



CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD

AMENDMENTS TO THE WATER QUALITY CONTROL
PLAN FOR THE SACRAMENTO AND
SAN JOAQUIN RIVER BASINS

FOR

THE CONTROL OF DIAZINON AND CHLORPYRIFOS
DISCHARGES

PUBLIC REVIEW DRAFT STAFF REPORT
JANUARY 2014

APPENDIX D

RESPONSES TO COMMENTS

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This appendix presents responses to the comments received by 20 May 2013 on the March 2013 Draft Staff Report and proposed Basin Plan Amendment. In some cases comments are paraphrased for brevity. Comments are arranged alphabetically by the commenting organization. Comments are numbered and shown in indented italics. Comment numbers in this document are not necessarily the same as the comment numbers provided by the commenters in their comment letters. Staff responses follow each comment in regular text. The responses identify where revisions to the Staff Report and Proposed Amendment have been made based on the comments received.

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1. Comments from the California Aerial Applicators Association, California Citrus Mutual, California Cotton Ginners Association, California Cotton Growers Association, California Farm Bureau Federation, California Grape & Tree Fruit League, California Rice Commission, California Strawberry Commission, Sacramento Valley Water Quality Coalition, Western Agricultural

Processors Association, Western Growers Association, and Western Plant Health Association - submitted by Tess Dunham

Comment 1.1: *As a preliminary matter, these Organizations understand that the Draft Amendments presented here are not only applicable to the two specific pesticides included in the Draft Amendments (i.e., diazinon and chlorpyrifos), but are also intended to establish a precedent for future Draft Amendments for other pesticides. (See, e.g., Draft Staff Report, p. 17 [“The primary goal of these pesticide Basin Plan amendments is to provide a clear regulatory framework for the protection of water quality from pesticides in surface water in the Sacramento and San Joaquin River Basins, including the Sacramento-San Joaquin Delta.”].) Considering the importance of the proposed Draft Amendments for the two specific pesticides included and for future pesticides, we find it necessary to include significant comments with respect to policy implications associated with the Draft Amendments.*

Response to Comment 1.1: The Staff Report’s reference to “pesticide Basin Plan amendments” actually refers not only to the Proposed Amendment, but also to future amendments that will address other high-priority pesticides. The Proposed Amendment does *not* establish how additional pesticides will be addressed by the Board.

Comment 1.2: *Section 1 of the Draft Staff Report includes extensive background and discussion with respect to diazinon and chlorpyrifos use throughout the basin planning area. Included is discussion with respect to concentrations of diazinon and chlorpyrifos in agricultural drains and urban storm drains, and comparisons of water quality data from the agricultural drains to water quality criteria currently used by the Central Valley Regional Water Quality Control Board (“Regional Board”) to interpret narrative water quality objectives. (Draft Staff Report, pp. 50-52.) WPHA is concerned with these analyses.*

Specifically, agricultural drains and urban storm drains should not be considered waters of the United States. As such, aquatic life beneficial use designations such as warm freshwater habitat (“WARM”) and cold freshwater habitat (“COLD”) would not be applicable. Further, such beneficial use designations would not be applicable through the tributary footnote in the Basin Plan because they are not streams but rather constructed conveyances. (See State Water Resources Control Board Order, City of Turlock, Order WQO 2002-0016, p. 5; see also Draft Staff Report, p. 88.) However, despite the fact that application of aquatic life beneficial uses (and associated water quality criteria/objectives) would not apply to these types of facilities, the Draft Staff Report evaluates water quality data from these types of facilities and compares it to water quality criteria calculated for the protection of aquatic life uses. Considering that such criteria/objectives are not applicable, such analyses contained in the Draft Staff Report are inappropriate and should be excluded.

Response to Comment 1.2:

While the scope of the federal Clean Water Act is certainly broader than just the tributaries of navigable waters that currently exist in their natural state, a determination of whether or not all agricultural and urban storm drains fall under the jurisdiction of the federal Clean Water Act is beyond the scope of this project. The Proposed Amendment instead sets a numeric water quality objective for diazinon and chlorpyrifos in surface water bodies that are considered to support the WARM and COLD aquatic life beneficial uses, and requires the Board's Executive Officer to solicit management plans when these water bodies do not meet the water quality criteria applicable to these uses. The Board currently is engaging in a comprehensive effort to determine the extent to which beneficial uses apply to certain constructed water bodies, including agricultural drains and urban storm drains. The technical analysis that compares existing water quality data with aquatic life criteria provides information about potential effects of these constituents on aquatic life, the impacts that constructed drains may have on constituent concentrations and aquatic life in downstream water bodies, and potential reductions to achieve compliance with water quality objectives. Therefore, this analysis remains in the Staff Report.

Comment 1.3: *Section 2 of the Draft Staff Report identifies four alternatives with respect to which water bodies the proposed water quality objectives for diazinon and chlorpyrifos should apply: (1) All water bodies in the Project Area; (2) All water bodies that have TMDLs established; (3) All water bodies in the Project Area with "WARM" or "COLD" aquatic life beneficial uses and all water bodies for which TMDLs will be established; or, (4) A specific list of water bodies that excludes the smallest water bodies and constructed conveyances. (Draft Staff Report, p. 83.) Ultimately, the Draft Staff Report recommends alternative 3, which would apply the objectives to any water body that is designated with the WARM or COLD beneficial use. Alternative 3 appears to leave open the question with respect to application of such beneficial uses to constructed facilities and defers to another Regional Board process that is supposed to address this issue.*

Response to Comment 1.3: The commenter is correct that the Proposed Amendment does not make any determination with regard to where specific beneficial uses should apply for constructed facilities. As mentioned above, the Board is engaged in a process to determine the extent to which beneficial uses apply in certain constructed water bodies, including agricultural drains and urban storm drains.

Comment 1.4: However, with respect to this pivotal issue, the Draft Staff Report is confusing and otherwise suggests that WARM and COLD should be applied to agriculturally dominated waterways and/or constructed facilities. For example, in section 3, the Draft Staff Report states that "freshwater habitat exists as a beneficial use for constructed drains and canals." (Draft Staff Report, p. 88.) Statements such as these are inappropriate as they presume a certain outcome for the other process currently underway, which we understand is intended to specifically evaluate what should be appropriate beneficial use designations for agriculturally dominated water bodies. Further, the Draft Staff Report's specific use of the terms "constructed facilities" may be considerably more narrow than the term "agriculturally dominated waterways." While it does not appear that it is the intent of the Draft Staff

Report to limit determinations made ultimately through the other process, the language is confusing and needs to be clarified to clearly state that actual application of WARM and COLD beneficial uses to agriculturally dominated waterways is being determined in the other process and that this Basin Plan amendment is not intended to otherwise apply WARM and COLD to such waterways at this time.

Response to Comment 1.4: The statement on page 88, refers to the physical presence of aquatic life, and does not presume or suggest any specific outcome with regard to the designation of beneficial uses beyond acknowledging the presence of some (possibly limited) aquatic life. The Staff Report does not presume or suggest any specific outcome with regard to the designation of specific beneficial uses. Staff agrees that the term “constructed facilities” is more narrow than the term “agriculturally dominated waterways” and was used intentionally. “Agriculturally-dominated waterways” is a term that may include natural water bodies with beneficial uses established in the Basin Plan. No changes to beneficial uses are included in the Proposed Amendment, and that is clearly stated in the Staff Report.

Comment 1.5

As a final note with respect to this issue, WPHA cannot underscore enough the importance of the Regional Board properly recognizing that agricultural and urban storm drains are not waters of the United States and therefore are not subject to federal water quality standard determinations and requirements.

Response to Comment 1.5

While the Board recognizes that it is WPHA’s position that agricultural and urban storm drains are not waters of the United States, and therefore are not subject to federal water quality standard determinations and requirements, it is the Board’s position that this distinction is not so clean-cut. But rather than resolve this issue in the context of an amendment to address two pesticides, the Board suggests that this determination should be made in the context of a broader Basin Planning effort. For the purposes of the Proposed Amendment, if the Basin Plan and applicable regulations indicate that either the WARM or COLD aquatic life beneficial uses apply to a specific water body, then the proposed diazinon and chlorpyrifos objectives will apply to that water body as well. However, revising the regulatory provisions that guide that determination is beyond the scope of this project.

***Comment 1.6:** Further, it is essential for the Regional Board to also properly determine what are appropriate beneficial uses for agriculturally dominated waterways that would otherwise be considered to be waters of the United States. The application of beneficial uses to these types of waters has been a longstanding issue before this Regional Board that must be resolved soon.*

Response to Comment 1.6: Comment acknowledged. The issue raised by the commenter is a continued high priority issue identified in the triennial review work plan.

