STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 Aerovista Place Suite 101
San Luis Obispo, CA 93401-7906

PUBLIC COMMENTS AND STAFF RESPONSES

FOR

TOTAL MAXIMUM DAILY LOADS FOR TOXICITY AND PESTICIDES IN THE SANTA MARIA WATERSHED IN SANTA BARBARA, SAN LUIS OBISPO AND VENTURA COUNTIES, CALIFORNIA (DRAFT PROJECT REPORT - JANUARY 2013)

Central Coast Water Board staff implemented a process to inform and engage interested persons about these proposed total maximum daily loads (TMDLs). Central Coast Water Board staff's efforts to inform the public and solicit comments included a public notice and written comment period. Public notice of this proposed Basin Plan amendment provided interested parties a public comment opportunity preceding a Central Coast Water Board hearing regarding this matter. The public comment period for these TMDLs commenced on January 28, 2013, and extended through March 29, 2013. Central Coast Water Board staff received comments from:

1. Ms. Claire Wineman, President, Grower Shipper Association of Santa Barbara and San Luis Obispo Counties (Grower Shipper Association), in an email attachment received March 29, 2013.
2. Ms. Kay Mercer, President, KMI, in an email attachment received March 29, 2013.
3. Mr. Richard E. Adam, Santa Maria Valley farmer, in a letter received February 20, 2013.
4. Mr. Richard G. Sweet, P.E., Director of Utilities, City of Santa Maria, in an email attachment received March 29, 2013.
5. Ms. Joy Hufschmid, Project Clean Water Manager, County of Santa Barbara Public Works Department Project Clean Water, in and email attachment received March 26, 2013.
6. Mr. Richard Boon, Chair, California Stormwater Quality Association, in an email attachment received March 28, 2013.
7. Mr. James W. Wells, President, Environmental Solutions Group, LLC., on behalf of the Pyrethroid Working Group, a coalition of pyrethroids pesticide manufacturers, in an email attachment received March 29, 2013.
8. Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys At Law, on behalf of the FMC Corporation, in an email attachment received March 29, 2013.
9. Ms. Janet Parrish, TMDL Liaison, US EPA, comment letter in an email attachment received March 25, 2013.
10. Ms. Janet Parrish, TMDL Liaison, US EPA, detailed comments included in an email attachment from Janet Parrish, received March 25, 2013.

The Central Coast Water Board appreciates the comments provided by these interested parties. Their comments have prompted us to clarify and improve technical information in the TMDL project as noted herein.

Staff responses to these comments are provided in the "Comments and Responses" section beginning on page two. Note that we reproduce direct transcriptions of the comments from each commenter and insert staff responses using ***bold, blue, italic text*.**

Summary of Changes Made to TMDL Project Report Based on Public Comments

Please review the document on Santa Maria Watershed Toxicity and Pesticide TMDL webpage entitled located at:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/santa_maria/pesticide/index.shtml

List of Acronyms and Abbreviations

303(d)	Federal Clean Water Act Section 303(d)
Ag Order	Agricultural Order (Conditional Waiver of Waste Discharge Requirements from Irrigated Lands)
Basin Plan	Water Quality Control Plan for the Central Coastal Basin
CCAMP	Central Coast Ambient Monitoring Program
CEQA	California Environmental Quality Act
CMP	Cooperative Monitoring Program for Irrigated Agriculture
DPR	California Department of Pesticide Regulations
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
RCD	Resource Conservation District
SED	Supplemental Environmental Document
SWRCB	State Water Resources Control Board
USGS	U.S. Geological Survey
USEPA	U.S Environmental Protection Agency
Water Board	California Central Coast Regional Water Quality Control Board (RWQCB)

Comments and Staff Responses

#1 Claire Wineman, President, Grower Shipper Association

1.1 Ms. Claire Wineman, President, Grower Shipper Association

Thank you for the opportunity to review and comment on the referenced Basin Plan Amendment. We have actively participated in the TMDL public outreach process and expressed some of the points presented in this letter. The Association has standing concerns about the lack of reasonably foreseeable methods of compliance, draft resolution, technical project report inadequacies, numeric targets, use of a concentration-based TMDL, adopting a TMDL through a Basin Plan Amendment, and the inadequacy of the CEQA "Substitute Document."

1.2 Ms. Claire Wineman, President, Grower Shipper Association

No Reasonably Foreseeable Methods of Compliance

Based on foreseeable production technology, it is unlikely that the TMDL targets can be achieved.

• **Agronomic methods** presented in the CEQA "Substitute Document" (Part 2, I through III, pages 3 to 4) are already being implemented when feasible and will not likely reduce pesticide or toxicity levels to meet the TMDL targets.

Staff Response: Items I through III are practices that reduce the discharge of pesticides into surface waters and will help meet pesticide targets. Items I through III include: Integrative Pest Management (IPM), Irrigation Water Management, and Irrigation System, Microirrigation (drip irrigation). IPM related to water resource management includes an interpretation of pesticide environmental fate and transport. IPM also includes use of cultural and biological controls that reduce pesticide usage. Irrigation Water Management practices are efficient planning and use of water to promote desired crop response, while minimizing run-off of water, sediment and pollutants. Drip irrigation efficiently applies water at a low volume that improves infiltration and reduces or eliminates offsite movement of water or pollutants. Staff acknowledges that targets are only applicable on feasible sites.

• **Basin, vegetative, and treatment methods** (Part 2, IV through VII and XII, pages 4 to 5) have not been well-document in terms of the appropriate design (subject to site conditions as well as volume and residence time of flow) and actual pesticide or toxicity load reductions, are in direct conflict with current industry food safety mandates, and/or are not feasible to install on an individual farm basis.

Staff Response: The effectiveness of these practices and references are cited in the technical report.

• **Agricultural cessation** (Part 2, VIII through X, page 5), are not economically feasible given the high cost of land rent.

• **A method of compliance was not listed for legacy organochlorines**.

• **Unintended consequences.** With many of these purported methods, there will most certainly be negative, unintended consequences. For example, by discontinuing the use of chlorpyrifos, pest pressures, such as maggots, increase and farmers are likely applying more irrigation water and fertilizer to try to keep the struggling plants alive. Additionally, farmers may rely on a greater number of pesticides that are less effective, which increases the number of required applications impacting carbon emissions and worker exposure, and/or may create a "cocktail" effect that has a greater environmental impact than a single, effective application.

Action: The Association opposes adopting Basin Plan Amendments with targets that have no reasonably foreseeable methods of compliance.

Staff Response: Staff recognizes Ms. Wineman's concerns regarding no reasonably foreseeable methods of compliance, and staff concludes in the TMDL CEQA SED that the adoption of the TMDL could have potentially significant impacts on irrigated agriculture. Staff concurs with Ms. Wineman that the TMDL may have the unintended consequence

of increased water and nutrient applications to support plants stressed from pests and the possibility of an increased use of alternative pesticides.

1.3 Ms. Claire Wineman, President, Grower Shipper Association

Resolution Language
The Association has identified several items of concern on the Draft Resolution (Attachment 1).

• **Concern with "zero toxicity,"** as referenced in the context of pyrethroids in sediment (page 6) and determination of compliance (page 10). This phrase suggests that no toxicity whatsoever will be acceptable, which conflicts with the Basin Plan's objectives to limit concentrations to levels that adversely impact beneficial uses. The phrase "zero toxicity" is inappropriate and references to toxicity levels must retain the connection to levels that impact beneficial uses.

• **Unachievable organochlorine target date** for TMDL achievement. As presented, much of the concern about organochlorines relates to human consumption of fish tissue. The Technical Project Report (page 11) indicates the half-life of DDT is 150 years in an aquatic environment. As such, proposing a target date of 30 years is misleading and chemically impossible to achieve.

• **Agricultural Order reference, Farm Plan**. The implementation section (page 10) vaguely references the Order and MRP; specific citations would be helpful. The Farm Plan elements required under the Order are misconstrued in the Technical Project Report, with the requirements listed in the Technical Project Report being much more far-reaching that those required in the Order (Order page 21 #44). Furthermore, Order Provision #44g (practice effectiveness and compliance) is currently stayed until the petition is resolved on the merits.

• **Assessing compliance**. The Association recommends using "a combination of the following" to assess compliance with load allocations. The Association does not see the interim load allocations referenced (page 10 c). The Association is extremely concerned with the "zero toxicity reference" (page 10b) as previously indicated.

Action: The Association recommends revising the draft resolution to address the significant concerns presented in this letter.

Staff Response: Staff acknowledges Ms. Wineman's concern with the term "zero toxicity;" staff changed the reference to "Aquatic Toxicity Numeric Target."

Staff also removed the target dates to achieve the organochlorine TMDLs. As noted by Ms. Wineman, these pesticides are extremely persistent and there is not sufficient data to predict when the targets will be achieved. Additional research and modeling may be needed to predict the target dates for TMDL achievement.

Farm Plan elements in the Technical Report and the Basin Plan amendment documents are recommendations by staff, and the specific elements would need to be implemented in the Agricultural Order.

Assessing compliance: interim allocations were not developed by staff; staff removed references to interim allocation from the Basin Plan amendment.

1.4 Ms. Claire Wineman, President, Grower Shipper Association

Technical Project Report Inadequacies

The Technical Project Report seems to include the following inadequacies:

• **Outdated application information**. For example, information on organophosphate application dates to 2008. Application patterns of chlorpyrifos (diazinon is not widely used) have changed dramatically since information on the Ag Order tier criteria emerged. This information is no longer applicable and no longer represents the current circumstances in the watershed.

• **Pesticide Management Plan** (page 80). It is unclear if the Pesticide Management Plan as described is a misunderstanding or misrepresentation of the current Farm Plan requirements or is a new requirement. As outlined, the Plan would increase the administrative burden of farmers under the Order but not benefit water quality.

• **Organochlorine Implementation Plan** (page 87). The Plan, as outlined, does not capture the full contribution of historical vector control measures to the current level of organochlorines in aquatic habitat. The discussion on the source of organochlorine impairments needs to be improved. For example, it is unclear if the pounds of DDT originally applied to control vectors were applied to the Estuary and Oso Flaco lake, resulting in an extremely long half-life; by comparison, the DDT applied to farmland was in the soil and much more likely to break down quickly. It is also important to recognize the historical liability of vector control efforts to current impairments. We also strongly believe that there are adequate existing monitoring efforts and additional efforts will be duplicative and have limited usefulness.

• **Watershed Assessment Plan** (page 94). Again, whether the requirements outlined are existing or additional under each of the mentioned plans is extremely unclear before they can be fully contemplated.

