual discharge monitoring AMR after monitoring events have been completed and it shall include a review of the results of the data collected. The individual discharge monitoring AMR shall include the same components as the Discharger Group AMP

Source Investigation Work Plan
Due: October 1, 2018.

A source investigation work plan shall be submitted for the Discharger Group monitoring sites that do not show a decreasing trend in concentrations of constituents that exceed Water Quality Benchmarks according to the requirements in Section 2.d. The Discharger Group shall begin implementation of the source investigation as soon as possible after Executive Officer approval of the work plan and no later than January 2019.

Source Investigation Report
Due: September 1, 2019

A source investigation report and updated WQMP outreach plan will be prepared based on the results of the source investigation(s).

Water Quality Management Plan
First WQMP due: April 14, 2017
Second WQMP due: December 15, 2018, combined with the third AMR
Final report for 2016 Waiver due: October 31, 2020

The first WQMP shall be based on water quality monitoring data from 2007-2016 and the results of farm evaluation plans or surveys completed by its members. The Discharger Group shall begin surveying its members within eight months of the adoption of Order No. R4-2016-0143 in order to submit the first WQMP by April 14, 2017.

The Discharger Group shall update the WQMP according to the schedule above with the latest monitoring data since 2007 and revised farm evaluation plans or survey results. The required elements of a WQMP are presented in Section 2 of these Monitoring and Reporting Requirements.

The second WQMP shall be based on completion of a second set of farm evaluation plans or surveys by its members. The Discharger Group shall begin surveying its members for the second WQMP beginning June 2018. The second WQMP shall also incorporate the approved Source Investigation Work Plan.

The final report shall be based on completion of a third set of farm evaluation plans or surveys by its members. The Discharger Group shall begin surveying its members for the final report beginning June 2020. The final report shall include a summary of progress under the 2016 Waiver, including results of the third survey and the updated outreach plan based on the source investigation conducted under the second WQMP.

Other Reporting Requirements

1. A transmittal letter shall accompany each report. This letter shall include a brief discussion of any violations of the Conditional Waiver that were found during the reporting period and cite to the pages in the report that note these violations. The

transmittal letter shall be signed and shall contain a perjury statement by the Discharger Group's authorized agent. This statement shall state:

> *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment for perjury."*

2. If Dischargers monitor any constituent (at locations established in the MRP), for the purposes of evaluating compliance with the provisions of this Order, more frequently than required by the Conditional Waiver, the discharger shall submit the monitoring results to the Regional Water Board.

3. The Discharger Groups shall retain records of all monitoring information including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order.

4. Records shall be maintained for a minimum of five years from the date of the sample, measurement, or report. This period may be extended during the course of any unresolved enforcement action, including, but not limited to, litigation regarding this discharge, or when requested by the Executive Officer.

5. Each monitoring report must affirm in writing that "All analyses were conducted at a laboratory certified for such analyses by the Environmental Laboratory Accreditation Program, and in accordance with current USEPA guideline procedures, or as specified in this Monitoring Program."

6. If there is no discharge during any reporting period, the report shall so state. Monitoring reports must be provided in electronic format to be specified by the Executive Officer.

7. Records and reports submitted to the Regional Water Board are public documents and shall be made available for inspection during normal business hours at the Regional Water Board office.

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS ORDER NO. R4-2016– 0143

APPENDIX 4
STANDARD WATER QUALITY BENCHMARKS

Constituent	Units	Water Quality Benchmark
Temperature	^{0}F	(a)[1]
pH	pH units	(a)[1]
Dissolved Oxygen (DO)	mg/L	(a)[1]
Turbidity	NTU	(a)[1]
Trash	Observations[2]	(a)[1]
Total Suspended Solids	mg/L	(a)[1]
Total Dissolved Solids	mg/L	(a)[1]
Chloride	mg/L	(a)[1]
Nitrate-Nitrogen	mg/L	(a)[1]
Ammonia-Nitrogen	mg/L	(a)[1]
Sulfate	mg/L	(a)[1]
Copper[3]	µg/L	CCC = 0.960e $^{[(0.8545(\ln(\text{hardness}) + (-1.702)]}$
Chlordane[3]	µg/L	0.00059
4,4'-DDT[3]	µg/L	0.00059
4,4'-DDD[3]	µg/L	0.00084
DDE[3]	µg/L	0.00059
Dieldrin[3]	µg/L	0.00014
Toxaphene[3]	µg/L	0.00075
Chlorpyrifos[4]	µg/L	0.025
Diazinon[4]	µg/L	0.10
Bifenthrin[5]	µg/L	0.0006
Toxicity[6]	TU_c	1.0
E. coli	MPN/100mL	235/100 ml (single sample limits)

[1]Water Quality Benchmarks shall be based on the surface water objectives currently contained in the Water Quality Control Plan Los Angeles Region (Basin Plan) or other applicable water quality standards established for the Los Angeles Region.

[2] Methods used in previously approved MRPs under Order No. R4-2010-0186 or adopted Trash TMDLs may be used. The assessment methodology should produce consistent results across watersheds and across counties.

[3] The Water Quality Benchmarks are based on the CTR criteria.

[4] The Water Quality Benchmarks are based on numeric targets in the Calleguas Creek Watershed and Mugu Lagoon Toxicity, Chlorpyrifos, and Diazinon TMDL (Resolution No. R05-009).

[5] The Water Quality Benchmark is based on the numeric target in the Oxnard Drain No. 3 Pesticides, PCBs and Sediment Toxicity TMDL.

[6] TU_c or Toxic Unit-Chronic is the reciprocal of the effluent concentration that causes no observable effects (i.e., no mortality) on the test organisms by the end of a chronic toxicity test.

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS
ORDER NO. R4-2016 – 0143

APPENDIX 5

WATER QUALITY BENCHMARKS BASED UPON TMDL LOAD ALLOCATIONS

<table>
<tr><th>Calleguas Creek Watershed and Mugu Lagoon OC Pesticides & PCBs TMDL</th><th>Compliance Date</th></tr>
<tr><td>
Compliance with interim and final sediment based load allocations (LAs) is measured as an in-stream annual average at the base of each subwatershed.

Interim Sediment LAs (ng/g)
<table>
<tr><th rowspan="2">Constituent</th><th colspan="6">Subwatershed</th></tr>
<tr><th>Mugu Lagoon[1]</th><th>Calleguas Creek</th><th>Revolon Slough</th><th>Arroyo Las Posas</th><th>Arroyo Simi</th><th>Conejo Creek</th></tr>
<tr><td>Chlordane</td><td>25.0</td><td>17.0</td><td>48.0</td><td>3.3</td><td>3.3</td><td>3.4</td></tr>
<tr><td>4,4-DDD</td><td>69.0</td><td>66.0</td><td>400.0</td><td>290.0</td><td>14.0</td><td>5.3</td></tr>
<tr><td>4,4- DDE</td><td>300.0</td><td>470.0</td><td>1,600.0</td><td>950.0</td><td>170.0</td><td>20.0</td></tr>
<tr><td>4,4-DDT</td><td>39.0</td><td>110.0</td><td>690.0</td><td>670.0</td><td>25.0</td><td>2.0</td></tr>
<tr><td>Dieldrin</td><td>19.0</td><td>3.0</td><td>5.7</td><td>1.1</td><td>1.1</td><td>3.0</td></tr>
<tr><td>PCBs</td><td>180.0</td><td>3,800.0</td><td>7,600.0</td><td>25,700.0</td><td>25,700.0</td><td>3,800.0</td></tr>
<tr><td>Toxaphene</td><td>22,900.0</td><td>260.0</td><td>790.0</td><td>230.0</td><td>230.0</td><td>260.0</td></tr>
</table>
[1]The Mugu Lagoon subwatershed includes Duck Pond/Agricultural Drain/Mugu/Oxnard Drain #2.
</td><td>March 24, 2006</td></tr>
<tr><td>
Final Sediment LAs (ng/g)
<table>
<tr><th rowspan="2">Constituent</th><th colspan="6">Subwatershed</th></tr>
<tr><th>Mugu Lagoon[1]</th><th>Calleguas Creek</th><th>Revolon Slough</th><th>Arroyo Las Posas</th><th>Arroyo Simi</th><th>Conejo Creek</th></tr>
<tr><td>Chlordane</td><td>3.3</td><td>3.3</td><td>0.9</td><td>3.3</td><td>3.3</td><td>3.3</td></tr>
<tr><td>4,4-DDD</td><td>2.0</td><td>2.0</td><td>2.0</td><td>2.0</td><td>2.0</td><td>2.0</td></tr>
<tr><td>4,4- DDE</td><td>2.2</td><td>1.4</td><td>1.4</td><td>1.4</td><td>1.4</td><td>1.4</td></tr>
<tr><td>4,4-DDT</td><td>0.3</td><td>0.3</td><td>0.3</td><td>0.3</td><td>0.3</td><td>0.3</td></tr>
<tr><td>Dieldrin</td><td>4.3</td><td>0.2</td><td>0.1</td><td>0.2</td><td>0.2</td><td>0.2</td></tr>
<tr><td>PCBs</td><td>180.0</td><td>120.0</td><td>130.0</td><td>120.0</td><td>120.0</td><td>120.0</td></tr>
<tr><td>Toxaphene</td><td>360.0</td><td>0.6</td><td>1.0</td><td>0.6</td><td>0.6</td><td>0.6</td></tr>
</table>
[1] The Mugu Lagoon subwatershed includes Duck Pond/Agricultural Drain/Mugu/Oxnard Drain #2.
</td><td>March 24, 2026</td></tr>
<tr><td>Siltation LAs
2,704 tons/yr reduction in sediment yield to Mugu Lagoon. The baseline from which the load reduction will be evaluated will be determined by a special study of this TMDL. The results of this special study are due March 24, 2014.</td><td>March 24, 2015</td></tr>
</table>

<table>
<tr><th>Calleguas Creek Watershed and Mugu Lagoon Toxicity, Chlorpyrifos, and Diazinon TMDL</th><th>Compliance Date</th></tr>
<tr><td>Interim Chlorpyrifos Load Allocations (ug/L) apply watershed-wide
<table><tr><th>Acute (1hour)</th><th>Chronic (4 day)</th></tr><tr><td>2.57</td><td>0.810</td></tr></table>
Interim Diazinon Load Allocations (ug/L) apply watershed-wide
<table><tr><th>Acute (1hour)</th><th>Chronic (4 day)</th></tr><tr><td>0.278</td><td>0.138</td></tr></table></td><td>March 24, 2006</td></tr>
<tr><td>A load allocation of 1.0 TUc applies watershed-wide.</td><td>March 24, 2006</td></tr>
<tr><td>Final Chlorpyrifos Load Allocations (ug/L)
<table><tr><th>Subwatershed</th><th>Acute & Chronic</th></tr><tr><td>Arroyo Simi</td><td>0.014</td></tr><tr><td>Las Posas</td><td>0.014</td></tr><tr><td>Conejo</td><td>0.014</td></tr><tr><td>Calleguas</td><td>0.0133</td></tr><tr><td>Revolon</td><td>0.0133</td></tr><tr><td>Mugu Lagoon</td><td>0.014</td></tr></table>
Final Diazinon Load Allocations (ug/L) apply watershed-wide
<table><tr><th>Acute & Chronic</th></tr><tr><td>0.1</td></tr></table></td><td>March 24, 2016</td></tr>
</table>

<table>
<tr><th>Calleguas Creek Watershed Boron, Chloride, Sulfate and TDS (Salts) TMDL</th><th>Compliance Date</th></tr>
<tr><td>
Interim Dry Weather Load Allocations
<table>
<tr><th>Constituent</th><th>Interim Limit (mg/L)</th></tr>
<tr><td>Boron Total</td><td>1.8</td></tr>
<tr><td>Chloride Total</td><td>230</td></tr>
<tr><td>Sulfate Total</td><td>1962</td></tr>
<tr><td>TDS Total</td><td>3995</td></tr>
</table>
Interim dry weather load allocations are measured as in-stream monthly averages at the based of each subwatershed, except for chloride which is measured as an instantaneous maximum.

Dry weather LAs apply when flow rates are below the 86th percentile and there was no measurable precipitation in the previous 24 hour period.

The 86th percentile flow rate shall be calculated based on flow in the hydrologic year (Oct. 1st – Sept. 30th) that the sample was collected.
</td><td>Dec. 2, 2008</td></tr>
<tr><td>
Final Dry Weather Load Allocations
<table>
<tr><th>Subwatershed</th><th>Boron Allocation (lb/day)</th><th>Chloride Allocation (lb/day)</th><th>TDS Allocation (lb/day)</th><th>Sulfate Allocation (lb/day)</th></tr>
<tr><td>Simi</td><td>641</td><td>3,631</td><td>1,068</td><td>4</td></tr>
<tr><td>Las Posas</td><td>2,109</td><td>11,952</td><td>3,515</td><td>N/A</td></tr>
<tr><td>Conejo</td><td>743</td><td>4,212</td><td>1,239</td><td>N/A</td></tr>
<tr><td>Camarillo</td><td>59</td><td>336</td><td>99</td><td>N/A</td></tr>
<tr><td>Pleasant Valley</td><td>305</td><td>1,730</td><td>509</td><td>N/A</td></tr>
<tr><td>Revolon</td><td>7,238</td><td>41,015</td><td>12,063</td><td>48</td></tr>
</table>
Dry weather LAs apply in the receiving water at the base of each subwatershed when flow rates are below the 86th percentile and there was no measurable precipitation in the previous 24 hour period.

The 86th percentile flow rate shall be calculated based on flow in the hydrologic year (Oct. 1st – Sept. 30th) that the sample was collected.
</td><td>Dec. 23, 2023</td></tr>
</table>

<table>
<tr><th>Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL</th><th>Compliance Date</th></tr>
<tr><td>
Interim Load Allocations for total recoverable metals
<table>
<tr><th></th><th colspan="3">Calleguas and Conejo Creek</th></tr>
<tr><th>Constituent</th><th>Dry Daily Maximum (ug/L)</th><th>Dry Monthly Average (ug/L)</th><th>Wet Daily Maximum (ug/L)</th></tr>
<tr><td>Copper</td><td>24</td><td>19</td><td>1390</td></tr>
<tr><td>Nickel</td><td>43</td><td>42</td><td>--</td></tr>
<tr><td>Selenium</td><td>--</td><td>--</td><td>--</td></tr>
</table>
<table>
<tr><th></th><th colspan="3">Revolon Slough</th></tr>
<tr><th>Constituent</th><th>Dry Daily Maximum (ug/L)</th><th>Dry Monthly Average (ug/L)</th><th>Wet Daily Maximum (ug/L)</th></tr>
<tr><td>Copper</td><td>24</td><td>19</td><td>1390</td></tr>
<tr><td>Nickel</td><td>43</td><td>42</td><td>--</td></tr>
<tr><td>Selenium</td><td>6.7 (c)</td><td>6 (c)</td><td>--</td></tr>
</table>
c – Attainment of interim limits will be evaluated in consideration of background loading data, if available.

Dry weather LAs apply to days when flows in the stream are less than the 86th percentile flow rate for each subwatershed. Wet weather LAs apply to days when flows in the stream exceed the 86th percentile flow rate for each subwatershed.

The 86th percentile flow rate shall be calculated based on flow in the hydrologic year (Oct. 1st – Sept. 30th) that the sample was collected.
</td><td>March 26, 2007</td></tr>
<tr><td>
Interim Load allocations for Mercury in Suspended Sediment (lbs/year)
<table>
<tr><th>Flow Range
million gallons/year</th><th>Calleguas Creek</th><th>Revolon Slough</th></tr>
<tr><td>0-15,000</td><td>3.9</td><td>2</td></tr>
<tr><td>15,000-25,000</td><td>12.6</td><td>4.8</td></tr>
<tr><td>Above 25,000</td><td>77.5</td><td>12.2</td></tr>
</table>
Interim load allocations are measured in-stream at the based of Revolon Slough and Calleguas Creek.
</td><td>March 26, 2007</td></tr>
</table>

Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL	Compliance Date
Dry Weather - Final Load allocations (lbs/day) for total recoverable metals **Calleguas Creek** * If site-specific WERs are approved by the Regional Board, TMDL load allocations shall be implemented in accordance with the approved WERs using the equations set forth above. **Revolon Slough** * If site-specific WERs are approved by the Regional Board, TMDL load allocations shall be implemented in accordance with the approved WERs using the equations set forth above. Wet Weather Final Load Allocations (lbs/day) for total recoverable metals * If site-specific WERs are approved by the Regional Board, TMDL load allocations shall be implemented in accordance with the approved WERs using the equations set forth above. Q = Daily storm volume	March 26, 2022

Constituent	Calleguas Creek		
	Low Flow	Avg. Flow	Elevated Flow
Copper*	0.07 x (WER – 0.03)	0.12 x (WER – 0.02)	0.31 x (WER – 0.05)
Nickel	0.420	0.260	0.970
Selenium	--	--	--

Calleguas Creek	
Flow Category	**Flow Rate (cfs)**
Low	0 - 5
Average	5 - 21
Elevated	21 - 30

Constituent	Revolon Slough		
	Low Flow	Avg. Flow	Elevated Flow
Copper*	0.07 x (WER – 0.03)	0.14 x (WER – 0.07)	0.35 x (WER – 0.07)
Nickel	0.390	0.690	1.600
Selenium	0.008	0.007	0.018

Revolon Slough	
Flow Category	**Flow Rate (cfs)**
Low	0 - 10
Average	10 - 17
Elevated	17 - 22

Constituent	Calleguas Creek	Revolon Slough
Copper*	$(0.00017 \times Q^2 \times 0.01 \times Q - 0.05) \times WER - 0.02$	$(0.00123 \times Q^2 + 0.0034 \times Q) \times WER$
Nickel	$0.014 \times Q^2 + 0.82 \times Q$	$0.027 \times Q^2 + 0.47 \times Q$
Selenium	--	$0.1 \times Q^2 + 1.8 \times Q$

<table>
<tr><th>Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL</th><th>Compliance Date</th></tr>
<tr><td>Final Load allocations for Mercury in Suspended Sediment (lbs/year)
<table><tr><th></th><th>Calleguas Creek</th><th>Revolon Slough</th></tr><tr><th>Flow Range MGY</th><th>Agriculture</th><th>Agriculture</th></tr><tr><td>0-15,000</td><td>0.5</td><td>0.2</td></tr><tr><td>15,000-25,000</td><td>1.9</td><td>0.8</td></tr><tr><td>Above 25,000</td><td>11.2</td><td>2.2</td></tr></table>
Final load allocations are measured in-stream at the based of Revolon Slough and Calleguas Creek.</td><td>March 26, 2022</td></tr>
</table>

<table>
<tr><th>Calleguas Creek Nitrogen Compounds and Related Effects TMDL</th><th>Compliance Date</th></tr>
<tr><td><table><tr><th>Nitrate-N + Nitrite-N (mg/L)</th></tr><tr><td>9.0</td></tr></table></td><td>July 16, 2010</td></tr>
</table>

Revolon Slough and Beardsley Wash Trash TMDL	Compliance Date
LAs are zero trash. Dischargers may achieve compliance with the LAs by implementing a minimum frequency of assessment and collection/best management practice (MFAC/BMP) program. By March 6, 2010, agricultural dischargers must demonstrate full compliance and attainment of the zero trash target's requirement that trash is not accumulating in deleterious amounts between the required trash assessment and collection events.	March 6, 2010

<table>
<tr><th>Upper Santa Clara River Chloride TMDL, Revisions</th><th>Compliance Date</th></tr>
<tr><td>
<table>
<tr><th>Reach</th><th>Chloride LA (mg/L)</th></tr>
<tr><td>4B, 5, and 6</td><td>100</td></tr>
</table>
</td><td>April 28, 2015</td></tr>
</table>

<table>
<tr><th>Santa Clara River Nitrogen Compounds TMDL</th><th>Compliance Date</th></tr>
<tr><td>
<table>
<tr><th>Reach</th><th>NH_3-N + NO_2-N + NO_3-N (mg-N/L)</th></tr>
<tr><td>7</td><td>8.5</td></tr>
<tr><td>Mint Canyon Reach 1
Wheeler Canyon/Todd Barranca
Brown Barranca/Long Canyon
Other Santa Clara River Reaches</td><td>10</td></tr>
</table>
</td><td>March 23, 2004</td></tr>
</table>

<table>
<tr><th>Malibu Creek Watershed Nutrients TMDL</th><th>Compliance Date</th></tr>
<tr><td>
<table>
<tr><th>Season</th><th>Total Nitrogen (lbs/day)</th><th>Total Phosphorus (lbs/day)</th></tr>
<tr><td>Summer (April 15 – November 15)</td><td>3</td><td>0.2</td></tr>
</table>
<table>
<tr><th>Season</th><th>Nitrogen (mg/L) (nitrate-N + nitrite-N)</th></tr>
<tr><td>Winter (November 16 – April 14)</td><td>8</td></tr>
</table>
</td><td>March 21, 2003</td></tr>
</table>

Ventura River Estuary Trash TMDL	Compliance Date
LAs are zero trash. Dischargers may achieve compliance with the LAs by implementing a minimum frequency of assessment and collection/best management practice (MFAC/BMP) program. By March 6, 2010, agricultural dischargers must demonstrate full compliance and attainment of the zero trash target's requirement that trash is not accumulating in deleterious amounts between the required trash assessment and collection events.	March 6, 2010

<table>
<tr><th>The Santa Clara River Estuary Toxaphene TMDL</th><th>Compliance Date</th></tr>
<tr><td>
<table>
<tr><th>Reach</th><th>Toxaphene Fish Tissue Target</th><th>Toxaphene Allocation for Concentration in Suspended Sediment</th></tr>
<tr><td>Santa Clara River Estuary</td><td>6.1 (µg/kg)</td><td>0.1 (µg/kg)</td></tr>
</table>
Within ten years of the compliance date, toxaphene concentrations in fish tissue shall be attenuating such that it appears that numeric targets will be achieved within 15 years.
</td><td>October 7, 2010</td></tr>
</table>

<table>
<tr><th>McGrath Lake PCBs, Pesticides and Sediment Toxicity TMDL</th><th>Compliance Date</th></tr>
<tr><td>
<table>
<tr><th>Pollutant</th><th>Water Column Load Allocation (µg/L)</th><th>Load Allocation for Concentration in Suspended Sediment (µg/dry kg)</th></tr>
<tr><td>Chlordane</td><td>0.00059</td><td>0.5</td></tr>
<tr><td>Dieldrin</td><td>0.00014</td><td>0.02</td></tr>
<tr><td>4,4’-DDT</td><td>0.00059</td><td>1</td></tr>
<tr><td>4,4’-DDE</td><td>0.00059</td><td>2.2</td></tr>
<tr><td>4,4’-DDD</td><td>0.00084</td><td>2</td></tr>
<tr><td>Total DDT</td><td>--</td><td>1.58</td></tr>
<tr><td>Total PCBs</td><td>0.00017</td><td>22.7</td></tr>
</table>
</td><td>June 30, 2021</td></tr>
</table>

Oxnard Drain No. 3 Pesticides, PCBs, and Sediment Toxicity TMDL	Compliance Date

Constituents	Water Allocations, chronic (ug/L)	Sediment [1,2]	Alternate Sediment [1,3]
Bifenthrin4	0.0006	-	-
Chlordane, total	0.00059	0.5	3.3
Chlorpyrifos[4]	0.0056	-	-
4,4'-DDT	0.00059	1	0.3
4,4'-DDE	0.00059	2.2	2.2
4,4'-DDD	0.00084	2	2
Dieldrin	0.00014	0.02	4.3
PCBs, total	0.00017	22.7	180
Sediment Toxicity	-	No significant chronic sediment toxicity (See below and Section 3 for more details)	-
Toxaphene	0.0002	0.1	360

October 6, 2011

1: Sediment concentrations associated with suspended sediment and Oxnard Drain 3 bottom sediment.

2: Sediment allocations apply if there are fish tissue or sediment toxicity exceedances. All sediment allocations are ERLs, except toxaphene. Toxaphene does not have an ERL, so the TEL concentration was selected.

3: The alternate sediment allocation applies when the fish tissue target and the sediment toxicity allocation are achieved in Oxnard Drain 3. The alternate sediment allocation concentrations match the Mugu Lagoon TMDL allocations.

4: Bifenthrin and chlorpyrifos allocations included to address the sediment toxicity impairment.

Malibu Creek and Lagoon TMDLs for Sedimentation and Nutrients to Address Benthic Community Impairments	Compliance Date

Total Nitrogen (mg/L) Summer	Total Nitrogen (mg/L) Winter	Total Phosphorus (mg/L) Summer	Total Phosphorus (mg/L) Winter
0.65	1.00	0.10	0.10

March 26, 2012

<table>
<tr><th>Ventura River Algae TMDL</th><th>Compliance Date</th></tr>
<tr><td>
Dry-weather LAs for Agriculture are expressed as daily loads based on an estimated 331 dry-weather days per year as follows:
<table>
<tr><th>Reach</th><th>Total Nitrogen (lb/day)</th><th>Total Phosphorus (lb/day)</th></tr>
<tr><td>All Reaches</td><td>16</td><td>0.12</td></tr>
</table>
Wet-weather allocations are as follows:
<table>
<tr><th>Reach</th><th>Nitrate-N + Nitrite-N (mg/L)</th></tr>
<tr><td>Estuary</td><td>*</td></tr>
<tr><td>Reach 1</td><td>*</td></tr>
<tr><td>Reach 2</td><td>10</td></tr>
<tr><td>Cañada Larga</td><td>10</td></tr>
<tr><td>Reach 3</td><td>5</td></tr>
<tr><td>San Antonio Creek</td><td>5</td></tr>
<tr><td>Reach 4</td><td>5</td></tr>
<tr><td>Reach 5</td><td>5</td></tr>
</table>
To assist in implementation of LAs, area-weighted benchmarks can be applied; if used, they shall be 0.008 lb/day/acre TN and $6.3x10^{-5}$ lb/acre/day TP.
</td><td>June 28, 2019</td></tr>
</table>

<table>
<tr><th>Santa Clara River Bacteria TMDL</th><th>Compliance Date</th></tr>
<tr><td>
Interim Allowable exceedance days:
<table>
<tr><th>Time Period</th><th>Santa Clara River Reaches 3, 5, 6, & 7</th><th>Santa Clara River Estuary</th></tr>
<tr><td>Dry Weather</td><td>17 allowable exceedance days of single sample objectives</td><td>Not Applicable</td></tr>
<tr><td>Wet Weather</td><td>61 allowable exceedance days of single sample objectives</td><td>62 allowable exceedance days of single sample objectives</td></tr>
<tr><td>Summer Dry Weather (April 1 – October 31)</td><td>Not Applicable</td><td>150 allowable exceedance days of single sample objectives</td></tr>
<tr><th>Time Period</th><th>Santa Clara River Reaches 3, 5, 6, & 7</th><th>Santa Clara River Estuary</th></tr>
<tr><td>Winter Dry Weather (November 1 – March 31)</td><td>Not Applicable</td><td>49 allowable exceedance days of single sample objectives</td></tr>
</table>
</td><td>January 31, 2012</td></tr>
</table>

Final Allowable exceedance days:

Time Period	Santa Clara River Reaches 3, 5, 6, & 7	Santa Clara River Estuary
Dry Weather	5 allowable exceedance days of single sample objectives	Not Applicable
	0 allowable exceedances of geometric mean objectives	
Wet Weather	16 allowable exceedance days of single sample objectives	25 allowable exceedance days of single sample objectives
	0 allowable exceedances of geometric mean objectives	0 allowable exceedances of geometric mean objectives
Summer Dry Weather	Not Applicable	10 allowable exceedance days of single sample objectives
		0 allowable exceedances of geometric mean objectives
Winter Dry Weather (November 1 – March 31)	Not Applicable	12 allowable exceedance days of single sample objectives
		0 allowable exceedances of geometric mean objectives

The calculated number of exceedance days assumes that daily sampling is conducted. To determine the number of allowable exceedances for less frequent sampling, a ratio is used.