***Comment 1.7:** The Draft Amendments include adoption of water quality objectives for diazinon and/or chlorpyrifos. Accordingly, adoption of such objectives is required to comply with relevant provisions of the Water*

Code, and specifically section 13241. Water Code section 13241 requires the Regional Board to consider a number of statutorily specified factors prior to adopting water quality objectives that will “reasonably” protect beneficial uses. Although the Draft Staff Report includes tables and some narrative with respect to the factors, the analyses in the tables and the narrative associated with each factor is limited at best. For example, with respect to economic considerations, the tables in the Draft Staff Report claim that for application of the CDFG/USEPA criteria and UC Davis criteria that economic considerations are modest or have no negative impact. The narrative refers to section 9 but makes little attempt to actually quantify the cost except to say that costs could increase total production costs for agriculture by 1-9%. (Draft Staff Report, p. 113.) The narrative does not discuss what type of impact a 1-9% increase in production cost may have on agriculture. For agriculture, who are price takers, such increases in production costs can be significant. Such increases can represent the difference between a positive year or a negative year concerning the slim profit margins that are typical for most commodities. Accordingly, the costs associated with meeting these objectives can be significant and should be more clearly discussed in the Draft Staff Report for the Regional Board to properly consider.¹ Considering the precedential nature of this Draft Amendment (we understand that it will be a template for future pesticide water quality objectives), the Water Code section 13241 analyses provided here needs to be more robust to accompany the adoption of water quality objectives.

Response to Comment 1.7: Board staff notes that although one of the primary goals of the Proposed Amendment is to clearly articulate a numeric objective for diazinon and chlorpyrifos, dischargers are *already* required to comply with a narrative water quality objective that prohibits any individual pesticide or combination of pesticides from adversely affecting beneficial uses. Furthermore, the Board has already been citing the proposed numeric objective as an applicable water quality criteria to ensure compliance with the existing narrative objective. To a certain extent, the costs articulated in the Staff Report essentially rectify water quality impairments caused by non-compliance with the existing narrative objective. Board staff contend that the Staff Report provides adequate information for the Board to consider all the 13241 Factors, including providing adequate description of potential agricultural costs.

Comment 1.8: *Section 1.5 of the Draft Staff Report evaluates and summarizes diazinon and chlorpyrifos to make impairment determinations. However, based on the data summary provided it is difficult to evaluate if determinations of impairment are in fact consistent with requirements contained in the state’s Water Quality Control Policy for Developing California’s Clean Water Action Section 303(d) List (“Listing Policy”). Specifically, the Listing Policy requires data to include temporal representation:*

¹ 1 See, e.g., *City of Tracy v. CA State Water Resources Control Board*, Sacramento Superior Court Case Number 34-2009-80000392, p. 31, “. . . Legislature intended the Board to consider not just the economic benefits of controlling water pollution, but the economic costs of compliance with water pollution controls.”

“Samples should be representative of the critical timing that the pollutant is expected to impact the water body. Samples used in the assessment must be temporally independent. If the majority of samples were collected on a single day or during a single short-term natural event (e.g., a storm, flood, or wildfire), the data shall not be used as the primary data set supporting the listing decision. (Listing Policy, p. 23.)”

In other words, diazinon and chlorpyrifos data collected during rain events cannot by themselves be the bases for finding impairment. The data evaluation in Section 1.5 does not provide sufficient information to show if the data being used is temporally representative.

Response to Comment 1.8: For all the water bodies for which objectives and implementation provisions are proposed, impairment has been determined during the establishment of the 303(d) list, and confirmed in the analysis provided in this Staff Report. These impairments have been determined based on multiple exceedances over multiple events and, as documented in the Staff Report and in the State’s 303(d)/305(b) Integrated Report. Staff does not agree with the commenter’s interpretation of the Listing Policy that impairments cannot be determined based on data collected during rain events. That section of the listing policy refers to data collected during a single short term event.

Comment 1.9: *The Draft Amendments propose to specifically list a number of specific applicable water bodies and to include a generic category for waters with designated or existing WARM and/or COLD beneficial uses that are not upstream of major dams in Table Y. Considering the fact that the application of the proposed water quality objectives should only apply to water bodies that have designated aquatic life beneficial uses of WARM and/or COLD, it is unnecessary to list the specific water bodies identified. Further, some of the water bodies identified may be agriculturally dominated waterways that are being evaluated as part of the Regional Board’s other process. As such, it would be inappropriate to pre-judge application of beneficial uses to all of these waterways by listing them specifically in the Basin Plan amendment. Thus, WPHA recommends that the specific list of water bodies be eliminated.*

Response to Comment 1.9: In order to address the 303(d) listings for diazinon and chlorpyrifos, as required by the Clean Water Act and the State’s Water Quality Control Policy for Addressing Impaired Waters (SWRCB, 2005), objectives and implementation provisions are proposed for specific listed water bodies. These include some water bodies which, although they do not have WARM and/or COLD designated in the Basin Plan, have been found to have existing WARM and/or COLD beneficial uses, as discussed in the Section 3 of the Staff Report. Therefor it is appropriate to establish water quality objectives in these water bodies and implementation provisions to address the impairments in these water bodies. However, the fact that a water body is specifically mentioned does not preclude the Board from changing designations in the future as part of the Board’s other process.

Comment 1.10: *The Draft Amendments propose a discharge prohibition for discharges that exceed the water quality objectives unless such discharges are regulated by an adopted waiver or waste discharge requirement. However, the discharge prohibition is not limited to discharges that occur in water bodies with the designated beneficial use of WARM and/or COLD. As such, the discharge prohibition is too broad and needs to be narrowed to exclude discharges to waterways that do not have these beneficial use designations.*

Response to Comment 1.10: The proposed prohibition has been revised so that it would only apply to discharges to water bodies with designated or existing (as defined in 40 CFR 131.3(e) WARM and/or COLD beneficial uses.

Comment 1.11: *The Draft Amendments propose a pesticide discharge control program that refers generically to “discharges of pesticides to surface waters.” The reference to “pesticides” and to “surface waters” in this context is overly broad and needs to conform to discharges of diazinon and chlorpyrifos to waterways with the beneficial uses of WARM and/or COLD.*

Response to Comment 1.11:

The provision which referred generically to “discharges of pesticides to surface waters” (formerly provision 1.c. under the proposed new section in the Implementation Chapter) has been deleted from the Proposed Amendment.

Comment 1.12: *The Draft Amendments propose to require compliance with wasteload allocations (“WLAs”) and load allocations (“LAs”) within three years from the effective date of the amendments. Such a time frame for compliance is exceedingly short and is not supported by any evidence in the record with respect to the feasibility of such a time frame.*

Response to Comment 1.12: Draft Amendment no longer contains TMDL waste load and load allocations, but does propose requiring compliance with water quality objectives within five years. The Staff Report presents a number of practices that could be implemented within the proposed five-year time frame to achieve the proposed water quality objectives.

Comment 1.13: *The Draft Amendments state that the WLAs and LAs, and the requirement for management plans, apply to water bodies listed in Table X or their tributaries. (Draft Amendments, pp. C-6 – C-8.) As we understand it, Table X is intended to be the list of water bodies that have been specifically listed as being impaired for diazinon and/or chlorpyrifos. The Draft Amendments improperly include unlisted water bodies by extending application of the TMDL specific requirements to tributaries of water bodies identified on Table X. Although it has been recognized that water bodies may be added to a TMDL as being impaired, determination of impairments must still be made pursuant to application of the state’s Listing Policy. In other words, if the Regional Board determines it appropriate to add water bodies to a TMDL that are not currently listed as impaired, the Regional Board should first identify how the water body is impaired under the state’s Listing Policy. This has not occurred. Rather,*

the Draft Amendments propose to arbitrarily extend application of TMDL specific requirements to all tributaries without evaluating data or information to properly determine if the “tributaries” are in fact impaired for diazinon and/or chlorpyrifos. Considering the improper expansion of application of the TMDL specific requirements, the inclusion of “or their tributaries” must be deleted from the Draft Amendments.

Response to Comment 1.13: The commenter is correct that Table X in the Proposed Amendment as initially proposed is the list of water bodies that have been identified as impaired by diazinon and/or chlorpyrifos. These waterbodies are listed in Table III-2A in the revised draft Proposed Amendment. Since the revised draft Proposed Amendment no longer includes the establishment of new TMDLs, load allocations and waste load allocations are no longer included. In addition, the phrase “or their tributaries” is not included in the revised draft Proposed Amendment. However, determining that “tributaries” are impaired is not necessary to regulate the discharge to those tributaries so that downstream impairments can be addressed and water quality objectives met. The TMDLs currently established in the Basin Plan, still have requirements for dischargers who discharge “directly or indirectly” to the Sacramento Feather or San Joaquin Rivers of the Delta.

Comment 1.14: *The management plan requirements for nonpoint source dischargers are internally inconsistent. The Draft Amendments state that the Executive Officer “shall require nonpoint source dischargers of diazinon and chlorpyrifos . . . to submit management plans” (Draft Amendments, p. C-8.) This provision implies that the Executive Officer will issue a Water Code section 13267 order, or some other specific mandate to nonpoint source dischargers when appropriate. However, at the end of the same provision, it states that the management plans “are due no later than [one year from the effective date of this amendment.]” (Ibid., emphasis in original.) These two provisions are inconsistent with each other. The automatic requirement for management plans to be due one year from the effective date should be deleted. It is more appropriate for the Executive Officer to require such management plans, if appropriate. In fact, for many of the agricultural water quality coalitions, such management plans are already in existence. Accordingly, it is not necessary to automatically submit new management plans within one year from the effective date of the Basin Plan amendment.*

Response to comment 1.15: Staff agrees that management plans already exist for some of these water bodies, in which case new management plans would not be required, and this is explicitly stated in the revised draft Proposed Amendment. However, the EO can require management plans with due dates as specified by the Basin Plan.