• **Gross Underestimate of Cost** (page 102). Depending on the clarification of the various Plan requirements, the actual cost will likely be much higher. The likelihood of securing a 319(h) planning grant is quite low, few grants favor "planning' grants (versus implementation), and the grants are very cumbersome to apply for and administer.

Action: The inadequacies of the Technical Project Report must be addressed.
Staff Response: Staff acknowledges Ms. Wineman's concern that organophosphate application information from 2008 in the Technical Project Report may not represent current use patterns. Staff added a table of more current application information for chlorpyrifos in the TMDL Technical Report (page 32, table 4-5 of the technical report). As noted by Ms. Wineman, chlorpyrifos use for key applications to protect water quality has reduced significantly since adoption of the Ag Order tiered monitoring requirements. It

appears from the use reporting analysis that discontinuing the use of chlorpyrifos is a significant means of compliance with the Ag Order.

Pesticide management plan: Staff removed the implementation of a Pesticide Management Plan from the TMDL Technical Report and recommended additional pesticide planning and management practices that could be incorporated in existing Farm Plans.

Organochlorine Implementation Plan: The full contribution of historic vector control measures on the current level of organochlorines in aquatic habitats is unknown, and staff recommends additional monitoring and analysis of historic sediments.

Watershed pesticide plan: The watershed pesticide plan is a new recommendation for assessing and reporting progress towards achieving the TMDL goals.

Cost Estimate: Staff recognizes the concerns of Ms. Wineman regarding the costs of implementing the organochlorine pesticide TMDL and difficulties with obtaining grant funds. With the approval of the TMDL, projects in the watershed should be more competitive in obtaining federal Clean Water Act 319(h) grant fund for implementing the TMDL.

1.5 Ms. Claire Wineman, President, Grower Shipper Association

Narrative versus Numeric Targets

Waterbody chemistry and ecology strongly influence the impact of toxicity and pesticides. The impact of pesticide concentrations is much more complex than just the concentration. As stated in the Technical Project Report (page 22), other factors such as temperature impact toxicity, particularly for pyrethroids, but was disregarded due to the complexity of the relationship. Given the complexity of this system and highly localized conditions, the Association does not support the adoption of quantitative numeric targets for this TMDL.

Action: The Association recommends maintaining the qualitative nature of the toxicity and pesticide targets for the Basin Plan, rather than adopting quantitative targets that are difficult to assess and unlikely to represent the true nature of impacts to surface water.

Staff Response: Staff concurs with Ms. Wineman on the importance of toxicity testing, and toxicity testing is included in the TMDL. Staff incorporated toxicity testing in the targets and allocations. The TMDL also includes numeric concentration TMDLs. Numeric concentrations address impairments for specific pesticides detected in exceedance of water quality criteria.

1.6 Ms. Claire Wineman, President, Grower Shipper Association

Load or Concentration-Based TMDL

The Association strongly supports the use of a load-based TMDL rather than a concentration-based TMDL. A concentration-based TMDL does not create an incentive to reduce total loading, which will have negative water quality impacts. If a concentration-based TMDL is adopted then farmers will actually have an incentive to increase irrigation discharges to

decrease the concentration of toxicity and pesticides in waters. A concentration-based TMDL will not capture progress that has been and will continue to be made towards meeting water quality targets.

Action: The Association recommends utilizing a total load-based TMDL and evaluation of progress.

Staff Response: Ms. Wineman suggests that growers would increase irrigation runoff to meet concentration-based allocations. This type of management would likely not be effective in meeting targets since it would only increase the movement of sediment and sediment-bound pesticides into surface waters. Ms. Wineman also suggests that with a concentration based TMDL, progress cannot be shown towards achieving water quality targets, but dischargers could show progress by documenting reductions in concentrations at receiving water monitoring sites. Staff acknowledges that in drainages with flows from predominately agriculture tailwater, growers may reduce flows and loading to receiving water, while not achieving the concentration targets. But ultimately offsite discharges to surface waters should not be toxic.

1.7 Ms. Claire Wineman, President, Grower Shipper Association

TMDL Adoption Process

The Association advocates for adopting TMDLs that do not involve Basin Plan Amendments. The Association had a very productive and positive experience working with Water Board Staff on the TMDLs for Chlorpyrifos in San Antonio Creek and Nitrate in Los Berros Creek.

Action: The Association encourages the Water Board to adopt the revised TMDLs without a Basin Plan Amendment.

Staff Response: The Water Board develops TMDLs that do not require Basin Plan amendments when appropriate but this TMDL does not meet the necessary conditions and a Basin Plan amendment is necessary. The TMDLs for chlorpyrifos in San Antonio Creek and nitrate in Los Berros Creek did not require Basin Plan amendments because they were adopted via resolutions. This is possible when:

> ***According to the Water Quality Control Policy for Addressing Impaired Waters (State Water Board Resolution 2005-0050), "[i]f the solution to an impairment can be implemented with a single vote of the regional board, it may be implemented by that vote. When an implementation plan can be adopted in a single regulatory action, such as a permit, a waiver, or an enforcement order, there is no legal requirement to first adopt the plan through a Basin Plan amendment" (p. 5).***

A Basin Plan amendment in this case is required because the proposed TMDL implementation plan requires more than one action (e.g., compliance with NPDES storm water permits and the Agricultural Order).

1.8 Ms. Claire Wineman, President, Grower Shipper Association

Potentially Significant Impact

In addition to the inadequacy of the "Reasonably Foreseeable Methods of Compliance," the Association contests the CEQA "Substitute Document's" assertions related to the statement of overriding considerations.

- **II. Agriculture Resources.** The Association believes that the unachievable targets set by the TMDL and subsequent escalation of the Ag Order's regulatory requirements will very likely result in potentially significant impacts on Agricultural Resources and lead to conversion of farmland to non-agricultural use (Part 3, II a and c, pages 6, 7, 16, 17).

- **IV. Biological Resources.** The impact on biological resources is potentially significant (Part 3, IV a and c, pages 6, 19-23). Species may be impacted as irrigation and stormwater flow patterns change, along with impacts of toxicity and pesticides. Additionally, the discussion related to the California red-legged frog is contradictory in that it says that populations are sustained by groundwater but stakeholders would need to develop a mitigation and monitoring plan to support the populations by assuring suitable flow.
- **VI. Geology and Soils**. The Association is also concerned that the adoption of a concentration-based TMDL could create a potentially significant impact on Geology and Soils, resulting in substantial soil erosion or loss of topsoil (Part 3, VI Geology and Soils, b, pages 8, 9, 26), due to increased irrigation runoff and subsequent erosion to reduce concentrations in irrigation discharge. Additionally, impact of the mitigation measures and impact of legacy organochlorine remediation activities are unclear.
- **VII. Greehouse Gas Emissions** (Part 3, VII a, pages 9, 27) and **XVI. Transportation/Traffic** (Part 3, XVI a, pages 13, 35) may be impacted as farmers must apply less effective pesticides more frequently, which increases total emissions of compounds such as carbon dioxide, ROCs, and NOx. Additionally, local farmers may discontinue production due to unachievable water quality requirements, resulting in fresh produce being imported from foreign countries and higher emissions.
- **IX. Hydrology and Water Quality.** The project may substantially alter drainage patterns, particularly related to organochlorine mitigation, but the extent of this impact will depend on feasible methods of compliance.
- **XVIII. Mandatory Findings of Significance.** The "Substitute Document" failed to indicate the potentially significant impact associated with a) impacts on environment, b) cumulative impacts, and c) adverse effects on human beings. The proposed numeric targets could create a potentially significant impact on the fish and wildlife habitat, degrade the environment through aquatic soil disruption, including potential organochlorine mitigation, and impact endangered or threatened species such as the red-legged frog through decreased flows. Furthermore, decreased use of the products listed in the TMDL may result in increased applications of less effective products, which may have a cumulative impact on pesticide applicators and create a "cocktail" effect in the environment. The unachievable water quality targets established by the TMDL and ensuing escalation of Ag Order requirements also create strong disincentives to continue to grow fresh produce. The loss of locally produced fresh produce and potential for compromised food safety would negatively impact current and future human welfare.

Action: The Water Board must review the listed potentially significant impacts that were overlooked in the CEQA "Substitute Document" and adequately address them in a revised Preferred Alternative and TMDL.

Staff Response: Staff reviewed the CEQA comments provided by Ms. Wineman. Some of her comments are equivalent to comments provided by the City of Santa Maria that are addressed below in the following sections:

- ***3.3 Water Resources***
- ***3.4 Agriculture***
- ***3.6 Biological Resources***
- ***3.7 Greenhouse Gases***

Some of Ms. Wineman's CEQA comments were not addressed below and are addressed as follows. Ms. Wineman's comments on the Geology and Soils CEQA section that the TMDL would result in soil erosion or loss of topsoil due to increased irrigation for operations to dilute pesticide concentrations in runoff. This scenario seems unlikely and would not result in achieving allocations, since many of the pesticides (chlorpyrifos, pyrethroids and DDTs) sorb to soil particles and increases in water flow would not change the pesticide concentrations in the soil and in sediment.

Staff acknowledges Ms. Wineman's general comments on the Mandatory Findings of Significance. In regards to a) impacts on the environment, impacts are addressed in the SED under the Biological Resources sections and below under comment 3.6 Biological Resource by the City of Santa Maria. b) Cumulative impacts are addressed below under comment 3.12 Cumulative Impacts from the City. c) Impacts to Human Health, Ms. Wineman asserts that the TMDL will create a strong disincentive to grow fresh produce and result in a loss of fresh local produce along with compromised food safety. Ms. Wineman provides no evidence to support her conclusions. In addition staff addresses comments on the loss of agricultural production under comment 3.4.

1.9 Ms. Claire Wineman, President, Grower Shipper Association

We urge you to take these concerns into account before moving forward with the TMDL or Basin Plan Amendment. As always, we are willing to continue to work with the Water Board to addresses these concerns. Thank you for your attention to this matter. We remain a very interested party.