March 21, 2023 dry weather

March 21, 2029 wet weather

State of California
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Irrigated Lands Regulatory Program
NOTICE OF INTENT

to comply with the
Conditional Waiver for Irrigated Lands adopted by Resolution R4-2016-0143

Instructions: Please print or type in black ink. Enrollment under the Conditional Waiver for Irrigated Lands requires the submittal of a Notice of Intent and Monitoring and Reporting Plan. Both documents must be submitted for review and approval by the Regional Board Executive Officer. The submittal of a Notice of Intent without a Monitoring and Reporting Plan is not valid for enrollment under the Conditional Waiver for Irrigated Lands. This form must be signed to be valid (Section 5).

ENROLLMENT INFORMATION (SECTION 1)	
Name	Business or Farm Name
Mailing Address	
Email Address	Phone
☐ Landowner	☐ Lessee
If checked Lessee, provide Landowner Name	
Pesticide Use Permit Number (operator ID number)	

OPERATION INFORMATION (SECTION 2)					
Assessor Parcel Number	**Parcel Size (Acres)**	**Location (Parcel Address or GPS Coordinates)**			**County**
TYPE OF OPERATION (mark all that apply)					
☐ Conventional Operation	☐ row crops	☐ orchard	☐ irrigated pasture	☐ vineyard	☐ other
☐ Organic Operation (documentation of certification required, please attach)	☐ row crops	☐ orchard	☐ irrigated pasture	☐ vineyard	☐ other
☐ Nursery	☐ ≤ 5 acres	☐ > 5 acres	Nursery License #		

IRRIGATION (mark all that apply)				
☐ Drip	☐ Sprinkler	☐ Furrow	☐ Hand water	☐ Other
REASON FOR FILING				
☐ New Discharger/Farm/Facility	☐ Existing Discharge/Farm/Facility	☐ Expansion of Farm/Facility	☐ Change in Owner/Operator	☐ Other

OTHER REQUIRED INFORMATION (SECTION 3)
Please attach an appropriate site map (e.g., 7.5' USGS quadrangle map or satellite image) illustrating the boundaries of the operation and identifying the surface water(s) to which you discharge.

ADDITIONAL INFORMATION (SECTION 4) **(Use the space below, or attach additional material, to clarify any response or provide additional information.)**

CERTIFICATION (SECTION 5)	
"I certify under penalty of law that to the best of my knowledge and belief, this document and any attachments submitted are, true, accurate, and complete and were prepared by me or under my direction or supervision. I am aware that there are significant penalties for knowingly submitting false information."	
Printed Name	Signature
Title	Date

FORM SUBMITTAL
Send the completed Notice of Intent and Monitoring and Reporting Plan to: CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION ATTN: Irrigated Lands Regulatory Program 320 W. 4th Street, Suite 200 Los Angeles, CA 90013
Assistance with this form may be obtained by contacting the Regional Board Phone: (213) 576-6600

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS WITHIN THE LOS ANGELES REGION

FINAL

REVIEW OF CONDITIONAL WAIVER ORDER NO. R4-2010-0186

AND RECOMMENDATIONS FOR WAIVER RENEWAL

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

APRIL 2016

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1. INTRODUCTION

Pursuant to California Water Code section 13269, the California Regional Water Quality Control Board Los Angeles Region (Regional Board) adopted a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R4-2005-0080) on November 3, 2005 (2005 Waiver). On October 7, 2010, the Regional Board renewed the Conditional Waiver of Waste Discharge Requirements for Dischargers from Irrigated Lands (Order No. R4-2010-0186) (2010 Waiver). On October 8, 2015, the Regional Board adopted a temporary six-month Conditional Waiver (Order No. R4-2015-0202) that had the same requirements as Order No. R4-2010-0186.

Agricultural activities can generate wastes, as defined in the Water Code, such as sediment, pesticides, and nutrients that upon discharge to receiving water bodies can degrade water quality, impair beneficial uses, and cause nuisance conditions. The objectives of the Conditional Waiver program are to protect and restore the water quality of the waters of the state consistent with section 13269 of the California Water Code. This objective is accomplished through monitoring the water quality impacts caused by irrigated agricultural discharges and requiring control of those discharges as necessary to protect water quality. Specifically, the goal is to attain water quality benchmarks[1] by regulating the discharges of waste from irrigated agricultural lands within the Los Angeles Region. In accordance with California Water Code section 13269(a)(2), a Conditional Waiver for Irrigated Lands may not exceed five years in duration. This report presents a review of the Conditional Waiver for Irrigated Lands program over the last ten years and, based on the review, provides recommendations for the proposed new Conditional Waiver.

2. LAWS AND POLICIES

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within the Regional Water Board's jurisdiction that could affect the quality of the waters of the state, shall file a Report of Waste

[1] "Water quality benchmark" means narrative or numeric water quality objectives established in the Regional Board Basin Plan, prohibitions established consistent with Water Code section 13243, a requirement established by an applicable Statewide plan or policy, criteria established by USEPA (including those in the California Toxics Rule and the applicable portions of the National Toxics Rule), and load allocations established pursuant to a total maximum daily load (TMDL) (whether established in the Basin Plan or other lawful means).

Discharge (ROWD) with the Regional Water Board. (Cal. Wat. Code §13260(a)(1)) The Regional Water Board may, in its discretion, issue Waste Discharge Requirements (WDRs) pursuant to Water Code section 13263(a). Water Code section 13269 authorizes the Regional Water Board to conditionally waive the provisions of Water Code sections 13260(a)(1) and 13263(a).

Water Code section 13269 requires that any waiver of ROWDs and/or WDRs ("Conditional Waiver") must (i) be consistent with any applicable water quality control plans; (ii) be "in the public interest;" (iii) contain conditions; (iv) not exceed five years in duration, but may be renewed in up to five-year increments; and (v) include monitoring provisions. In addition, Water Code section 13269(a)(4)(A) authorizes the State Water Resources Control Board (State Water Board) to adopt annual fees for recipients of waivers. Water Code section 13269(e) mandates that the regional water boards shall require compliance with the conditions of a waiver of waste discharge requirements.

The State Water Board has adopted the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, which sets forth policies for the regulation of nonpoint sources that apply to irrigated agriculture subject to a conditional waiver. The Policy requires a nonpoint source program to implement five key elements that include (1) the purpose of the program must be stated and the program must address nonpoint source pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements; (2) the program must describe the practices to be implemented and processes to be used to select and verify proper implementation of practices; (3) where it is necessary to allow time to achieve water quality requirements, the program must include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching specified requirements; (4) the program must include feedback mechanisms to determine whether the program is achieving its purpose or whether additional or different practices are required; and (5) the program must state the consequences of failure to achieve the stated purpose.

As described in this Staff Report, the proposed Waiver renewal includes conditions in compliance with Water Code section 13269 and consistent with the Nonpoint Source Policy and other applicable requirements of the State and Regional Water Board.

3. SUMMARY OF 2010 CONDITIONAL WAIVER REQUIREMENTS

The 2010 Waiver continued many of the requirements of the 2005 Waiver. Agricultural dischargers were required to (1) enroll in the program, (2) conduct water quality monitoring, and (3) if monitoring showed exceedances of water quality benchmarks, develop a water quality management plan (WQMP) to implement iterative management practices (MPs) to attain water quality benchmarks. The process for enrollment and the documents required from the dischargers to enroll remained the same as in the 2005 Waiver. Water quality monitoring remained the key condition of the 2010 Waiver. A significant addition to the 2010 Waiver was the incorporation of TMDL load allocations as water quality benchmarks. In addition, the 2010 Waiver required more detailed WQMPs and specified that growers must implement the MPs identified in the WQMPs.

4. CURRENT ENROLLMENT STATUS

There are currently two approved Discharger Groups participating in the Conditional Waiver for Irrigated Lands. The Ventura County Agricultural Irrigated Lands Group (VCAILG) represents growers in Ventura County and the Nursery Growers Association – Los Angeles Irrigated Lands Group (NGA-LAILG) represents growers in Los Angeles County.

VCAILG formed in 2006 with the express purpose of acting as a county-wide Discharger Group to comply with the Conditional Waiver. VCAILG is overseen by a Steering Committee and Executive Committee. These committees are comprised of agricultural organization representatives, agricultural water district representatives, and landowners and/or growers from the three primary watersheds in Ventura County (Calleguas Creek, Santa Clara River, and Ventura River). Because VCAILG is an unincorporated organization, the Farm Bureau of Ventura County acts as the responsible entity for the collection of funds, contracting, and other business and/or fiscal matters. Currently, there are 1,281 members and 82,189 acres enrolled in the Conditional Waiver program through membership in VCAILG (Table 1). According to the 2014 Ventura County crop and livestock report, there are approximately 93,376 irrigated acres in Ventura County; thus, 88% of the irrigated acreage in the county is enrolled in the Conditional Waiver program.

Table 1 Irrigated acres enrolled in VCAILG

Watershed	Enrolled Irrigated Acres
Calleguas Creek	42,268
Oxnard Coastal	5,890
Santa Clara River	29,146
Ventura River	4,886
Total	**82,189**

NGA-LAILG also formed in 2006 to act as a Discharger Group under the Conditional Waiver program and represents Los Angeles County growers within the Los Angeles Region. NGA is a non-profit association with the purpose of encouraging the development of nursery stock and promoting matters pertaining to the interests of nursery growers. While mostly comprised of nursery growers, NGA-LAILG also includes orchards, vineyards, and farms as members. This group currently has 275 members with 1,952 acres enrolled throughout Los Angeles County. The total acreage of irrigated agriculture within Los Angeles County under the jurisdiction of the Regional Water Board is unknown, but it is estimated to be approximately 3,500 acres. Thus, about 55% of the total irrigated acreage in Los Angeles County within the Los Angeles Region is enrolled in the Conditional Waiver.

During the 2010 Waiver term, Regional Board staff worked with representatives from Southern California Edison (SCE) and the Department of Water and Power (DWP), who are the two major landowners of irrigated agricultural lands in Los Angeles County, to enroll growers who lease their property. In 2013, after several meetings with Regional Board staff and two joint workshops, SCE sent out a packet to all their tenants, informing them that their lease could be at risk if they did not enroll in the Conditional Waiver program. This partnership between the Regional Board and SCE resulted in a 10% increase in number of growers enrolled in 2013. In 2016, as a result of a similar partnership with DWP, enrollment in Los Angeles County increased by 30%.

5. SUMMARY OF CONDITIONAL WAIVER IMPLEMENTATION

5.1 EDUCATION REQUIREMENTS

The 2010 Waiver also required that growers and/or farm managers participate in eight hours of educational training. The educational training focused on typical agricultural practices, potential threats to water quality, and MPs designed to control those threats. Over the term of the 2010 Waiver, the Regional Board Executive Officer approved approximately 60 different workshops organized by VCAILG and NGA-LAILG, many in both English and Spanish, providing growers opportunities to obtain the required education credit. Sixty six percent of VCAILG members and 65% of NGA-LAILG members have completed the required educational training[2].

5.2 VENTURA COUNTY MONITORING RESULTS

VCAILG conducts monitoring at 15 locations throughout Ventura County; 7 sites are located in the Calleguas Creek Watershed, 6 in the Santa Clara River Watershed, and 2 in the Ventura River Watershed (Table 2 and Figure 1). Sample locations were selected to characterize agricultural inputs to surface waters, minimize contributions from other land uses, and are generally located at the lower end of agricultural drains and tributaries. Monitoring during both Waiver terms was conducted from 2007 through 2015, excluding 2011, because VCAILG suspended monitoring until their monitoring and reporting plan (MRP) submitted under the 2010 waiver was approved[3]. Figures 2 through 23 present the nitrogen, pesticides, and toxicity water quality data during the 2007-2014 period in the Calleguas Creek and Santa Clara River Watersheds. No graphs are presented for the monitoring locations in the Ventura River watershed, but the water quality results are discussed in the text. Monitoring results are presented as an assessment of existing water quality after two terms of the Conditional Waiver. No comparisons are drawn between water quality conditions and implementation of management practices or other conditions of the Conditional Waiver (see Sections 6.1 and 12.2 for further discussion).

[2] The proposed Conditional Waiver also contains enforceable education requirements, but with more specificity regarding the obligations of individual dischargers.
[3] The proposed Conditional Waiver contains a provision that monitoring under the existing MRP shall continue until the new MRP is approved.

Table 2 VCAILG sampling locations

Station ID	Station Location	Watershed
01T_ODD3_ARN	Rio de Santa Clara / Oxnard Drain #3 at Arnold Road	Calleguas Creek
04D_ETTG	Revolon Slough at Etting Road	Calleguas Creek
04D_LAS	Revolon Slough at South Las Posas Road	Calleguas Creek
05D_LAVD	La Vista Drain at La Vista Avenue	Calleguas Creek
05T_HONDO	Hondo Barranca at Highway 118	Calleguas Creek
06T_LONG2	Long Canyon at Balcom Canyon Road	Calleguas Creek
OXD_CENTR	Central Ditch at Harbor Boulevard	Oxnard Coastal
S02T_ELLS	Ellsworth Barranca at Telegraph Road	Santa Clara River
S02T_TODD	Todd Barranca at Highway 126	Santa Clara River
S03D_BARDS	Agricultural drain along Bardsdale Avenue upstream of confluence with Santa Clara River	Santa Clara River
S03T_BOULD	Boulder Creek at Highway 126	Santa Clara River
S03T_TIMB	Timber Canyon at Highway 126	Santa Clara River
S04T_TAPO	Tapo Canyon Creek	Santa Clara River
VRT_SANTO	San Antonio Creek at Grand Avenue	Ventura River
VRT_THACH	Thatcher Creek at Ojai Avenue	Ventura River

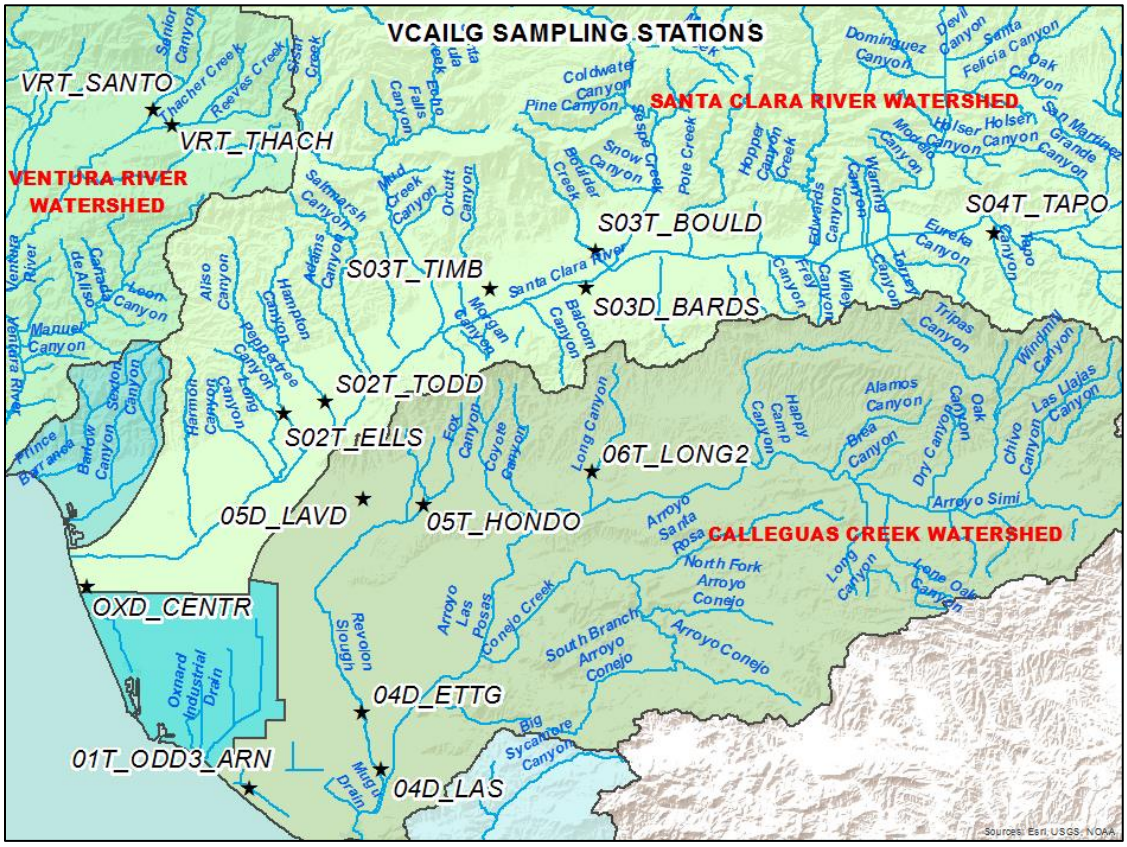

Figure 1 VCAILG sampling stations

In the Calleguas Creek and Santa Clara River Watersheds, water quality benchmark exceedances are reported consistently for organochlorine pesticides[4], organophosphate pesticides (chlorpyrifos and diazinon), and nitrogen. Trend lines are included on the graphs where necessary to show trends in water quality data for each constituent at each location. The lines do not represent statistical trends or regression analysis, but are included as a visual representation of increases and decreases in constituent concentrations.

For the purpose of this analysis, samples that were not collected in dry weather due to no flow or insufficient flow, as defined by the approved VCAILG Monitoring and Reporting Plan, are represented as zero concentrations for all analyzed constituents[5]. If there is no dry-weather discharge, then attainment of benchmarks is presumed. Also, for the completion of the analysis and trend lines, half the value of a constituent's method detection limit (MDL) was assigned to all non-detect samples. For example, the benchmark for diazinon is 0.10 µg/L. All of the non-detect samples are assigned a concentration of 0.001 µg/L, which is half of the MDL for diazinon.

5.2.1 Nitrogen Data Analysis

The water quality benchmark for nitrate-nitrogen varies depending on the waterbody, but is most commonly 10 mg/L, which is the value used here for comparison purposes. Nitrate-nitrogen exceedances are observed to the greatest extent in the Calleguas Creek Watershed during both dry and wet weather (Figures 2 and 3). The trend lines show increases and decreases at different sampling locations. In dry weather, four stations are consistently above the benchmark (04D_ETTG, 04D_LAS, 01T_ODD3_ARN and OXD_CENTR). Nitrate-nitrogen concentrations at 04D_ETTG have decreased, while nitrate-nitrogen concentrations at OXD_CENTR have stayed about the same, and

[4] The graphs focus on DDT. Other organochlorine pesticides that frequently exceed benchmarks include DDE and other DDT breakdown products, chlordane, toxaphene, and dieldrin.

[5] During the 2007-2014 period, 69 samples were not collected due to no flow or insufficient flow during dry weather at a number of sampling locations. These samples represent 45% of the total 153 potential dry-weather samples. In the Calleguas Creek Watershed, 52 samples were collected and 31 samples were not collected in dry weather. In the Santa Clara River Watershed, 32 samples were collected and 38 samples were not collected in dry weather. In 2008, the Executive Officer requested that VCAILG conduct one fish tissue monitoring event in the Santa Clara River Estuary in exchange for reduced monitoring at three other sites. Thus, during dry event 7 in 2008, VCAILG did not collect samples from three locations (01T_ODD3_ARN, S02T_TODD, and S03T_BOULD) as a trade to offset the cost of the fish tissue sampling.

nitrate-nitrogen concentrations at 04D_LAS and 01T_ODD3_ARN have increased. As reported by VCAILG, in the case of 04D_LAS, the increase is statistically significant (VCAILG, 2015). Three stations in Calleguas Creek are consistently below the benchmark (05D_LAVD, 05T_HONDO, and 06T_LONG2) in dry weather. Four out of 52 dry-weather samples were below the water quality benchmark for nitrate-nitrogen (considering all seven sites). In wet weather, the benchmark exceedances and trends are consistent with the results for dry weather at the same locations.

The concentrations of nitrate-nitrogen in the Santa Clara River Watershed are decreasing (SO3T_BOULD and SO4T_TAPO) or maintaining values below the benchmark (SO2_ELLS, SO2T_TODD, SO3D_BASRD, and SO3T_TIMB) (Figures 4 and 5). Out of the 70 potential dry-weather samples for the 2007-2014 period, 38 samples were not sampled due to insufficient or no flow and 13 out of the 32 samples that were collected were below the water quality benchmark for nitrate-nitrogen. In wet weather, the benchmark exceedances are consistent with the results for dry weather at the same locations, except for SO2T_TODD, which had some benchmark exceedances in wet weather.

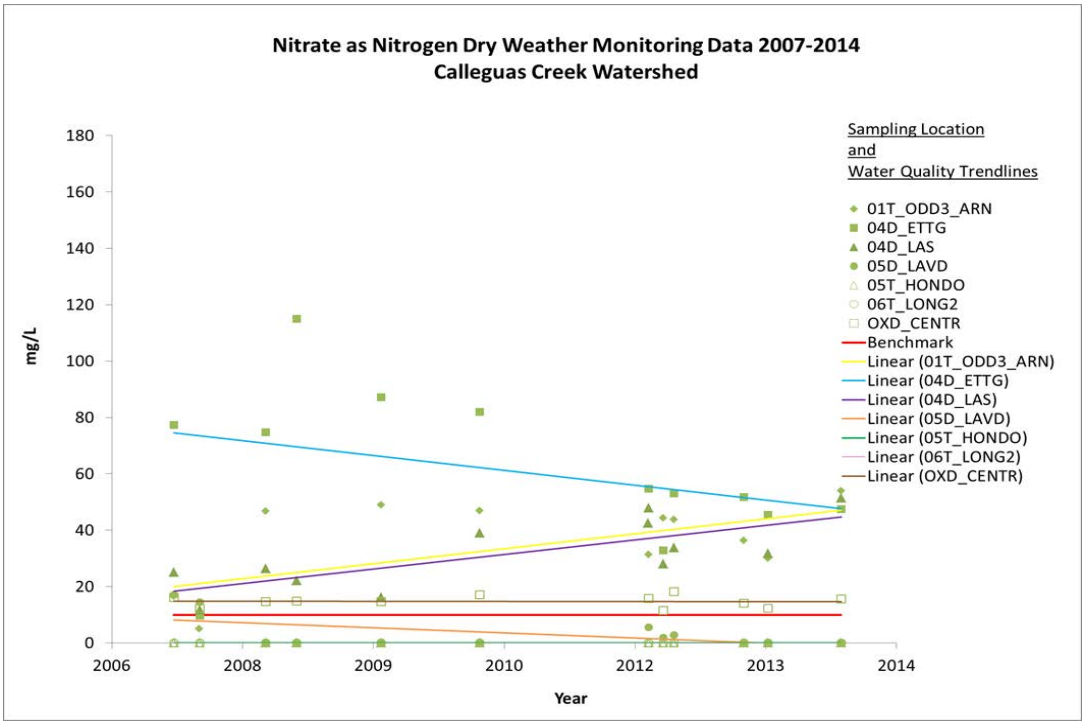

Figure 2 Nitrate as Nitrogen dry weather monitoring data 2007-2014, Calleguas Creek Watershed

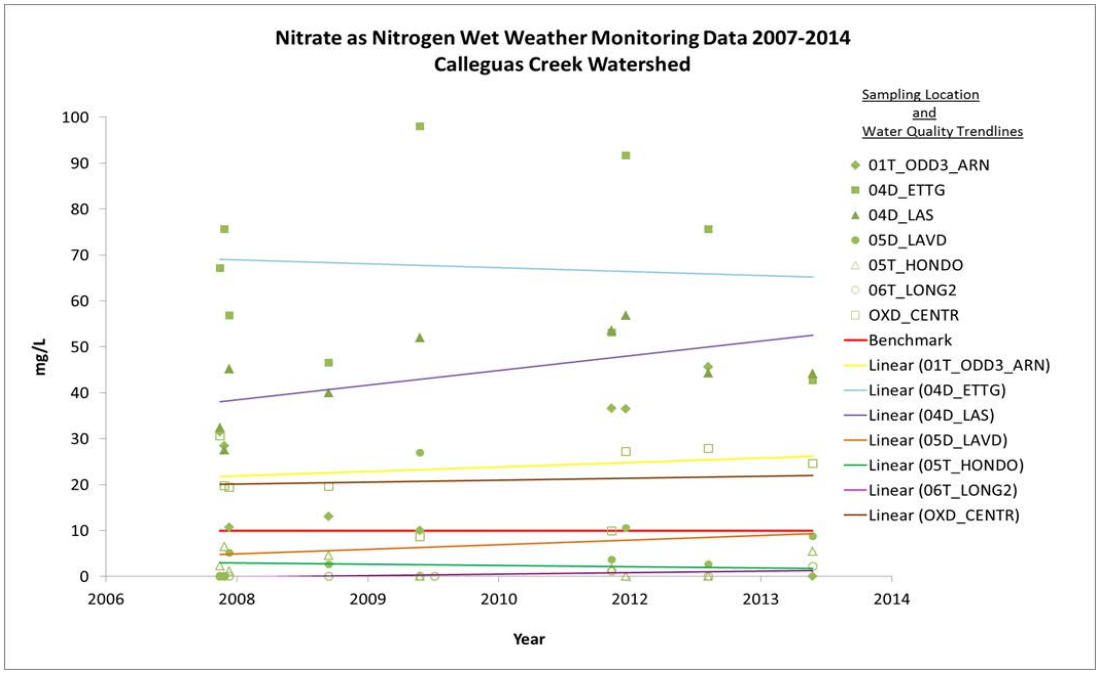

Figure 3 Nitrate as Nitrogen wet weather monitoring data 2007-2014, Calleguas Creek Watershed

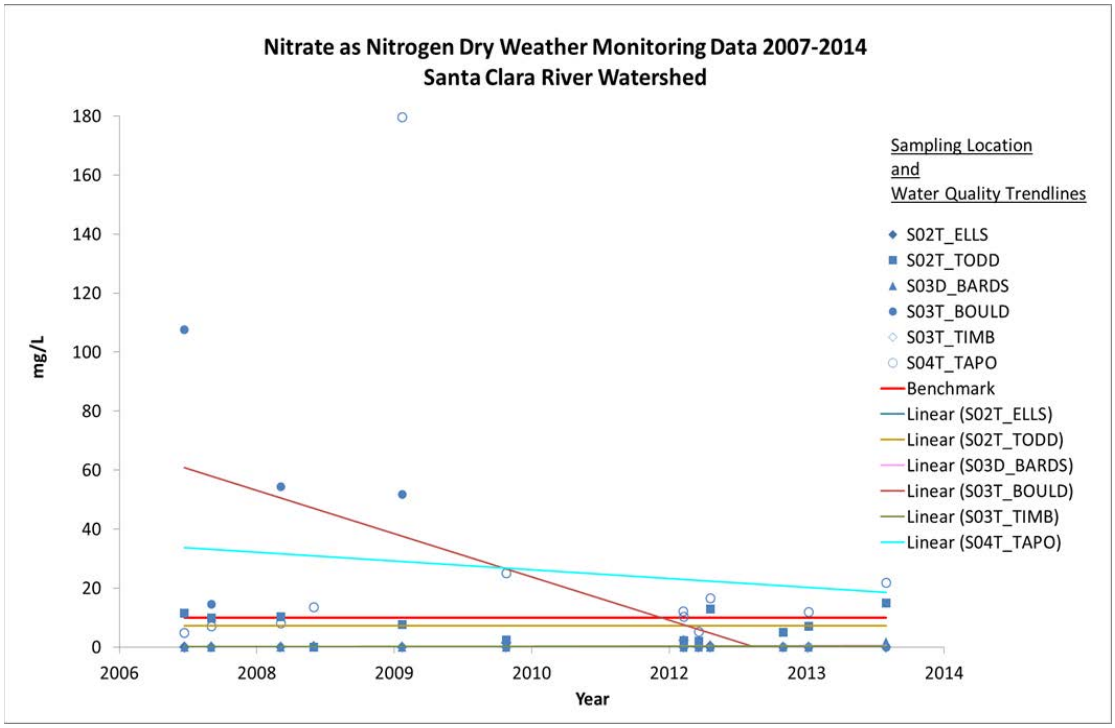

Figure 4 Nitrate as Nitrogen dry weather monitoring data 2007-2014, Santa Clara River Watershed