Comment 1.15: *The Draft Amendments propose to include a “catch-all” provision for water bodies not included in Table X if they are to be out of “attainment” with the water quality objectives for diazinon and chlorpyrifos. (Draft Amendments, p. C-8, provision 9.) This provision is inappropriate for inclusion for several reasons. First, the Draft*

Amendments do not define what it means to be “out of attainment.” As worded, this could be interpreted to mean that there is one exceedance out of 500 samples, which would not be considered an impairment under the state’s 303(d) Listing Policy. TMDLs, and the associated TMDL specific provisions in the Draft Amendments, are applicable to water bodies and pollutants for which there is an impairment. It is improper to broaden application of the TMDL specific requirements if no impairment actually exists. Second, the inclusion of the catch-all provision appears to attempt to circumvent the state’s listing process, which is designed to ensure transparency in the state’s determination of what are impaired water bodies. Accordingly, provision 9 needs to be deleted as it improperly implies TMDL specific requirements to water bodies that are not determined as being impaired through a proper listing process, or at the very least, a proper impairment evaluation based on the state’s Listing Policy.

Response to Comment 1.15:

The allowable exceedance frequency is actually specified in the water quality objective itself as not more than once in three years. That exceedance frequency is what would be used to determine attainment of the objective. The proposed requirements for water bodies subsequently found to be out of attainment of the objectives are not “TMDL specific,” but part of a control program proposed to be established under the Board’s state authority to regulate pollutant discharges. Therefore these requirements are not dependent on water bodies being identified on the 303(d) list as impaired, and do not circumvent the State’s listing process. These are proactive provisions that can be used to prevent impairments, listings and TMDLs.

***Comment 1.16:** The Draft Amendments would require all dischargers to include in their monitoring programs the requirement to collect information necessary to “determine whether alternatives to diazinon or chlorpyrifos are causing surface water quality impacts.” Such a requirement is inappropriate as applied to dischargers. It is not the role of dischargers to collect such information and make such determinations. This function is met by the Department of Pesticide Regulation when pesticides are registered. Accordingly, this monitoring provision must be deleted from the Draft Amendments.*

Response to comment 1.16:

These provisions has been modified in the revised Proposed Amendment to more appropriately and clearly assign discharger’s’ responsibility for characterizing their discharge. While determining overall potential impacts of pesticides is DPR’s responsibility during registration, the Board recognizes that DPRs registration process does not always ensure compliance with water quality standards. Requiring dischargers to characterize their discharge is necessary to determine if these replacement products are impacting water quality, and is consistent with the Board’s responsibilities.

2. Comments from the Central Valley Clean Water Association – Debbie Webster

Comment 2.1: *The Draft Amendments propose that WLAs be assigned to “all NPDES-permitted . . . domestic wastewater dischargers to the water bodies listed in Table X or their tributaries.” (Draft Amendment, p. C-6.) Further, for domestic wastewater dischargers (i.e., publicly-owned treatment works (“POTWs”)), a numeric effluent limitation must be included in the NPDES permit if there are one or more valid effluent monitoring data points that exceed the method detection limit (“MDL”) for either diazinon or chlorpyrifos. (Draft Amendment, p. C-7.) CVCWA has concerns with the application of WLAs to the tributaries of listed water bodies, and application of numeric effluent limitations even if no reasonable potential exists.*

First, the application of numeric effluent limitations as proposed here is inconsistent with federal regulations. According to the Draft Staff Report, the justification for this requirement appears to be a U.S. Environmental Protection Agency (“USEPA”) determination that current WLAs in the Basin Plan require non-storm water NPDES permits to contain numeric diazinon and chlorpyrifos effluent limits. (Draft Staff Report, p. 137.) While that may be an appropriate interpretation of existing Basin Plan language, it is not necessarily applicable to the Draft Amendment, which proposes to change existing (and can further change) Basin Plan language. With respect to application of WLAs, the federal regulations state that when developing water quality based effluent limits, such limits must be “consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA . . .” (40 C.F.R. § 122.44(d)(1)(vii).) The term “when developing” presumes that the need for water quality based effluent limitations has first been triggered by a proper reasonable potential analysis as is required by other federal regulatory sections preceding the one in question. (See 40 C.F.R. § 122.44(d)(1)(ii)-(iii).) In such instances where water quality based effluent limitations are necessary, such limitations must then be consistent with the assumptions and requirements of applicable WLAs. The federal regulations do not specifically require, or imply, that water quality based effluent limitations are required for all pollutants for which a WLA exists. Thus, to be consistent with federal regulatory requirements, the Draft Amendment should be revised to clearly state that WLAs are required when the discharge from a POTW has reasonable potential to cause or contribute to a violation of the applicable water quality standard – not when there are detections above the MDL.

Response to Comment 2.1:

The revised draft Proposed Amendment no longer contains TMDL provisions. The revised draft Proposed Amendment includes water quality objectives that may result in diazinon and chlorpyrifos effluent limits when the Board determines that the discharge has reasonable potential to cause or contribute to a violation of the applicable water quality standard.

Comment 2.2: *Second, the Draft Amendment states that the WLAs apply to water bodies listed in Table X or their tributaries. (Draft Amendment, p. C-6.) As we understand it, Table X is intended to be the list of water bodies that have been specifically listed as being impaired for diazinon and/or chlorpyrifos. The Draft Amendment improperly includes unlisted water bodies by extending application of WLAs to tributaries of water bodies identified in Table X. Although it has been recognized that water bodies may be added to a TMDL as being impaired, determination of impairments must still be made pursuant to application of the state's Listing Policy. In other words, if the Regional Board determines it appropriate to add water bodies to a TMDL that are not currently listed as impaired, the Regional Board must first identify how the water body is impaired under the state's Listing Policy. This has not occurred. Rather, the Draft Amendment proposes to arbitrarily extend application of WLAs to all tributaries without evaluating data or information to properly determine if the "tributaries" are in fact impaired for diazinon and/or chlorpyrifos. Considering the improper expansion of application of WLAs, the inclusion of "or their tributaries" must be deleted from the Draft Amendment.*

Response to comment 2.2:

See response to comment 1.13.

Comment 2.3:

The Draft Amendments include adoption of water quality objectives for diazinon and/or chlorpyrifos. Accordingly, adoption of such objectives is required to comply with relevant provisions of the Water Code, and specifically section 13241. Water Code section 13241 requires the Regional Board to consider a number of statutorily specified factors prior to adopting water quality objectives that will "reasonably" protect beneficial uses. Although the Draft Staff Report includes mention of the factors, the analysis associated with each is limited at best. For example, with respect to economic considerations, the Draft Staff Report briefly discusses the lack of costs beyond monitoring for municipal dischargers that would be associated with the Draft Staff Report's recommended objectives. It also notes that if the no detectable level option was selected, that significant costs could occur. However, neither is an actual analysis with respect to economic impacts adoption of the criteria may have on municipal dischargers. Considering the precedential nature of this Draft Amendment (we understand that it will be a template for future pesticide water quality objectives), the Water Code section 13241 analyses provided here needs to be more robust to accompany the adoption of water quality objectives.

Response to comment 2.3:

The Staff Report provides adequate information for the Board to consider all the 13241 Factors, including providing adequate description of potential municipal costs. The cost estimates for municipal and domestic wastewater dischargers and municipal storm water dischargers have been updated to provide a more robust analysis of the incremental

increase in costs that will actually be borne by these dischargers due to the provisions in the Proposed Amendment. Also see response to comment 1.1 regarding the potential “precedential” nature of the Proposed Amendment. Future amendments with specific provisions for other pesticides would require consideration of the potential costs of those requirements at the time they are proposed for adoption.

Comment 2.4:

The Draft Amendments would require domestic wastewater dischargers to include in their NPDES monitoring programs the requirement to collect information necessary to “determine whether alternatives to diazinon or chlorpyrifos are causing surface water quality impacts.” Such a requirement is inappropriate as applied to domestic wastewater dischargers. It is not the role of POTWs to collect such information and make such determinations. This is a function for the Department of Pesticide Regulation when pesticides are registered – not POTWs. Accordingly, this monitoring provision must be deleted from the Draft Amendments.

Response to Comment 2.4:

See response to comment 1.16

3. Comments from Earthjustice, Pacific Coast Federation of Fisherman’s Associations, Golden Gate Salmon Association, and Golden Gate Fisherman’s Associations – Erin Tobin

Comment 3.1:

Given the liberal standard for “point source” pollution under the Clean Water Act, the CV Board must not assume that all agricultural sources are nonpoint sources and automatically attribute them point source load allocations in the TMDL.

Response to Comment 3.1:

The demonstrable success of the Board’s Irrigated Lands Regulatory Program (a program promulgated under state laws that apply to both point and nonpoint source pollution) in addressing water quality impairments caused by diazinon and chlorpyrifos has caused Board staff to reassess whether or not TMDL-specific provisions are needed to rectify existing water quality impairments. Board staff have tentatively concluded that the establishment of numeric water quality objectives and pollution control implementation provisions related to the regulation of agricultural sources will be sufficient to address the existing water quality impairments. All agricultural sources, including any drift, will be addressed under the Irrigated Lands Regulatory Program through either waste discharge requirements, waivers of waste discharge requirements and/or prohibitions to ensure that water quality objectives are achieved.