#2 Ms. Kay Mercer, President, KMI

2.1 Ms. Kay Mercer, President, KMI

SUMMARY OF KEY CONCERNS

1. <u>Confusion about Staff's additional implementation activities that exceed requirements in the Agricultural Regulatory Program</u>

In July 14, 2011 TMDL Update Report, Chris Rose asserted "The Irrigation Agriculture Program implements TMDLs through implementation of the Ag Order." According to the Central Coast RWQCB Staff June 14, 2012 Santa Maria pesticide TMDL presentation, The TMDL is an

"informational tool" to assist the State in creating its plan to implement its water quality standards (U.S. Solicitor General).“TMDLs are not regulations, and they are not self-executing.” (USEPA Office of General Counsel & U.S. Assistant Attorney General). “(P)ermits implementing the TMDL provide the vehicles for enforcement. The TMDL does not.”(Calif. SWRCB Office of Chief Counsel, 2002). TMDL [regulatory] requirements [are] made through: Permits, Waste Discharge Requirements , Waiver of Waste Discharger Requirements, Prohibitions/conditional prohibitions, and other regulatory tools.” According to “A Process for addressing Impaired Waters in California”(2005), “A TMDL is adopted with the regulatory action that implements it”…Regardless of the technical track each project follows, the early planning of implementation options is essential. The early implementation [will occur] through the identification of existing regulatory controls…which establishes the RWQCB’s authority to enforce…”

It is very clear from above that a TMDL program’s regulatory authority hinges upon a variety of permitting tools. What is not clear is where the authority is derived when the TMDL demands implementation in excess of the permit that is granting authority. Staff states that the Ag Waiver must comply with all TMDL requirements. But, doesn’t this become circular and actually invest the authority then in the TMDL itself? Is the TMDL language actually appropriate?

It would be helpful is the Water Board could seek clarification on whether a TMDL can mandate implementation requirements over and above the permits upon which it derives its authority.

Staff Response: TMDLs cannot on their own mandate implementation requirements. TMDLs are implemented through other point and nonpoint source programs, and the TMDL implementation plan identifies programs that control or should control pollution (State Board 2005).

2.2 Ms. Kay Mercer, President, KMI

2. Inadequate analysis of sources This is further discussed below.

Staff Response: Discussed below under Comment 2.5.

2.3 Ms. Kay Mercer, President, KMI

3. An Implementation plan that is lacking in the level of detail necessary for actual implementation SWRCB states (on their TMDL web-site) “At this point in time, the concerns over implementation have become a significant driving force in TMDL development….Failing to consider implementation options can easily lead to allocation schemes that are far more costly than necessary or, in the worst case, unachievable.” Some of the implementation deficiencies that could compromise TMDL success are discussed below.

Staff Response: Discussed below under comment 2.5.

2.4 Ms. Kay Mercer, President, KMI

4. The development of the TMDL plan completely ignores the lack of technical staff and resources available to assist growers and trade associations in the Santa Maria Valley. This has been a recurring theme over the past five years. However, this is real. Fro example, I am currently assisting a Tier 3 grower write a SAP/QAPP. This is a progressive grower who has hired a reputable laboratory. This laboratory is unable to find local sampling crews to take on-

farm water samples. Consequently, the current annual costs estimates for are $23,000 for a grower to do 6 sampling events of 5-10 samples per event. Additionally, we have had difficulty finding local, trustworthy, qualified watershed professionals in the Santa Maria area. I am currently interviewing consultants out of the San Francisco Bay area for Santa Barbara growers. There are not sufficient qualified Certified Crop Advisors. There are not sufficient consultants to write plans.

Staff Response: Staff acknowledges Ms. Mercer's concerns about the cost of monitoring. However, the site-specific agricultural monitoring and reporting are conditions of the Agricultural Order and are not a components of the TMDL, which addresses broader ambient monitoring goals. The Ag Order requires Tier 3 individual site toxicity monitoring for operations that apply chlorpyrifos or diazinon. The analytical costs were estimated in the range of $4,100 and $4,600 per site sampled for smaller Tier 3 operations and between $8,200 and $9,300 per site sampled for larger operations. Staff amended the TMDL technical report to include these costs.

2.5 Ms. Kay Mercer, President, KMI

This TMDL has an Insufficient economic analysis for the agricultural component of the implementation plan. According to "A Process for Addressing Impaired Waters in California" (2005) there are three specific triggers for RWQCB consideration of economics or costs.

- The RWQCBs must estimate costs and identify potential financing sources in the Basin Plan before implementing any agriculture water quality control program
- The RWQCB must consider economics in establishing WQOs that ensure the reasonable protection of beneficial uses
- The RWQCBs must comply with the …(CEQA)…when they amend their Basin Plans. CEQA requires that the RWQCBs analyze the reasonably foreseeable methods of compliance with the proposed performance standards and treatment requirements. The analysis must include economic factors.

This TMDL hits upon two of these triggers as it addresses agricultural water quality control programs and proposes compliance with standards and treatment requirements.

The economic analysis should have, at the very least, referenced costs estimates associated with the Ag Regulatory Program. Additionally, it should have addressed specific the implementation requirements that are over and above the Ag Order. Additionally, an economic analysis should have included staff time and expense to participate in community based groups (growers pay for Staff time through membership fees), growers' time, expense and proposed fee structure to participate in watershed groups, grower time and expense to expand their Farm Water Quality Plans to incorporate additional pesticide planning requirements, Oso Flaco growers' investment in consultants to monitoring, document and track malathion in the Oso Flaco watershed, growers' time and expense to measure practice effectiveness of sediment management practices, and additional CMP monitoring expenses which the entire Central Coast grower community will absorb.

Staff Response: As Ms. Mercer notes, the TMDL must consider costs and funding sources because it is implementing an agricultural water quality control plan, and the costs of implementation are discussed in the TMDL Technical Report. The goal of CEQA is to determine whether a project will have a significant effect on the environment, and the economic analysis is limited as described in the following:

A significant effect on the environment is defined in regulation as:

> "*a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.* ***A social or economic change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant*** **(14 CCR section 15382)."**

As per these regulations staff, did not consider economic change by itself but did in determining if a physical change was significant.

As per comment, staff added a reference to the Ag Order economic analysis in the TMDL Technical Report. Staff considered the additional cost of malathion monitoring and reporting recommended in the TMDL and did not consider them to be of significant economic consequence to warrant discussion in the TMDL Technical Report.

2.6 Ms. Kay Mercer, President, KMI

6. Staff dismissed the impact of this TMDL to individual growers in the Santa Mara Watersheds. In the CEQA analysis, Staff states that economic impacts are not significant: and then goes on to say "There are small growers in the Santa Maria Valley that specialize in broccoli production. These operations could face economic hardship due to crop loss [from the discontinuation of the use of chlorpyrifos] and it may not be profitable for them to remain in operation." Staff continues that other growers could take over the land and grow something else like lettuce or strawberries (paraphrased). It is obvious that RWQCB Staff does not fully understand the important inter-relationships between crops. It is true that some broccoli growers in the Santa Maria area do not rotate crops. However, few lettuce and strawberry grower fail to have broccoli in their crop rotation. Lettuce and strawberries perform best when they are grown in a rotation with broccoli. The TMDL forces Staff to ignores the bigger water quality picture that would balance the benefits of growing broccoli with water quality benefits. Broccoli is a wonder crop: recent data indicate that it scavenges more nitrogen from the environment than what is added from external inputs (i.e. fertilizer, irrigation water nitrate concentrations, compost) and it contains naturally occurring pesticides which suppress pathogenic, disease and insect populations.

Staff Response: Staff did not dismiss the economic impacts of this TMDL to small individual broccoli growers in the Santa Maria watershed. Staff discusses these impacts in the Agricultural Resource section of the CEQA document. As noted in comment 2.5, economic factors are not considered by themselves but may be considered in determining whether a physical change is significant. The physical change analyzed in this CEQA section is the conversion of farmland to non-agricultural uses. Staff is very

familiar with the small broccoli farms in the Santa Maria Watershed, having met with several of their owners and operators. These farms are located in very productive agricultural areas with very productive soils and neighbor highly productive farms. If broccoli could not be grown profitably on the land, other valuable crops could be grown on the land and the land would not be converted from farmland to non-agriclutural use. However, staff acknowledges the concerns Ms. Mercer raises regarding the economic vulnerability of small broccoli growers in the Santa Maria Watershed. Staff provided additional discussion on them in the Agriculture Resource evaluation in the CEQA SED, and staff concluded that they could be at economic risk from regulations on chlorpyrifos and diazinon.

Staff is working with the Department of Pesticide Regulation, the county agriculture commissioners, and researchers on mitigation measures to address water quality problems associated with the use of chlorpyrifos on cole crops, alternatives to chlorpyrifos, and reduced risk approaches to manage broccoli soil maggot pests associated with chlorpyrifos use.

2.7 Ms. Kay Mercer, President, KMI

DETAILED COMMENTS ON THE TMDL

303(d) Listing Criteria, Additional Impairments and Listing Policy

Page 9 – 10 of the Technical Project Report provides guidance form the Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List discusses the listing process. But, it fails to acknowledge that the listing process is a constantly evolving process. For example, Table 2.2 sets forth the measured exceedances needed to place a water segment on the section 303(d) list. That may be today's listing criteria, but has not always been.

For example, in 2006, 2006, I wrote a comment letter expressing concern with the lack of sufficient data used for listing purposes. "…The Coalition is concerned with the limited number of samples (taken over a short period of time) that are being utilized to justify proposed listings in certain waterbodies…this is of particular concern in San Luis Obispo and Santa Barbara Counties where rainfall, and subsequent flows, vary dramatically from year-to-year…listing fact sheets state that 'samples should be available from two or more seasons or from two or more events when effects or water quality objectives exceedances would be expected to be clearly manifested…[When] sampling in ephemeral water…timing of the sampling should include the critical season for the pollutant and applicable water quality standard…the water quality fact sheet should describe the significance of the sample timing.' The intent of this section appears to be that there should be sufficient data taken over a period of time to scientifically establish the probability that water are impaired". This is a minor point, but is included to illustrate that listings have not always been made with strong evidence or scientific basis.

Staff Response: Ms. Mercer's point regarding the number of samples for listing a water body is noted. As part of the TMDL development, staff evaluated the listings of impaired waters addressed in the TMDL and determined based on the listing policy that the number of samples and exceedances were sufficient (State Board, 2004).

2.8 Ms. Kay Mercer, President, KMI

Listed Impairments
Page 10 of the Technical Project Report acknowledges that some of the pesticides addressed in the TMDL, specifically pyrethroids and malathion, were not listed as being a source of impairment on the 2008-2010 303(d) list. It is true that constituents do not have to be listed to have a TMDL. However, inserting a non-listed constituent into a protracted process, such as the Santa Maria pesticide TMDL, creates an appearance of arbitrariness and regulatory creep.

Staff Response: The goal of including the additional pollutants is to comprehensively evaluate the toxicity and pesticide problems in the watershed in the TMDL and to avoid the need for another pesticide TMDL in the near future to address impairments from pyrethroids and malathion impairments. Moreover, monitoring data indicates a connection between water and sediment toxicity and malathion and pyrethroid detections respectively (Phillips, 2010).

2.9 Ms. Kay Mercer, President, KMI

Health effects of Legacy Organochlorine pesticides OC Pesticides Significant Health Effects
Page 11. Staff states that there are health risks associated with consumption of legacy pesticides in fish, yet, fail to state what those risks are in the technical report. Since, the bioaccumulation concern and health risks concerns are triggering a regulatory response, then, there should be some level of explanation of associated health risks.