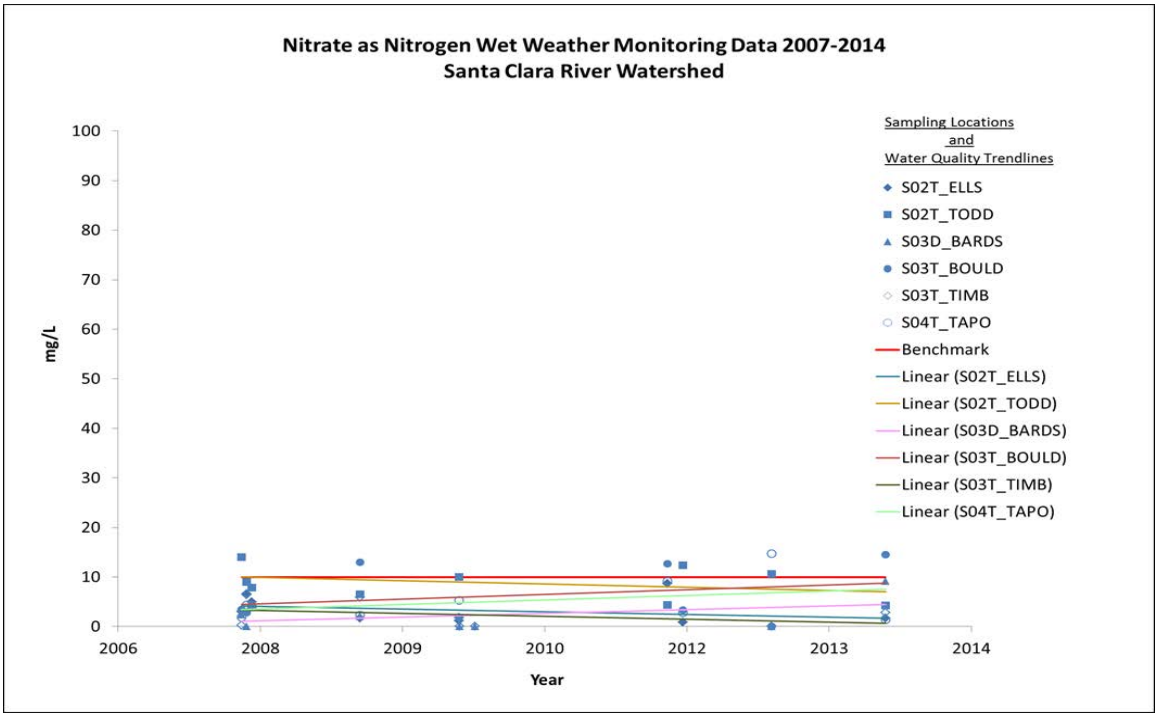

Figure 5 Nitrate as Nitrogen wet weather monitoring data 2007-2014, Santa Clara River Watershed

5.2.2 DDT Data Analysis

DDT or dichlorodiphenyltrichloroethane is a common historic organochlorine pesticide that is banned for use, but remains in the soils of agricultural fields and in agricultural runoff. The benchmark for DDT is 0.00059 µg/L. DDT exceedances are consistently present in wet and dry weather, but wet-weather monitoring results indicate higher concentrations, especially in the Calleguas Creek Watershed (Figures 6 and 7). In dry weather, the trends show slight decreases at most of the locations in Calleguas Creek, with an exception of the 05D_LAVD sampling location, where the concentrations of DDT are increasing. In wet weather, the trend lines for the Calleguas Creek Watershed show decreases of DDT concentrations at 5 of the locations (01T_ODD3_ARN, 04D_ETTG, 04D_LAS, 05T_HONDO, and OXD_CENTR) and slight increases at two locations (05D_LAVD and 06T_LONG2).

The trend lines for dry-weather monitoring data in the Santa Clara River Watershed indicate increases of DDT at two sampling locations (S03D BARDS and S04T_TAPO) and a decrease of DDT at one location (S02T_TODD) (Figures 8 and 9). Results from

the remaining locations are non-detect or samples were not collected due to insufficient or no flow. In wet weather, the trends show increases in DDT at three locations (S03_BARDS, S02T_ELLS, and S03_BOULD) and decreases in DDT at three locations (S03T_TIMB, S02T_TODD, and S04T_TAPO). The y axes of the lower graphs in Figures 6 through 8 are split to show detail because of the wide range in DDT concentrations.

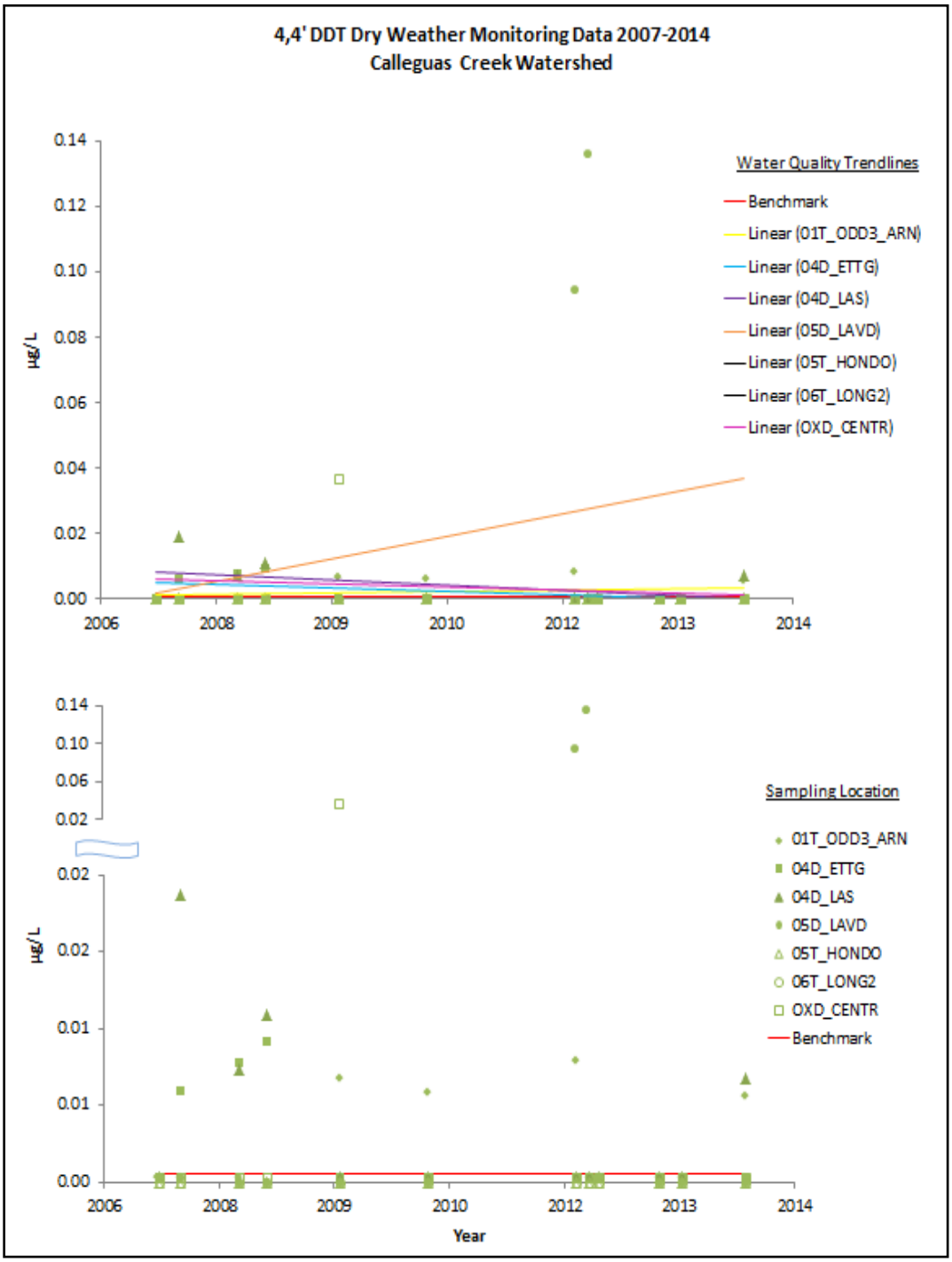

Figure 6 4,4'-DDT dry weather monitoring data 2007-2014, Calleguas Creek Watershed (Note: Y-axis on bottom graph is split to show detail.)

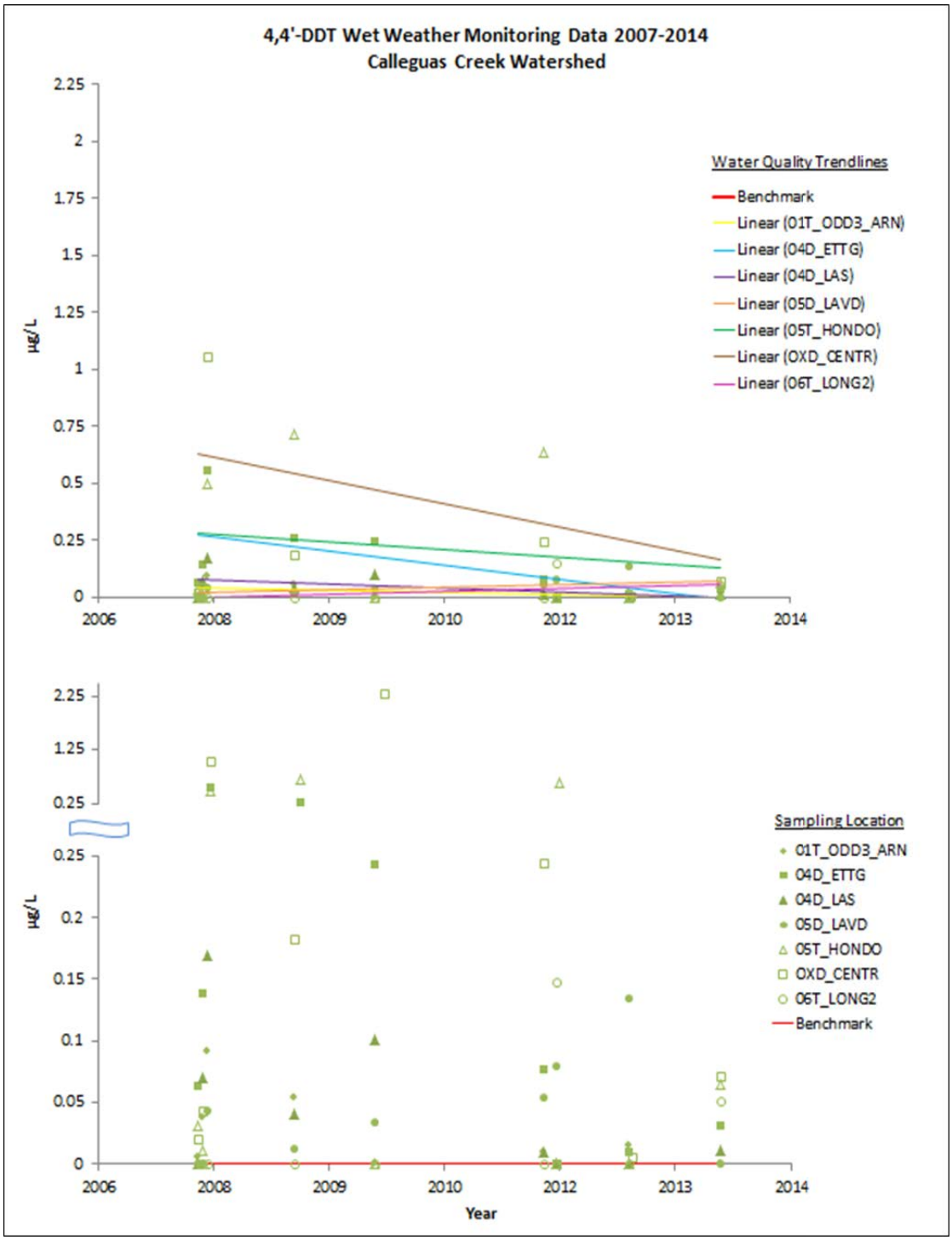

Figure 7 4,4'-DDT wet weather monitoring data 2007-2014, Calleguas Creek Watershed (Note: Y-axis on bottom graph is split to show detail.)

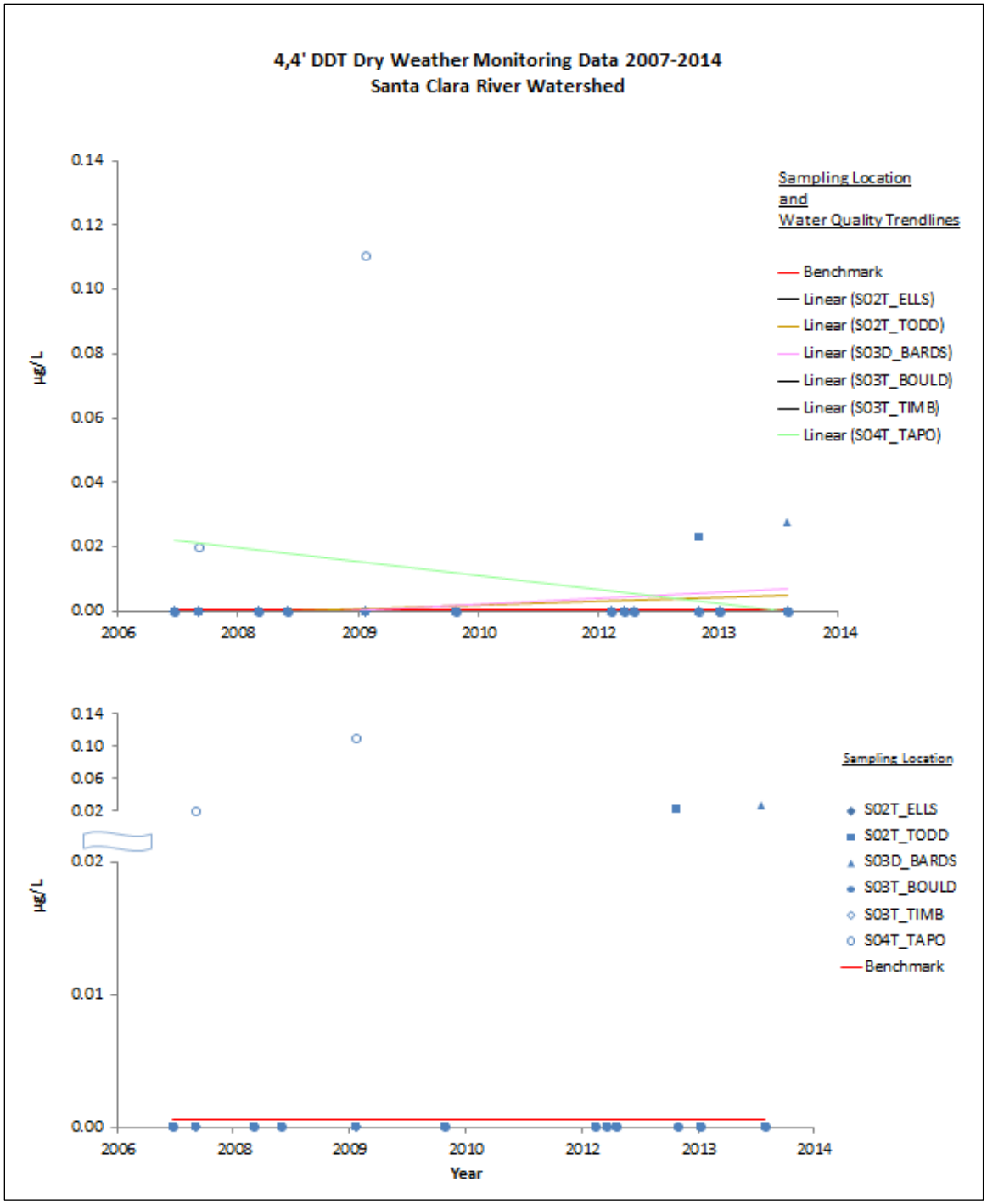

Figure 8 4,4'-DDT dry weather monitoring data 2007-2014, Santa Clara River Watershed. (Note: Y-axis on bottom graph is split to show detail.)

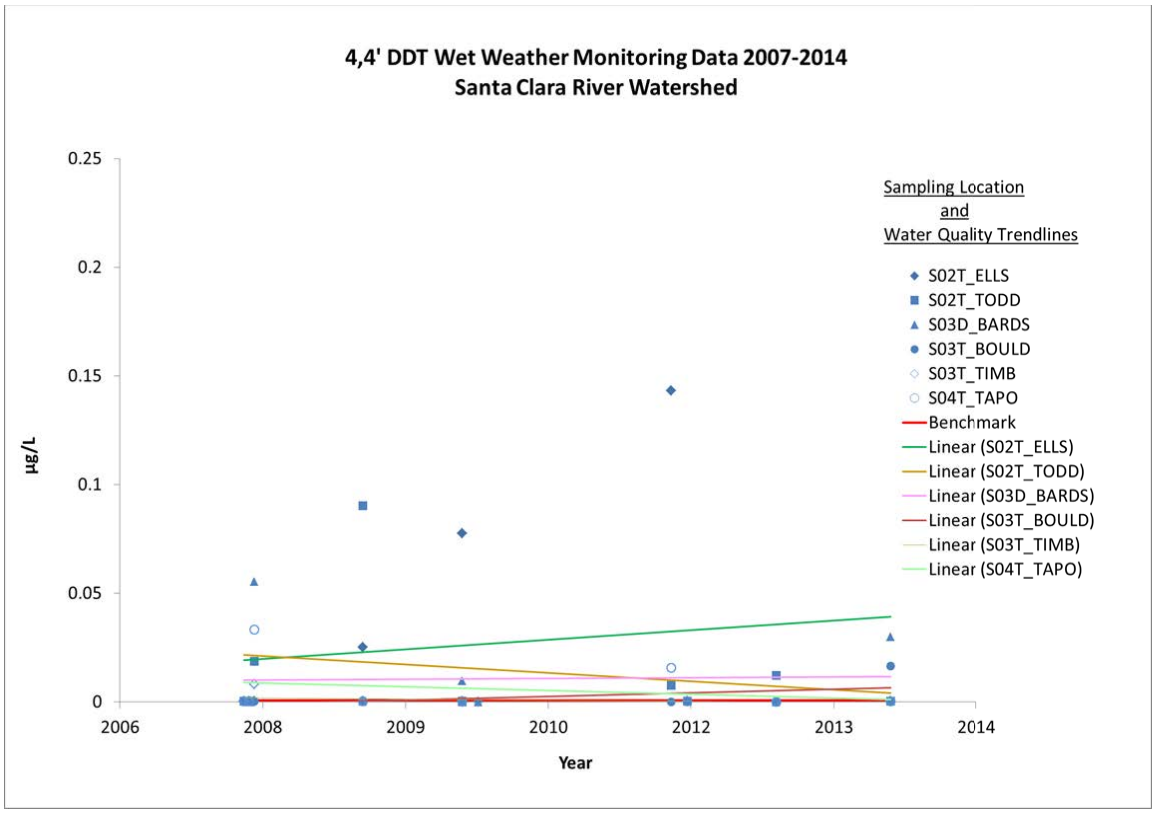

Figure 9 4,4'-DDT wet weather monitoring data 2007-2014, Santa Clara River Watershed

5.2.3 CHLORPYRIFOS AND DIAZINON DATA ANALYSIS

Figures 10 through 17 present the monitoring data analysis for chlorpyrifos and diazinon, which are organophosphate pesticides. The frequency and magnitude of chlorpyrifos exceedances are decreasing in both watersheds, especially during dry weather. In the Calleguas Creek Watershed during dry weather, most chlorpyrifos concentrations are below the benchmark and the trend lines indicate decreases in chlorpyrifos at all locations except one (OXD_CENTR). In wet weather, the trends indicate decreases of chlorpyrifos at all of the sampling locations except one (06T_LONG2).

In the Santa Clara River Watershed, the concentrations of chlorpyrifos are below the benchmark in dry weather except for one instance in 2008 at the S02T_ELLS sampling location. In wet weather, the trends lines for chlorpyrifos indicate decreases at three locations (S0T_ELLS, S03D_BARDS, and S02T_TODD) and an increase at one (S03T_TIMB). Concentrations of chlorpyrifos at S03T_BOULD and S04T_TAPO are below the benchmark in wet weather.

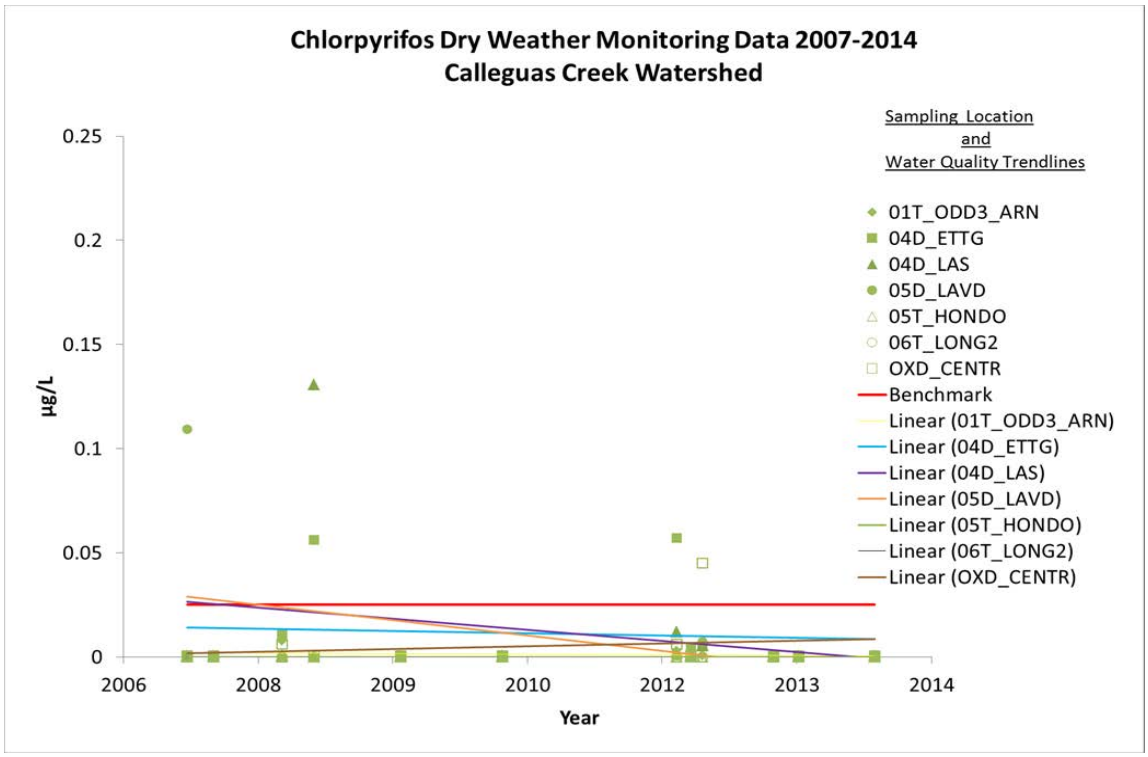

Figure 10 Chlorpyrifos dry weather monitoring data 2007-2014, Calleguas Creek Watershed

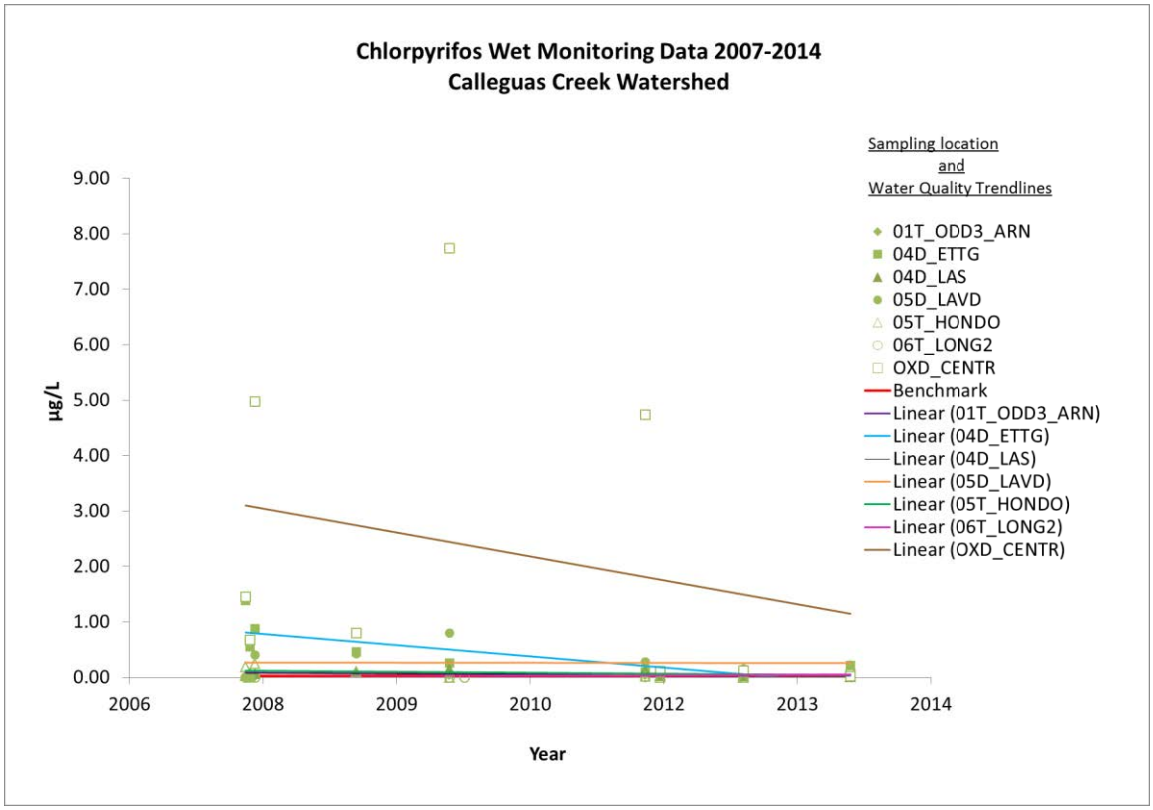

Figure 11 Chlorpyrifos wet weather monitoring data 2007-2014, Calleguas Creek Watershed

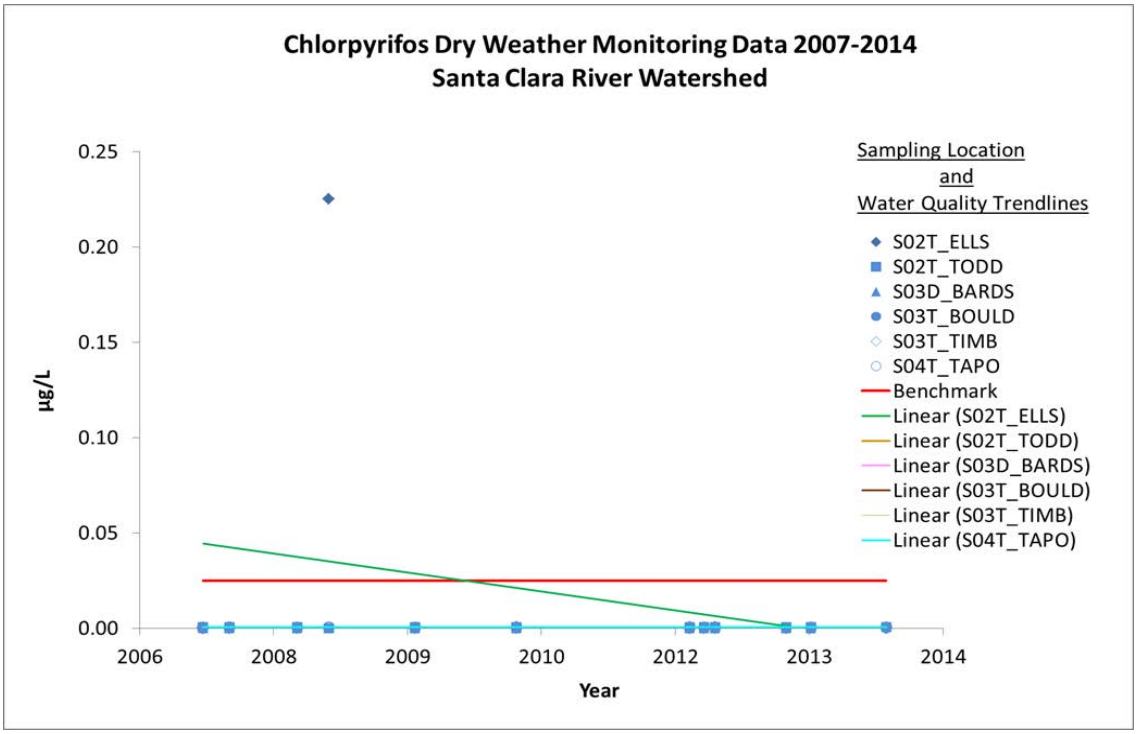

Figure 12 Chlorpyrifos dry weather monitoring data 2007-2014, Santa Clara River Watershed.