Comment 3.2:

In addition, the Draft Staff Report states that the TMDL applies only to storm water and domestic waste water dischargers as opposed to all

NPDES-permitted dischargers, because these are the only “significant NPDES-permitted sources” of chlorpyrifos and diazinon. Staff Report at 137 (emphasis added). It is unclear what is meant by “significant” NPDES-permitted sources, and begs the question of what sources of chlorpyrifos and diazinon are being left out, and on what legal basis does the CV Board rely to exclude some NPDES-permitted sources based on their characterization as not “significant”? The exclusion of some NPDES-permitted sources of chlorpyrifos and diazinon is not adequately explained or justified.

Response to comment 3.2:

In the quoted sentence, the term “significant” was inadvertently added. There are no known sources of diazinon and chlorpyrifos that are being left out of the control program in the Proposed Amendment.

Comment 3.3:

The Draft Staff Report incorrectly states that TMDLs are defined only as the “sum of the individual wasteload allocations (WLAs) and load allocations (LAs).” Staff Report at 132. In so stating, the Staff Report omits from the TMDL definition a critical component of all TMDLs—the margin of safety. The Clean Water Act explicitly provides that TMDLs “shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.” 33 U.S.C. § 1313(d)(1)(C) (emphasis added). Although the Draft Status Report elsewhere identifies the correct statutory language, its omission of this key definitional component of a TMDL is concerning in light of the draft TMDLs failure to actually include a margin of safety.

The Draft Status Report states that an “explicit” margin of safety is not required because the TMDL includes an “implicit” margin of safety based on conservative estimates that allow for “extra dilution” in 303(d)-listed waters. Staff Report at 139. The problem with the implicit margin of safety theory is that it appears that the TMDL does not account for an important source of pesticide pollution of Central Valley waters—pesticide drift. Pesticide drift is the process whereby sprayed pesticide particles are transported far from fields where they are applied. Relatedly, pesticide particles may also volatilize, and in a gaseous form have the potential to be transported even greater distances from fields. A recent EPA study concluded that chlorpyrifos that has volatilized may harm people more than 4,000 feet from where it is applied, depending on application rates, field size and other factors. See EPA, Chlorpyrifos; Preliminary Evaluation of Potential Risks from Volatilization 6 (Jan. 31, 2013) (attached as Exhibit A).

The Draft Staff Report acknowledges that chlorpyrifos can pollute surface waters as a result of pesticide drift “at the time of application or as runoff up to several months after application.” Staff Report at 28. The Draft Staff Report also acknowledges the risk of chlorpyrifos volatilization, but states that only a “small fraction of applied chlorpyrifos is expected to volatilize

from soil, crops, surface water or other surfaces into the atmosphere.” Id. To the contrary, EPA’s preliminary assessment of chlorpyrifos volatilization risk, mentioned above, found that approximately 30% of chlorpyrifos can be emitted from a treated field as a result of volatilization. See Volatilization Assessment at 5. Thus, to the extent it is addressed at all, the Basin Plan Amendments underestimate the potential for contamination from pesticide drift.

Notwithstanding the staff’s acknowledgment of pesticide drift, the draft TMDL’s load allocations do not appear to account for surface water contamination that results from drift, even though drift may contribute significant amounts of chlorpyrifos and diazinon to surface waters and prevent attainment of water quality standards.

In addition, there is no reason to believe that “extra dilution” available in 303(d)-listed waters will provide a sufficient margin of safety to account for these sources of chlorpyrifos and diazinon pollution, as the Draft Staff Report contends, particularly given the fact that the potential for pesticide drift has been significantly underestimated. Staff Report at 139.

Moreover, the Draft Staff Report estimates that agricultural sources will need to reduce chlorpyrifos discharges by between 57% (average) and 99% (maximum) to attain the proposed load allocations. Staff Report at 142, Table 5-1. The range of reductions required for diazinon sources is between 35% (average) and 43% (maximum). Id. These are large ranges with significant reductions being necessary to meet the load allocations. If some agricultural sources will need to reduce their chlorpyrifos discharges by 90% or more just to meet the load allocations, and the load allocations may not be adequate because a major source of pollution (drift) has not been accounted for, the TMDL is unlikely to achieve the goal of clean water.

The purpose of a margin of safety is to account for “any lack of knowledge concerning the relationship between effluent limitations and water quality.” 33 U.S.C. § 1313(d)(1)(C). EPA guidance also instructs that “TMDLs can and should be used . . . to consider the effect of all activities or processes that cause or contribute to the water quality-limited conditions of a waterbody.” EPA, Guidance for Water-Quality Based Decisions: The TMDL Process, Chapter 3 (emphasis added). Here, we know that pesticide drift may be a major contributing source to surface water pollution, and yet the extent of that pollution and the role that it plays has not been adequately explored. The margin of safety must take into account the potential for water pollution caused by drift and volatilization of chlorpyrifos and diazinon.

In short, the draft TMDL is incomplete and fails to adequately assess or account for the role of pesticide drift or adopt an adequate margin of safety.

Response to comment 3.3:

The revised draft Proposed Amendment and associated Staff Report no longer include establishment of TMDLs (see response to comment 3.1). Staff acknowledge that drift and atmospheric deposition are potentially significant pathways for pesticides entering waters of the State and considered them in the development of the Proposed Amendment. Under the revised draft Proposed Amendment, dischargers would have to implement practices to ensure water quality objectives are met, including controlling drift and atmospheric deposition if those pathways were contributing to the exceedance of the water quality objective(s). This approach has been successful at achieving the TMDLs and water quality objectives for the Sacramento and San Joaquin Rivers and most of the Delta Waterways, and a number of smaller water bodies throughout the valley which formerly had concentrations of these pesticides that exceeded water quality standards, as discussed in sections 1.5 and 5.2 of the Staff Report.

Comment 3.4:

Although TMDL implementation is left to states, EPA guidance instructs that a “TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable.” EPA, Guidelines for Reviewing TMDLs under Existing Regulations issued in 1992 8 (May 20, 2002). This information is necessary for “EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards,” as required by section 303(d) of the Clean Water Act. Id.; 33 U.S.C. § 1313(d)(1)(C).

In addition, California law requires the CV Board to incorporate the TMDL, along with a “program of implementation” to achieve water quality objectives, into its Basin Plan. Cal. Water Code § 13050(j)(3). This implementation program must include a description of actions necessary to achieve the objectives, a time schedule for such actions, and a method for determining compliance with the objectives. Id. § 13242.

The draft TMDL fails to meet these requirements of federal and state law, because it lacks any detail as to how the TMDL limits will be implemented. As discussed above, in addition to an inadequate margin of safety, there is an enormous range in the reductions that would be required by agricultural sources to attain the TMDL’s load allocations, including between 57% (average) and 99% (maximum) for chlorpyrifos dischargers. Staff Report at 142, Table 5-1. The TMDL needs to identify who are the problem sources, which sources need to reduce their loads and by how much, in order for EPA to determine that the TMDL is established at a level that will attain water quality standards. The draft TMDL does not provide this basic information about how the pollution loads will be implemented. For example, a TMDL that requires all sources to reduce chlorpyrifos discharges by 57%, the average of all reductions that would be needed to meet chlorpyrifos load allocations, will not achieve clean water because some sources will need to reduce their discharges by significantly more than the average (up to 99%) for the overall load allocation to be achieved.

Likewise, the draft TMDL contains insufficient information concerning TMDL implementation measures. The draft TMDL only requires agricultural dischargers to prepare and submit to the CV Board a management plan if an exceedance of the water quality objectives or load allocations occurs. Staff Report at 143. No specific pollution control measures are required to be included in the management plan. Instead, the draft TMDL vaguely requires each management plan to describe the “actions” the discharger will take, as well as a schedule for implementation of those actions (with no specific deadlines required), a monitoring plan, and a commitment to revise pollution controls “as necessary.” Id. Thus, the draft TMDL does not identify any specific “nonpoint source control measures,” and instead defers to a future process consideration of such measures.

In short, the draft TMDL contains insufficient information concerning TMDL implementation, such that there is not a reasonable assurance that the nonpoint source control measures will achieve load allocations necessary to attain water quality standards. In addition, the Basin Plan Amendments do not include a program implementation plan, as required by state law. See Cal. Water Code § 13050(j).

Response to Comment 3.4:

Typically the Central Valley Water Board does not dictate specific nonpoint source pollution control practices to be implemented, as the individual dischargers can typically find the suite of practices that will be best suited for the site, crops, and other practices being implemented in a particular field or orchard. The purpose of the Basin Plan is to essentially describe the regulatory path that the Central Valley Water Board will follow to ensure that all discharges do not impact beneficial uses or violate existing policies; here, the Board has described the nature of the actions necessary to achieve the water quality objectives, as well as a timeline and monitoring to be undertaken to determine compliance. These elements are included in the Proposed Amendment which includes the establishment in the Basin Plan of the water quality objectives, implementation program, compliance schedule and monitoring requirements, which will be implemented through the Irrigated Lands Regulatory Program and the dairy program (for irrigated lands that receive dairy waste). These regulatory programs will ensure that agricultural sources are adequately controlled and that the proposed objectives will be met.