Staff Response: Summarizing the public health risks associated with organochlorine pesticides is complicated and outside the expertise of staff. Staff provided references to in the TMDL Technical Report to public health documents that summarize the health risks. The California Office of Environmental Health Hazard Assessment recently posted a fish advisory for eating fish from Oso Flaco Lake due to DDTs. The advisory provides a discussion on the health risks and benefits from consuming fish from the lake. Here is a link to the posting. http://oehha.ca.gov/fish/so_cal/osoflaco.html

2.10 Ms. Kay Mercer, President, KMI

Organophosphate Pesticide Numeric Targets – Addressing the Additive Toxicity of Organophosphate pesticides Page 21- 22. The Organophosphate class of pesticides is known for its additive effects on target and non-target species. The additive nature varies between species and can be influenced by dose, exposure, stress and influences of other toxins. While the concept of additive toxicity has merit, the formula presented is too simplistic and may unrealistically portray the a risk.

Staff Response: Mixtures of pesticides were frequently detected in the watershed at monitoring sites with impairment and pose a risk to aquatic health. The additivity effects of pesticides with the same class is documented and discussed in the TMDL Technical Report. The formula, while simple provides a useful gage of toxicity particularly when used in conjunction with toxicity monitoring. Staff acknowledges Ms. Mercer's concern about the formula presented in the TMDL, and staff revised it to be specific to each class of pesticide.

2.11 Ms. Kay Mercer, President, KMI

Pyrethroid Pesticide Numeric Targets. Synthetic Pyrethroid Water Column Numeric Targets. Page 22. Staff concedes that various organisms have various sensitivities to environmental factors (i.e. temperature), yet fail to consider these sensitivities when crafting numeric targets. Consequently, the proposed targets may inaccurately reflect risk, as they do not take into account factors that may mitigate or exacerbate a dose or exposure response.

Staff Comments: The numeric targets were developed by UC Davis researchers and environmental factors were taken into consideration in the development of the pyrethroids criteria by UC Davis.

2.12 Ms. Kay Mercer, President, KMI

Aquatic Toxicity Targets Pages 23-24. I agree with the City of Santa Maria's concerns about of the Technical Project Report's treatment of aquatic toxicity. They state that the report "establishes water column and sediment toxicity targets. The toxic determination is intended to be based on a comparison of the test organism's response to the sample and a control. Staff recommends use of the Test of Significant Toxicity (TST) statistical approach to examine the results. However, the Draft Basin Plan Amendment at page 4 does not refer to the TST approach and on page 11 discusses compliance with waste load allocations in terms of attaining "zero toxicity". The inconsistencies between the Technical Project Report, which does not require "zero toxicity" and the Draft Basin Plan Amendment, which speaks in terms of "zero toxicity" must be resolved."

Staff Response: Staff acknowledges the comments by Ms. Mercer regarding inconsistencies in the description of the aquatic toxicity targets in the TMDL technical report and the Basin Plan amendment. Staff revised the documents and eliminated the term "zero toxicity" from the Basin Plan amendment document and provided consistent description of the statistic approach to evaluating toxicity.

2.13 Ms. Kay Mercer, President, KMI

Sources Analysis and Implementation Plans.
The RWQCB Technical Reports fails to mention that chlorpyrifos and diazinon listings on the 303(d) list were based upon studies that were generated when both chlorpyrifos and diazinon were registered for urban uses. Since urban uses were discontinued, additional studies have demonstrated toxicity was likely associated with agricultural uses.

Staff Response: Ms. Mercer's states that the TMDL Technical Report fails to mention that chlorpyrifos and diazinon listings on the 303(d) list were based upon studies that were generated when both chlorpyrifos and diazinon were registered for urban uses. It was noted in the TMDL Technical Report, that EPA stopped residential uses of chlorpyrifos and diazinon in 2000 (Section 2.4) and the earliest monitoring data used for the 303(d) list was from 2002 for chlorpyrifos and for diazinon it was in 2006 (Table 2.4). Staff concurs with Ms. Mercer's assertion that since urban uses of chlorpyrifos and diazinon were discontinued, the likely sources of toxicity are agricultural uses.

It should be noted there are uncertainties surrounding the half-lives and toxicity of chlorpyrifos residues, which have complicated the adoption of effective management practices. It is difficult to manage a pesticide if the mechanism for entry into the environment is not known. Is

chlorpyrifos moving: in the water column, attached to sediment, through aerial deposition, or through a combination of these mechanisms? Staff's assertion (in the CEQA Analysis) that growers can use products such as an enzyme to manage the product is rather facile in light of these uncertainties and when the organophosphate enzymes are not commercially available in California. Halting the use of the product, unfortunately, has been the only viable practice to protect water quality. Cessation is a very unproductive and expensive practice from an operational perspective as there are no alternative pest management tools available to control cabbage maggot and late season crop loss appears to be increasing each year. EPA, DPR, and RWQCBs were aware there were no replacement products when they initiated regulatory processes to restrict the use of the product; but no attempts were made to accelerate research to find a replacement product.

Staff Response: Ms. Mercer expresses uncertainties regarding the transport of chlorpyrifos from farm fields to surface waters. A detailed fate and transport analysis is generally beyond the scope of TMDL analysis. However, in the chlorpyrifos source analysis, staff determined that nearly all applications of chlorpyrifos were granular soil applications to cole crops. This would limit the potential for aerial deposition that may occur from spray drift to be a mechanism for transport. However, Dow AgroSciences in its reevaluation report to submitted to DPR noted that spilled granules were observed following applications, which could be blown into adjacent surface waters (Dow AgroScience, 2009). They also found that irrigation runoff could carry spilled granules and chlorpyrifos-bound sediment into surface waters.

It should be pointed out that organophosphate and pyrethroid use data presented here are from 2008 and do not reveal current declining use trends. The use of single year of data and older data does not tell us much about pesticide use trends. Uses can change dramatically from year to year as pest infestations shift, crop mix changes, or there are changes in pest management tools. This report does not show that, as a result of the Tier 3 requirements in the Regulatory Ag Program, chlorpyrifos and diazinon uses have virtually disappeared. This TMDL's onerous implementation plan's requirement for pesticide planning of all pesticides is overkill. It is non-productive and expensive for chlorpyrifos and diazinon in light of current use trends. I would like to encourage that ancillary pesticide planning be limited to pyrethroids and malathion and that the proposed implementation be scaled substantially.

Staff Response: Staff notes Ms. Mercer's comment that chlorpyrifos use data in the report was from 2008 and that use trends were changing based on Tier 3 requirements in the Ag Order. Subsequently, staff added a table in the TMDL Technical Report that summarizes chlorpyrifos applications to broccoli from 2006 to 2012 (Table 4-5). The summary indicates that chlorpyrifos use was steadily declining from 2006 to 2011 and then dropped dramatically in 2012. The dramatic drop in use could be a response to the Ag Order Tier 3 requirements.

Ms. Mercer recommends that staff reduce the implementation requirements of the TMDL, and staff reduced the implementation plan to more moderate recommendations.

I have concerns that sediment borne pesticides have not been sufficiently characterized to assign sources. In particular, the legacy pesticide characterization should include a temporal analysis. Without knowing WHEN sediments were deposited, it is difficult to ascertain what

practices would be beneficial. For example, hypothetically, if a study indicates that sediments containing legacy pesticides are 50 years old, what benefit is there for growers to take steps to eliminate legacy pesticide borne sediments. Likewise, it is my understanding that pyrethroid sources may be "fingerprinted" based upon a broad chemical analysis of pyrethroids that are solely used for urban uses and solely used for Ag. However, Staff did not present this type of data; and therefore, the ability to streamline and focus the implementation has been lost. I would encourage the Water Board to require staff to conduct a sediment-aging analysis and more extensive water column and sediment pyrethroid chemical analyses throughout the watershed. I would further encourage the Water Board to delay adopting this TMDL pending the final results of sediment analyses. Or, if the Water Board is compelled to adopt this TMDL, then, at the very least, direct staff to do further investigations and insert a reopener trigger in the TMDL that allows the implementation plan to be revisited after more sophisticated data characterization has been conducted.

Staff Response: Comments noted.

Over the past few years, I have had numerous communications with staff concerning why the Santa Maria watershed has had such high DDT fish tissue test results. These data are perplexing considering this is a small geographical area and the fact that product use was not unique in this area. Why are these results not duplicated in the Salinas Valley or on the Oxnard Plain? There are unexplained anomalies in this watershed. In 2008, I recommended that staff: 1) check archived RWQCB groundwater and soil investigations of pesticide dealership locations that are no longer in operation as some of those might have manufactures or repackaged organ chlorine pesticides, 2) compare county crop reports and USDA archived pesticide labels (from the time period in which chlorinated hydrocarbons were used) in order to determine if the crops grown coincided with labeled uses as compared to current sediment loads analyses, 3) confirm that no refineries in the Santa Maria area produced chlorinated hydrocarbons (aka organ chlorine pesticides) 4) Confirm that the manufacturing facility in Nipomo did not produce chlorinated hydrocarbons, Do a literature search regarding the aerial deposition of dry formulations of chlorinated hydrocarbons to determine if dry formulations being landfilled at the Castalia landfill could not possibly be aerially deposited throughout the Valley and 7) investigate the possibility of ocean and land waste disposal that could be contributing to estuary contamination. There is no evidence that any of these recommendations were pursued.

This TMDL does not address the application of organ chlorine pesticides for mosquito abatement in county flood control ditches, estuaries, streams, wetlands and lakes and pays cursory attention to the potential source in the implementation plan. This blatant oversight calls into question the credibility of the analysis and the conclusions that landowners are the likely source of organo chlorine pesticide sediment.

Staff Response: Based in part on Ms. Mercer's communications regarding organochlorine pesticides, during TMDL development the Water Board contracted with UC Davis Granite Canyon Lab to monitor organochlorine concentrations in sediments throughout the Santa Maria Valley (Phillips et al. 2006). The results are discussed in the TMDL Technical Report and indicate that DDTs are present in sediment broadly throughout agricultural and urban drainages in the valley. No areas of high concentrations were found that might indicate proximity to high amounts of DDTs from sources mentioned by Ms. Mercer such as manufacturing facilities or landfill deposits.

Therefore additional research into possible organochlorine manufacturing, storage, or disposal facilities was deemed unnecessary and staff recommends implementation of management practices to control contaminated soils and sediments in the watershed.

Staff responded to vector control uses of organochlorine pesticides under comment 1.4.