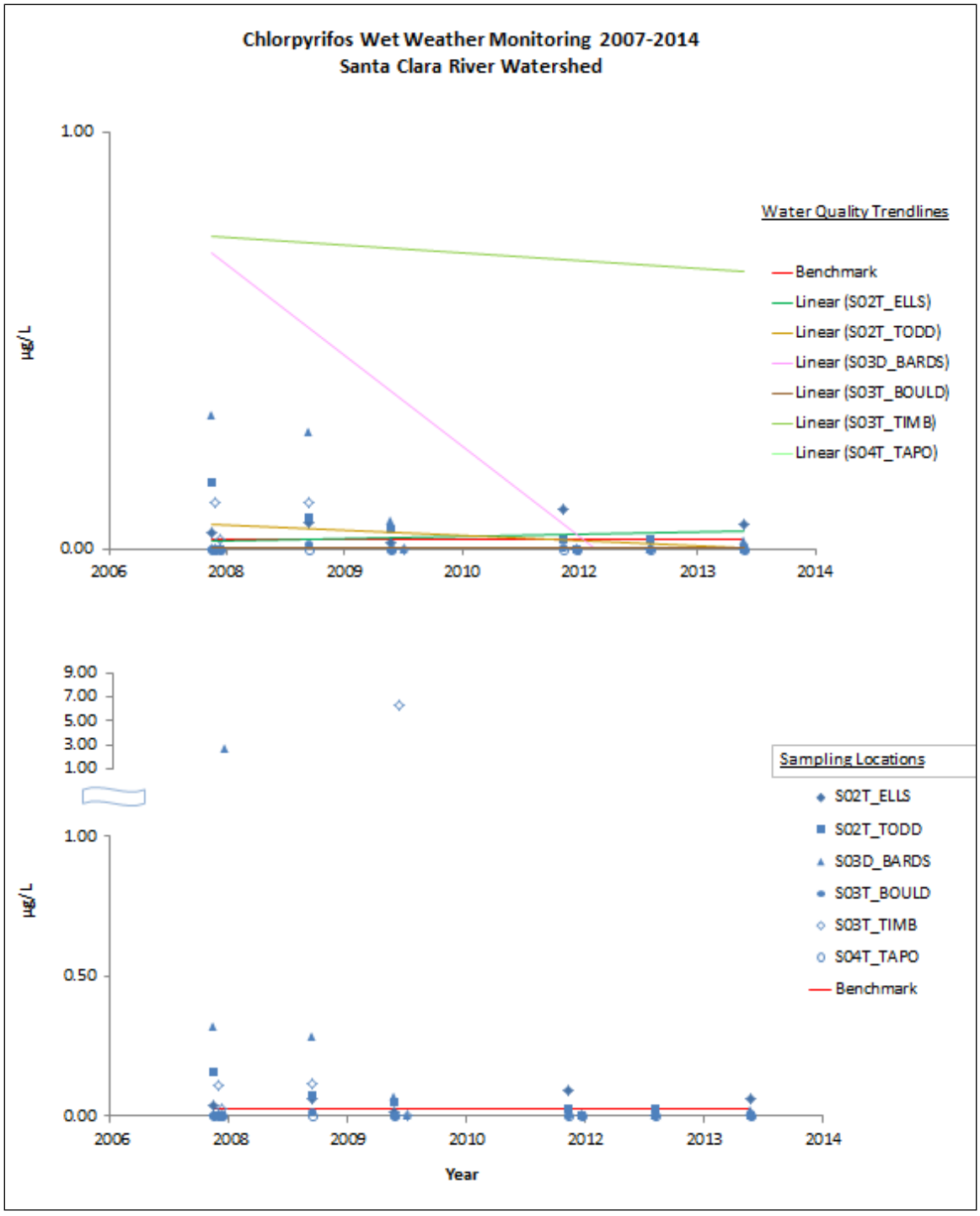

Figure 13 Chlorpyrifos wet weather monitoring data 2007-2014, Santa Clara River Watershed. (Note: Y-axis on bottom graph is split to show detail.)

In the Calleguas Creek Watershed, diazinon has not been detected above the water quality benchmark in either dry weather (since 2008) or wet weather (since January of 2012). In wet weather, diazinon concentrations increase at three sampling locations (05D_LAVD, 06T_LONG, and 04D_ETTG) and decrease at three sampling locations (04D_LAS, 01T_ODD3_ARN, and 05T_HONDO), but the trends are below the benchmark. In the Santa Clara River Watershed, diazinon concentrations were all below the benchmark in dry weather except once in August 2009 at the S02T_TODD sampling location. During wet weather, diazinon was detected three times above the benchmark at S02T_TODD, S03T_TIMB, and S03D_BARDS, but these were the only exceedances at these locations and they occurred before 2010.

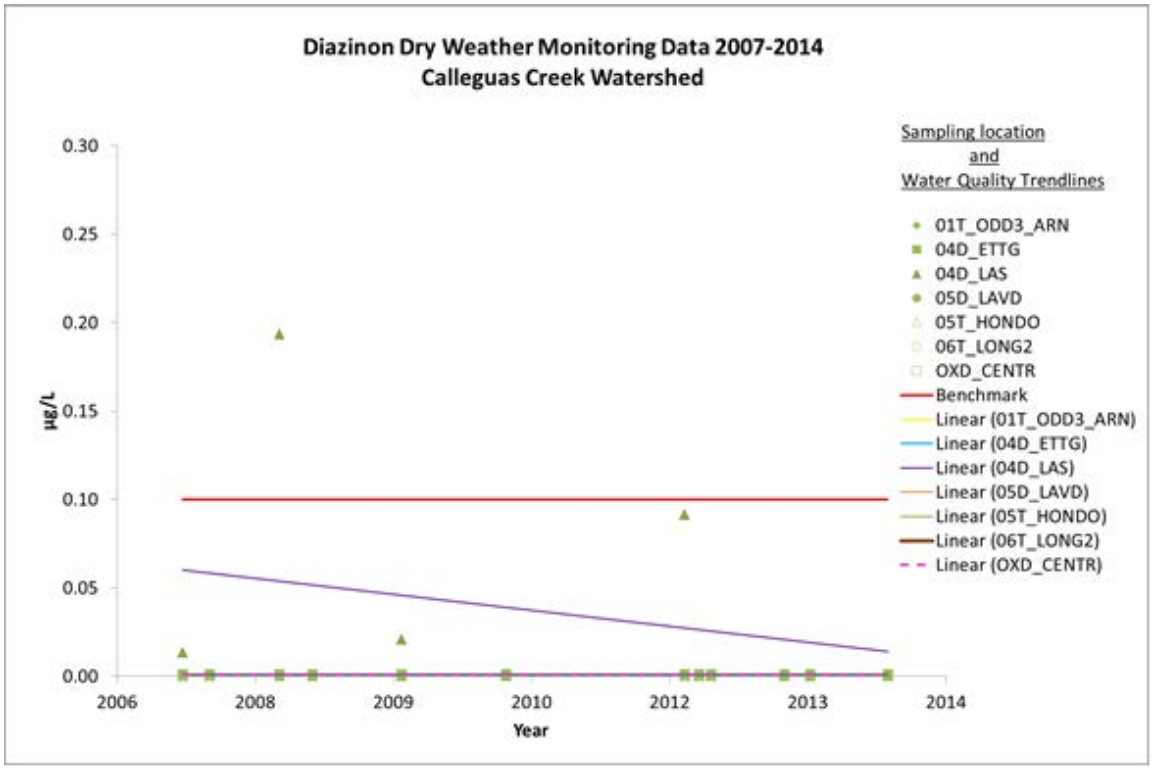

Figure 14 Diazinon dry weather monitoring data 2007-2014, Calleguas Creek Watershed

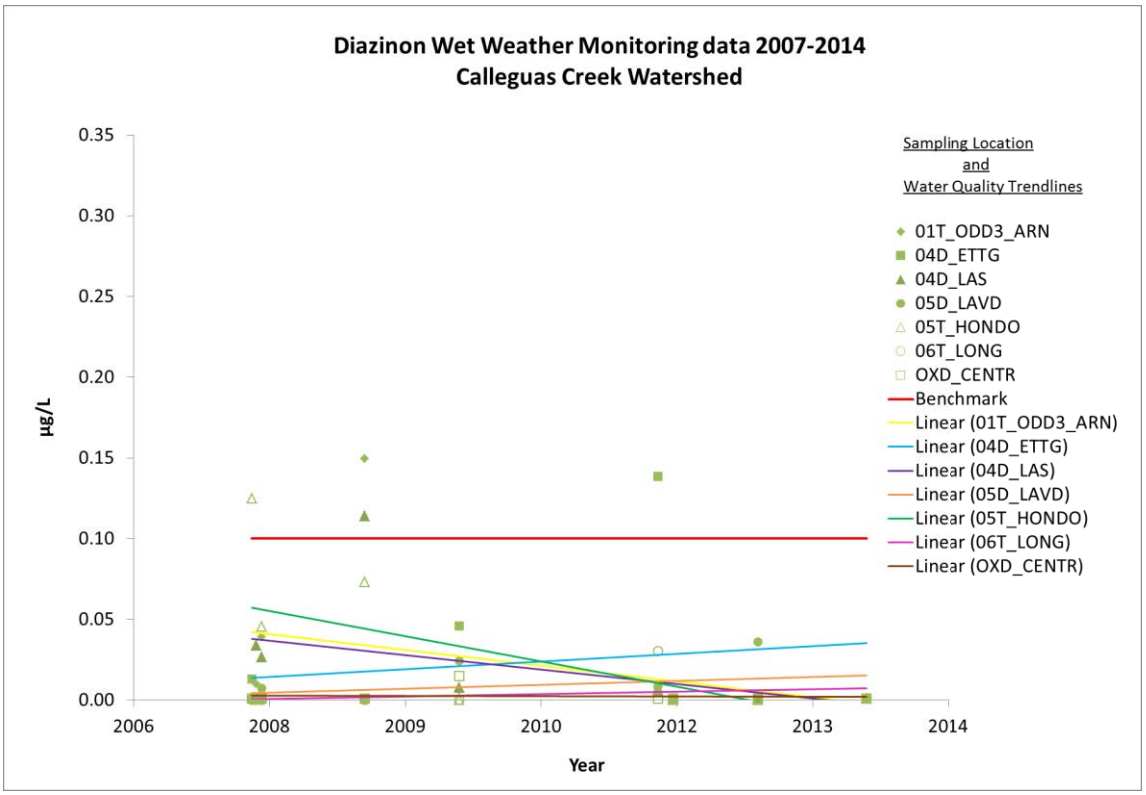

Figure 15 Diazinon wet weather monitoring data 2007-2014, Calleguas Creek Watershed

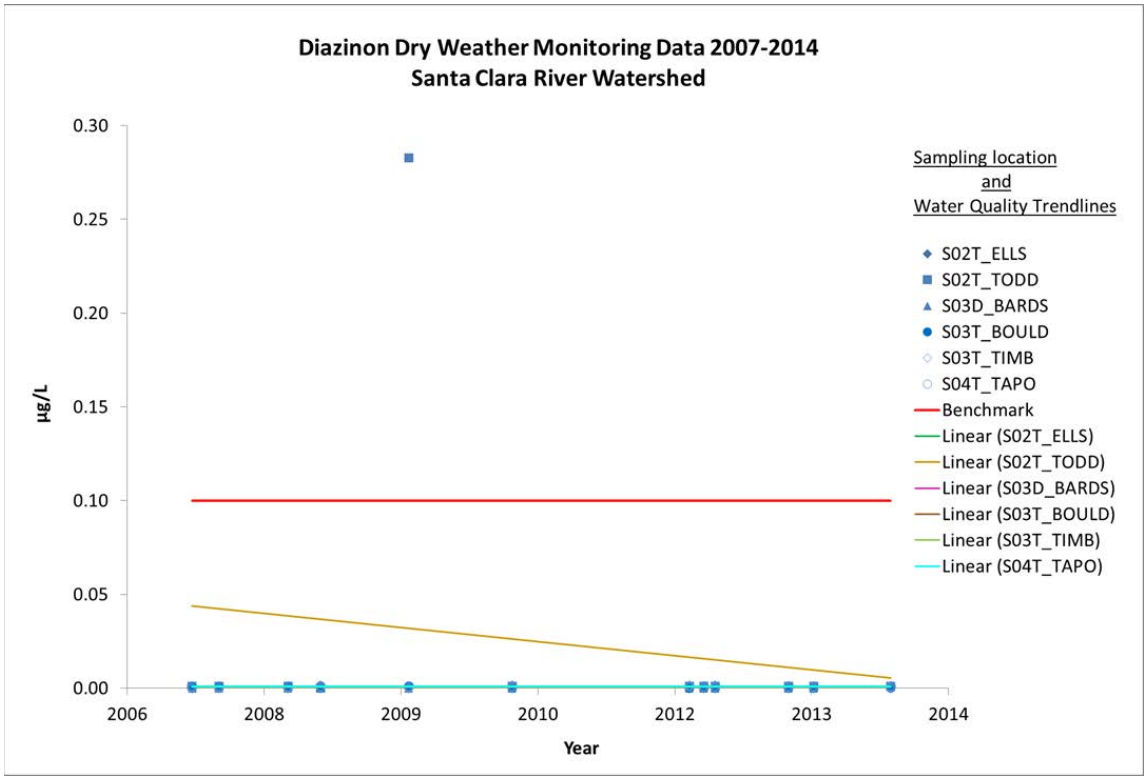

Figure 16 Diazinon dry weather monitoring data 2007-2014, Santa Clara River Watershed

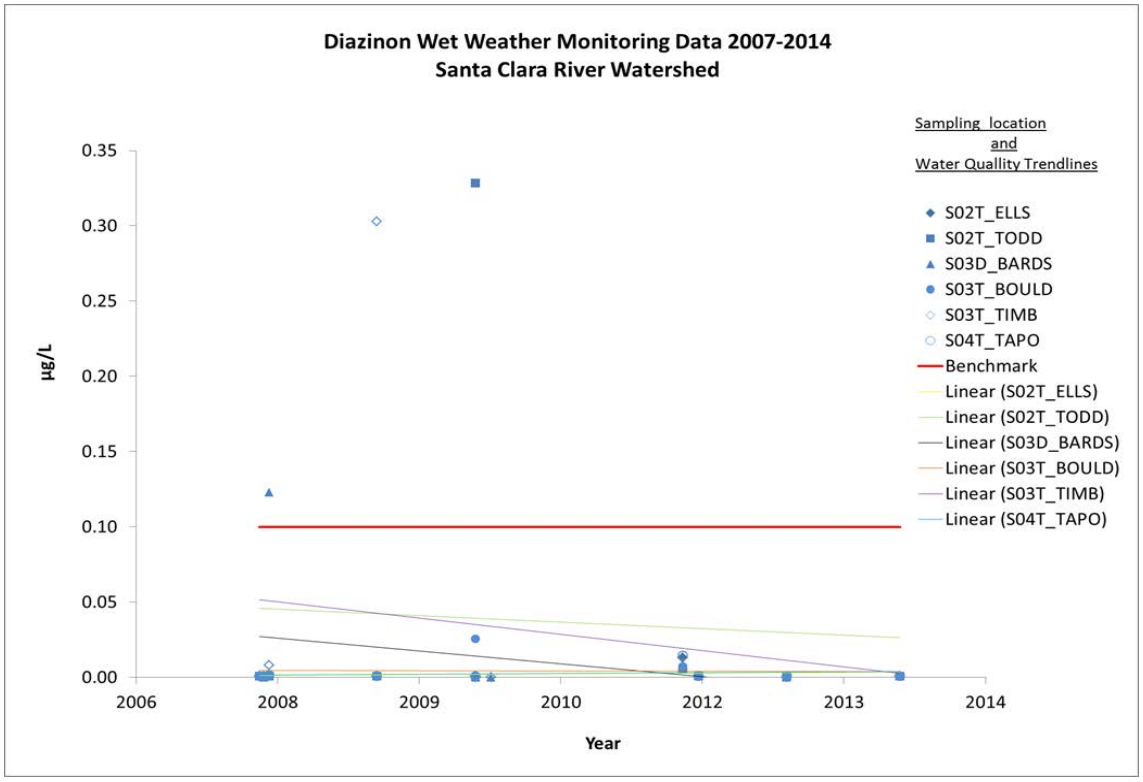

Figure 17 Diazinon wet weather monitoring data 2007-2014, Santa Clara River Watershed

5.2.4 PYRETHROIDS DATA ANALYSIS

Bifenthrin is a common pyrethroid used on various agricultural crops. There is no benchmark for bifenthrin in the 2010 Waiver, but monitoring was required. For this analysis, Regional Board staff assumed 0.6 ng/L as a water quality benchmark for bifenthrin, which is the numeric target in the 2011 Oxnard Drain 3 Pesticides, PCBs, and Sediment Toxicity TMDL. The monitoring analysis of bifenthrin during wet weather in the Calleguas Creek Watershed indicates increasing trends at every sampling location with two exceptions at 05T_HONDO and OXD_CENTR, where the concentrations are decreasing, but are higher than the benchmark (Figure 18). In wet weather in the Santa Clara River Watershed, the trend lines show an increase at all sampling locations. In both watersheds, some concentrations are hundreds of times higher than the 0.6 ng/L benchmark in wet weather (Figure 19). In the Calleguas Creek Watershed during dry weather, bifenthrin concentrations increased at the OXD_CENTR sampling location and decreased at the rest of the locations. Most of the detections are below the benchmark (Figure 20). In the Santa Clara River Watershed during dry weather, the bifenthrin water

quality trend line increased at one sampling location (SO3T_TIMB) and decreased in the rest of the locations (Figure 21).

These results, showing increasing trends and high concentrations of bifenthrin, emphasize the need to include water quality benchmarks for pyrethroids in the proposed Waiver renewal.

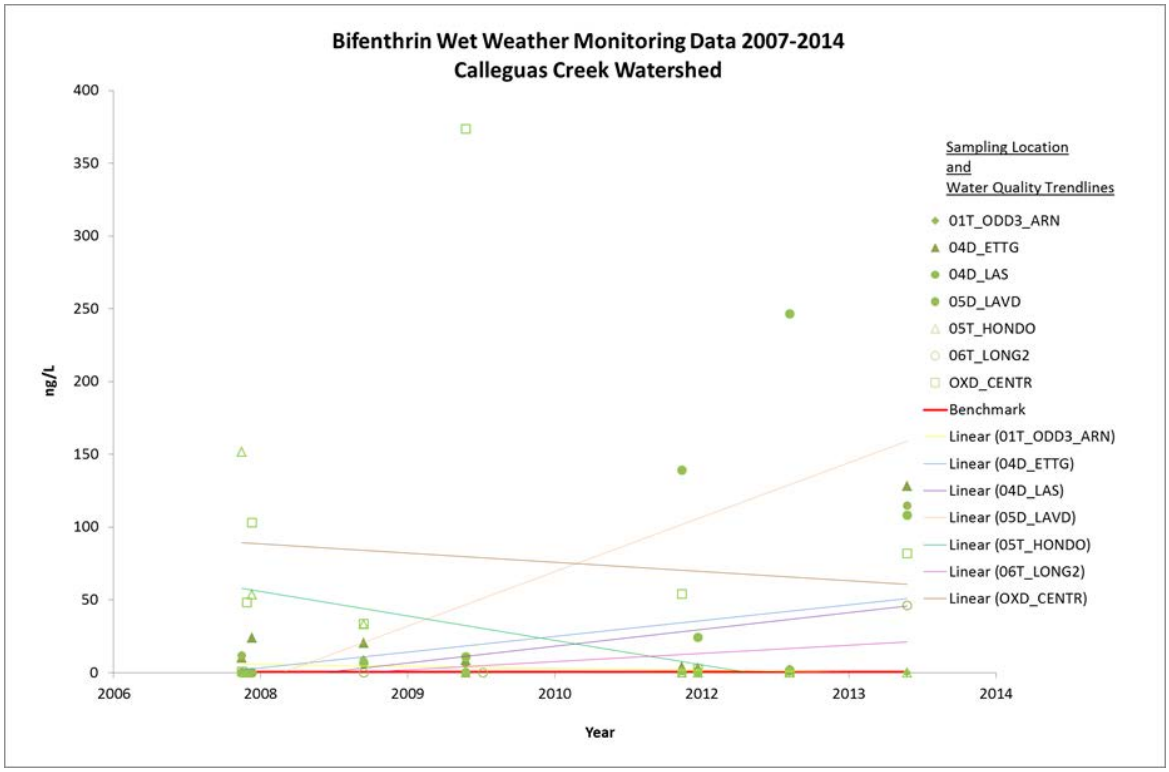

Figure 18 Bifenthrin wet weather monitoring data 2007-2014, Calleguas Creek Watershed

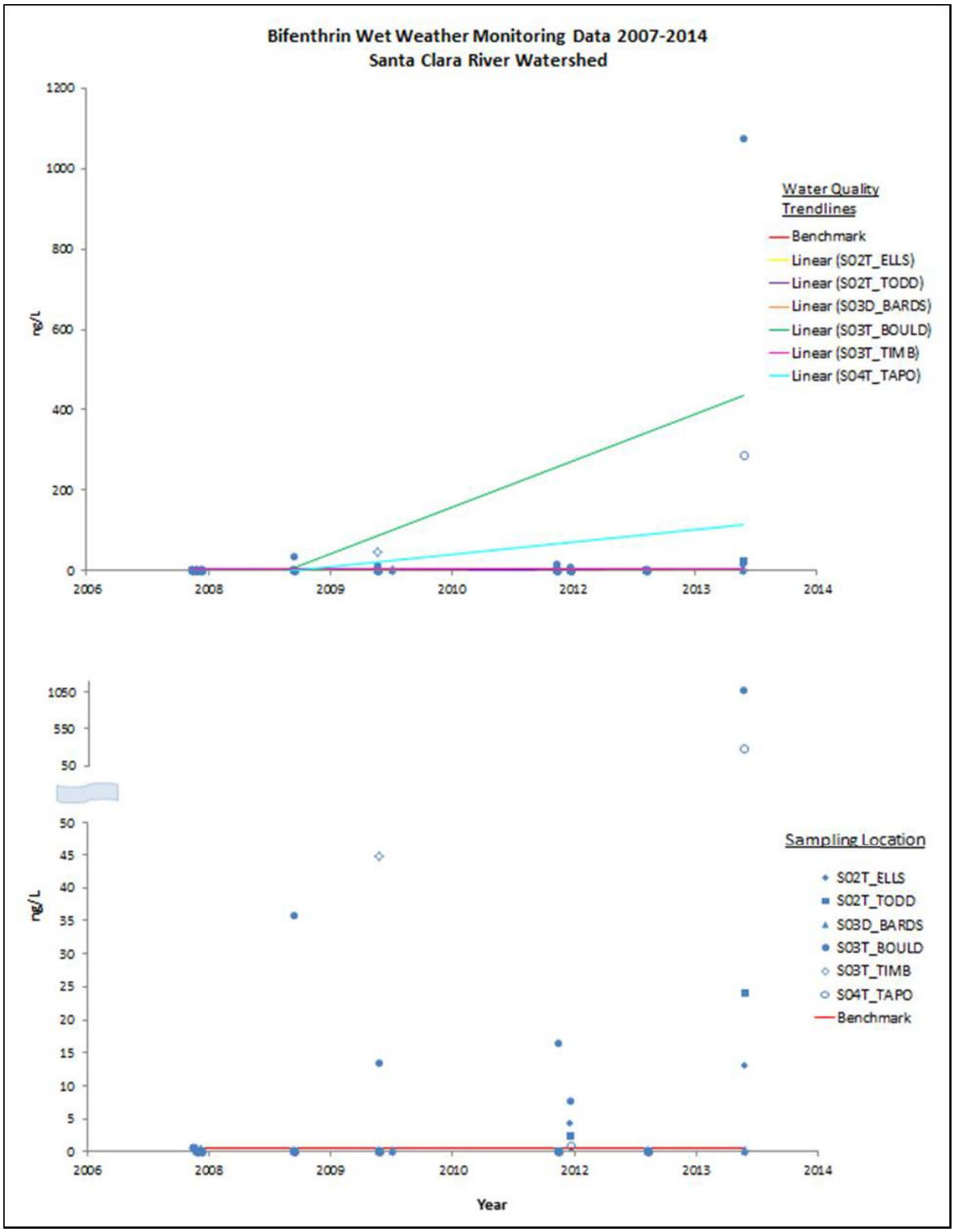

Figure 19 Bifenthrin wet weather monitoring data 2007-2014, Santa Clara River Watershed (Note: Y-axis on bottom graph is split to show detail.)