There are thousands of growers who apply these pesticides. Specifically identifying each individual “problem source” grower is not required, and such a task could take years, and could unnecessarily delay adoption and implementation of pollution controls. The identification of any ongoing problem sources will happen during implementation of the Basin Plan Amendment. The Proposed Amendment requires monitoring and reporting so that the Board will be able to determine whether the water quality objectives will be achieved. This reporting will contain adequate information to identify any “problem sources”. The Board has broad enforcement authority, and can decide in the future how to deal with dischargers that continue to cause or contribute to exceedances of the water quality objectives after the compliance deadline.

4. Comments from the East San Joaquin Water Quality Coalition – Parry Klassen

Comment 4.1:

The ESJWQC endorses the arguments made in the letter from multiple agricultural and related organizations on the Draft Amendments and Draft Staff Report. The ESJWQC believes all of the issues covered in that letter need to be addressed by the Regional Board and the recommendations provided in that letter need to be incorporated into the Draft Amendment and Draft Staff Report prior to adopting a Basin Plan Amendment. The ESJWQC is particularly concerned with the application of the WARM and COLD beneficial uses to constructed agricultural drains and canals. Although there are locations within the Draft Staff Report that state that the application may not be appropriate, the evaluation of water quality data from agricultural drains is a large aspect of the water quality analysis and the determination of exceedances is based on the WARM and COLD criteria. The letter from the agricultural and related organizations discusses the error of this analysis and the larger issue of the application of WARM and COLD criteria to constructed agricultural drains. Again, the ESJWQC fully supports all the points developed in that letter. In addition, the ESJWQC understands that the Regional Board is in the process of evaluating the application of aquatic life beneficial uses (including WARM and COLD) to agriculturally dominated water bodies and encourages the Regional Board not to adopt any language in Diazinon and Chlorpyrifos Draft Amendments that might compromise the effort in developing the former analysis.

Response to comment 4.1

See response to comments in the letter from multiple agricultural and related organizations, (comments 1.1- 1.16). The Proposed Amendment was specifically crafted to avoid any language that might compromise efforts at refining beneficial use designations.

Comment 4.2:

In Section 1.4 (e.g. Section 1.1.4) there are statements about increases or decreases in the annual average diazinon and chlorpyrifos use between December 2000 – November 2005 and December 2005 – November 2009. For example, on page 37, it is stated “Walnuts had an 18% increase and almonds had a 59% increase in annual average chlorpyrifos use between Dec00-Nov05 and Dec05-Nov09. For other crops with significant chlorpyrifos use in the Lower Sacramento River watershed (alfalfa, peaches, plums, and cotton), chlorpyrifos use in Dec05-Nov09 was significantly less than in Dec00-Nov05.” It is unclear if the measurement being referred to, annual average, is an average of the annual use or an annual measure of the average use. The former statistic would be the only measure that would allow a comparison of two time blocks. It’s not clear what average use is or how it could be measured in a way that would allow comparisons. In addition, because application rates vary across commodities with respect to the amount per application and the number of applications per year, and because the acreage of the commodities changed across the two time blocks, these comparisons

regardless of the actual measure, are meaningless. During the 2000 – 2009 time period, the economic value of walnuts and almonds increased resulting in the removal of many orchards and row crops like peaches, plums, and cotton and the planting of almonds and walnuts. It's unclear if the increases and decreases in annual average chlorpyrifos use are simply a result of changes in the acreage of the various commodities or changes in the amount used on each acre of each commodity. A more informative measure would be the average per acre use (amount) of the two pesticides on each crop. This measure would allow an evaluation of whether the application rates are declining despite the increase in the total amount applied.

Response to comment 4.2:

In the Staff Report “annual average use” refers to the average (mean) of annual use and this has been clarified in the revised Staff Report. Comparisons of total amount used are meaningful in terms of looking at trends in total use. Staff agrees that per-acre use could also be informative to look at, but is not essential to support the Proposed Amendment.

Comment 4.3:

Tables 1-11 and 1-12 have a column called “4-day average Concentrations” but it is not clear what the numbers in the column represent. The column is not explained in the text or the table heading. To make the meaning clear, an explanation should be provided

Response to comment 4.3:

4-day average concentrations refers to the average of all concentrations measured within a 4-day period. A description of the exact meaning of 4-day average concentrations has been added to the revised Staff Report in section 1.5.

Comment 4.4:

Page 54. There is a statement “To examine potential toxicity of combinations of diazinon and chlorpyrifos, the additive toxicity formula (Equation 1)...” Equation 1 is not a measure of toxicity but rather a measure of the chemical concentrations of two compounds relative to their water quality objectives. While the objectives were developed using criteria established by toxicity tests, Equation 1 does not directly measure or indicate toxicity. The language should be modified to reflect the actual meaning of the equation, chemical concentrations relative to their objectives, not toxicity.

Response to comment 4.4:

Equation 1 is accurately described as a measure of potential toxicity, as higher totals from Equation 1 indicate higher probability of toxicity.

Comment 4.5:

Page 83. There is a statement that “many of the water bodies that are not currently monitored and/or 303(d)-listed likely receive diazinon and chlorpyrifos discharges.” The Draft Staff Report should restrict itself to statements of what is known rather than speculate about what may be occurring.

Response to Comment 4.5:

This statement referred to by the commenter is based on what is known from the representative monitoring available, including the monitoring that the Coalitions have submitted to the Board as representative of the water quality in waters potentially impacted by discharges from irrigated agriculture.

Comment 4.6:

Section 6.1, Surveillance and Monitoring for Agricultural Dischargers, Page 158. Under Objective 2 (Determine compliance with load allocations), there is a recommendation to monitor water bodies downstream of discharges at the confluence of tributaries with the 303(d) listed water bodies. While this may be reasonable for diazinon and chlorpyrifos which are registered for use only by agriculture, this recommendation could be problematic if additional pesticides are required for monitoring at these locations to satisfy the requirement of Objective 5 (Determine whether alternatives to diazinon and chlorpyrifos are causing surface water impacts). Other pesticides are used in both urban and agricultural settings, and many of the confluence locations are downstream of both urban and agricultural uses. It would be difficult if not impossible to separate the applications and identify those applications in agricultural settings that may be contributing to downstream detections of alternative pesticides in surface waters. The ESJWQC recommends that the language be removed and replaced with a recommendation that the Coalition be allowed to develop a monitoring program that meets the objectives outlined in the Draft Staff Report.

Response to Comment 4.6: The recommendation under Objective 2 is not in the revised Staff Report because establishing TMDLs is no longer proposed. In the revised Staff Report, some guidance is given regarding representative monitoring, but under the Proposed Amendment dischargers that are tasked with developing a monitoring program to meet the objectives.

Comment 4.7:

Page 196. There is a statement, "The fact that many growers are already implementing these practices further indicates that these practices can be economically viable for growers in the Central Valley." The statement is referring to the implementation of management practices by growers to prevent the discharges of diazinon and chlorpyrifos. Unfortunately, this statement ignores the economic realities of farming. What one grower may be able to afford in no way reflects the ability of any other grower to afford the same or similar practices. Justifying the validity of a conclusion about the economic analysis based in part, on this rationale is not sound. This statement and rationale should be removed from the Draft Staff Report. The Coalition believes that growers should implement practices to eliminate discharges to surface water and groundwater, and that economics does not justify discharges that result in impaired beneficial uses. The ESJWQC works closely with growers to identify practices that growers can implement in a cost-effective manner but realizes that all growers are not able to implement the same practices due to economic constraints.

Response to Comment 4.7:

This statement and rationale on page 196 referred to by the commenter has been removed from the Staff Report.

Comment 4.8:

Berenda Creek is described in the Draft Amendments (1.5.3.2, page 72) as the following: "Berenda Creek flows from the foothills through agricultural lands and into the Eastside Bypass, which connects to the San Joaquin River."

This description in the Draft Staff Report is incorrect. Berenda Creek is a highly modified agricultural water delivery system utilized by the Madera Irrigation District. Water rarely flows from the foothills into this water way and a majority of the water is due to irrigation flows. Madera Irrigation District also uses this waterway to transport irrigation supply water (Figure 2). The creek ends at the boundary of the irrigation district where there are holding ponds. There is no drainage to the Eastside Bypass (Figure 2 and 3). Berenda Creek does not require a TMDL for chlorpyrifos since it does not drain into a downstream water body with a designated beneficial use and is a highly modified water body used for irrigation supply water.

Response to comment 4.8:

The description of Berenda Creek in the Staff Report has been revised to reflect the information presented. While Berenda Creek has been modified so that it no longer regularly flows to the San Joaquin River, as described in Chapter 3 of the Staff Report, analysis of available data and information indicates that aquatic life consistent with the definitions of the WARM and COLD beneficial uses occurs within all water bodies for which water quality objectives are proposed, including Berenda Creek. Berenda Creek has been found to be exceeding water quality standards due to diazinon and chlorpyrifos concentrations. Therefore the Proposed Amendment contains water quality objectives and implementation provisions specific to Berenda Creek to address these impairments.