2.14 Ms. Kay Mercer, President, KMI

Loading Capacity and Allocations Pages 69-75. I agree with the City of Santa Maria's position on of the use of concentration-based rather load- allocations for the TMDL. As noted already in this comment letter, the use of concentration-based loading is not supported and will result in unachievable requirements. The pesticides addressed in the TMDL should be addressed through general toxicity standards and not pesticide specific concentration levels. As appropriate, mass loading, rather than concentration levels, should be considered. For pesticides that bioaccumulate, averaging should be permitted. Additive toxicity standards should only apply to OP pesticides or, at a minimum; OP pesticides and pyrethroids should be separated for additive toxicity purposes. For aquatic toxicity, the Report and the Draft Basin Plan Amendment should be consistent and the phrase "zero toxicity" should not be used. For all these reasons, the City does not believe that waste load allocations 2, 3, 4 & 5 are appropriately assigned to the City.

Staff Comment: Ms. Mercer reiterates comments from the City of Santa Maria that staff addresses below in Section 4, Comments from the City of Santa Maria.

2.15 Ms. Kay Mercer, President, KMI

Implementation Plan for Currently Applied Pesticides Pages 76-87
Assignment of responsibilities The implementation does not provide sufficient direction as to who will perform implementation and monitoring tasks.

Pesticide Plans. The elements of the proposed Pesticide Management Plan are rather incredible. What can be gained by making growers reiterate water quality goals for each farm/ranch? Where will growers find the technical assistance to do a pesticide run-off risk analysis? What is the use of listing ALL pesticides, particularly when RWQCB Staff have access to that information through the DPR pesticide use-reporting database? What is the use of creating a long list of the solubility, absorption rates and persistence of ALL pesticides applied on the farm/ranch? How does a grower propose alternative management practices when he has yet to determine the effectiveness of practices implemented? How can a grower keep a current log of offsite discharges, log date, time estimate of flow and duration of flow without actually metering all discharges? Has Staff considered the expense of this requirement? What are the qualifications of growers to conduct water quality training of their in-house staff?

Staff Response: Staff acknowledges Ms. Mercer's concerns regarding the proposed Pesticide Management Plan, and staff removed it from the Implementation Plan section of the TMDL Technical Report. However, all growers enrolled in the Ag Order are required to have a farm plan with a pesticide management program for their operations,

and staff made several pesticide water quality protection recommendations for inclusion in the Farm Plans. Ms Mercer poses many specific questions regarding the need for a pesticide protection program that outlined below with staff responses.

- ***Comment: What can be gained by making growers reiterate water quality goals for each farm/ranch? – Response: This recommendation is important because the risks to water quality can vary tremendously between sites farmed by a grower even with in the same watershed. Management factors such as slope, soil, irrigation, cropping, pesticide use, and drainage can vary greatly between sites, and these factors can impact pesticide runoff risk and should be determined for each site.***
- ***Comment: Where will growers find the technical assistance to do a pesticide run-off risk analysis? – Response: Technical assistance is available from the county agricultural commissioner's office and from UC Cooperative Extension.***
- ***What is the use of listing ALL pesticides, particularly when RWQCB Staff have access to that information through the DPR pesticide use-reporting database? - Response: Staff has access to pesticide use information after it has been reported, processed, and posted by DPR, which can be a long time after a pesticide has been applied. It would be helpful for growers and staff to have more immediate information during field inspections.***
- ***What is the use of creating a long list of the solubility, absorption rates and persistence of ALL pesticides applied on the farm/ranch? – Response: These factors are key to making informed decisions about management practices to protect water quality. For example, pesticides with high adsorption rates bind to sediment and are less likely to leach to groundwater. They have the potential to move off site in runoff bound to sediment and sediment control measures would be important to implement.***
- ***How does a grower propose alternative management practices when he has yet to determine the effectiveness of practices implemented? - Response: The first step would be to evaluate effectiveness of existing management practices before a grower implements new ones.***
- ***How can a grower keep a current log of offsite discharges, log date, time estimate of flow and duration of flow without actually metering all discharges? –Response: Estimated flow should be sufficient.***
- ***Has Staff considered the expense of this requirement? – Response: Yes.***
- ***What are the qualifications of growers to conduct water quality training of their in-house staff? – Response: Growers and farm managers are likely the ones most knowledgeable about site conditions and crop production; however, additional technical assistance in understanding pesticide runoff and water quality problems may be needed.***

Pesticide labeled buffer zones. It should be noted that not all pyrethroid labels or organophosphate labels have the same buffer zones. This presents a major challenge for pesticide custom applicators as they often tank mix products in a single application. This could be a tremendous hidden cost multiple pesticide applications will have to be made or it may not be possible to control pesticides in large areas of fields.

Staff Response: Staff notes Ms. Mercer's concern; however, label requirements for buffers are an EPA requirement and not within the regulatory authority of the Water Board.

Aquatic habitats. This is language that is imposed by EPA and DPR. In the case of pesticide labels, Ag tributary roadside drainages and channels may NOT be characterized as aquatic habitats and this TMDL may be overreaching.

Staff Response: Staff disagrees with Ms. Mercer's assertion. The Water Board designates beneficial uses of water, including protection of aquatic life, in Chapter 2 of the Basin Plan. Beneficial uses of inland surface waters are presented in Table 2-1. Surface water bodies in the Santa Maria Watershed that do not have beneficial uses designated for them in Table 2-1 are all designated with protection of aquatic life. Ag tributary drainages and channels are surface waters of the state and the Water Board is required to protect aquatic life within them.

2.16 Ms. Kay Mercer, President, KMI

Monitoring

Malathion Monitoring. The TMDL is confusing as to who will be required to monitoring for Malathion in the Oso Flaco watershed. Will this be done by the Cooperative Monitoring Program or by each individual grower?

Degradates. The assertion that growers should do degradate monitoring and analysis for organophosphate insecticides is an academic exercise that should more appropriately reside within a government function. This expense is an unfunded mandate.

Community-based Watershed Approach Growers are already paying hefty fees for staff personnel for Central Coast Water Quality Preservation, Inc., for trade associations to represent grower interests on a variety of interests such as the Salt and Nutrient Basin Planning Process and the IRWMP, and possibly for a Cooperative Monitoring Program. The duplication of overhead is becoming quite burdensome. This watershed approach with additional monitoring requirements over and above the Conditional Ag Waiver is concerning. As indicated in sections above, the current analysis is very simplistic. It would seem that a public agency would have conducted some of these science-based analyses prior to promulgating a regulatory program.

Staff Comments: Staff clarified in the TMDL Technical report that cooperative monitoring at existing cooperative monitoring program sites would be adequate. Staff recommends monitoring of the malathion degradation product maloxon, because it has similar chemical properties to malathion but has a longer half-life and is more toxic than malathion. Staff acknowledges Ms. Mercer's concerns about increased cost for a community-based watershed approach on growers, and staff recommends working directly with landowners to address cost concerns, which is similar to how an organochlorine pesticide TMDL is being implemented in Ventura County.

2.17 Ms. Kay Mercer, President, KMI

Timelines and Milestones

Pages 103-104 of the Technical Project Report establish certain milestones for TMDL attainment that are unlikely to be attainable, particularly in light of the fact that the implementation plan is requiring the formation of multi-interest, unfunded watershed and implementation groups. State and federal guidelines are quite clear that appropriate timelines are one of the tools available to facilitate TMDL implementation and compliance.

Staff Comments: Comments noted.

#3 Mr. Richard E. Adam, Semi-Retired Farmer, Comment Letters dated February 20, 2013 and January24, 2013

3.1 Mr. Richard E. Adam

Comment Letter – Santa Maria Pesticide TMDL. Reference is made to my letter of January 24, 2013 (a copy of which is being attached) regarding the establishment of various TMDL'S of a number water contained elements deemed toxic by the Central Coast Regional Water Quality Control Board. It would seem appropriate that the Board would provide more explanation as to the items being tested for, the maximum values for each item, haw and when established, the method of sampling and collection (frequency, open drain ditch water well, soil) place of origin of toxic substances, and the verification and validation of the sets and sampling. Of particular interest to me is the relationship of the targeted substances to the native water supply, the origin of the water and toxic substances, the break down time lines, and other pertinent data. Collectively, these item may be referred to as the metrics and protocols.

Please provide me with a hard copy of your intentions and widely circulate the issues and widely circulate the issues and contemplated remedies in local media publication. It should be noted that local drinking water purveyors provide their customers with what I think is much the same information.

Thank you for your attention to this matter.

3.2 Mr. Richard E. Adam

I am a semi-retired farmer in the Santa Maria Valley. I have been reading with some interest the proposals to regulate agricultural activities, (primarily via water application) of drainage, pollutants, estuary degradation, fish populations and other associated factors in the Santa Maria area.

As I read these proposals I am struck with the many inconsistencies and what I think are basically flawed studies which lead to flawed conclusions. I deem the C. Camp study that leads to the conclusion that many (if not all) of the manmade drainways in Santa Maria are impaired waterways a flawed study. It is flawed in the basic elements as they are interpreted in the Santa Maria drainage area. I will take the elements one by one.

Turbidity: A nonissue with the conversion of agriculture to drip and sprinkler irrigation that keeps irrigated farm drainage on the originating property.

Temperature: Attempts to inject temperature are improper because all non-storm water is extracted from underground aquifers at a temperature on or about 65^{o} F and will over time

reach ambient air temperature. The drain ways so designated have no fish population and, in fact, are without water much of the time.

Human Contact: No human water contact has ever been promoted for these water ways because of the intermittent nature of the water, the private ownership of the area, and the liability generated by such use.

Nitrate: Farms may or may not generate excess nitrogen, but with modern farming technology, soil testing, water testing and plant tissue testing, it is currently minimal. It should be noted that the three sewer plants and associated urban areas are likely contributors to the degradation of some drainways as well as the underground aquifer.

Pesticides: Again, to the extent that they are, in fact, "impaired," the waterways of the North Blosser ditch, West Main Street ditch, Bradley ditch and the Orcutt Creek are all receivers of urban drainage plus car washes, street cleaner activities, etc. However farm applications of pesticides are now controlled by county permit and the manufacturer and universities, as well as the county agricultural offices, are quite aware of their use and associated breakdown schedules.

Edible shellfish in the Santa Maria Estuary: The Santa Maria "Estuary" is actually a fresh water lake in the same way that Oso Flaco Lake exists. No edible shellfish have been observed in the Santa Maria River Estuary and the middens that C. Camp refers to as evidence came from the west (ocean) side of the estuary. As a matter of fact, the so called estuary is not subject to the ebb and flow of tide because of the elevation difference caused by the valley impermeable clay layer under layer and the wind and tide caused sand berm at the exit to the ocean. This blockage explains the absence of a steelhead run in the Santa Maria River and, as far as I can determine not person has recorded or observed any fish (living or dead) in the 20 mile reach between the Highway 1 Bridge north of Guadalupe to the Gary Bridge near the confluence of the Cuyama River and the Sisquoc River. A likely cause is that the velocity necessary for the Santa Maria River to reach the ocean is more than the steelhead (with no resting pools) can overcome. Conversely, if the velocity decreases, the highly permeable sands in the river bed stops the flow.