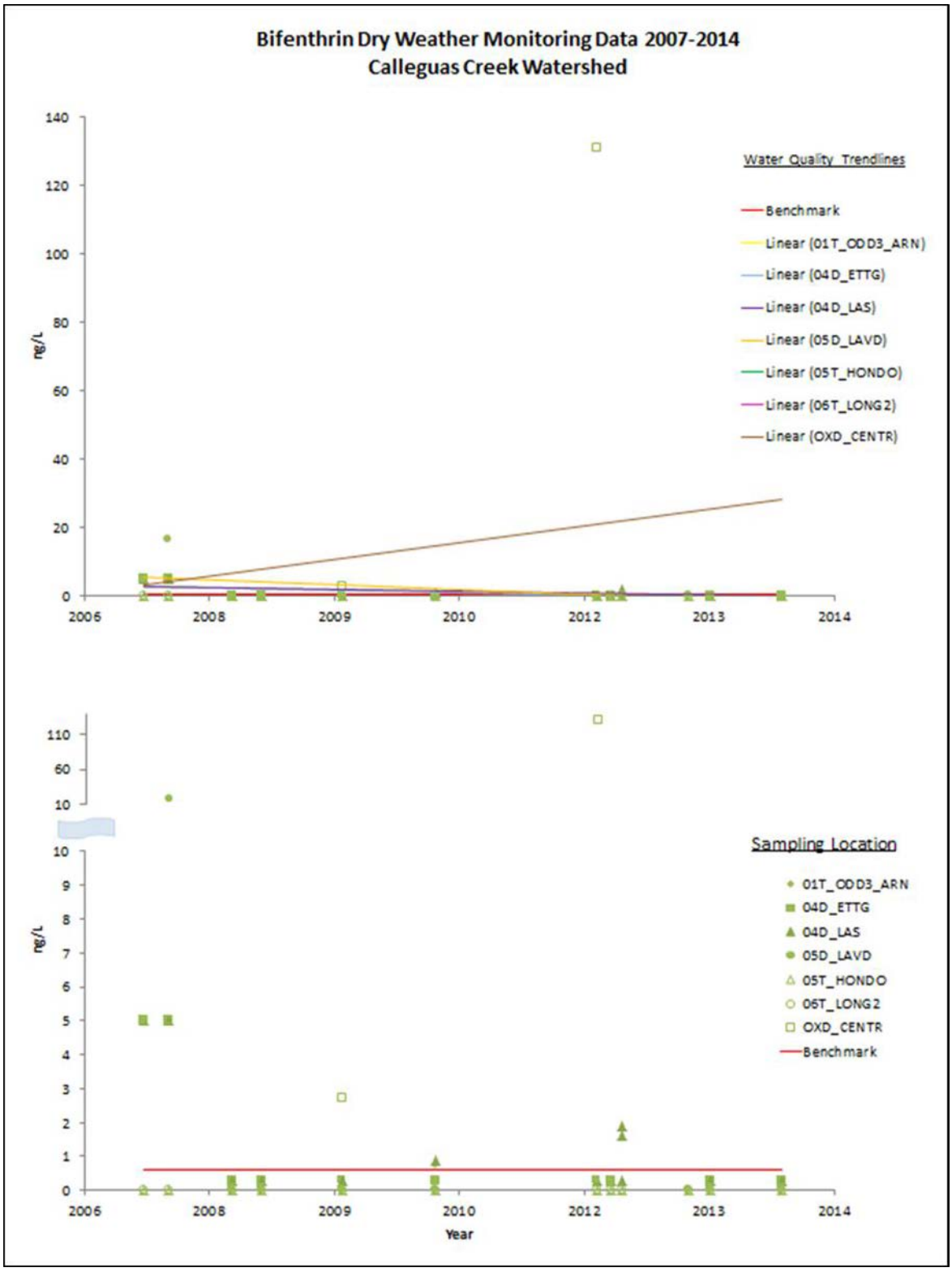

Figure 20 Bifenthrin dry weather monitoring data 2007-2014, Calleguas Creek Watershed (Note: Y-axis on bottom graph is split to show detail.)

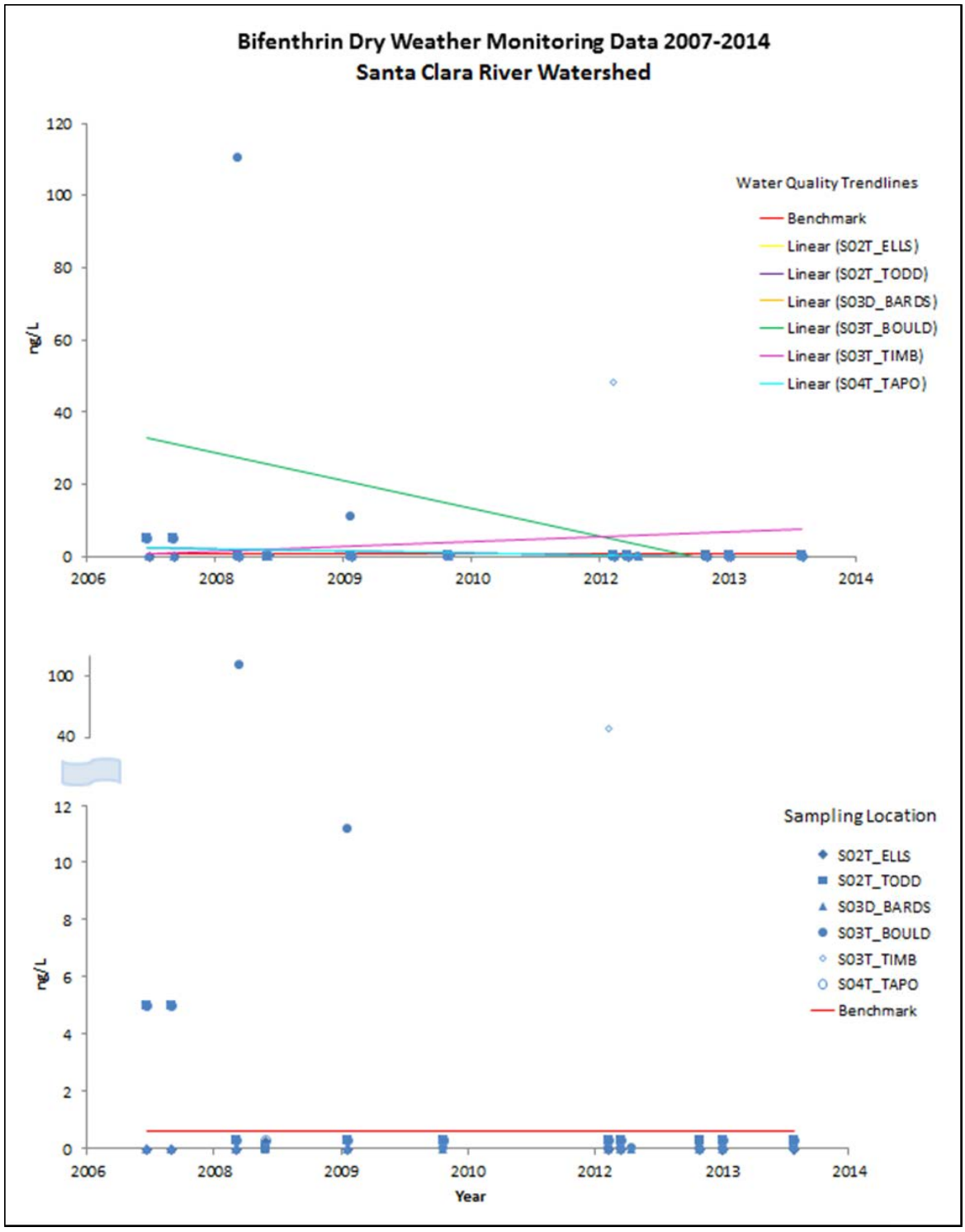

Figure 21 Bifenthrin dry weather monitoring data 2007-2014, Santa Clara River Watershed (Note: Y-axis on bottom graph is split to show detail.)

5.2.5 TOXICITY DATA ANALYSIS

During the 2005 Waiver term, the toxicity benchmark of 1 TUc[6] was exceeded in in five out of 53 samples collected from the Calleguas Creek Watershed and 12 out of 46 samples collected from the Santa Clara River Watershed. During the 2010 Waiver term, the toxicity benchmark was exceeded in three out of 52 samples in the Calleguas Creek Watershed. These three exceedances were from samples taken at three monitoring locations (05D_LAVD, 06T_LONG2 and 05T_HONDO) during one wet-weather event in January 2012. In the Santa Clara River Watershed, the toxicity benchmark was exceeded in seven out of 32 samples collected. Five of these seven exceedances were from samples collected in wet weather during a monitoring event in 2012 (S02T_ELLS, S02T_TODD, and S04T_TAPO) and in 2014 (S02T_TODD and S03D_BARDS). Two of the seven exceedances were from samples collected from S02T_TODD in dry weather during two monitoring events in 2013 and 2014. Figure 22 and Figure 23 present the toxicity benchmark exceedances from 2007 to 2014 during dry and wet weather events as a percent exceedance of the total number of collected samples.

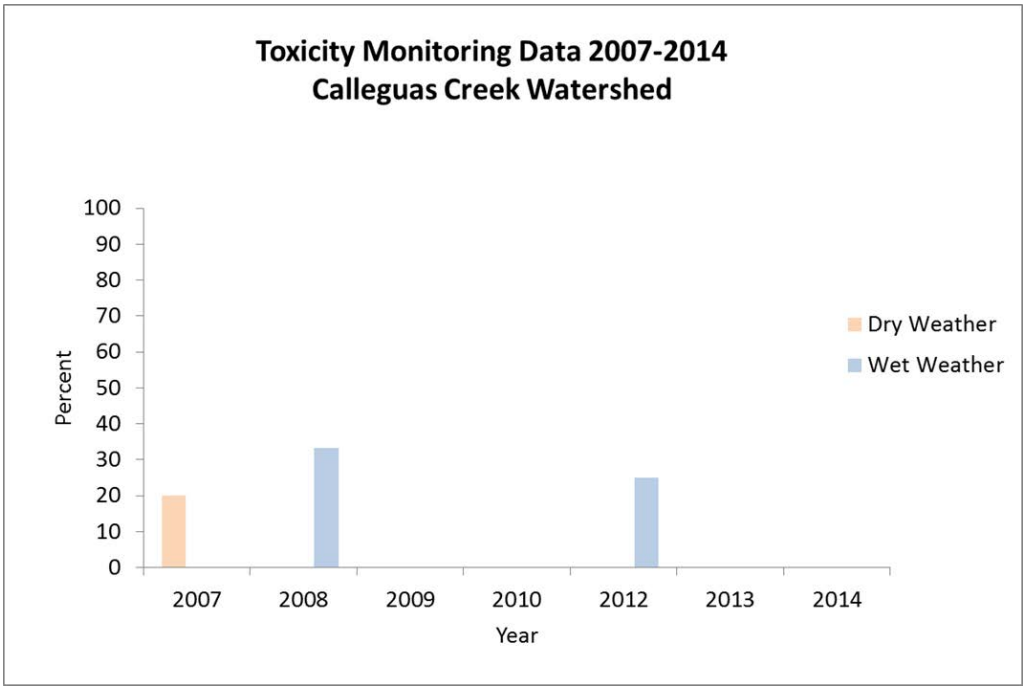

Figure 22 Percentage of toxicity benchmark exceedances per total number of collected samples in Calleguas Creek Watershed

[6] TUc or Toxic Unit-Chronic is the reciprocal of the effluent concentration that causes no observable effects (i.e., no mortality) on the test organisms by the end of a chronic toxicity test.

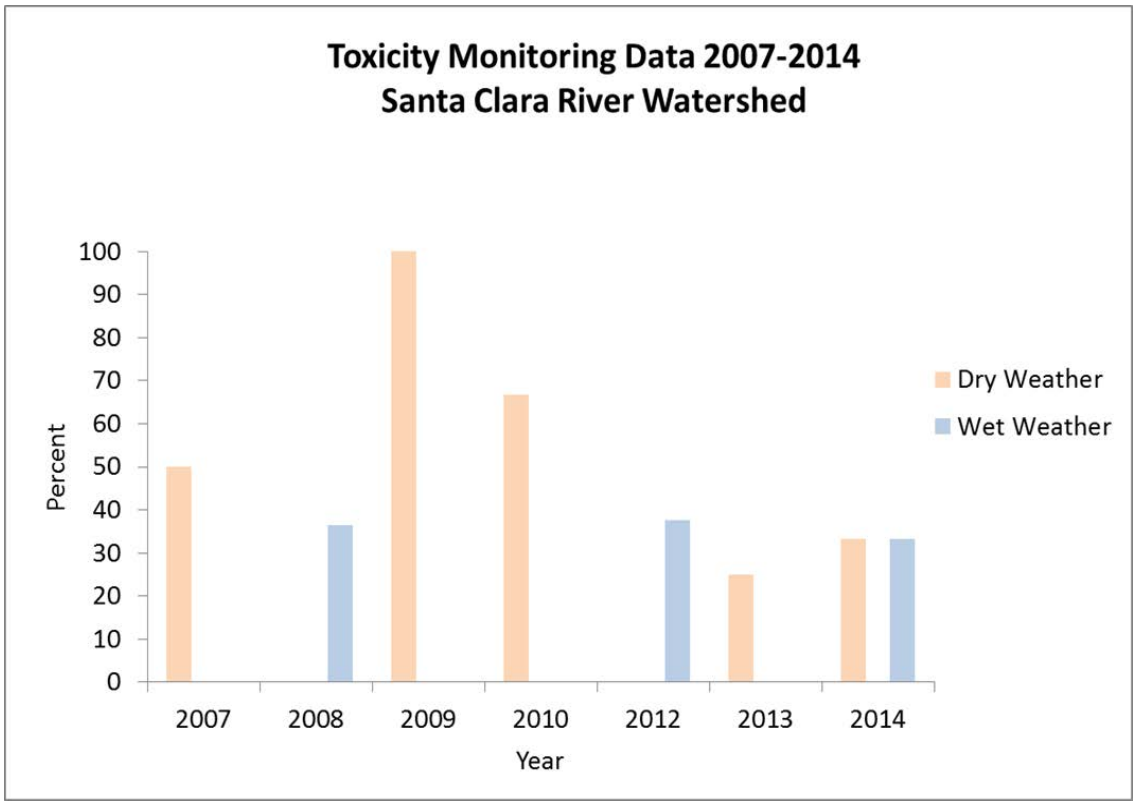

Figure 23 Percentage of toxicity benchmark exceedances per total number of collected samples in Santa Clara River Watershed

5.2.6 VENTURA RIVER DATA ANALYSIS

During the 2005 Waiver term, there was only one water quality benchmark exceedance (4,4'-DDT) in the Ventura River Watershed, which occurred during a wet-weather monitoring event in January 2008. In 2007 and 2009, there was insufficient flow for sample collection in either dry or wet weather; therefore, samples were not collected. Samples were collected during one wet-weather monitoring event in 2010. There were no water quality benchmark exceedances of any constituents for that event. During the 2010 Waiver term, the two sampling sites located in the Ventura River Watershed were not sampled due to insufficient flow or no flow. To obtain sampling data and analyze water quality in the Ventura River Watershed, the two existing sampling sites must be relocated in the next Waiver term.

5.2.7 VCAILG TREND ANALYSIS

VCAILG conducted a trend analysis of its water quality monitoring as part of its 2014-2015 annual monitoring report (VCAILG, 2015). VCAILG analyzed data from 2007 through 2015 using Kendall's Tau to determine concentration trends over time. Statistically significant downward trends were demonstrated for pesticides (4-4'-DDD, 4-4'-DDE, and chlorpyrifos at five sites), nitrate (at one site), and one or more salts (at two sites). Statistically significant increasing trends were observed for dissolved copper (at one site), nutrients (at two sites), and one or more salts (at three sites).

5.3 LOS ANGELES COUNTY MONITORING RESULTS

The NGA-LAILG monitors 20 sampling sites throughout Los Angeles County (Table 3). There are sixteen fixed sites and four additional revolving sites selected randomly on a yearly basis. Samples are collected from these 20 sites on a rotating schedule. Four events take place each year.

Table 3 Sampling sites in Los Angeles County watersheds

Watershed	Number of Sampling Sites
Los Angeles River	5
San Gabriel River	7
Dominguez Channel	1
Santa Monica Bay	2
Los Cerritos Channel	1
Annual Rotating Sites	4

Sampling sites were selected to represent the NGA-LAILG group as a whole based on various crop types, water practices, fertilizer and pesticide use, management practices and locations. Samples are collected at the edge of field to exclude contributions from other discharges to the stormdrain system. Reasonable efforts were made to collect dry-weather samples during irrigation events at the sites. Monitoring was conducted from 2007-2014. Sixty-nine samples were collected. The majority of the samples were collected during the first two years of the waiver, prior to suspension of monitoring by the group in 2009 due to enrollment issues, which lasted through the beginning of 2010. Samples were primarily from storm water runoff during the wet season, but in 2013, no samples were collected in dry or wet weather due to no runoff. NGA-LAILG has not

encountered irrigated runoff in the dry season since 2008. During the 2007-2014 monitoring period, sampling locations were visited multiple times in dry weather, but samples were not collected due to insufficient or no flow. The number of samples that would have been collected is 122. For the purpose of this analysis, they are represented as zero concentrations for all constituents because no dry-weather discharge constitutes attainment of benchmarks. In addition, half the value of a constituent's MDL was assigned to all non-detect samples. The y axes of the lower graphs in several of the figures are split to show detail because of the wide range in constituent concentrations.

5.3.1 Nitrogen Data Analysis

Nitrate-nitrogen water quality benchmark exceedances are observed during dry and wet weather primarily in the Los Angeles River and San Gabriel River Watersheds. The highest nitrate-nitrogen concentrations have been identified during dry weather in the San Gabriel River Watershed. Nitrate-nitrogen concentration trend lines show a decrease in dry weather in all watersheds (Figure 24). Trend lines for the wet-weather monitoring indicate an increase in nitrate-nitrogen concentrations in the San Gabriel River and a stable, but above benchmark trend for the Los Angeles River. The rest of the watersheds generally have nitrate-nitrogen concentrations below the water quality benchmark (Figure 25).

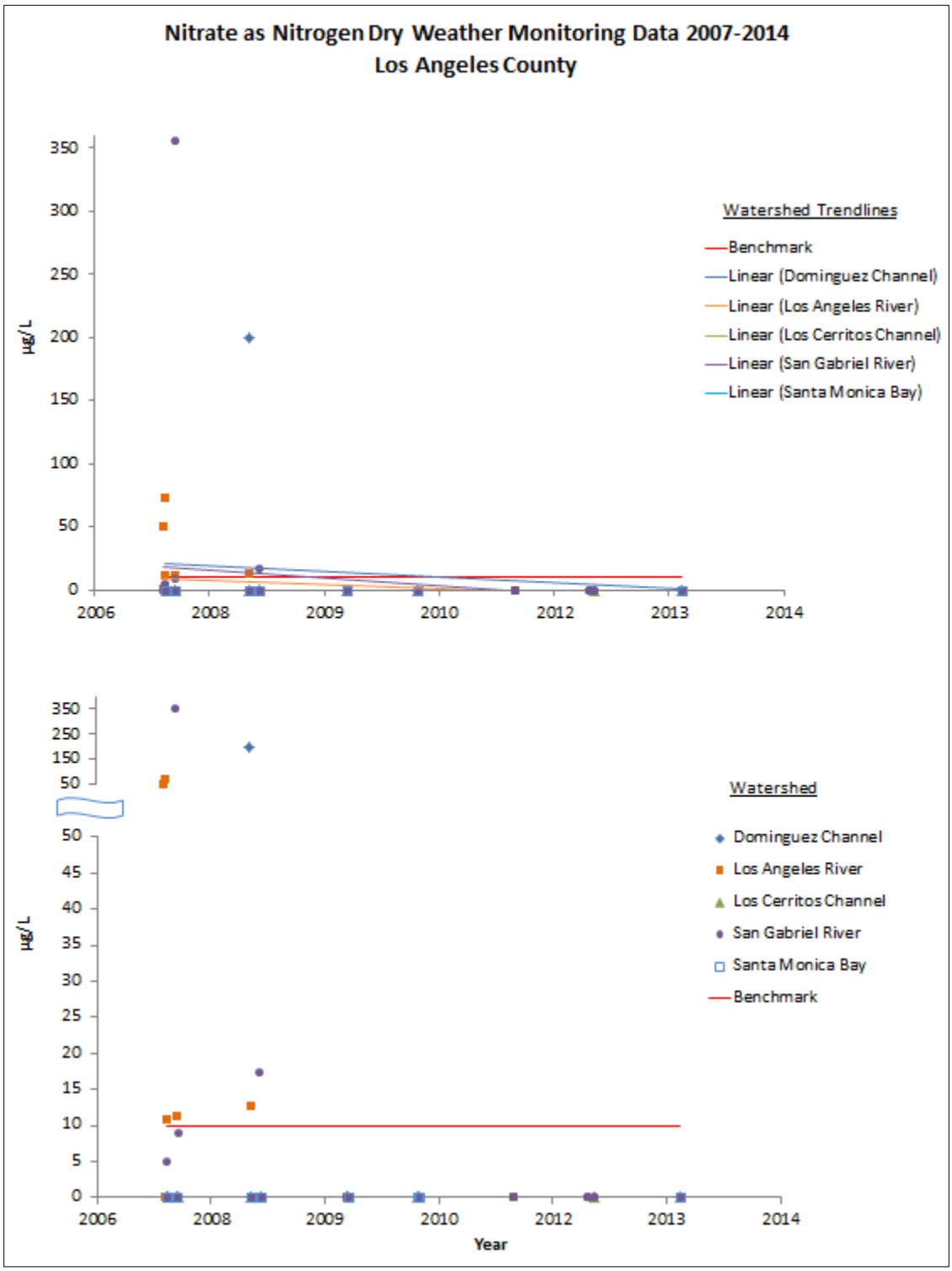

Figure 24 Nitrate as Nitrogen dry weather monitoring data 2007-2014, Los Angeles County (Y-axis on bottom graph is split to show detail.)

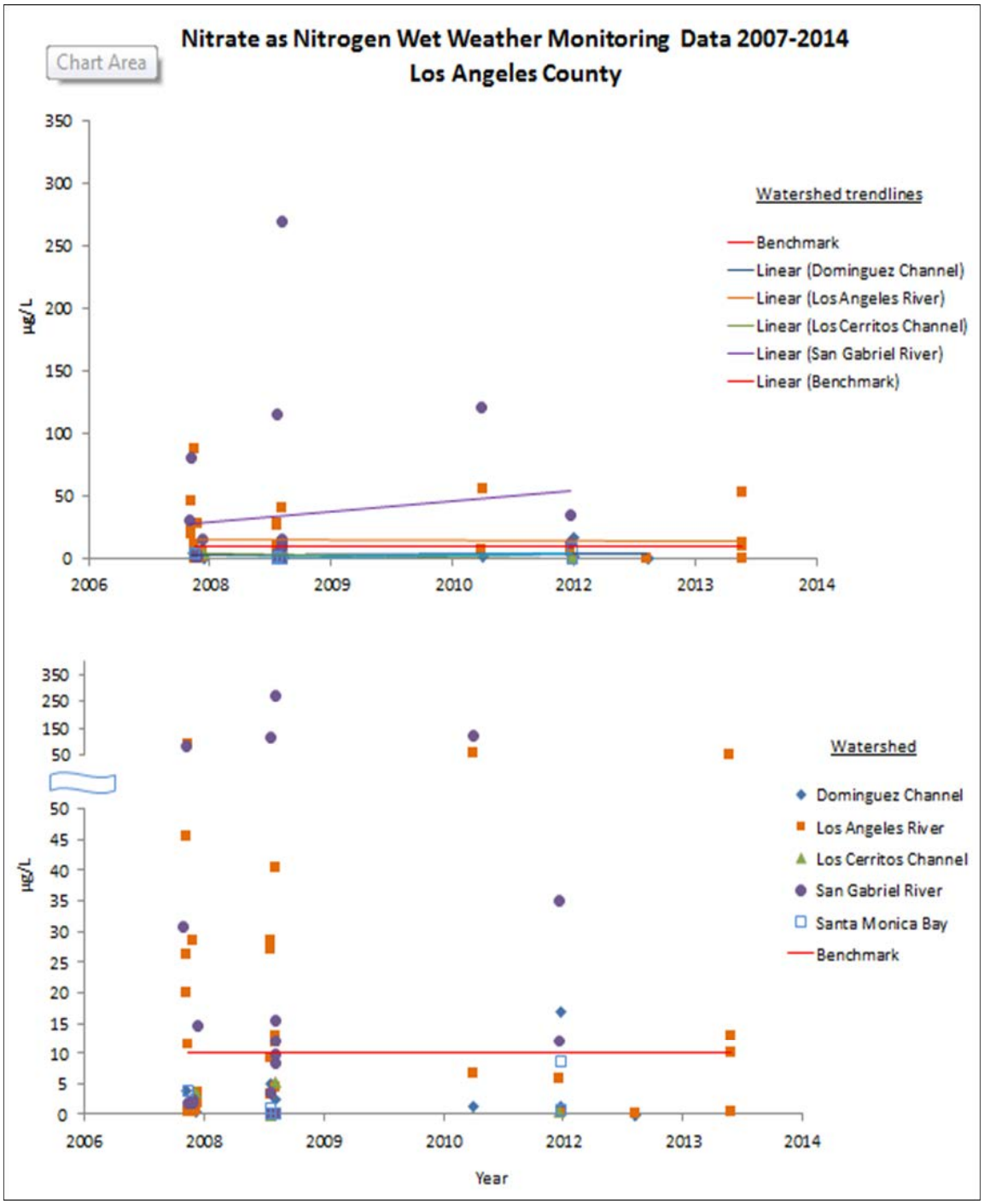

Figure 25 Nitrate Nitrogen wet weather monitoring data 2007-2014, Los Angeles County (Note: Y-axis on bottom graph is split to show detail.)

5.3.2 PESTICIDE DATA ANALYSIS

The majority of the organochlorine pesticides benchmark exceedances, DDT in particular, are observed in the Los Angeles River Watershed during the first year of the 2005 Waiver term. There are no DDT exceedances since then during wet or dry weather with the exception of a single exceedance in wet weather in 2010 in the Dominguez Channel (Figures 26 and 27).