Comment 4.9:

The ESJWQC monitored chlorpyrifos at Ash Slough @ Ave 21 from 2005 through 2010. Exceedances of the WQTL for chlorpyrifos occurred 4 times, twice in 2005 and twice in 2006, resulting in Ash Slough being listed for chlorpyrifos in 2010 on the 303(d) list. Ash Slough is often dry; there were only two monitoring events from 2007 through 2010 during which water was available in Ash Slough to collect samples for chlorpyrifos analysis. The samples collected in May 2009 and in April 2010 were non detect for chlorpyrifos. In addition, PUR data indicate a decrease in chlorpyrifos applications and acres treated in the Ash Slough @ Ave 21 subwatershed since the most recent exceedance in 2006. The amount of chlorpyrifos applied within the subwatershed has decreased from 2006 (6,611 lbs AI across 3,853 acres) to 2010 (2,829 lbs AI across 1,821 acres). In May 2012 the Coalition was approved to remove chlorpyrifos from the Ash Slough @ Ave 21 active management plan. Ash Slough was visited 57 times from 2007 through 2010 to collect chlorpyrifos samples; the site was dry 55 times. Ash Slough does not

require a TMDL for chlorpyrifos since there is rarely water in the water way and when there is water there has been no detections of chlorpyrifos.

Response to Comment 4.9:

Staff has re-evaluated the status of Ash Slough in consideration of this comment and concurs with the commenters that Ash Slough diazinon and chlorpyrifos concentrations appear to now be meeting standards. Therefore the Staff Report recommends that chlorpyrifos in Ash slough should be considered for removal from the 303(d) list during the next update. The revised Staff Report reflects this updated assessment and the Proposed Amendment no longer contains regulatory requirements specific to Ash Slough.

Comment 4.10:

The ESJWQC monitored for chlorpyrifos at Dry Creek @ Wellsford Rd from 2005 through 2011 and conducted additional outreach with documentation of management practices as part of the ESJWQC Management Plan. Samples collected at Dry Creek @ Wellsford had concentrations that exceeded the WQTL for chlorpyrifos 8 out of the 49 times. The last exceedance occurred in July 2010 and the ESJWQC has demonstrated improved water quality in 2011 and 2012. The ESJWQC was approved to remove chlorpyrifos from the Dry Creek @ Wellsford management plan due to improved water quality (no exceedances), decreased use of chlorpyrifos and increase management practices by members of the ESJWQC. Dry Creek does not require a TMDL for diazinon since water quality has met the chlorpyrifos WQO for the last two years.

Samples were collected for diazinon analysis 43 times at Dry Creek @ Wellsford Rd from 2005 through 2012. No exceedances of the WQO for diazinon have occurred in the Dry Creek @ Wellsford Rd site subwatershed. The current PUR data indicate a decrease in diazinon use from 2005 through 2012; there were only three applications in 2010, two applications in 2011 and none in 2012. Dry Creek is listed on the 303(d) list due to monitoring that occurred in 2003 at Claus Road, Gallo Road and Avenue 21. The ESJWQC has analyzed more than the required 28 samples to demonstrate improved water quality and compliance with the WQO for diazinon. Dry Creek does not require a TMDL for diazinon.

Response to comment 4.10:

Staff agrees that there have been no exceedances of the water quality objective for diazinon in Dry Creek, but chlorpyrifos is still under an active ILRP management plan for the Dry Creek at Wellsford Road site subwatershed. Currently there are not enough monitoring data to determine if water quality standards are being attained, although PUR data do indicate a substantial decrease in the amount of applied chlorpyrifos. As a result, the revised draft Proposed Amendment includes water quality objectives and implementation provisions to address the chlorpyrifos impairment in Dry Creek.

Comment 4.11:

Highline Canal was 303(d) listed for chlorpyrifos in 2010 based on water quality data from samples collected in 2005 and 2006. The ESJWQC monitored for chlorpyrifos at Highline Canal @ Hwy 99 from 2005 through

2012. Five out of forty-three samples collected at Highline Canal @ Hwy 99 exceeded the WQTL for chlorpyrifos, the last exceedances occurred in July 2009. There were no exceedances for three (3) years from 2010 through 2012 and PUR data indicate the amount of chlorpyrifos applied within the subwatershed decreased significantly from 2007 (18,201 lbs AI) to 2011 (3,290 lbs AI June 2011). The Coalition received approval from the Regional Board to remove chlorpyrifos from the Highline Canal @ Hwy 99 management plan on May 30, 2012.

The ESJWQC monitored for chlorpyrifos at Highline Canal @ Lombardy Rd from 2005 through 2012. Fifty-eight samples of chlorpyrifos were collected at Highline Canal @ Lombardy Rd; 47 results were non detect and 6 of those samples exceeded the WQO for chlorpyrifos. There were no exceedances in 2011 and 2012.

The combination of improved water quality at both the Lombardy (upstream location) and Highway 99 (downstream location) for chlorpyrifos is the result of additional practices implemented by growers and reduced use of products containing chlorpyrifos. There have been at least two years of no detections of chlorpyrifos at both locations. Highline Canal does not require a TMDL for chlorpyrifos.

Response to Comment 4.11:

The assessment of Highline Canal has been revisited in light of the more recent information submitted by the commenter. Staff concur that chlorpyrifos was approved for removal from the ILRP management plan for Highline Canal at Hwy 99, and the available data for all sites on Highline Canal indicate diazinon and chlorpyrifos concentrations are below the proposed objectives. The Staff Report has been updated to reflect this revised assessment and recommends that chlorpyrifos in Highline Canal should be considered for removal from the 303(d) list during the next update. The Proposed Amendment no longer contains regulatory requirements specific to Highline Canal.

Comment 4.12:

Mustang Creek was 303(d) listed for chlorpyrifos in 2010 based on data from 2005 and 2006. Mustang Creek (Mustang Creek @ East Ave) was monitored for chlorpyrifos and diazinon from 2006 through 2010 by the ESJWQC and is often dry. Exceedances of the chlorpyrifos WQO occurred during two ESJWQC storm events in 2008; there have been no exceedances of the diazinon WQO during the ESJWQC monitoring. Since 2008, the ESJWQC attempted to collect samples from Mustang Creek 33 times; only 8 times was there water in the channel. There have been no detections of chlorpyrifos since February 2008 (8 samples collected) and the ESJWQC documented in its Management Plan Update Report additional management practices implemented by members. The ESJWQC received approval to remove chlorpyrifos from the Mustang Creek management plan on May 30, 2012 due to improved water quality. Water quality has improved in Mustang Creek since 2008 with no detections of chlorpyrifos over four years (2006, 2007, 2009, and 2010).

Mustang Creek does not require a TMDL for chlorpyrifos or diazinon

Reponses to Comment 4.12:

The assessment of Mustang Creek in the Staff Report has been revised in light of the more recent information submitted by the commenter. The available data show no exceedances since 2008, and chlorpyrifos was approved to be removed from the ILRP management plan for Mustang Creek. Due to this revised assessment, the Staff Report now recommends that chlorpyrifos in Mustang Creek should be considered for removal from the 303(d) list in the next update and the Proposed Amendment no longer contains regulatory requirements specific to Mustang Creek.

5. Comments from the City of Roseville – Kelye McKinney

Comment 5.1:

Pertaining to the BPA's proposed waste load allocations (WLA) for publically owned treatment works (POTWs), the City wishes to thank Central Valley Water Board staff for including a de minimis risk provision with regard for effluent limitation requirements. This particular provision allows a POTW to demonstrate that its discharge has no reasonable potential to exceed the assigned chlorpyrifos and diazinon WLA, and thus qualify for an effluent limit exception. This provision is justified by staff on the basis that residential use of chlorpyrifos and diazinon has diminished due to the negotiated phase-out of product registrations and, as such, detection of these two pesticides in effluent should be eliminated or significantly reduced (p.161 of Staff Report). This statement is supported by recent monitoring in both of the City's WWTPs, as well as monitoring of stormwater outfalls and receiving water in Pleasant Grove Creek. Regrettably, the City believes that staff's de minimis risk provision as currently proposed does not go far enough. The City requests the following changes:

- The de minimis risk provision provided to municipal wastewater NPDES permit holders should be revised from one of demonstrated absence of detection above the analytical method detection limit (MDL), to a more reasonable statistical approach based on frequency of detection above some threshold value, such as the current Basin Plan water quality objective. Such an approach is provided in the State Water Boards 303(d) listing policy (i.e., binomial distribution for toxic constituents), and could be reasonably adapted to this BPA proposal. Alternatively, the reasonable potential analysis methodology contained in the State Water Board's Implementation Policy for Toxics*

Response to Comment 5.1:

Staff concurs with the commenter's assertion that recent monitoring has shown diazinon and chlorpyrifos are often not present in urban storm water or wastewater.

The proposed Basin Plan Amendment no longer includes TMDL provisions, but instead relies on the establishment of water quality objectives and implementation provisions to achieve compliance. The establishment of these objectives will trigger reasonable potential analysis for discharges. Because new waste load allocations are not being established in the Proposed Amendment, the language for providing a *de minimis* exemption to waste load allocations is also no longer in the Proposed Amendment. The 303(d) listing policy applies only to the development of the 303(d) list, and does not control the methodology for the establishment of effluent limits.