Moving on: Planting of willows and buffer zones will not do much good in the Santa Maria because they tend to restrict the capacity of the drainways in large storm events and cause the waters to leave the ditch/channel and erode adjacent top soil, which then is carried with the water to the ocean where it cannot be retrieved. Willows and buffer zones also harbor pests and rodents detrimental to farm production.

It should be noted that the prized productive crop land and top soil in the Santa Maria Valley was deposited by watershed drainage as can be readily verified by soil profiles. The drain ways should be kept in such a condition that top soil is preserved.

The prominent hydrology in the Santa Maria ground water basin is that the Santa Maria River is the basic drainway and supplier to the aquifer via riverbed percolation. The underground water then migrates from east to west, (eventually at about 5,000" per year movement) and if not used, under flowing into the offshore Pacific Ocean. Since e coli and other contaminates are

diminished or eliminated when committed to the underground, the TMDL is less meaningful, especially coupled with proposed suspect sampling techniques.

High water samples = Low concentrations. Low water samples = Full percolation and dry sampling sites. Since the ultimate destination of the above sea level underground water profile in a non-over drafted basin (Santa Maria Valley) is underflow into the Pacific and the higher groundwater profile is gradually becoming more similar to the native water values through westward water movement, it would seem overkill to devote substantial energy and money to this regulatory project.

I would seem to me that science and sanity could be combined without oppressive regulation.

Staff Response: Mr. Adam provided comments on a range of water quality problems in the Santa Maria watershed, and staff responded to his comments that pertain to the Pesticide TMDL. Mr. Adam notes that toxicity and pesticide impaired surface waters receive runoff from urban sources such as car washes and that agricultural pesticide use is regulated under county permits. In the TMDL Technical Report, staff identified both urban and agricultural sources of pesticide impairments in the watershed and both groups received allocations.

#4 Mr. Richard G. Sweet, P.E., Director of Utilities, City of Santa Maria

4.1 Mr. Richard G. Sweet, P.E., Director of Utilities, City of Santa Maria

The City of Santa Maria ("Santa Maria" or "City") appreciates the opportunity to provide the Central Coast Regional Water Quality Control Board ("Regional Board") with these comments on the Total Maximum Daily Loads for Toxicity and Pesticides in the Lower Santa Maria River Watershed ("TMDL").[1] Santa Maria requests that the Regional Board revise the TMDL based on the City's comments and then make the revised TMDL available for additional public review and comment. Santa Maria opposes the adoption of the TMDL as currently drafted.

4.2 Mr. Richard G. Sweet, P.E., Director of Utilities, City of Santa Maria

1
SUMMARY OF THE CITY'S KEY CONCERNS

The City has the following three key concerns about the TMDL:

1.1 Overall Approach to the TMDL. As relevant to the City, the TMDL addresses both pesticides approved for current use (pyrethroid pesticides) and legacy pesticides that were previously approved for use (organochlorine ("OC") pesticides) under state and federal law. Santa Maria did not have the legal authority to control the use of OC pesticides when they were approved for use, and the City does not currently have the legal authority to control the use of pyrethroid pesticides. Despite the City's lack of legal authority, the TMDL establishes infeasible numeric targets that the City, on its own, cannot meet, and then requires the City to undertake the impossible effort of developing a plan to meet these infeasible numeric targets. This approach is fundamentally unfair to the City and out of step with the collaborative, multi-agency approach that has been employed by other Regional Boards and that should be followed here. Rather than establishing numeric targets that the City

lacks the legal authority to achieve, Santa Maria asks that the Regional Board revise the TMDL to reflect a collaborative, multi-agency approach that emphasizes the primary regulatory roles of both the California Department of Pesticide Regulation ("DPR") and the U.S. EPA ("EPA"). For many years, statewide organizations such as the California Stormwater Quality Association ("CASQA") have been working with the State Water Resources Control Board ("State Board"), other Regional Boards, DPR and EPA to help address pesticide-related water pollution in California's urban waters. These efforts have resulted in substantial progress and should be continued and supported. The TMDL should focus on this type of a statewide approach, and not place the City in the untenable position of meeting targets it has no legal ability to meet. Urban pesticide pollution is a statewide issue, and will not be solved on a local watershed level. The Regional Board should recognize this fact and redraft the TMDL accordingly.

Staff Response: Staff acknowledges that the City lacks the legal authority to control the use of pesticides and that it lacked the legal authority to control the use of legacy organochlorine pesticides when they were historically applied. Staff acknowledges in the TMDL Technical Report collaborative statewide efforts to control currently applied pesticides, specifically the recently adopted urban pesticide regulations adopted by DPR. Staff bases the TMDL implementation for urban and agricultural areas on a collaborative process outlined in the California Pesticide Plan for Water Quality (California Pesticide Plan). Staff acknowledges that the DPR urban pesticide regulations are an important component in achieving the TMDL.

Additionally, TMDL implementation strongly supports the use of programs and regulations by the DPR along with EPA label changes to control the use of pesticides and protect surface waters. Specifically for urban pesticide runoff the TMDL supports DPR's recently adopted surface water regulations to control use of pyrethroids.

While staff agrees with the City in supporting statewide approach, the City as a MS4 has a legal responsibility for discharges of pesticides from its stormwater system regardless if they regulate the use or not. The legal responsibility of the City for pesticide discharges in the stormwater system is described in the following excerpt of the Federal Register. Fed Reg vol 64, No 235, p. 68765-66.

"*The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts ''title'' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties. Section 122.34 requires the operator of a regulated small MS4 to control a third. party only to the extent that the MS4 collection system receives pollutants from that third party and discharges it to the waters of the United States. The operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties.*"

1.2 Numeric Targets/Waste Load Allocations. The TMDL establishes both pesticide-specific, concentration-based numeric targets and pesticide toxicity numeric targets. Particularly as applied to pyrethroids, the concentration values are extremely low and infeasible for the City, on its own, to achieve. Instead of establishing these unachievable concentration values, the Regional Board should focus the TMDL on reasonable and scientifically defensible toxicity

targets that would provide adequate protection to the uses of the water bodies covered by the TMDL.

Staff Response: Staff recognizes the concerns of the City and modified the allocations. See the staff response under the City's comment number 2.2.

1.3 Wasteload Allocation Attainment Program ("WAAP"). The TMDL requires the City to develop a WAAP that describes the actions the City will take to attain the TMDL's waste load allocations. As noted above, and as explained elsewhere in this comment letter, the City lacks the legal authority necessary to take the actions that would be required to attain the TMDL's waste load allocations. Rather than imposing this impossible burden on the City, the TMDL should establish a multi-agency approach, in which the City would be required to participate, as the appropriate means of compliance with the TMDL. It is not reasonable to require the City to develop an individual program designed to achieve the unachievable.

Staff Response: Staff supports a multi-agency approach and added a recommendation in the TMDL for the City's WAAP to include such participation. The WAAP should also indicate that the City proposes to achieve the TMDL in part via statewide regulations. While the City lacks the authority to regulate pesticide use, it does have the authority to take actions such as requiring the implementation pesticide runoff management practices through storm water programs.

4.3 Mr. Richard G. Sweet, P.E., Director of Utilities, City of Santa Maria

2
DETAILED COMMENTS ON THE TMDL

In addition to the overarching comments provided in Section 1 of this letter, the City has the following detailed comments on the TMDL:

2.1 Bradley Channel, Blosser Channel and Main Street Canal. The Bradley Channel, the Blosser Channel and the Main Street Canal were constructed in or about the 1960s in areas where no previous watercourse existed. The three channels are fully or partially lined with concrete. They are not open to the public and are not (and have not been) used for recreational purposes, including fishing. Rather than being characterized as receiving waters, they are more appropriately viewed as part of the flood control/storm water system. Nevertheless, the TMDL treats them as if they were receiving waters, and applies to them concentration based numeric requirements that cannot be achieved given currently approved pesticide use. The City requests that the Regional Board revise the TMDL and treat these three channels as part of the MS4 system, rather than as receiving waters.

Staff Response: Bradley Channel, Blosser Channel, and Main Street Canal are already on the EPA 303(d) list of impaired water bodies for toxicity and some specific pesticides. The toxicity and pesticide general objectives in the Basin Plan apply to these drainages. Therefore the water bodies must be addressed in the TMDL. In the TMDL implementation plan these channels are treated as part of the MS4 system and the City should address the impairments in the channels in its stormwater plan. In the "Determination of Compliance with Wasteload Allocation" section of the TMDL Technical

Report, staff recommends that the City meet its pesticide wasteload allocation where the MS4 system discharges to a receiving water.

2.2 Conversion of Narrative Objectives to Numeric Objectives. As noted on page 9 of the Technical Project Report, the Basin Plan does not identify numeric objectives for toxicity or the pesticides addressed in the TMDL. Instead, the Basin Plan contains general narrative objectives for toxicity and pesticides. These narrative objectives focus on the prevention of detrimental physiological responses in human, plant, animal and aquatic life and the prevention of increases in pollutants in sediments or aquatic life. To interpret these narrative water quality objectives, the Technical Project Report refers to a policy of the Central Valley Water Board. It is unclear why the Technical Project Report refers to a policy of another Water Board. More importantly, rather than interpreting the narrative objectives in a manner that focuses on the primary goal of the narrative objective (overall health of the water bodies), the Technical Project Report develops individual, pesticide-specific concentration values that are not achievable given currently approved pesticides. Rather than interpreting these narrative objectives in this restrictive way, a better approach would be to establish reasonable toxicity targets and to eliminate the concentration values for the individual pesticides.

Staff Response: The City states that the Technical Project Report refers to a policy of the Central Valley Water Board, but it does not, it refers to pyrethroid criteria that were developed by UC Davis under contract by the Central Valley Water Board. The criteria were developed and published by UC Davis in peer reviewed journals and are applicable to the surface waters on the central coast.

Staff recognizes the desire of the City to have reasonable toxicity targets that focus on the overall health of the water bodies, and staff made changes to the pyrethroids targets and allocations TMDLs in the TMDL Technical Report and the Basin Plan amendment. The changes are based on an additional analysis of pyrethroid environmental properties described in the Appendix C3, Pyrethroid Analysis of the TMDL Technical Project Report. The analysis indicates that pyrethroid pesticides have a strong affinity to soil particles and are transported to surface waters bound to sediment. In the aquatic environment they partition from sediment to water phases. Pyrethroids in water are toxic to aquatic invertebrates such as Hyalella azteca, which live in close proximity to sediment.