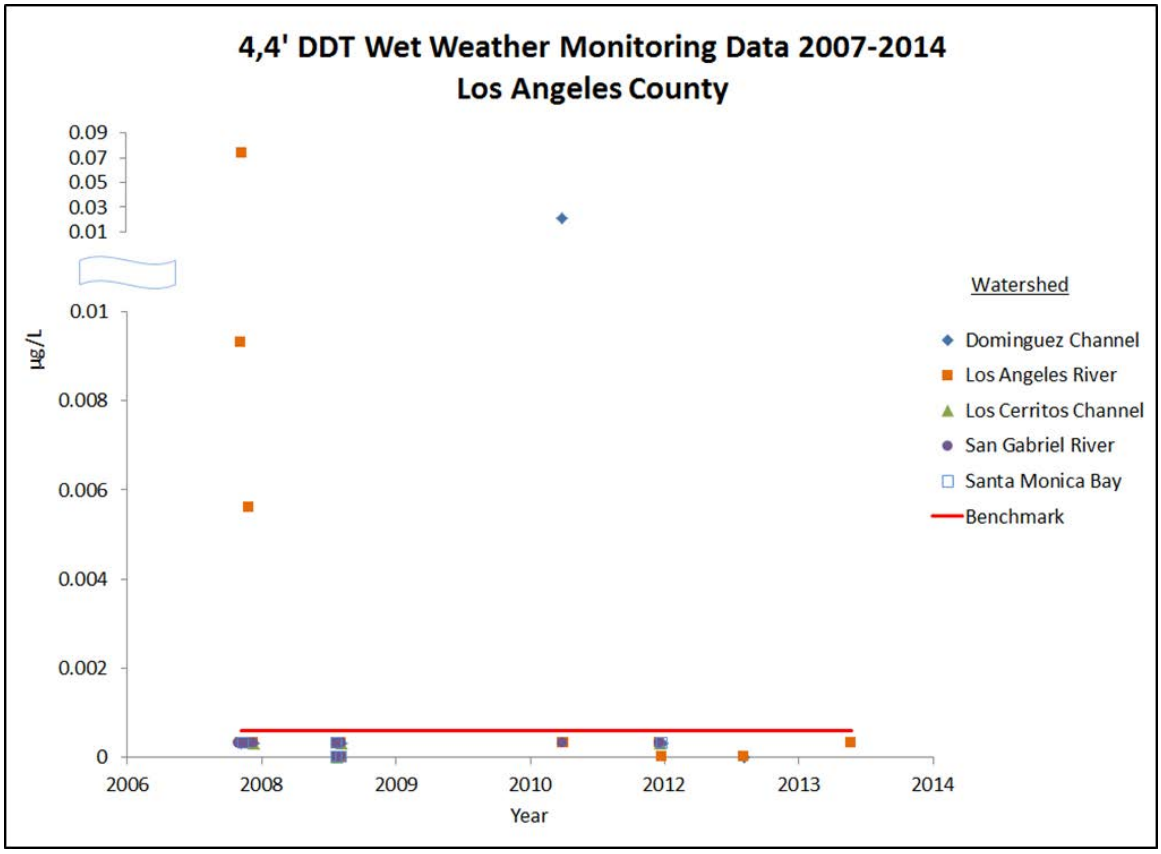

Figure 26 4,4' DDT wet weather monitoring data 2007-2014, Los Angeles County. (Note: Y-axis is split to show detail.)

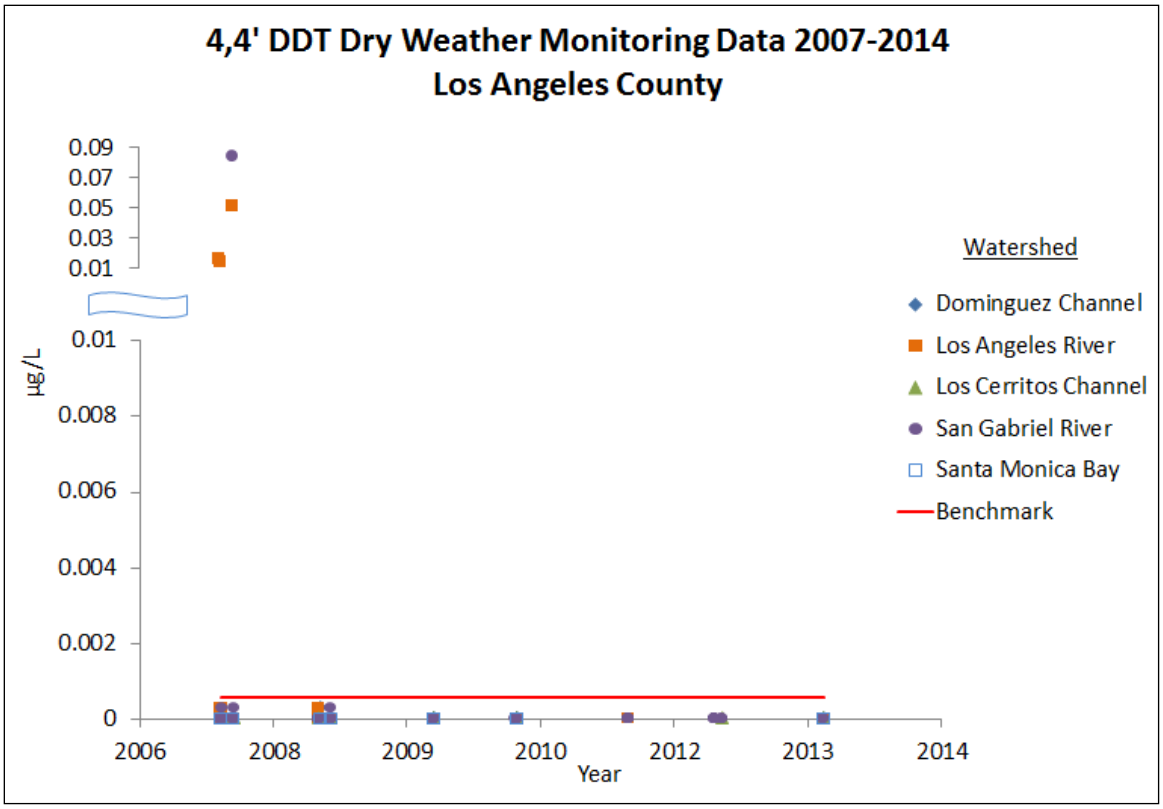

Figure 27 4,4'-DDT dry weather monitoring data 2007-2014, Los Angeles County. Axis is split to show detail.

Organophosphate pesticides, diazinion and chlorpyrifos, have not been detected in dry weather during either waiver term, with the exception of a single exceedance of diazinon in the Dominguez Channel in 2008 (Figures 28 and 29). In wet weather, the majority of organophosphate benchmark exceedances occur in the San Gabriel River Watershed and the Dominguez Channel (Figures 30 and 31). The trend lines for the Dominguez Channel show an increase in chlorpyrifos concentrations and a decrease in diazinon concentrations. In the San Gabriel Watershed, the trend lines indicate a decrease in concentrations of chlorpyrifos and diazinon. In the rest of the watersheds the concentrations of organophosphate pesticides are decreasing or maintaining values below the benchmark.

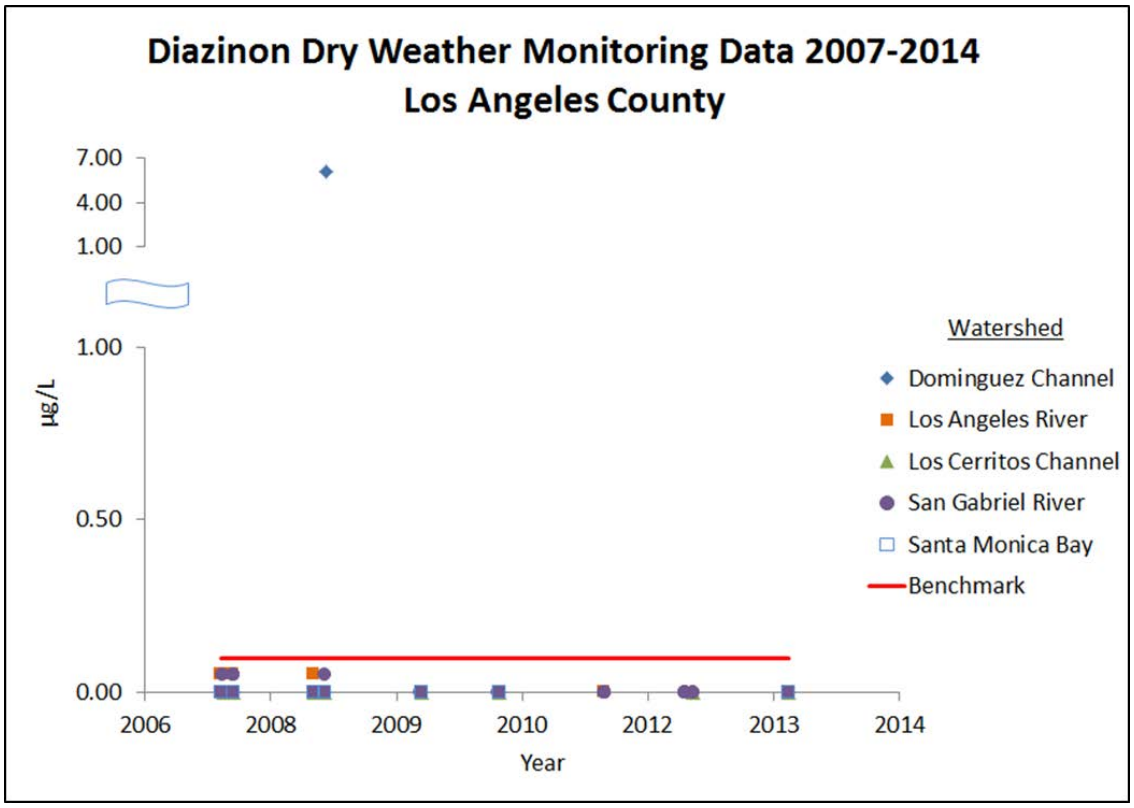

Figure 28 Diazinon dry weather monitoring data 2007-2014, Los Angeles County. (Note: Y-axis is split to show detail.)

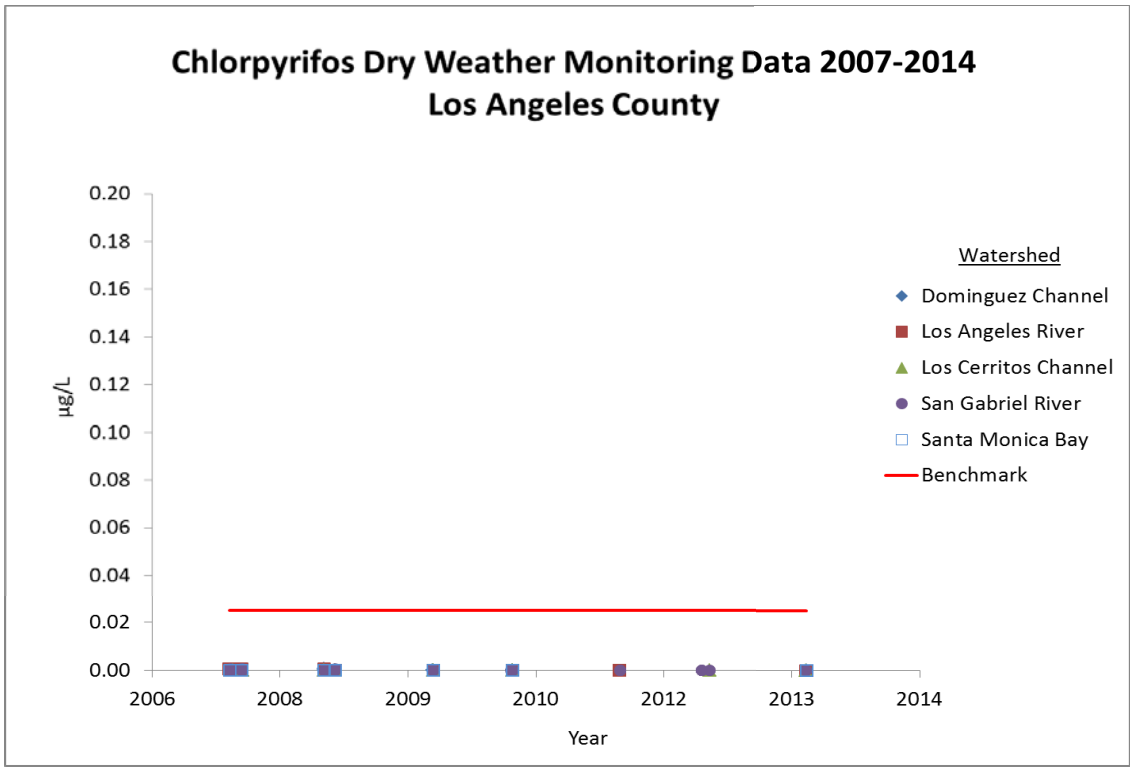

Figure 29 Chlorpyrifos dry weather monitoring data 2007-2014, Los Angeles County

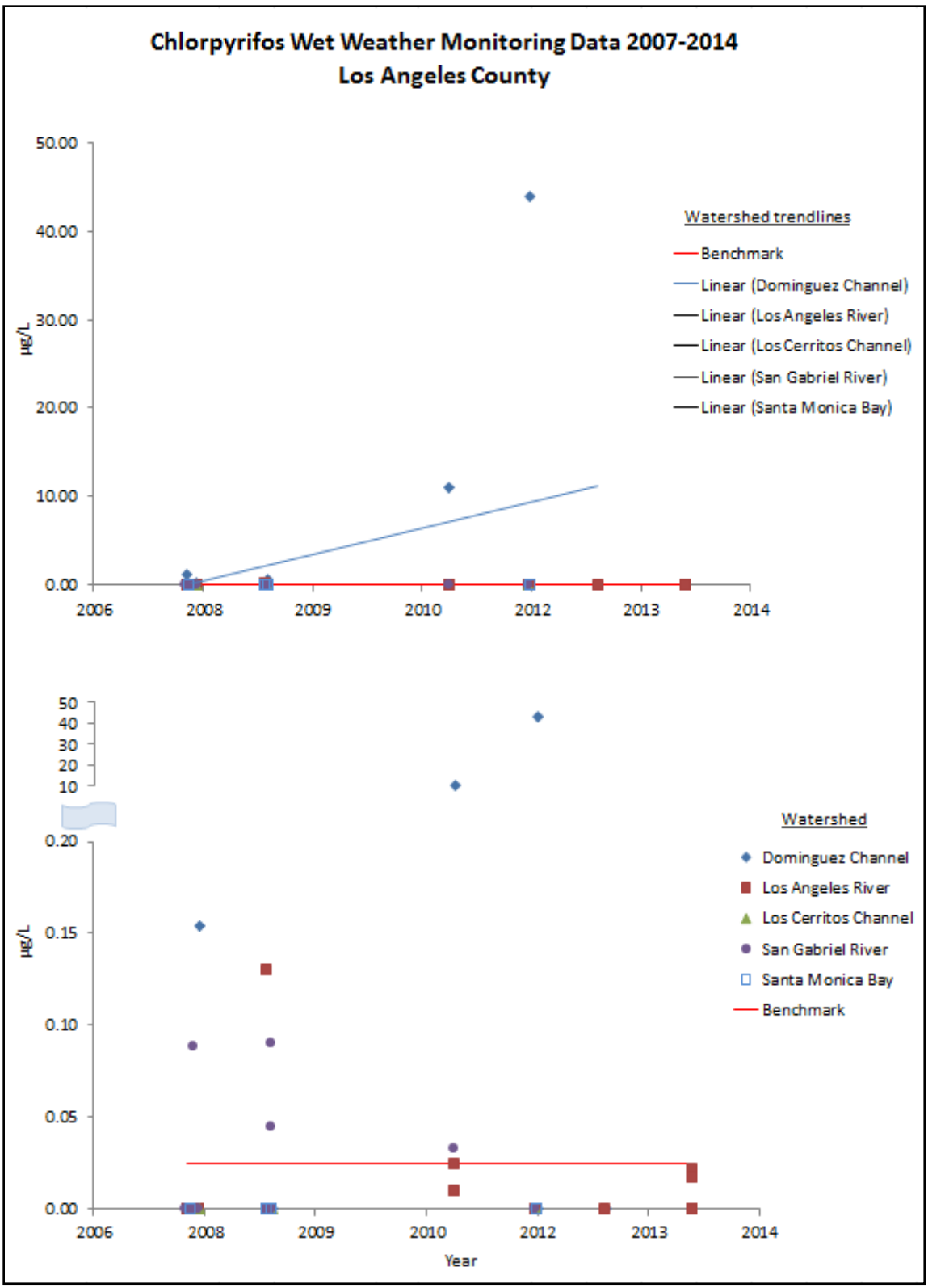

Figure 30 Chlorpyrifos wet weather monitoring data 2007-2014, Los Angeles County. (Note: Y-axis is split to show detail.)

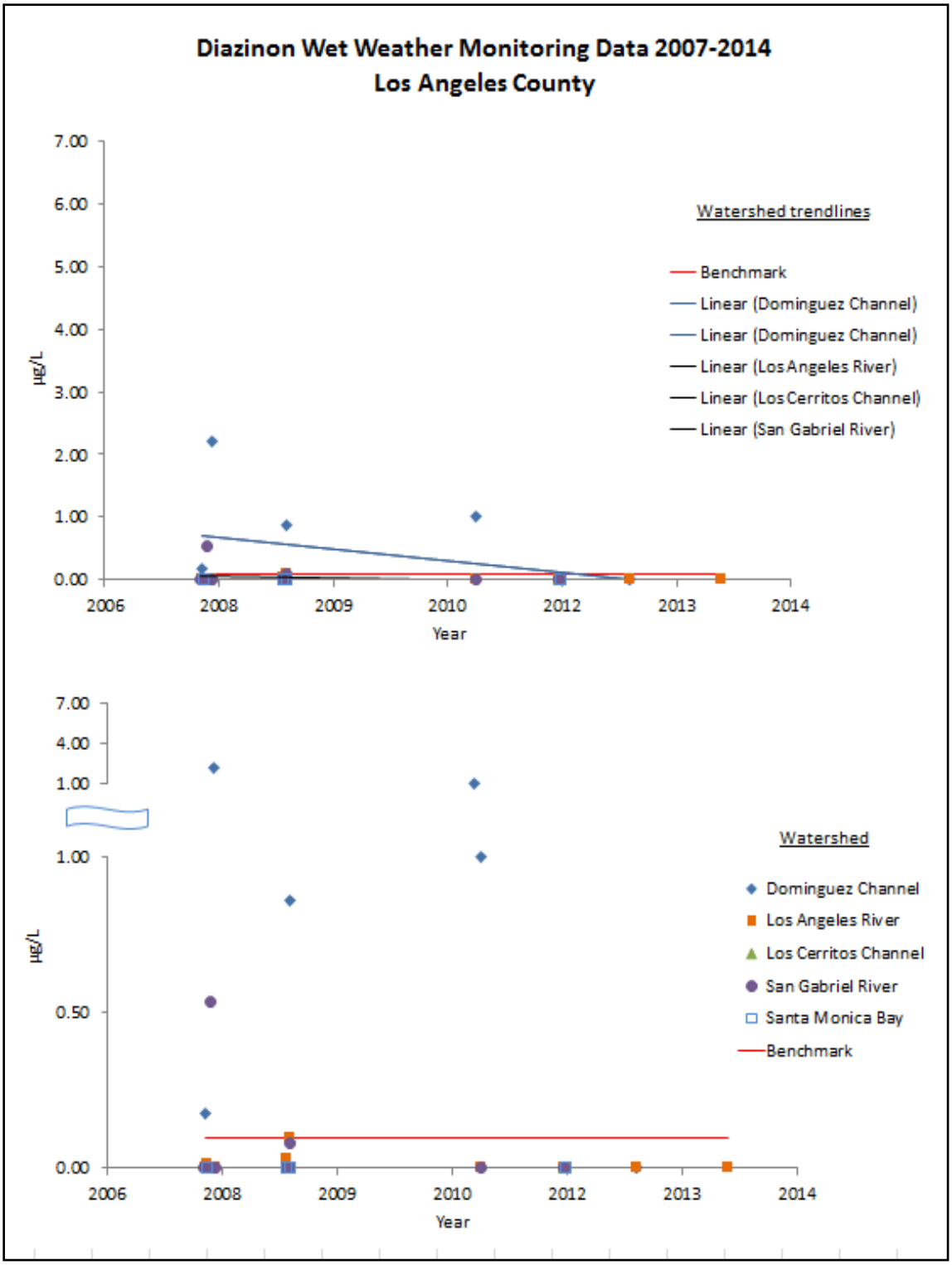

Figure 31 Diazinon wet weather monitoring data 2007-2014, Los Angeles County. (Note: Y-axis is split to show detail.)

5.4 Toxicity Data Analysis

During the 2005 Waiver term, a total of 43 samples were collected at 30 sampling locations in four watersheds (Dominguez Channel, Los Angeles River, San Gabriel River and Santa Monica Bay) in 2007 and 2008. Each of these 43 samples was tested for five toxicity criteria; thus, one sample could show multiple toxicity exceedances. During the 2005 waiver term, 44 toxicity benchmark exceedances were observed in the 43 samples collected from 22 sampling sites. During the 2010 Waiver term, a total of 13 samples collected at 11 sites showed 16 toxicity exceedances. For example, in March 2011, one sample was collected at sample site #4 located in the Dominguez Channel and for the purpose of toxicity analysis, *Ceriodaphnia dubia* was tested for survival, Fathead Minnow was tested for reproduction, survival, and growth, and *Selenastrum* was tested for growth. This sample result shows exceedances for each criteria/test (two tests for survival, two for growth and one for reproduction). Thus, five exceedances are counted for this sample.

Figure 32 shows the percentage of toxicity benchmark exceedances in each watershed for each year when samples were collected during both the 2005 and 2010 Waiver terms. There is a decrease in toxicity exceedances in all watersheds. However, during the 2005 and 2010 Waiver terms, toxicity benchmark exceedances were observed in two samples when no other constituent exceeded a water quality benchmark. The two samples were collected in November 2008 and February 2014, from site #184 located in the Los Angeles River Watershed. Thus, it is necessary to continue requiring toxicity sampling in the next waiver term.

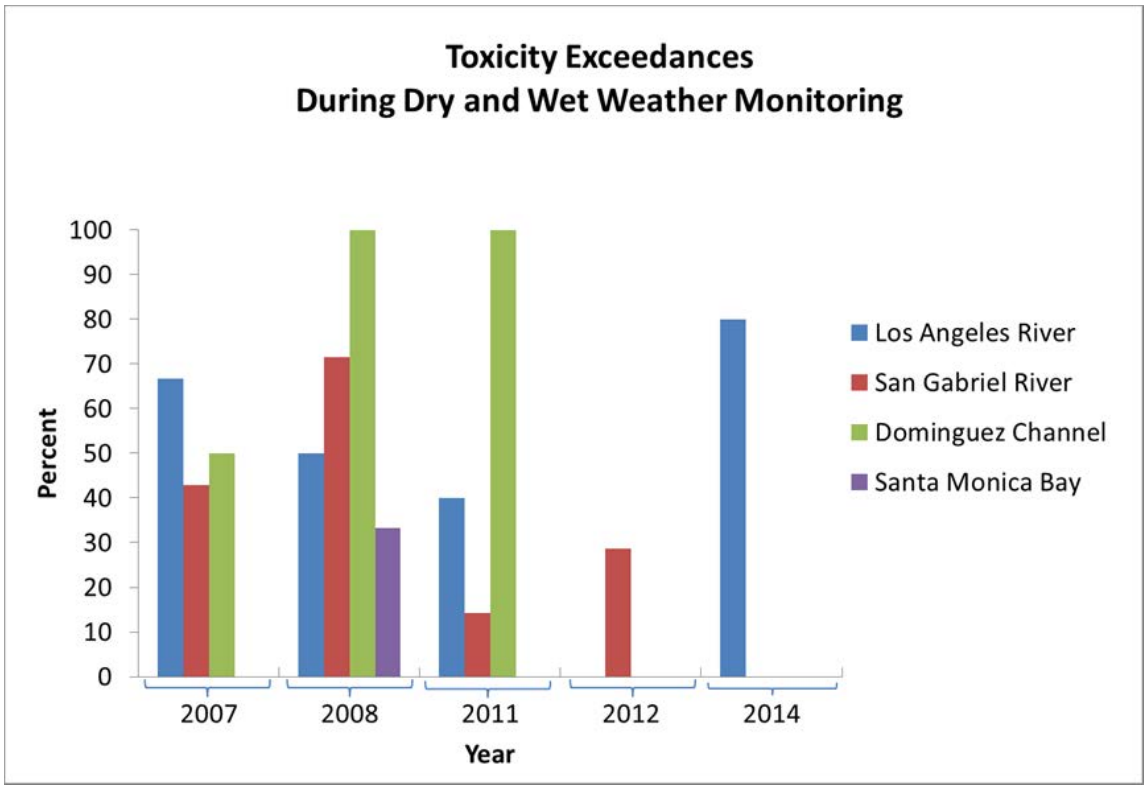

Figure 32 Percentage of toxicity exceedances in dry and wet weather monitoring 2007-2014, Los Angeles County

5.5 Bacteria Study and Monitoring Requirements

The 2010 Waiver required a Bacteria Special Study to characterize potential discharges of bacteria from irrigated agricultural lands. Both discharger groups conducted studies to comply with the Conditional Waiver.

5.5.1 NGA Bacteria Study

The Regional Board approved NGA's Bacteria Special Study work plan on June 22, 2012. The study collected samples for *E. coli* from a subset of NGA's regular monitoring sites. On February 28, 2014, five locations were sampled for bacteria, but due to no qualifying storm events due to drought conditions, no follow up sampling was performed. The sampling results are presented in Table 4. The numbers in bold represent levels above the water quality objective of 235/100 ml for a single sample. The report concluded that at three of the sites, the sources of E. coli were incompletely composted

or un-composted horse manure either on-site or on adjacent lands (a horse ranch and a community garden). For one sample the source of E. coli was unknown.

Table 4 Bacteria sampling results, NGA Bacteria Special Study

Site	Sample #	Date	E. coli (MPN/100 ml)
NGA #19	LAILG-NGA19-7	2/28/14	20
NGA #26	LAILG-NGA26-1	2/28/14	**130,000**
NGA #124	LAILG-NGA124-7	2/28/14	**55,000**
NGA #178	LAILG-NGA178-2	2/28/14	**2,000**
NGA #184	LAILG-NGA184-3	2/28/14	**560**

5.5.2 VCAILG BACTERIA STUDY

The initial draft Bacteria Special Study Work Plan was submitted by VCAILG on October 7, 2011. The Regional Board issued a comment letter on March 5, 2012. VCAILG revised the work plan on March 19, 2012, which the Regional Water Board approved on April 9, 2012. After a year of implementing this study, VCAILG requested to change their sampling approach due to issues collecting consistent tail water samples. On March 15, 2013 VCAILG submitted a revised work plan, which the Regional Board conditionally approved on August 9, 2013. VCAILG submitted its final Bacteria Special Study Work Plan in September, 2013. VCAILG is expected to submit the final report in February 2016.

6. SUMMARY OF WQMPS

As stated in Section 2, if monitoring showed exceedances of water quality benchmarks, the 2010 Waiver required dischargers to develop WQMPs. WQMPs were required to include specific, targeted steps with milestones to attain water quality benchmarks through the use of management practices (MPs), and to be updated each year based on monitoring results from the previous year. Some of the required elements of a WQMP were:

- A description and documentation of existing MPs, including the degree and location of implementation
- A description and general location of new or revised MPs that will be implemented to address water quality impairments, based on a quantitative assessment of MP performance and expected attainment of water quality benchmarks
- A time-certain schedule and strategy for the implementation of new and/or revised MPs
- Tracking of MP implementation and maintenance
- An evaluation of compliance with water quality benchmarks to determine if implementation of additional or upgraded MPs are necessary

Monitoring conducted under the 2005 and 2010 Waiver terms documented water quality benchmark exceedances. Therefore, both VCAILG and NGA-LAILG developed WQMPs. The sections below provide a summary of each discharger group's WQMPs.