Comment 5.2:

Similar accommodation for urban stormwater discharge related de minimis risks should be added. The following supporting justification is provided.

o In ongoing California Department of Pesticide Regulation (DPR) monitoring of City storm drains and Pleasant Grove Creek receiving waters, there has been a single recorded detection of chlorpyrifos (n=82; 1% detection frequency) and three recorded detections of diazinon (n=82; 4% detection frequency) over a multi-year monitoring period spanning 2008-2011¹. Of these few detections, only a single detection of diazinon in a storm drain sample exceeded the chronic water quality objective, yet this single exceedance was measured in 2009. Of the 23 receiving water samples collected over the same period, no detection exceeded water quality objectives. Urban use of chlorpyrifos and diazinon has virtually been eliminated due to the negotiated phase out. There is evidence that existing stockpiles are being exhausted. Given these observed trends in monitoring data, the probability in future years of water quality objective or WLA exceedences in urban stormwater, let alone detection in urban stormwater, is exceedingly low.

o Urban sources of these compounds to 303(d) listed streams represent such a minor risk as to warrant disregard. Moreover, an urban stream such as Pleasant Grove Creek, so remote from the actual location of impairment on the Sacramento River, represents even less of risk. Of the 23 Pleasant Grove Creek receiving water samples analyzed by DPR in 2008-2011, there was only a single detection of diazinon at a concentration eight times lower than the chronic objective while there were no detections of chlorpyrifos

Response to comment 5.2:

“De-minimis” basin plan language providing an exception to requirements for numeric effluent limits for storm water is not necessary since storm water discharges are not typically regulated by numeric effluent limits. Staff concurs that storm water concentrations continue to decline, but since there still are occasional exceedances, some monitoring requirements are still included in the Proposed Amendment. In cases such as the one presented for urban creeks in Roseville minimal monitoring would likely be required.

Comment 5.3:

Under the heading of discharges from Non-Point Sources, Appendix C of the Staff Report includes item 5 (on page C-6) describing the wasteload allocations for NPDES-permitted municipal Storm water and domestic wastewater dischargers. It is our understanding that stormwater and wastewater discharges are considered point sources. It is unclear why point source related requirements are included under a non-point source heading. If it is the intent of the Board to make these requirements be only applicable to Non-Point Sources, it should be definitively stated in this section and should exclude any items required of point source dischargers.

Response to Comment 5.3:

To provide clarity, the Proposed Amendment changes the heading of the section of the Basin Plan currently entitled "Pesticide Discharges from Nonpoint Sources" to simply "Pesticide Discharges," as discussed in Section 8.2 of the revised Staff Report.

Comment 5.4:

We would like to point out that Section (b) requirements under item 1 in this section of Appendix C (included below verbatim) would be particularly difficult and costly for Point Sources such as urban stormwater runoff programs and POTWs to document and justify through their Surveillance and Monitoring Program. This requirement could serve to reduce the management options available to these dischargers.

" 1. The pesticide discharge control program shall:

a. Ensure compliance with water quality objectives for diazinon and chlorpyrifos in the Sacramento and San Joaquin River Basins through the implementation of management practices;

b. Ensure measures that are implemented to reduce discharges of diazinon and chlorpyrifos do not lead to an increase in the discharge of other pesticides to levels that cause or contribute to exceedances of applicable water quality objectives or violate Regional or State Water Board policies;

c. Ensure discharges of pesticides to surface waters are controlled so that the pesticide concentrations are at the lowest levels that are technically and economically achievable; and

d. Encourage implementation of measures or practices by all dischargers that result in concentrations of chlorpyrifos and diazinon in all discharges that are below the water quality objectives."

Response to comment 5.4:

The Proposed Amendment language under Item 1 referred to by the commenter is a statement of goals for the overall runoff control program, and does not contain specific requirements. These goals include reduction of diazinon and chlorpyrifos discharges to

meet water quality objectives, and compliance with existing water quality objectives for other pesticides that may be used as substitutes for diazinon or chlorpyrifos. The language under 1c referring to violations of Regional or State Water Board policies has been deleted from the revised Proposed Amendment. Specific requirements for monitoring and reporting for storm water and wastewater dischargers are described elsewhere in the Proposed Amendment. The Staff Report contains a description of expected compliance activities and their costs.

Comment 5.5:

The Surveillance and Monitoring requirements of the BPA for POTW and urban stormwater dischargers are overly burdensome and exceedingly difficult to implement in any effective manner (Appendix C, page C-14). The BPA proposal requires that existing NPDES permit monitoring and reporting programs be amended to

" ... collect the information necessary to:

- 1) determine compliance with wasteload allocations for diazinon and chlorpyrifos;*
- 2) determine whether the discharge causes or contributes to a toxicity impairment due to additive or synergistic effects of multiple pollutants;*
- and*
- 3) determine whether alternatives to diazinon or chlorpyrifos are causing surface water quality impacts."*

While information item 1 is reasonable, information items 2 and 3 are not. Determining whether a discharge causes or contributes to additive or synergistic toxicity impairment and determining whether replacement pesticides are causing water quality impacts is exceedingly difficult and generally falls in the realm of scientific research conducted at universities. The level of effort required, and the financial and institutional capacity necessary to achieve these demands is beyond the capabilities of a typical municipality.

The Staff Report attempts to justify these mandates as reasonable by suggesting that whole effluent toxicity tests and forensic Toxicity Identification Evaluation (TIE) can be used to determine synergistic and additive effects and that an evaluation of pesticide use patterns and follow up monitoring for the identified pesticides can be easily and simply implemented (p. 161- 162 of Staff Report). Such justification requires an overly simplistic understanding of TIEs. Additionally, gauging pesticide use patterns within the jurisdiction of a municipality is virtually impossible, let alone commercial laboratory analytical capabilities lag far behind the dizzyingly varied and rapidly changing array of pesticides used by commercial and residential users. It simply is not possible for a municipality to develop the necessary information to answer these questions of synergism, additivity, or replacement products. These surveillance and monitoring activities should be eliminated from the BPA proposal. NPDES Permittees should only be required to determine their compliance with the TMDL wasteload allocations.

Response to Comment 5.5:

See response to comment 1.16. The individual monitoring requirements would be determined by the Central Valley Water Board and/or State Water Board in the development of the specific permit regulating the specific discharge. In general these monitoring goals can be met through the performance of occasional toxicity testing and chemical analysis and would not need to be done frequently. The Staff Report description has been changed to no longer indicate that TIEs would normally be required, as these could be expensive to perform. The Staff Report has been revised to clarify the likely monitoring requirements and potential costs (also see response to comment 5.6). These monitoring requirements could be met through collective efforts involving multiple permitted entities and could utilize information on pesticide use prepared by CDPR and others.

Comment 5.6:

While the economic analysis assumes a mere \$800 cost per municipality related to periodic sample analysis, the economic analysis does not consider the costs of the mandated surveillance and monitoring program (p. 205-206; Staff Report). The costs associated with determining synergism, additivity, and impacts of replacement pesticide products on water quality are substantial and extraordinary. A single three-species chronic whole effluent toxicity test for a single water sample, with concurrent reference toxicant test, can run as much as \$6,000. A single Phase I TIE can run as much as \$10,000. To effectively conduct the experiments necessary to assess and confirm synergism and additivity of an unknown mix of possible pollutants, multiple toxicity tests and TIE would be necessary. Moreover, analytical costs associated with measuring and screening for pesticides can run as much as \$400 per sample, often with multiple extractions and associated additional costs related to the different classes of compounds that would need to be measured. Associated analytical costs would likely be greater, since analysis of current-use pesticides often require custom analytical methods or, even, custom analytical method development. Lastly, given the complexity of the task, significant staff time would need to be dedicated by each municipality, and use of consultants would most likely be necessary. Based on the estimates for chronic toxicity tests, TIE, follow-up analytical, and labor, costs per municipality could easily exceed \$75,000. Moreover, for an urban stormwater municipality that spans more than one watershed, the financial costs could conceivably be compounded even further. Currently, the Staff Report considers none of these costs. Rather, the Staff Report substantially underestimates the true economic costs, assuming they would total no greater than \$800 per municipality. As such, the economic analysis for NPDES Permittees requires substantial revision, and needs to include the costs associated with the surveillance and monitoring program as it is currently conceived which would include the likelihood of conducting multiple three-species whole effluent toxicity tests, and multiple follow up TIEs and associated chemical analyses

Response to Comment 5.6:

The cost estimate in the Staff Report has been revised to include the cost of toxicity testing and testing for alternative pesticides. Periodic collection of toxicity data and concentrations of other commonly used pesticides would provide an adequate

characterization of the discharge to assess the toxic potential of the discharge to meet these requirements. The reference to TIE's in the text stating that these could be required has been removed since TIEs would not be expected for routine storm water discharger monitoring in order to meet the goals of the Proposed Amendment. The specific monitoring would be determined in establishing permit monitoring requirements. As discussed in the response to comment 5.5, it is expected that representative monitoring could be used, so that not every watershed or every municipality would have to be sampled to examine potential toxicity due to replacement products or additive/synergistic effect. Also see response to Comment 1.16.