Since pyrethroids are transported bound to sediment, it is appropriate for allocations to be associated with concentrations in sediment and sediment toxicity. Therefore, staff eliminated the pyrethroid water concentration-based TMDLs in favor of sediment toxicity targets and an additive toxicity TMDL for pyrethroid pesticides based on pyrethroid numeric sediment LC50s.

However, staff did not eliminate the pyrethroid water concentration-based criteria developed by UC Davis as targets. Studies suggest that the freely dissolved fraction of pyrethroids is the most bioavailable and toxic to benthic invertebrates. Since the UC Davis criteria are scientifically defensible criteria with appropriately protective values, they are the most appropriate surface water targets for pyrethroids.

2.3 Listed Impairments. Page 10 of the Technical Project Report acknowledges that some of the pesticides addressed in the TMDL, specifically pyrethroids and malathion, were not listed as being a source of impairment on the 2008-2010 303(d) list. This acknowledgement underscores the importance of taking a statewide, multi-agency approach to pesticide water quality problems. Overly restrictive requirements, without a comprehensive approach, generally lead to a switch to newer pesticides that create new water quality problems. The reason why pyrethroids were not part of the 2008-2010 303(d) listing is likely because restrictive regulations in the early 2000s caused a market switch to pyrethroids and contributed to the water quality problems the TMDL now seeks to address. Instead of contributing to the problem of "substitute" pesticides by developing overly restrictive numeric targets, the Regional Board should collaborate with the various agencies and other stakeholders who are seeking to develop a statewide, comprehensive approach to this problem.

Staff Response: Staff acknowledges the City's comment and is concerned about users switching to other pesticides, and the Water Board is participating in comprehensive efforts at the state level.

2.4 Pyrethroid Pesticide Numeric Targets. Pages 22-23 of the Technical Project Report establish concentration based numeric targets for pyrethroid pesticides. These numeric targets are taken from criteria developed by the University of California, Davis for the Central Valley Water Board. The Draft Basin Plan Amendment establishes these criteria as the pyrethroid water column TMDLs for assigned water bodies, including the Bradley Channel and the Main Street Canal. The numeric targets for pyrethroids are extraordinarily low, and are not achievable given currently approved pyrethroid usage over which the City has no control. To the City's knowledge, this would be one of the first uses of such low concentration values to establish a TMDL. Given the inability of the City to restrict the use of pyrethroids, these unachievable values should not be used in the TMDL. Instead, general toxicity targets should be used to implement the narrative objectives in the Basin Plan. In addition, as noted on pages 16-17 of the Scientific Peer Review Comments and Responses, pyrethroid concentrations are affected by temperature, but Regional Board staff has concluded that it is infeasible to quantify the relationship due to insufficient data. This underscores the need to proceed with caution with the data used to develop the targets. Given the uncertainty in the data set, and the low numbers thereby produced, a better approach is to use toxicity targets and not concentration values.

Staff Response: Refer to staff response under comment 2.2.

2.5 Additive Toxicity Targets. Pages 21-22 of the Technical Project Report address the additive toxicity of diazinon and chlorpyrifos. The additive toxicity approach is based on the conclusion of a 1998 journal article (Deneer et al.) that, for mixtures of compounds acting through the same mechanism, there is no concentration below which a compound will no longer contribute to the overall toxicity of the mixture. The broad conclusions of Deneer have been questioned. In any case, page 3 of the Staff Report and page 7 of the Draft Basin Plan Amendment apply the additive toxicity formula discussed in the Technical Project Report to both organophosphate ("OP") and pyrethroid pesticides. Given the lack of discussion of additive toxicity related to pyrethroid pesticides, the Basin Plan Amendment's

additive toxicity requirements should only apply to the OP pesticides, if at all. At a minimum, the additive toxicity requirements in the Basin Plan Amendment should separate OP pesticides from pyrethroids. There is no evidence in the TMDL that would support the implication that additive toxicity results from the combination of pyrethroids and OP pesticides.

Staff Response: Staff revised the TMDL Technical Report and separated the organophosphate and pyrethroids into separate additive toxicity formulas.

2.6 Aquatic Toxicity Targets. Pages 23-24 of the Technical Project Report establish water column and sediment toxicity targets. The toxic determination is intended to be based on a comparison of the test organism's response to the sample and a control. Staff recommends use of the Test of Significant Toxicity (TST) statistical approach to examine the results. However, the Draft Basin Plan Amendment at page 4 does not refer to the TST approach and on page 11 discusses compliance with waste load allocations in terms of attaining "zero toxicity." The inconsistencies between the Technical Project Report, which does not require "zero toxicity" and the Draft Basin Plan Amendment, which speaks in terms of "zero toxicity" must be resolved.

Staff Response: Staff clarified the inconsistencies with the aquatic toxicity targets in the TMDL Technical Report and the Basin Plan amendment.

2.7 OC Pesticides Numeric Targets. Pages 24-26 of the Technical Project Report establish fish tissue numeric targets, water chemistry numeric targets and sediment chemistry numeric targets for OC pesticides. Fish tissue targets provide the most direct link to protection of human health, and should be the sole target used in the TMDL. The use of water chemistry numeric targets is not supported by the evidence presented in the TMDL and appears, at best, redundant to the fish tissue targets. The same is true with regard to the sediment numeric targets. At a minimum, the sediment targets should be expressed in terms of total loading (mass-based). For both the water column and sediment targets, the Regional Board should confirm that the numeric targets are not being set below detection limits. It is believed that the California Taxies Rule (CTR) targets are below detection limits. In addition, the Regional Board should only set the targets for DDT, not for DDD and DDE. Finally, for the waste load allocations associated with OC pesticides, an averaging period of three years should be allowed. Since OC pesticides bioaccumulate through the food chain, individual exceedences and short-term variations in concentrations are not likely to have an impact.

Staff Response: Staff agrees with the City's comment that fish tissue targets provide the most direct link to the protection of human health, but water and sediment targets provide an environmental link to watershed management. Sediment concentration targets are important to utilize in the TMDL because they can be used to monitor reductions in mass loading and to gauge the effectiveness of management practices in the watershed. Sediment concentrations may also be a more responsive indicator of changes in management than fish tissue concentrations.

As requested by the City, staff compared the organochlorine reporting and detection limits to the water and sediment targets. The CTR water targets are below detection limits and staff left them as targets but did not allocate these targets to the dischargers.

The sediment reporting limits are above the sediment targets, and the organochlorine TMDL was not changed.

The City's request to only set targets for DDT and not for DDD and DDE is not supported. DDD and DDE have similar chemical properties to DDT and pose a similar threat to the environment and human health.

Staff acknowledges and supports the City's request to use an average of three years of organochlorine monitoring data to meet load allocations and updated the allocations.

2.8 Source Analysis for Pyrethroid Pesticide Pollution. Pages 36-48 of the Technical Project Report contain a source analysis for pyrethroid pesticide pollution. This analysis should be amended to contain a discussion of the regulation of pyrethroid pesticides and the City's lack of legal authority to control the use of pyrethroids. This section should also include a discussion of DPR's recent regulations regarding professional applications of pyrethroids as well as a discussion about the increased use of pyrethroids after the use of other pesticides were banned or limited.

Staff Response: Staff previously noted on Page 80 of the Technical Project Report that the DPR has authority to regulate pesticide use and the Water Boards have the authority to regulate the discharge of pesticides to surface waters. DRP's recent regulations are discussed on Page 93 of the Technical Project Report in the "Municipal Stormwater Pesticide TMDL Implementation Plan" section. The regulations were initially discussed as draft regulations and the Technical Project Report was updated to note that the regulations were recently approved.

Staff included a discussion on the increased use of pyrethroids after the ban of the use of organophosphate pesticides, chlorpyrifos, and diazinon in urban areas in the "Pollutants Addressed" section of the Technical Project Report (page 13).

2.9 Source Analysis for OC Pesticide Pollution. Pages 49-60 of the Technical Project Report contain a source analysis for OC pesticide pollution. With regard to DDT, the Report concludes on page 56 that because it is impossible to determine which sediment contains legacy DDT, all sediments from urban and irrigated agricultural landscapes are a potential source of DDT. This is an overly broad conclusion and essentially converts the TMDL into a sediment TMDL. This overly broad conclusion is compounded on pages 59-60 of the Report, where DDT is used as a surrogate for other legacy pesticides. A more specific source analysis is required to support the TMDL's approach to OC pesticide pollution.

Staff Response: The TMDL Project Report provides planning level pollutant source analysis of organochlorine pesticides, which is sufficient to determine broadly the pollutant sources. Staff presented information in the Technical Project Report that supports that urban and agricultural soils are sources of DDT in surface water sediments. Staff supports more detailed source analysis by the City as it implements the TMDL. In addition, the California Department of Toxic Substances Control provides guidance for sampling former agricultural properties and recommends sampling former agricultural properties for organochlorine pesticides (DTSC, 2008). The recommendation is based on sampling of hundreds of sites by DTSC since 2002. It is likely that most of

the Santa Maria Valley was under agricultural production and could have soil contaminated with organochlorine pesticides.

2.10 Loading Capacity and Allocations. Pages 69-75 of the Technical Project Report establish loading capacity and allocations for the TMDL. As noted already in this comment letter, the use of concentration-based loading is not supported and will result in unachievable requirements. The pesticides addressed in the TMDL should be addressed through general toxicity standards and not pesticide specific concentration levels. As appropriate, mass loading, rather than concentration levels, should be considered. For pesticides that bioaccumulate, averaging should be permitted. Additive toxicity standards should only apply to OP pesticides or, at a minimum, OP pesticides and pyrethroids should be separated for additive toxicity purposes. For aquatic toxicity, the Report and the Draft Basin Plan Amendment should be consistent and the phrase "zero toxicity" should not be used. For all these reasons, the City does not believe that waste load allocations 2, 3, 4 & 5 are appropriately assigned to the City.

Staff Response: Staff acknowledges the City's comments on loading capacity and allocations, which were previously addressed in comments 2.2, 2.5, 2.6, & 2.7. Staff notes the City's comment on "zero toxicity" and removed the phrase.

2.11 Implementation Plan for Currently Applied Pesticides. Pages 76-87 of the Technical Project Report discuss an implementation plan for currently applied pesticides. This discussion should be revised to include a discussion of the City's lack of legal authority to control or regulate currently applied pesticides. In addition, this discussion may need to be updated to include a discussion of the new DPR regulations related to professional applications of pyrethroids. The Regional Board should also confirm that DPR and the other regulatory agencies discussed in this section are prepared to work to address these issues and use their respective regulatory authority as appropriate.