6.1 VCAILG WQMPS

VCAILG's approach for its WQMPs during both the 2005 and 2010 Waiver terms focused on surveying its members about the MPs they had already implemented in combination with outreach and educational classes about MPs needed to address water quality benchmark exceedances. In the 2005 Waiver term, VCAILG developed the MP survey and surveyed its members once. In the 2010 Waiver term, VCAILG revised the MP survey and surveyed its members in 2014 and 2015 to track changes in MP implementation both prior to 2010 and within the 2010 Waiver term.

Over the term of the 2010 Waiver, VCAILG submitted four WQMPs. Regional Board staff provided written comments on the WQMPs and met with VCAILG several times to convey the need to report quantifiable MP information, such as area addressed by MPs for each monitoring site, in order to correlate MP implementation with water quality data and to determine if additional or upgraded MPs were necessary. In response, the WQMPs have evolved over the term of the 2010 Waiver, such that by the 2014 WQMP, VCAILG was able to report MP adoption rates by monitoring site drainage area. However, as of the latest WQMP submitted in December 2015, VCAILG has not associated drianage area MP adoption rates with water quality at drainage area monitoring sites. Instead, the latest WQMP aggregated MP adoption rates by larger hydrologic units and compared those adoption rates with Water Quality Indices, which are metrics that combine data for multiple constituents over mutiple years. While this approach can identify broad patterns, it is not specific enough to evaluate MP effectiveness, or provide a mechanism for ensuring that members will implement additional and upgraded MPs if water quality is not improving.

Therefore, the proposed Waiver renewal includes more specific and detailed WQMP requirements that clarify what type of MP information needs to be collected, how the MP information must be reported, and the process for ensuring that growers implement additional MPs as necessary in order to attain water quality benchmarks within a reasonable timeframe. The proposed Waiver renewal also contains a schedule for attainment of those water quality benchmarks specifically associated with TMDL load allocations assigned to irrigated agricultural discharges. For these TMDL-associated water quality benchmarks, the proposed Waiver renewal also includes a provision that the TMDL-associated water quality benchmarks may be converted to discharge limitations[7] if the water quality benchmarks are not attained by the compliance deadline set forth in the Waiver.

[7] "Discharge limitations" means a numeric restriction or a numerically expressed narrative restriction, on the quantity, discharge rate, concentration, or toxicity units of a pollutant or pollutants that may be discharged from an authorized location as set forth in Appendices 4 and 5. A discharge limitation may be final or interim, and may be expressed as a prohibition. A discharge limitation does not include a receiving water limitation, a compliance schedule, or a management practice.

6.2 NGA – LAILG WQMP

Because NGA-LAILG is a smaller group (approximately 200 members) and monitoring is conducted at the edge of field, rather than in receiving waters, the NGA-LAILG WQMP follows a different approach than the VCAILG WQMP. The NGA-LAILG WQMP separates members into various groups based on their operational patterns and prescribes WQMP implementation guidelines specific to each operational group. Table 5 below summarizes the WQMP implementation tasks and timeline.

Table 5 Summary of NGA-LAILG WQMP Implementation Tasks and Timeline

Task	Implementation Actions and Timeline
Implement MPs at sampling site locations	January 2010 – ongoing. Sampling site locations will continue to initiate MPs as long as sampling results show exceedances.
Submit operational pattern questionnaire to members	July 2013
MP implementation and site grouping	Sort growers into the following groups: large operation, medium operation, and small operation; and implement MPs in June, 2014, September, 2014 and December 2014, respectively
Training and outreach	Conduct ongoing outreach and training
Additional MP implementation and tracking at all sites (as needed)	Ongoing. If implemented MPs are not improving water quality, work with individual growers to develop and implement additional MPs, or to improve existing MPs
Evaluate monitoring data and MP effectiveness	Results submitted in Annual Monitoring Reports and WQMPs

The NGA-LAILG WQMP approach is sufficient to evaluate MP effectiveness and attain water quality benchmarks within a reasonable timeframe at those properties that reported. NGA-LAILG WQMP has received only a 25 percent response rate for the original mailed questionnaire. Due to the low response rate, NGA-LAILG began developing a more user friendly web-based questionnaire that also accepts text message answers for growers who do not have internet access and is translated into Spanish. NGA-LAILG also recently hired a full time Director of Member Relations who

will work with consultants and partners to ensure that members are receiving necessary outreach and training and are implementing the required MPs. These actions have not yet been completed or have been too recently implemented to gauge their effect at the time of this Staff Report. In addition, the reduction in monitoring in recent years due to drought conditions and other issues has hindered the evaluation of MP effectiveness at the sampling site locations.

To address outreach, the proposed Waiver renewal contains more specific requirements for outreach by discharger groups. It also includes enforceable requirements for discharger group members to respond to questionnaires and submit other information that the group requires to develop and implement WQMPs.

7. SUMMARY OF MANAGEMENT PRACTICE IMPLEMENTATION

During the 2010 Waiver term, discharger groups reported management practice (MP) implementation by their members in a fairly general way. For example, VCAILG grouped MPs implemented by monitoring site drainage area because members were concerned about anonymity. Staff has been working with discharger groups to better present MP implementation information with water quality data in order to track water quality improvements under the Conditional Waiver. As a result, WQMPs for VCAILG and NGA-LAILG have continuously improved during the 2010 Waiver term. In the meantime, staff has been tracking MPs that have been implemented under various state and federal funding sources. The tracking is done using GIS to overlay enrollment numbers and implemented MPs with monitoring locations and associated drainage areas in an attempt to correlate MP implementation and grower participation with water quality data. The MPs funded by the various programs are summarized below.

7.1 Calleguas Creek Grant

In order to assist growers comply with the Conditional Waiver, UC Riverside, the Ventura County Resource Conservation District (VCRCD), and the UC Cooperative Extension received funding through section 319(h) of the Clean Water Act. This grant funded a project from May 2009 to March 2012 to assist growers with implementation of MPs in the Calleguas Creek watershed. Approximately 100 MPs were implemented on 53

properties covering 9,800 acres of irrigated farmland (Figure 33). Most growers chose to implement irrigation management MPs. The next most frequently implemented class of MPs were sediment and erosion control MPs. Approximately 70% of the MPs were implemented in the Revolon Slough and Beardsley Wash area, which has approximately 18,000 acres of irrigated agricultural lands.

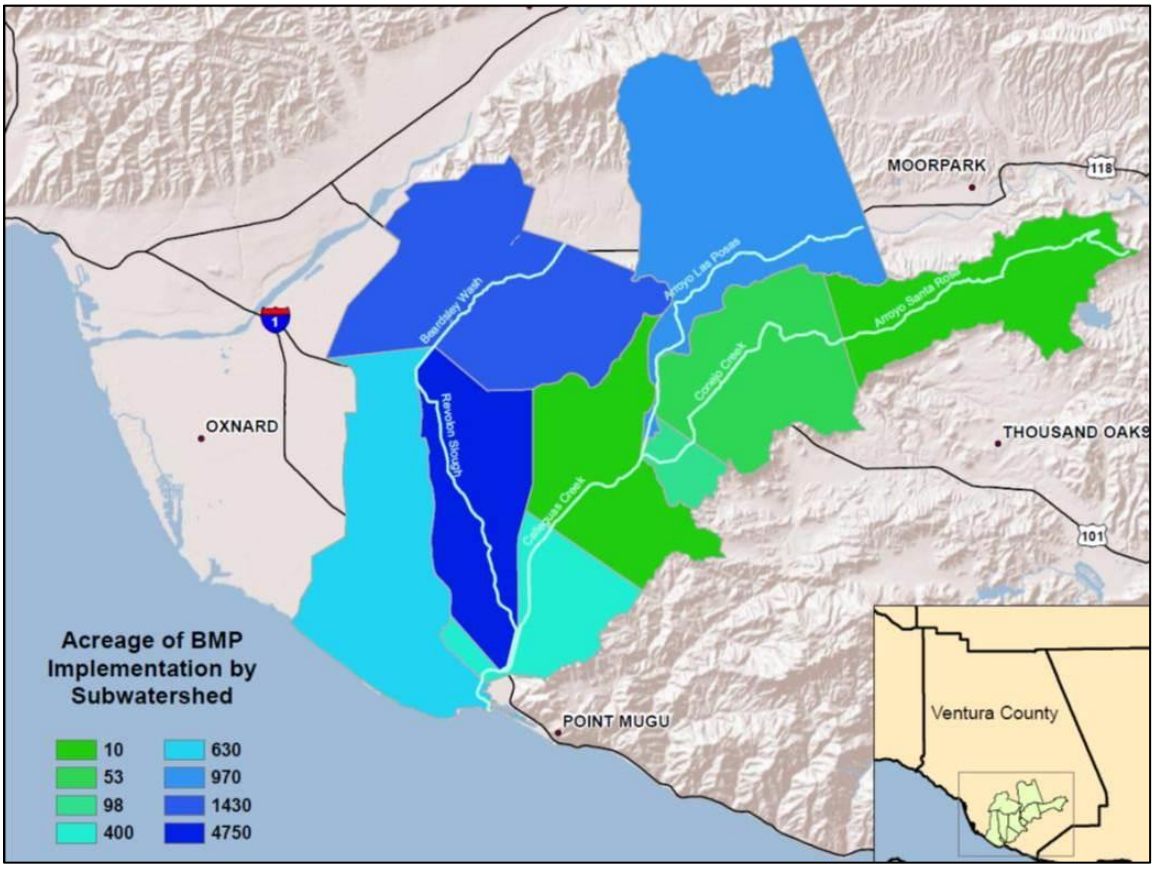

Figure 33 Calleguas Creek BMP Grant

7.2 Mobile Irrigation Lab

The VCRCD Mobile Irrigation Lab (MIL) program was developed under the Proposition 84 Agricultural Water Quality Grant to help farmers improve water quality by decreasing irrigation runoff and nutrient leaching. The VCRCD Mobile Irrigation Lab staff evaluates irrigation systems, pumps, and energy usage at the field level and provides a report of results, including recommendations on how to improve distribution uniformity, energy savings, seasonal irrigation efficiency, and irrigation scheduling. A certain amount of cost-share funding was available to assist farmers in implementing recommended

improvements based on the evaluations. VCRCD performed 133 irrigation evaluations and assisted 14 growers with irrigation efficiency improvements using the cost-share program, resulting in a water use reduction of approximately 200 acre-feet per year. Figure 34 shows parcels where the cost-share MPs were implemented. This program will continue with additional funding provided by the California Department of Water Resources.

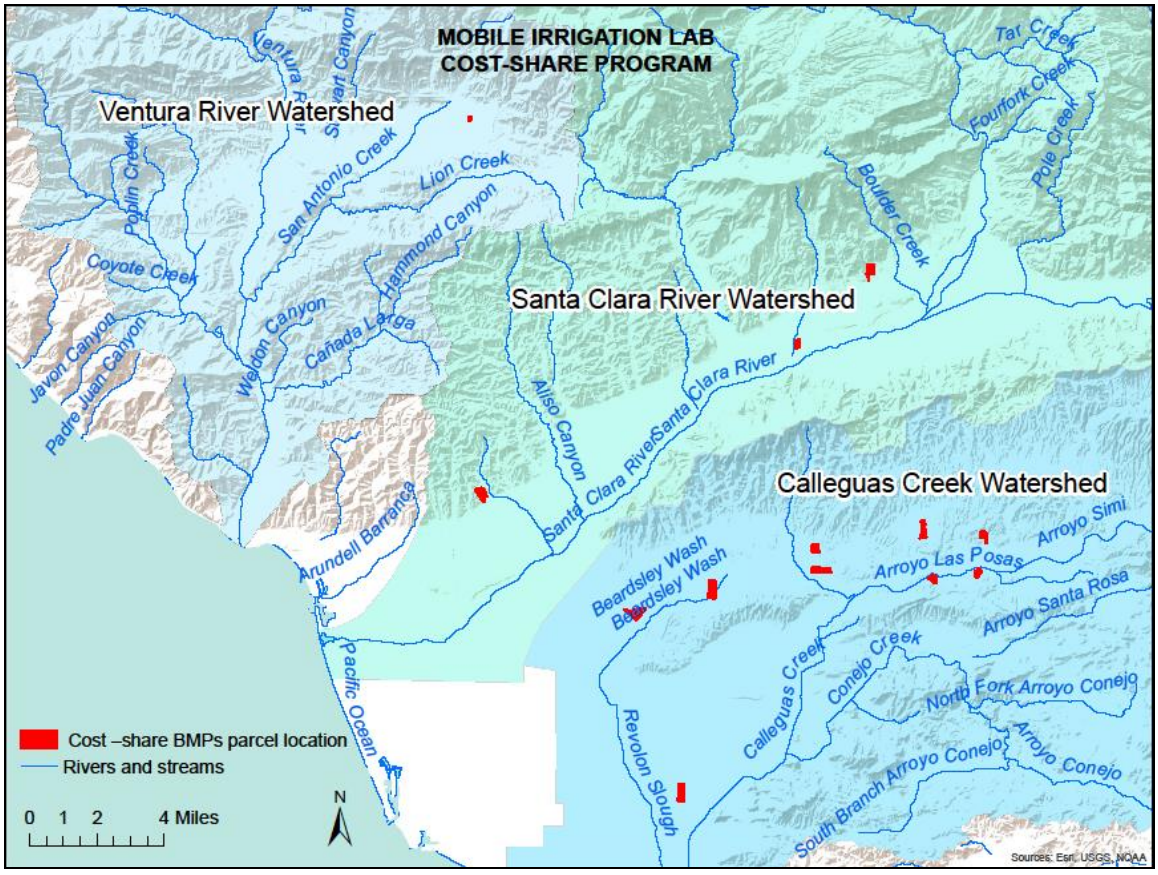

Figure 34 Mobile Irrigation Lab, cost-share parcel location

7.3 National Water Quality Initiative (NWQI)

The National Water Quality Initiative (NWQI) was established as a joint initiative with the Natural Resources Conservation Service (NRCS) and the United States Environmental Protection Agency (USEPA) in 2012 to address agricultural sources of water pollution in priority watersheds, including the Arroyo Los Posas, Beardsley Wash, Revolon Slough, and Mugu Lagoon subwatersheds within the Calleguas Creek watershed. The MPs funded by NWQI include irrigation management, erosion control, and nutrient

management. NWQI has obligated $2.6 million for these MPs from 2012 to 2015 and the majority of the funds have been spent, meaning that the MPs have been implemented (Table 6).

Table 6 MPs funded by NWQI

Year	Contracts Obligated	Contracted Acres	Funds
2012	7	386.65	$402,000
2013	13	1649.8	$856,000
2014	20	1991.12	$844,000
2015	10	974.8	$514,000
Total	50	5002.37	$2,616,000

7.4 San Gabriel River Nurseries Grant

This Nurseries project was conducted by the Council for Watershed Health and supported by a Clean Water Act Section 319(h) grant. The goal of the project was to reduce pollutant loadings, primarily copper, from nurseries in the San Gabriel River Watershed through the implementation of non-structural MPs and to determine the effectiveness of those MPs. The project implemented MPs at five nurseries, including improved irrigation efficiency, the use of polyacrylamide to settle sediment, secondary containment for chemical storage, distribution of gravel on dirt roads to slow runoff and retain sediments, and installation of filter sox to retain sediments and filter runoff (Figure 35). The project sampled runoff before and after the installation of MPs. After implementation of the MPs, irrigation runoff was completely retained on all five nurseries during dry weather, and stormwater was completely retained on four out of five nurseries during wet weather. The stormwater collected from the one nursery with runoff showed a decrease of greater than 50% in the concentrations of 31 of the 135 measured analytes, and a greater than 95% reduction in 9 of the analytes. The concentration of total copper decreased by 26% from 43 µg/L to 32 µg/L. The project sites will also be used as education and training field sites for other nursery managers in Los Angeles County.

Figure 35 Filter Sox installed at San Gabriel River Nursery retains stormwater runoff from site

8. COMPLIANCE HISTORY

Compliance with regulatory programs is essential and enforcement actions have been taken against dischargers who have not enrolled in the Conditional Waiver program. The objective of the enforcement actions is to encourage compliance with the Conditional Waiver program and ensure that irrigated agricultural operations meet their legal responsibilities to protect water quality. Moreover, in order to preserve the long-term success of the program, it is necessary to respect the compliance of currently enrolled growers and discourage noncompliance by properly exercising enforcement authorities.

In conducting enforcement actions, the Regional Board takes actions consistent with the State Water Resources Control Board (State Water Board) Water Quality Enforcement Policy. During the 2010 Waiver term, Regional Board staff sent notices of violation (NOVs) to growers who had not enrolled in the Conditional Waiver program. In 2013, staff sent NOVs to 68 growers in Ventura and Los Angeles Counties and 52 of the NOVs were resolved by May of 2015. In June of 2015, staff re-sent NOVs to the remaining 16 growers and seven of those were resolved by August 2015. Staff followed up with nine

pre-prosecution letters to growers who received the NOVs, but did not respond. As a result, seven more growers enrolled and two are subject to follow up enforcement action. Enforcement is a resource intensive process, but enforcement staff continues to perform enforcement actions as necessary to ensure the integrity and success of the Conditional Waiver program.

9. NITRATE GROUNDWATER ANALYSIS

Nitrate groundwater monitoring results were discussed in detail in the staff report for the 2010 Conditional Waiver renewal. The purpose of the 2010 analysis was to evaluate the potential impacts of discharges from irrigated agriculture on groundwater quality. The approach for the current analysis is to review recent groundwater monitoring data from the same sources used in the 2010 staff report, determine if there are exceedances of nitrate groundwater quality objectives, evaluate the extent of exceedances in different groundwater basins, and present the changes in groundwater quality for the past five years. This is a broad analysis intended to determine long-term and large scale nitrate impacts and to direct groundwater monitoring requirements in the proposed Conditional Waiver renewal.

9.1 ANALYSIS OF DATA FROM THE GROUNDWATER AMBIENT MONITORING AND ASSESSMENT (GAMA) PROGRAM

The GAMA Program is California's comprehensive groundwater quality monitoring program. GAMA integrates, standardizes, and provides tools to analyze several datasets, including data from the State and Regional Water Boards, California Department of Public Health, Department of Pesticide Regulation, Department of Water Resources, United States Geological Survey, and Lawrence Livermore National Laboratory. The groundwater quality objective (also the State's Maximum Contaminant Limit (MCL) drinking water standard) for nitrate is 45 mg/L as nitrate (NO_3). According to the nitrate monitoring data from the GAMA program, in Ventura County, the percentage of samples with nitrate exceedances is 9.5% in the last 15 years. 87.7% of all samples collected during the 2000-2015 period have concentrations between 0.1 and 45 mg/L. Finally, 9.4% of the all samples have non-detectable concentrations of nitrate. In Los Angeles County, for the last 15 years, the percentage of samples with nitrate

exceedances is 12.3%. The percentages of samples with concentrations between 0.1 and 45 mg/L, and with non-detectable concentrations are 73.2% and 14.6%, respectively. A summary of nitrate exceedances for the last 15 years in groundwater basins is provided in Table 7. Columns (2000-2010) representing the analysis conducted for the 2010 Waiver renewal have been added to Table 7 for comparison. At least 1% of the land use overlying the groundwater basins listed in Table 7 is irrigated agricultural and there are representative groundwater wells. The highest percentages of exceedances of the nitrate MCL were found in the Arroyo Santa Rosa Valley Basin (54.6%) and the Ventura River Valley Upper Basin (46.7%). For the last five years (2011-2015), the maximum concentrations of nitrate observed increased in the Santa Clara River Valley – East Basin and the Las Posas Valley Basin. Additionally, the percent of samples that exceed 45 mg/L increased in the Ventura River Valley Upper Basin, Mound Basin, Santa Clara River Valley – East Basin, Oxnard Basin, Arroyo Santa Rosa Valley, Las Posas Valley, and San Gabriel Valley Basin. All the basins with the exception of the San Gabriel Valley Basin are located in Ventura County.

Table 7 Summary of nitrate MCL exceedances in the past 15 years in groundwater from wells in the GAMA Program (2000-2015)

Groundwater Basin	Max NO_3 Observed (mg/L)		No. of Samples		No. of Samples > 45 mg/L		Percent Samples > 45 mg/L		Condition of Groundwater Occurrence
	2000-2010	2000-2015	2000-2010	2000-2015	2000-2010	2000-2015	2000-2010	2000-2015	
Upper Ojai Valley	40.7	40.7	1	23	0	0	0%	0%	Unconfined
Ojai Valley	56.9	56.9	277	368	23	23	8.3%	6.3%	Mostly Unconfined
Ventura River Valley Upper	97	97	1287	1097	362	512	28.1%	46.7%	Unconfined
Ventura River Valley Lower	25.9	25.9	15	29	0	0	0%	0%	Unconfined
Santa Clara River Valley - Mound	172.4	172.4	722	908	84	92	1.6%	10.1%	Confined and Unconfined
Santa Clara River Valley - Santa Paula	103.5	103.5	651	695	46	46	7.1%	6.6%	Mostly Unconfined

Groundwater Basin	Max NO_3 Observed (mg/L)		No. of Samples		No. of Samples > 45 mg/L		Percent Samples > 45 mg/L		Condition of Groundwater Occurrence
	2000-2010	2000-2015	2000-2010	2000-2015	2000-2010	2000-2015	2000-2010	2000-2015	
Santa Clara River Valley-Fillmore	99.9	99.9	151	225	3	3	2%	1.3%	Mostly Unconfined
Santa Clara River Valley - Piru	33.3	33.3	59	94	0	0	0%	0%	Mostly Unconfined
Santa Clara River Valley - East	160	333	1514	2524	20	55	1.3%	2.1%	Confined and Unconfined
Acton Valley	56	56	319	467	17	21	5.3%	4.5%	Unconfined
Lockwood Valley	17.8	17.8	10	15	0	0	0%	0%	Unconfined
Santa Clara River Valley - Oxnard	2745	2745	6314	8916	228	477	3.6%	5.4%	Confined and Unconfined
Pleasant Valley	279	279	197	273	13	17	6.6%	6.2%	Confined
Arroyo Santa Rosa Valley	146	146	282	240	118	131	41.8%	54.6%	Mostly Unconfined
Las Posas Valley	44.3	403	324	490	0	4	0%	0.8%	Confined and Unconfined
Tierra Rejada	61.1	61.1	39	43	1	1	2.6%	2.3%	Mostly Unconfined
Hidden Valley	12.8	12.8	13	17	0	0	0%	0%	Unconfined
Malibu Valley	20.7	20.7	75	130	0	0	0%	0%	Unconfined
San Gabriel Valley	207	207	29301	33697	2946	4004	10.1%	11.9%	Confined and Unconfined

9.2 Analysis of Data from the Ventura County Watershed Protection District (VCWPD) Program

The VCWPD Groundwater Section Annual Reports provide an annual overview of the groundwater conditions for Ventura County. Data from the 2007-2014 reports are summarized and provided in Table 8. Columns (2007-2009) representing the analysis made for the 2010 Waiver renewal are added to Table 8 for comparison. The reports documented that nitrate concentrations exceed the MCL for drinking water in the Arroyo Santa Rosa Basin, Simi Valley Basin, Oxnard Plain Forebay Basin, Fillmore Basin, Tierra Rejada Basin, Las Posas Basin, Pleasant Valley Basin, Oxnard Plain Pressure Basin, Ojai Valley Basin, Upper Ojai Valley Basin, Mound Basin, and Piru Basin, and hypothesized that this was due to extensive use of fertilizers and septic system discharges. Furthermore, compared to 2007-2009 reports, the 2010-2014 reports documented that the maximum concentration observed increased in fifteen of the twenty six basins. In three of these fifteen basins, the maximum concentration reached levels above 45 mg/L. Also, the percent of samples with concentrations above 45 mg/L increased in ten basins during same time period.

Table 8 Summary of nitrate MCL exceedances in groundwater from wells in the VCWPD Program (2007-2014)

Groundwater Basin	Max NO_3 Observed		No. of Samples		No. of Samples > 45 mg/L		% Samples > 45 mg/L		Condition of Groundwater Occurrence
	2007-2009	2007-2014	2007-2009	2007-2014	2007-2009	2007-2014	2007-2009	2007-2014	
Upper Ojai Valley	44.6	46.2	5	24	0	1	0%	4.2%	Unconfined
Ojai Valley	49.1	49.1	42	87	3	3	7.1%	3.4%	Mostly Unconfined
Ventura River - Upper	41.6	41.6	9	11	0	0	0%	0%	Unconfined
Ventura River - Lower	0.6	2.7	8	10	0	0	0%	0%	Unconfined
Mound	40.9	85	14	40	0	3	0%	7.5%	Confined and Unconfined

Groundwater Basin	Max NO_3 Observed		No. of Samples		No. of Samples > 45 mg/L		% Samples > 45 mg/L		Condition of Groundwater Occurrence
	2007-2009	2007-2014	2007-2009	2007-2014	2007-2009	2007-2014	2007-2009	2007-2014	
Santa Paula	38.2	38.2	13	33	0	0	0%	0%	Mostly Unconfined
Fillmore	152	251	19	69	5	17	26.3%	24.6%	Mostly Unconfined
Piru	47.1	77	34	101	2	7	5.9%	6.9%	Mostly Unconfined
Lockwood Valley	21.4	21.4	11	29	0	0	0%	0%	Unconfined
Oxnard Plain Pressure	114	114	97	182	9	9	9.3%	4.9%	Confined and Unconfined
Oxnard Plain Forebay	70.1	70.1	9	10	3	3	33.3%	30%	Confined and Unconfined
Gillibrand/Tapo	11.4	22.7	6	14	0	0	0%	0%	Mostly Unconfined
Simi Valley	57.6	64.6	12	29	5	12	41.7%	41.4%	Mostly Unconfined
Pleasant Valley	100	140	27	93	3	7	11.1%	7.5%	Confined
Arroyo Santa Rosa	112	151	26	69	18	48	69.2%	69.6%	Mostly Unconfined
Las Posas - West	170	220	14	51	3	12	21.4%	23.5%	Confined and Unconfined
Las Posas - East	73.5	74.2	20	56	3	12	15.0%	21.4%	Confined and Unconfined
Las Posas - South	28.2	54.2	9	34	0	2	0.0%	5.9%	Unconfined
Tierra Rejada Valley	71.2	93	24	72	7	25	29.2%	34.7%	Mostly Unconfined

Groundwater Basin	Max NO_3 Observed		No. of Samples		No. of Samples > 45 mg/L		% Samples > 45 mg/L		Condition of Groundwater Occurrence
	2007-2009	2007-2014	2007-2009	2007-2014	2007-2009	2007-2014	2007-2009	2007-2014	
Thousand Oaks	0	0.6	5	14	0	0	0%	0%	Unconfined
Hidden Valley	3.4	21.6	10	28	0	0	0%	0%	Unconfined

9.3 Analysis of Data from United Water Conservation District (UWCD)

The UWCD project report, "Modifying Agricultural Practices, Nutrients and Pesticides, Calleguas Creek and Santa Clara River" (Grant Agreement No. 04-073-554-1), funded by the State Water Board, summarized lysimeter monitoring results in and below the root zone. Lysimeters (soil-moisture samplers) were used to collect percolating waters at one foot and six feet below ground. Nutrients detected at one foot below ground are generally available for crop uptake. Nutrients detected at six feet below ground have passed through the active root zone and are generally unavailable for crop uptake. The UWCD study collected more than 520 lysimeter samples over 3½ years. Over 900 nutrient samples were collected from shallow and deep soils in the study area. Overall, more sites have nitrate plus nitrite as nitrogen concentrations higher in six-foot lysimeters than in one-foot lysimeters. When nutrient concentrations are higher in deep soils, percolation of irrigation water and rainfall has driven nutrients below the crop's root zone. In areas with unconfined aquifers, this can result in agricultural waters percolating unimpeded to underlying aquifers. Nitrate plus nitrite was found in the lysimeters at levels exceeding the MCL for nitrate plus nitrite as nitrogen (10 mg/L) by an order of magnitude at both the one-foot and six-foot depths. These high detections are corroborated by the presence of high nitrates in some areas of unconfined aquifers (Tables 7 and 8), such as the Oxnard Plain Forebay Basin, where the percolating agricultural water can reach the aquifer.