6. Comments from the Sacramento Regional County Sanitation District – Linda Dorn

Comment 6.1:

SRCSA has the same concerns as the Central Valley Clean Water Associations (CVCWA), and therefore supports CVCWAs comments regarding:

Application of WLAs only to domestic wastewater dischargers when reasonable potential exists, and then only applying to 303(d) listed waterbodies.

Completeness of Water code 13241 analyses.

Deleting the monitoring provision for POTWs to “determine whether alternatives should be performed by the manufacturers of alternative pesticides to diazinon and chlorpyrifos, as part of pesticide registration and review.

Response to Comment 6.1:

See responses to comments 2.1, 2.2, 2.3, 2.4 and 1.16.

Comment 6.2:

In SRCSDs October 26, 2012 letter we encouraged the Central Valley Regional Water Board to consider methods for compliance with the TMDL other than establishing an objective, prescribing waste load allocations (WLA), and then monitoring to confirm the objective and WLAs are met. The implementation plan could contain a comprehensive implementation strategy calling on Federal, State, local agencies, and others, to take actions to reduce the potential for pesticides to degrade water quality. This approach has been successful in the San Francisco Bay Region for diazinon.

Response to Comment 6.2:

As stated in the State's Water Quality Control Policy for Addressing Impaired Waters (SWRCB, 2005), the State and Regional Boards are responsible for the quality of all waters of the state, irrespective of the cause of the impairment, and impaired waters must be corrected (and implementation plans crafted) using existing regulatory tools. For this reason, numeric water quality objectives and implementation provisions that work through existing regulatory tools (WDRs, waivers and prohibitions) are included in

the Proposed Amendment. Staff agrees that other state, federal and local agencies can take actions that reduce the potential for pesticides to degrade water quality and are active in encouraging them to take these actions. The implementation provisions for pesticides in the Basin Plan (Chapter IV) include the provision that “The board will work with water agencies and others whose activities may influence pesticide levels to minimize concentrations in surface waters.” In future amendments, staff plans to propose additional Basin Plan provisions that can guide efforts for coordination and leveraging the efforts and authorities of other agencies to reduce potential pesticide water quality impacts. Staff agrees that the approach taken in the San Francisco Bay Region for diazinon has been successful, but it should be noted that the San Francisco Bay Region’s approach also involved establishment of TMDLs and Waste Load Allocations that are required in permits that with associated monitoring requirements.

7. Comments from the San Joaquin County and Delta Water Quality Coalition – Michael L. Johnson

Comment 7.1:

The SJCDWQC endorses the comments provided by the East San Joaquin Water Quality Coalition and the letter from multiple agricultural and related organizations on the Draft Amendments and Draft Staff Report. The SJCDWQC believes all of the issues covered in those letters need to be addressed by the Regional Board prior to adopting a Basin Plan Amendment.

Response to Comment 7.1:

See Responses to comments 1.1 through 1.17 and comments 4.1 through 4.12.

Comment 7.2:

A diazinon TMDL is not necessary for French Camp Slough due to improved water quality and water quality standards being met in 50 of 52 samples collected over seven years.

French Camp Slough was 303(d) listed for diazinon in 2010 based on exceedances in 2004. The SJCDWQC monitored for diazinon at French Camp Slough @ Airport Way for seven years from 2005 through 2012 (no sampling occurred in 2010 for diazinon at this location). Of the 52 samples collected, two samples contained concentrations of diazinon above the WQO; one exceedance occurred in 2007 and the other in 2008. Since 2008, there have been three years of monitoring with no exceedances. The SJCDWQC was approved by the Central Valley Regional Water Quality Control Board on February 27, 2012 to remove diazinon from the SJCDWQC Management Plan for French Camp Slough as a result of improved water quality and documented management practices by growers within the subwatershed. Water quality results from the SJCDWQC monitoring program and the SJCDWQC Management Plan provide sufficient evidence to indicate that French Camp Slough is no longer impaired due to diazinon. This water body does not require its own TMDL.

Response to Comment 7.2:

The assessment of French Camp Slough in the Staff Report has been revised in response to this comment. Staff concur that diazinon was approved for removal from the ILRP management plan for French Camp Slough. The revised Staff Report recommends that diazinon in French Camp Slough should be considered for removal from the 303(d) list in the next update. As discussed in the Staff Report, chlorpyrifos concentrations are still exceeding water quality standards in French Camp Slough. Therefore specific water quality objectives and implementation provisions for French Camp Slough are included in the Proposed Amendment.

Comment 7.3:

The Marsh Creek water body is listed for diazinon based on monitoring conducted at Cypress Road. The source of diazinon is listed as Agriculture | Source Unknown | Urban Runoff/Storm Sewers since a majority of the Marsh Creek watershed is urban (Figure 1). The SJCDWQC conducted monitoring at Concord Avenue, the most downstream point draining the remaining agricultural area of the watershed, from 2005 to 2007. Nineteen samples were collected and there were no exceedances of the WQO for diazinon. The SJCDWQC no longer monitors within this subwatershed because of the increase urban growth in Brentwood and along the Hwy 4 Bypass. It is recommended that agriculture be removed as a source from this water body.

Response to Comment 7.3:

The Staff Report has been revised to reflect that recent data indicating that diazinon objectives are being attained in Marsh Creek and therefore the diazinon listing for Marsh Creek should be considered for removal from the 303(d) list in the next update. If Marsh Creek is not delisted in the next 303(d) list update, the potential sources can be adjusted to reflect the more recent data.

8. Comments from the Stanislaus County Environmental Review Committee (ERC) and Department of Agriculture and Weights and Measures – Mark E. Loeser

Comment 8.1:

The Stanislaus County Environment Review Committee (ERC) received the Notice of Public Hearing and Notice of Filing of Draft Environmental Documents from the Central Valley Regional Water Quality Control Board (Central Valley Water Board) requesting written comments on the proposed Basin Plan Amendments and draft substitute environmental documentation (SED) on the above named project by April 19, 2013.

Prior to the deadline, Kamaljit Bagri, Deputy Ag Commissioner/Sealer of the Stanislaus County Department of Agriculture and Weights & Measures submitted a request to the Central Valley Water Board to review the Amended Basin Plan specific to the Sacramento and San Joaquin River Basins. Additionally, in my letter dated April 16, 2013, I explained that the Stanislaus County ERC was not able to provide a

response to the Central Valley Water Board's request pending receipt and review of the Amended Basin Plan.

The requested information, which included Appendix C- Proposed Basin Plan Amendment and associated links, was received on April 17, 2013, and reviewed by the Stanislaus County ERC at their next regularly scheduled meeting on May 1, 2013.

Based on the subsequent information provided by the Central Valley Water Board, the Stanislaus County ERC has determined that the subject project will not have a significant effect on the environment.

Response to Comment 8.1:

Comment acknowledged.

Comment 8.2:

In addition, the following comments/conditions are submitted by the Stanislaus County Department of Agriculture and Weights & Measures:

Even though the Agricultural Commissioner is not making any comments through the Stanislaus County Environmental Review Committee at this time, comments may be sent to the Central Valley Water Board separately after consulting with the local Water Coalitions.

Response to Comment 8.2:

Comment acknowledged.

9. Comments from the United States Environmental Protection Agency – Debra L. Denton

Comment 9.1

Thank you for the opportunity to review and comment on the draft amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (the "Basin Plan") for the Control of Diazinon and Chlorpyrifos report dated March, 2013. We reviewed the proposed actions in the report and conclude they are consistent with applicable federal regulations concerning TMDL development.

Response to Comment 9.1:

Comment Acknowledged.

Comment 9.2:

We support the specific diazinon and chlorpyrifos pesticide objectives that they are consistent with your previously adopted and approved diazinon and chlorpyrifos TMDLs.

Response to Comment 9.2:

Comment acknowledged

Comment 9.3:

We support that the joint toxicity of these chemicals be expressed as a measurement of additive toxicity in the calculation of the loading capacity. We support the calculation of toxic equivalents calculation according to your Board's Basin Plan's method for considering additive toxicity as this approach applies to both acute and chronic endpoints. In addition, this approach is easily applicable to additional chemicals besides the two pesticides currently being addressed in this action.

Response to Comment 9.3:

Staff agrees that the potential additive toxicity of these pesticides needs to be addressed. While the revised Proposed Amendment no longer relies on TMDL loading capacities and allocations, it requires consideration of the additive toxic potential of diazinon and chlorpyrifos using the additivity formula for pesticides found in Chapter IV of the Basin Plan. This formula is mathematically equal to the formerly proposed allocations, but would not be limited to only diazinon and chlorpyrifos. The Basin Plan's additivity formula can be applied to additional chemicals for which it is applicable, such as other organophosphates.

Comment 9.4:

We also support the increased specificity regarding the application of the wasteload allocations to NPDES discharges. The language provides a reasonable mechanism for implementation of the wasteload allocations for wastewater dischargers.

Response to Comment 9.4:

While the revised Proposed Amendment does not contain TMDL provisions, staff will continue to work with EPA to implement the water quality objectives in a reasonable manner.

Comment 9.5:

Lastly, we recognize that this amendment has been under development for the past several years and believe that this amendment needs to be considered by your Board for adoption, hopefully this summer.

Response to Comment 9.5:

Comment acknowledged.