The percolation of nutrients beyond the root zone can be reduced by proper application of fertilizers and improved irrigation efficiency to prevent over-watering of crops. The

UWCD study included lysimeter sampling at two sites where irrigation was controlled by real-time soil moisture measurements. At these sites, the nutrient concentrations were among the lowest in the study at both the one-foot and six-foot lysimeter depths. Thus, improved irrigation efficiency is an effective MP to prevent groundwater contamination by agriculture.

10. Ongoing and Future Groundwater Management Activities and Monitoring

10.1 Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires the formation of Groundwater Sustainability Agencies (GSAs), which must develop Groundwater Sustainability Plans (GSPs) by 2020 in groundwater basins designated by the Department of Water Resources (DWR) as medium or high priority. DWR based the prioritization on many factors, including overlying irrigated acreage and water quality degradation. The SGMA also encourages and authorizes low and very-low priority basins to be managed under GSPs as well. There are 12 out of 32 groundwater basins in Ventura County designated as high or medium priority. In addition to groundwater supply concerns, a GSP is required to include actions to achieve groundwater quality within 20 years of implementation of a GSP and groundwater monitoring to detect changes in groundwater quality. DWR will develop guidelines for GSPs by June 2016 that will assist GSAs and local agencies in planning for groundwater sustainability.

10.2 Salt and Nutrient Management Plans

The State Water Board adopted a Recycled Water Policy in February 2009. The Recycled Water Policy requires that Salt and Nutrient Management Plans (SNMPs) be completed by 2016 to facilitate basin-wide management of salts and nutrients from all sources in a manner that optimizes recycled water use while ensuring protection of groundwater supply and beneficial uses, agricultural beneficial uses, and human health. The Recycled Water Policy requires stakeholders to develop implementation plans to

meet these objectives for salts and nutrients. The implementation plans will then be adopted by Regional Boards as amendments to the region's Basin Plan.

The Regional Board adopted an amendment to incorporate the Lower Santa Clara River Basins SNMP into the Basin Plan on July 9, 2015. The Lower Santa Clara River Basins SNMP was developed to manage salt and nutrient loads to these basins, while increasing recycled water use in the area through a collaborative, stakeholder-led process. The SNMP estimated the relative TDS, chloride, and nutrient loading from various sources of water for each sub-basin in the Lower Santa Clara River Basins. Table 9 shows the relative loading from agriculture in these sub-basins.

Table 9 Nitrate load from agricultural irrigation in the Santa Clara River Basin

Lower Santa Clara River Sub-basins	Agricultural Irrigation with Surface Water (Percent of Nitrate Load)	Agricultural Irrigation with Groundwater (Percent of Nitrate Load)
Piru	13.6	27
Fillmore		49.4
Santa Paula	0.6	48.6
Oxnard Forebay		26.1
Mound		25.7

The SNMP found that while there are localized areas with higher salt and nutrient concentrations (particularly in the vicinity of wastewater treatment effluent percolation ponds), the average nitrate concentrations in the sub-basins are below the MCL of 45 mg/L as nitrate. The SNMP also found that the Lower Santa Clara River Basin is currently being managed to control salt and nutrient inputs through various actions and programs in the area. Existing salt and nutrient management measures identified for agriculture in in the SNMP are:

- Fertilizers are applied in multiple smaller applications, as opposed to one large application. Fertilizer applications are adjusted to account for other nutrient sources, such as: irrigation water, cover crops, and residuals from previous fertilizations. Fertilization rates are adjusted based on the results of soil fertility measurements.

- Leaching is performed only when necessary, as determined by measuring soil solution electrical conductivity. Saline or high selenium wells are decommissioned and other sources of water are used. Fertilizers and amendments with low salt index are used.

- Agricultural users may use “Efficiency Criteria” in place of historical groundwater allocations. Must have 20% or less of applied water going to leaching, deep percolation or runoff.

- Irrigation is varied to accommodate plant growth stage and weather. Irrigation is conducted by personnel who understand and practice irrigation practices related to runoff management. Irrigation is halted if significant runoff occurs.

The SNMP found that current management measures are expected to maintain nitrate levels in the long term and that assignment of allocations for salt and nutrient loading is not warranted at this time. However, the SNMP states, “Where projects have the potential to impact salt and/or nutrient loads to a basin, consideration will be given to water quality conditions and the corresponding assimilative capacity in localized areas during the permitting process or the development of other Regional Board regulatory actions.”

The SNMP includes a monitoring program with 15 wells to assess spatial and temporal changes in nutrient concentrations and to refine the source loading analysis and also relies on existing surface water and discharge quality data monitored VCAILG and other agencies.

11. COST CONSIDERATIONS

11.1 VCAILG COST

VCAILG administers the Conditional Waiver enrollment, monitoring, and reporting requirements for its landowner members. Landowners are billed for services on a per acre basis. Average costs per acre are presented in Table 10. Administrative costs, such

as report processing and overhead, are shared equally among all VCAILG members, whereas monitoring costs vary between watersheds due to differences in the number of monitoring sites and analysis required. In addition to administering the Conditional Waiver, VCAILG is also the mechanism by which TMDL monitoring and reporting costs are recovered from agriculture landowners. As TMDL requirements become effective in other watersheds, landowners in those areas will also be billed for both Conditional Waiver costs and TMDL compliance costs. Table 10 summarizes the total VCAILG program costs over the last five years.

Table 10 Summary of Annual VCAILG Budget and Cost per Acre for Enrolled Acreage

Year	VCAILG Budget	Enrolled Acreage	Average Cost per Acre
2010-2011	$2,026,179	88,002	$23.02
2011-2012	$1,788,936	83,661	$21.38
2012-2013	$1,616,404	79,003	$20.46
2013-2014	$1,313,657	77,019	$17.06
2014-2015	$1,774,801	78,664	$22.56

11.2 NGA-LAILG COST

Similarly, the NGA-LAILG administers the Conditional Waiver enrollment, monitoring, and reporting requirements for its members. All members of NGA-LAILG are also required to be members of NGA and must pay annual NGA dues. Annual NGA dues are $750 for growers grossing greater than $1 million per year and $375 for growers grossing less than $ 1 million per year. In addition to NGA dues, members are billed a base fee and a per acre fee to cover the costs of monitoring, reporting, ad administration of the program (Table 11).

Table 11 NGA-LAILG Member Fees

Years	Member Fees
2010-2013 (one billing for three years)	$850 per site plus $85 per acre (100 acre cap)
2014-2015 (one billing for two years)	$100 per site plus $125 per acre (70 acre cap)

Table 12 summarizes the NGA-LAILG budget over the term of the 2010 Conditional Waiver. Conditional Waiver monitoring and reporting costs are assessed approximately once per year.

Table 12 Summary of Annual NGA-LAILG Budget

Fiscal Year	NGA-LAILG Budget
2010-11	$83,945
2011-12	$175,970
2012-13	$128,783
2013-14	$155,474
2014-15	$93,981

11.3 Estimated MP Implementation Costs

In order to estimate the implementation costs of the Conditional Waiver program, the staff report supporting the 2010 Waiver renewal estimated the costs of four MP categories (nutrient management, pesticide management, erosion management, and irrigation management) on a per acre/year basis. MP cost information was based on estimates from NRCS Field Office Technical Guides (FOTG). Under the proposed Waiver renewal, growers will continue to implement MPs from these four categories. Thus, the MP cost estimates are included in this staff report as well, and have been updated with recent NRCS cost information (with the exception of tailwater recovery systems, which do not have updated costs). The costs for each MP category are summed by five common crop types in the Los Angeles Region, and the total MP cost is compared to the five-year average annual gross crop value for those crops (Table 13).

Table 13 Comparison of MP cost with five-year average annual gross crop values

Crop	Crop Value (per acre-year)	MP Cost (per acre-year)				Total MP Cost (per acre-year)	MP Cost/ Crop Value
		Nutrient Manage-ment	Pesticide Manage-ment	Erosion Manage-ment	Irrigation Manage-ment		
Strawberry	$52,150	$76	$110	$2	$99	$287	0.6%
Celery	$14,481	$76	$110	$2	$99	$287	2.0%
Nursery Stock	$54,709	$76	$110	$2	$99	$287	0.5%
Lemon	$12,944	$76	$110	$331	*	$517	4.0%
Avocado	$7,222	$76	$110	$331	*	$517	7.2%

*The irrigation management MP is the same as the erosion management MP for these crop types.

11.4 Nutrient Management

Nutrient management plans (NRCS Practice Code 590) are applicable to all crop types. The NRCS cost estimate for a nutrient management plan is $76 per acre-year (NRCS, 2016).

11.5 Pesticide Management

Pesticide management plans (NRCS Practice Code 595) are applicable to all crop types. The NRCS cost estimate for a pesticide management plan is $110 per acre-year (NRCS, 2016).

11.6 Sediment and Erosion Management

Staff assumed two types of erosion management MPs to estimate costs: mulching and filter strips. These MPs were selected because they are effective MPs to address sediment and erosion management and are reasonably expected to be implemented by growers. For orchard crops (avocado and lemon), the most applicable erosion control MP is mulching. For strawberry, celery, and nursery crops, the most applicable erosion control MP is filter strips.

Filter Strips

NRCS estimates that filter strips (NRCS Practice Code 393) planted with native plant material are $1,163 per acre of filter strip installed (NRCS, 2016). Staff estimated a ratio of treated agricultural land area to filter strip area of 60:1 using design methods described in *Design of Stormwater Filtering Systems* (CWP, 1996) and assuming a 99% pervious drainage area, a 1-inch storm, a minimum filter strip length of 25 feet, a berm height of six inches, and a 150-foot by 150-foot drainage area.

The calculated 60:1 ratio is consistent with the NRCS Conservation Practice Standard for Filter Strips (Code 393), which specifies that the ratio of the drainage area to filter strip area shall be less than 60:1 in regions with RUSLE-R (Revised Universal Soil Loss Equation- Rainfall-Erosivity) factor values of 35-175 (RUSLE-R factor values for California range from 60-100).

Assuming a ratio of treated agricultural land area to filter strip area of 60:1, the cost of filter strips is $19 per acre of agricultural land treated. According to Code 393, filter strips should be designed to have a 10-year lifespan. Assuming a 10-year lifespan and a 5 percent discount rate, the annual cost of filter strips is $2.46 per acre-year.

Mulching

NRCS estimates that mulching costs $1,292 per acre of mulch applied. The NRCS Conservation Practice Standard for Mulching (Code 484) specifies that mulching should be applied at a rate to achieve a minimum of 70 percent ground cover to provide erosion control. Therefore, the cost of mulching is $904 per acre of agricultural land treated.

According to the Mulching FOTG, the reported lifespan for this practice is one year, but local NRCS staff has reported that woody mulch can last two to three years and mulch residue can last up to five years. Assuming a lifespan of three years and a 5% discount rate, the annual cost of mulching is $331 per acre-year.

11.7 Irrigation Management

Staff assumed two types of irrigation management MPs to estimate costs: mulching and irrigation tailwater recovery (NRCS Practice Code 447). For orchard crops (avocado and lemon), mulching is an effective irrigation management practice in addition to being an

effective erosion control practice. For strawberry, celery, and nursery crops, the most applicable irrigation management MP is tailwater recovery.

NRCS estimates that tailwater recovery systems for cropland less than 100 acres cost $309 per acre of cropland treated (NRCS, 2010). According to the Tailwater Recovery System FOTG, the reported lifespan for this practice is 15 years. Assuming a 5% discount rate, the annual cost of a tailwater recovery system is $30 per acre-year.

11.8 Gross Annual Crop Values

The five-year average gross annual crop values for five common crops in the Los Angeles Region range from $7,222 to $54,709 per acre-year (Ventura County Agricultural Commissioner 2010-2015). Based on this costs analysis, MP costs range from 0.5% to 7.2% of the crop value per acre.

12. Conclusions and Recommendations for Conditional Waiver Renewal

The implementation of the Conditional Waiver program over the last ten years has resulted in extensive water quality monitoring, ongoing grower education and outreach, and implementation of new and improved MPs. Staff recommends that the appropriate approach for continued regulation of discharges from irrigated agriculture is to continue similar activities as those conducted under the first two terms of the Waiver, but with some enhancements and additions to provide assurance that discharges from irrigated agricultural lands will be adequately managed to attain water quality standards in receiving waters. These enhancements and additions include:

1) Incorporate recently established TMDL load allocations and additional water quality benchmarks for bacteria and pyrethroids,
2) Direct more detailed and specific WQMPs and management practice reporting in response to water quality data,
3) Trigger a detailed source investigation where water quality benchmarks are exceeded and water quality trends are not decreasing,

4) Allow TMDL-associated water quality benchmarks to be converted to discharge limitations if discharges do not attain the benchmarks within a reasonable time schedule, and
5) Implement nutrient management practices and conduct an evaluation to confirm that management practices effectively improve groundwater quality.

12.1 Incorporation of TMDL Load Allocations and Additional Water Quality Benchmarks

A significant component of the Conditional Waiver is the inclusion of TMDL load allocations that have been assigned to discharges from irrigated agricultural land as water quality benchmarks. Like all other water quality benchmarks in the waiver, if TMDL load allocation benchmarks are exceeded, MPs must be implemented to address the exceedances. The following are the effective TMDLs, which have become effective since the 2010 Waiver renewal and assign load allocations to agricultural dischargers:

- McGrath Lake PCBs, Pesticides, and Sediment Toxicity TMDL (Resolution No. R09-006)
- Oxnard Drain No. 3 Pesticides, PCBs, and Sediment Toxicity TMDL (U.S. EPA-established TMDL)
- Malibu Creek and Lagoon TMDLs for Sedimentation and Nutrients to Address Benthic Community Impairments (U.S. EPA-established TMDL)
- Ventura River Algae TMDL (Resolution No. R12-011)
- Santa Clara River Bacteria TMDL (Resolution No. R10-006)

Based on the NGA-LAIG Bacteria Special Study, discharges from irrigated agriculture are a source of bacteria, which requires monitoring and the addition of a bacteria water quality benchmark to the proposed Waiver renewal. The single sample water quality objective for *E. coli* of 235/100mL will be incorporated as a water quality benchmark.

Based on water quality monitoring conducted under the previous waiver terms, discharges from irrigated agriculture are a source of pyrethroids. The numeric target in the 2011 Oxnard Drain No. 3 Pesticides, PCBs, and Sediment Toxicity TMDL of 0.6 ng/L for bifenthrin will be incorporated as a water quality benchmark in the proposed Waiver

renewal. Criteria for other pyrethroids are currently under development in the Central Valley Region, but the numeric target for bifenthrin is the only approved numeric value for pyrethroids in the Los Angeles Region and is thus the only pyrethroid proposed for inclusion as a water quality benchmark in the Waiver renewal.

12.2 ADDITIONAL WQMP REQUIREMENTS

Based on a review of WQMPs prepared under the previous Waiver terms, it is not possible to correlate MP implementation with water quality data. This comparison is necessary in order to assess MP effectiveness to determine if additional or upgraded MPs are needed to meet water quality benchmarks. As discussed in Sections 5 and 6 of this report, it is apparent that growers are implementing MPs, actively participating in education events, and taking advantage of funding opportunities to assist with MP implementation. However, the current MP reporting makes it difficult to demonstrate success where water quality is improving or identify the need for additional MPs where water quality is not improving. Therefore, the proposed Waiver renewal includes more specific and detailed WQMP requirements that clarify what type of MP information needs to be collected, how the MP information must be reported, and the process for ensuring that growers implement additional MPs if needed to attain water quality benchmarks. The new WQMP requirements in the proposed Monitoirng and Reporting Plan specifiy that MP data be organized by monitoring site, and that the data include, in addition to adoption rates, the degree of MP implementation (e.g., size of area treated), for each type of MP. The current manner of reporting adoption rates is useful, but in situations where adoption rates for all types of MPs are high, while water quality still exceeds benchmarks, it is difficult to determine what additional MPs are needed. The proposed WQMP revisions require discharger groups to track trends in water quality and correlations between grower participation, MP implementation, and water quality improvements. The proposed WQMP revisions also contain a time-certain schedule for implementation of additional or upgraded MPs with a goal of attaining Water Quality Benchmarks in ten years and more specific requirements for outreach by discharger groups to ensure that members are informed of the newly required MPs. It also includes enforceable requirements for members to implement the MPs, respond to discharger group questionnaires, and submit other information that the group requires to implement WQMPs.

12.3 Source Investigation for Sites Without Decreasing Trends in Pollutant Concentrations

Review of the water quality data collected under the first two Waiver terms demonstrates some decreasing trends in waste concentrations, and several instances of specific monitoring sites attaining water quality benchmarks. However, there are also many instances where there has been little change in water quality and waste concentrations are still well above water quality benchmarks. In some rare cases, trends in waste concentrations appear to be increasing. Thus, in order to ensure that water quality benchmarks are ultimately attained, the proposed Waiver renewal includes a requirement that if a monitoring site does not show a decreasing trend in waste concentrations that exceed Water Quality Benchmarks, then the Discharger Group shall investigate the sources of the waste concentrations that exceed Water Quality Benchmarks. The investigation shall include some individual discharge monitoring of member sites that drain to the Discharger Group monitoring site based on an evaluation of relative locations, crop type, existing management practice implementation, pesticide application, fertilizer application, and irrigation practices of member sites. The specific investigation may include monitoring upstream of member sites to demonstrate that member sites that drain to the Discharger Group monitoring site are not causing or contributing to a Water Quality Benchmark exceedance at the Discharger Group monitoring site.

12.4 Schedule for Attainment of Water Quality Benchmarks

The proposed Waiver renewal contains a schedule for attainment of TMDL-associated water quality benchmarks and includes a provision that allows the Regional Board to convert water quality benchmarks to discharge limitations for purposes of compliance determination if water quality benchmarks are not achieved by the compliance deadlines set forth in the Waiver. The schedule is also needed to comply with the State Water Board's Nonpoint Source Enforcement Policy, which requires that a nonpoint source program, such as the Conditional Waiver program, include a specific time schedule and corresponding quantifiable milestones designed to measure progress toward attaining

water quality objectives. The proposed schedule (Table 14) takes into consideration the relative difficulty in achieving water quality benchmarks for different constituents and is based on TMDL compliance dates, where applicable. Some of the earlier adopted TMDLs have load allocation compliance dates that are sooner than the compliance dates proposed in Table 14. The TMDL compliance dates are presented in Appendix 5 to the proposed Conditional Waiver. However, in these earlier TMDLs, the implementation language and the suporting staff reports indicated that the load allocations would be achieved through the iterative MP process under the Conditional Waiver program. Because water quality standards must ultimately be attained, the deadlines in Table 14 represent the time when the iterative MP process should end. Additional time beyond the TMDL load allocation compliance dates is proposed for these earlier TMDLs. For example, the Calleguas Creek Nitrogen Compounds and Related Effects TMDL has a TMDL compliance date of July 2010, and the compliance date proposed in Table 14 is October 14, 2025, given the difficulty in achieving the water quality benchmarks for nitrogen. More recent TMDLs have indicated that the load allocation compliance dates are final compliance dates, such as the McGrath Lake OC Pesticides and PCBs TMDL, which has a proposed compliance date in Table 14 equal to the TMDL compliance date.

Table 14 Water Quality Benchmark Compliance Deadlines

TMDL Constituents	Compliance Date
Malibu Creek Watershed Nutrients TMDL	October 14, 2022
Santa Clara River Nitrogen Compounds TMDL	October 14, 2022
Ventura River Estuary Trash TMDL	October 14, 2020
Calleguas Creek Nitrogen Compounds and Related Effects TMDL	October 14, 2025
Revolon Slough and Beardsley Wash Trash TMDL	October 14, 2020
Upper Santa Clara River Chloride TMDL	October 14, 2020
Calleguas Creek Watershed and Mugu Lagoon Siltation TMDL*	March 24, 2015
Calleguas Creek Watershed and Mugu Lagoon Toxicity, Chlorpyrifos, and Diazinon TMDL	March 24, 2022
Ventura River Algae TMDL	June 28, 2019
McGrath Lake OC Pesticides and PCBs TMDL	June 30, 2021
Malibu Creek Watershed Sedimentation and Nutrients TMDL	July 2, 2021
Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL	March 26, 2022

TMDL Constituents	Compliance Date
Calleguas Creek Watershed Boron, Chloride, Sulfate and TDS (Salts) TMDL	Dec. 23, 2023
Santa Clara River Estuary Toxaphene TMDL	October 7, 2025
Calleguas Creek Watershed and Mugu Lagoon OC Pesticides & PCBs TMDL	March 24, 2026
Oxnard Drain No. 3 Pesticides, PCBs, and Sediment Toxicity TMDL	April 14, 2026
Santa Clara River Bacteria TMDL	March 21, 2023 dry March 21, 2029 wet

*Additional time may be added to this TMDL deadline should a TMDL reconsideration revise the implementation schedule based on the results of special studies.

For water quality benchmarks not associated with a TMDL, the proposed Monitoring and Reporting Requirements require that Discharger Groups propose a schedule for implementation of additional or upgraded MPs to ultimately attain the water quality benchmarks within ten years from the date the WQMP is submitted.

12.5 Groundwater Monitoring Requirements and MPs

Based on the groundwater data analysis, the results of the UWCD study, and the findings of the stakeholder-developed SNMP that were presented in Sections 9 and 10, the groundwater underlying agricultural areas in Ventura County is polluted with nitrates, and agriculture is a source of that pollution. The 2010 Waiver found that MPs to control discharges of nutrients to surface water would also control discharges of nutrients to groundwater. In addition, the 2010 Waiver found that the extensive groundwater monitoring currently being conducted throughout the Region (Figure 36) is adequate to assess broad changes in groundwater quality over long periods of time. These findings still hold true to assess trends. However, it cannot be determined at this time if the existing monitoring is adequate to assess the effectiveness of MPs at controlling the discharge of nutrients to groundwater over shorter time periods. For example, the monitoring that will be conducted through the SNMP process, based on the SNMP for the Lower Santa Clara River Basins, focuses on deeper wells. The SGMA regulations have not been finalized, and the scope of water quality monitoring under SGMA might not be adequate to meet the objectives of the waiver program. It is necessary to evaluate groundwater monitoring data collected at varied depths to evaluate impacts of

agricultural activities on groundwater and verify MP effectiveness relative to groundwater protection in the proposed Waiver renewal.

Discharger Groups are encouraged to work with agencies implementing SNMPs or SGMA to coordinate their monitoring programs and avoid duplication. Revisions to the groundwater monitoring programs can be considered once SGMA or other monitoring programs are in place.

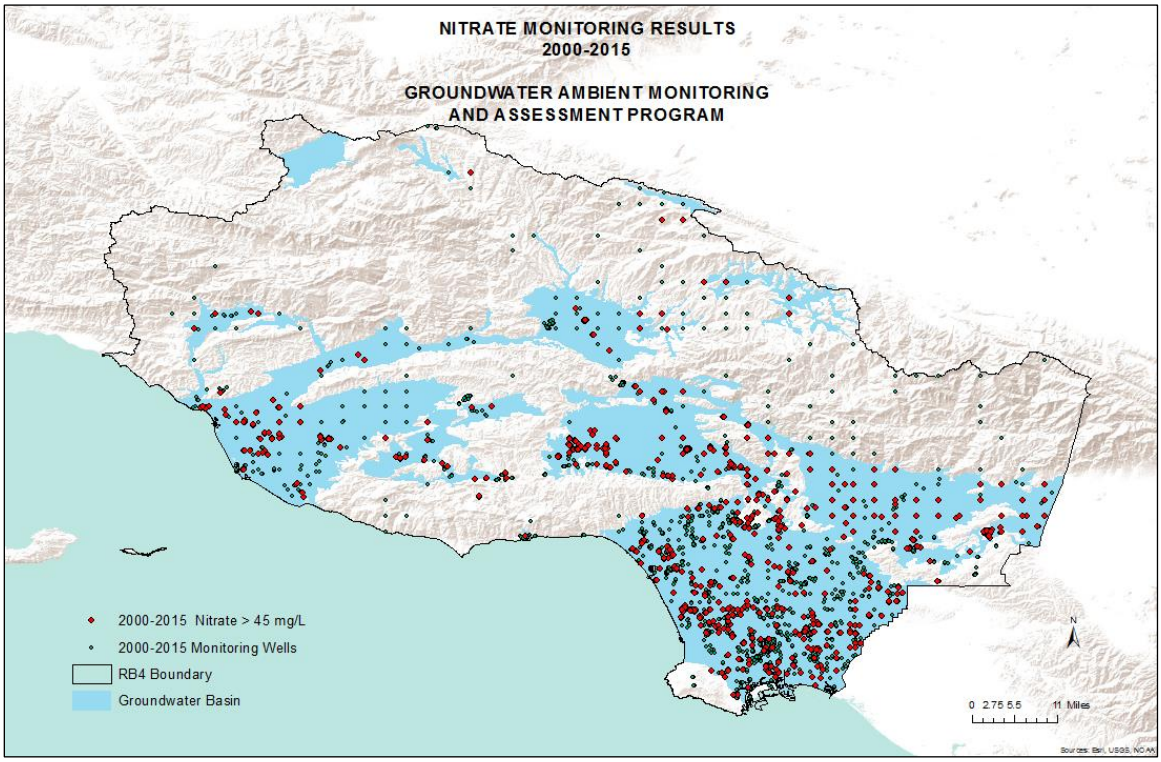

Figure 36 Nitrate monitoring results 2000-2015, GAMA

The proposed Monitoring and Reporting Program requires dischargers in Ventura County to submit a work plan to monitor areas where irrigated agricultural lands have the potential to impact groundwater basins, exceedances of nitrate have been confirmed, and groundwater is a significant drinking water source, to determine if management practices implemented on the land surface are protective of underlying groundwater quality. The same monitoring wells used in the trend analysis and previous studies can be used where available and appropriate for the monitoring objectives. In addition, dischargers will be required to implement nutrient management practices that minimize and control excess nutrient application relative to crop need, including crop-specific

applied/removed ratios for nitrogen, in order to protect groundwater beneficial uses, such as those identified in the stakeholder-led SNMP for the Lower Santa Clara River Basins, and the development and implementation of nutrient management plans.

13. CALIFORNIA ENVIRONMENTAL QUALITY CONTROL ACT

Regional Water Board staff has conducted an Initial Study in accordance with the California Environmental Quality Control Act to determine the potential environmental effects of renewal of the 2010 Waiver. Based on the Initial Study, Regional Water Board staff has prepared a Mitigated Negative Declaration. Adoption of a waiver for discharges from irrigated agricultural lands, as mitigated, will not have a significant adverse effect on the environment. The action to adopt a conditional waiver is intended to protect, maintain, and improve water quality. The waiver sets forth conditions that will require dischargers to implement management practices to protect water quality and to ensure through monitoring that such practices are effective and are improving water quality. The waiver requires monitoring and reporting to document compliance with mitigation measures that are set forth in the monitoring and requirements.

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