Staff Response: Staff acknowledges the City's lack of regulatory authority over pesticide use and describes on page 78 of the TMDL Technical Report DPR's authority to regulate pesticide use. Staff updated the discussion in the report to include the new DPR regulations on non-agricultural pyrethroids use. Staff confirmed with DPR and the county agricultural commissioners, their willingness to work on new regulations, such as the county chlorpyrifos permit.

2.12 OC Pesticide Implementation Plan. Pages 87-91 of the Technical Project Report discuss an implementation plan for OC pesticides. Such a watershed approach would be more likely to succeed if the Regional Board approached the TMDL on a mass loading basis rather than a concentration basis. Participation in the stakeholder group and compliance with any plan developed by the group and approved by the Regional Board should constitute compliance with the waste load allocations. Given the complexity involved, more than two years from TMDL approval will likely be required to develop a watershed based plan. A more specific analysis of the costs to implement this watershed approach and monitoring plan should be provided.

Staff Response: Staff agrees that a mass loading approach would be beneficial in reducing the mass of organochlorine pesticide attached to sediment entering sensitive receiving waters such as Oso Flaco Lake, the Santa Maria Estuary, and along the coast. Staff added the development of a watershed DDT pesticide/sediment mass loading model and mass loading allocations to the list of implementation actions in Table 6-3 of the TMDL Technical Report. A compliance section was added to the TMDL Technical Report and the Basin Plan amendment and participation and compliance with a stakeholder developed organochlorine pesticide watershed implementation plan was added as a Waste Load Allocation compliance method. Staff changed the timeline for developing a watershed plan from two to four years.

2.13 Municipal Stormwater Pesticide TMDL Implementation Plan. Pages 93-97 of the Technical Project Report discuss an implementation plan for pesticide pollution in urban storm water. This section should be revised to discuss the City's lack of legal authority to control the use of approved pesticides. It also should be updated to reflect DPR's recently adopted regulations on the application of pyrethroids. Stage 4 of the proposed implementation plan, which requires the development of a WAAP should be deleted given the City's lack of legal authority to control the pesticides in question. Rather, the implementation plan should be based upon the multi-agency approach discussed in Stages 1-3. In addition, page 11 of the Draft Basin Plan Amendment should be revised to delete the reference to the WAAP and to add timing for the development of the WAAP should be linked only to Office of Administrative Law approval, not to the storm water permit. Moreover, the exact timing for development of the WAAP should be clarified. Page 95 of the Report states that the WAAP is due within one year of OAL approval while page 99 (Table 6-5) states that it is due two years following TMDL approval. Finally, if a WAAP is required, reports related to the WAAP should be tiered off WAAP approval, not TMDL approval, to avoid having the WAAP and reports related to the WAAP due at the same time (see Table 6-5).

Staff Response: The City's responsibility to control stormwater discharge is discussed under comment 1.1 from the City and staff added a discussion on page 94 of the TMDL Technical Report describing the City's lack of authority to regulate the use of pesticide. Staff revised the report and provided a consistent WAAP due date of within one year following TMDL approval. As recommended by the City, the additional planning requirements were tiered off of the WAAP approval date.

2.14 MS4 Monitoring Requirements. Pages 97-98 contain detailed monitoring requirements. Consistent with page 11 of the Draft Basin Plan Amendment, MS4s should be able to propose monitoring programs. This will allow MS4s to prioritize monitoring and coordinate it with other MS4 monitoring. It should also be noted that sediment monitoring should not be required annually.

Staff Response: Staff revised the TMDL Technical report to include MS4 monitoring recommendations consistent with the description in the Basin Plan amendment. Staff proposes that the City monitor sediment every two years.

2.15 Bradley Channel Watershed Planning Area. Pages 100-101 of the Technical Project Report discuss an implementation plan for the Bradley Channel watershed. As noted

early in this letter, the Bradley Channel itself is best characterized as part of the MS4/flood control system, and not as a receiving water. The discussion related to River Oaks Lake is not appropriate and should be deleted. River Oaks Lake is an impoundment created approximately 35 years ago. It is best viewed as a structural BMP that helps trap sediment, including sediment with high OC levels, not as a natural lake. It does not naturally support fish and was never intended for fishing. Therefore, the statement that the "goal of this strategy is to protect the fish consumption beneficial use of the lake" is inappropriate and not supported by the facts. Rather than managing the lake to divert sediment away from the lake, and thereby into the Santa Maria River, the lake should be managed to capture sediment and thereby prevent its transport to the receiving water.

Staff Response: Based on the assertion by the City that River Oaks Lake is a BMP within the MS4 flood control system and does not support fishing, the Bradley Watershed management planning section was removed from the TMDL Technical Report.

2.16 Cost Estimate. The Technical Project Report only contains just over a page and a half of discussion of cost to implement the TMDL. The TMDL assumes that the City will merely continue to incur costs that it is already incurring under other programs to comply with the TMDL. However, as proposed, the TMDL would impose significant new requirements that would be very costly to achieve. A full analysis of these costs, including sediment monitoring, should be included.

Staff Response: Staff included an estimate of sediment toxicity and pyrethroid monitoring costs in the TMDL Technical Report under the section titled MS4 Implementation Costs (Page 109).

2.17 Determination of Compliance with Waste Load Allocations. Page 11 of the Draft Basin Plan Amendment contains a description of how waste load allocation compliance will be determined. The reference in this section to "zero toxicity" should be deleted. In addition, compliance should be based solely on activities over which the City has control. To the extent compliance with the waste load allocation depends upon the actions of other regulatory agencies, the City should not be deemed out of compliance should these other agencies fail to act.

Staff Response: The reference of "zero toxicity" as a determination of compliance on page 11 of the Basin Plan amendment was deleted.

4.4 Mr. Richard G. Sweet, P.E., Director of Utilities, City of Santa Maria

3
COMMENTS ON THE SUBSTITUTE ENVIRONMENTAL DOCUMENT AND ANALYSIS

As the Regional Board correctly acknowledges, it is exempt from certain aspects of CEQA compliance pursuant to its status as a certified regulatory program. (Pub. Res. Code,§ 21080.5, Cal. Code of Reg., tit. 14 ["State CEQA Guidelines"],§ 15251(g); Cal. Code Regs., tit. 23, § 3720 et seq.) Accordingly, it is appropriate for the Regional Board to use a substitute environmental document ("SED") instead of preparing an Environmental Impact Report

("EIR"). (San Joaquin River Exch. Contractors Water Auth. v. SWRCB (2010) 183 Cai.App.4th 1110, 1125.) However, the Regional Board must still comply with all of the specialized CEQA requirements outlined in California Code of Regulations, section 3720 et seq. and all of those aspects of CEQA outside the scope of the exemption for certified regulatory programs, including CEQA's policy goals and substantive standards. (State CEQA Guidelines, § 15250; City of Arcadia v. SWRCB (2006) 135 Cai.App.4th 1392, 1422; Env'l Protection Info. Ctr. v. Johnson (1985) 170 Cai.App.3d 604, 616; Californians for Native Salmon & Steelhead Assn. v. Dept. of Forestry (1990) 221 Cai.App.3d 1419, 1422.)

Accordingly, CEQA's basic policy goal to "[i]nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities" still applies. (State CEQA Guidelines, § 15002(a)(1).) SEDs, like EIRs, achieve this objective by, among other things, eliminating or minimizing a proposed action's significant effects by identifying reasonable alternatives and mitigation measures. In assessing the impact of a proposed project on the environment, an agency normally examines the changes in existing environmental conditions in the affected area that would occur if the proposed activity is implemented. (San Joaquin Raptor Rescue Center v. County of Merced (2007) 149 Cai.App.4th 645, 660.) In evaluating the significance of environmental effects of a project, the lead agency must consider direct and reasonably foreseeable indirect physical changes in the environment that may be caused by the project. (Pub. Res. Code, § 21065; Citizens for Responsible & Open Gov. v. City of Grand Terrace (2008) 160 Cai.App.4th 1323, 1333l

While a substitute environmental review document is exempt from some of the formatting and procedural requirements of EIRs, ultimately it must include the same types of basic environmental information that an EIR would. (Friends of Old Trees v. Dept. of Forestry & Fire Protection (1997) 52 Cai.App.4th 1383, 1393; Laupheimer v. State (1988) 200 Cai.App.3d 440, 462.) For example, the SED must still: (1) describe the proposed project; (2) disclose and analyze potentially significant adverse project- specific environmental impacts; (3) consider cumulative impacts; (4) discuss alternatives and mitigation measures that could reduce or eliminate the project's significant impacts; (5) be made available for review and comment by the public and other agencies; and (6) be justified based on specific benefits, including economic, social, or other conditions. (Pub. Res. Code, § 21080.5(d)(3); State CEQA Guidelines, § 15252(a); Sierra Club v. State Bd. of Forestry (1994) 7 Cal.4th 1215, 1229; Ebbetts Pass Forest Watch v. Dept. of Forestry & Fire Protection (2008) 43 Cal.4th 936, 943; Katzeff v. Dept. of Forestry & Fire Protection (2010) 181 Cai.App.4th 601, 608; County of Santa Cruz v. State Bd. of Forestry (1998) 64 Cai.App.4th 826, 830.) Just as for EIRs, the conclusions of substitute environmental documents must be based on scientific and other empirical evidence. (Ebbetts Pass , supra, at 957-958; Joy Rd. Area Forest & Watershed Assn. v. Dept. of Forestry & Fire Protection (2006) 142 Cai.App.4th
656, 677; Mountain Lion Coalition v. Fish & Game Com. (1989) 214 Cai.App.3d 1043,
1047.)

The TMDL appropriately acknowledges that the Regional Board must comply with CEQA when it considers the TMDL, and the Board has accordingly prepared the SED. Unfortunately, the City has several concerns with the SED's sufficiency as a CEQA document. For example, one of the problems seen throughout the SED is the fact that large portions have been cut and pasted wholesale from the Regional Board's Nutrient TMDL SED, which itself failed to comply with CEQA. The cutting and pasting of the deficient analysis from the SED for a completely

separate project illustrates the overall generic analysis in the SED, with a lack of sufficient detail, analysis, or substantial evidence supporting the SED's conclusions. There are problems with many of the specific areas of analysis, as well, including the SED's analysis of the TMDL's impacts on water resources, agricultural resources, biological resources, and land use and planning, among others as well as its analysis of cumulative impacts, mitigation measures, and alternatives.

Staff Response: Staff acknowledges the City's general comments on SED requirements and the City's concern that there are problems with specific areas of analysis in the SED and the use of analysis from the nutrient TMDL SED. Staff addresses the City's concerns below and in revisions to the SED, which is being recirculated.

The City's specific comments on the SED are set forth below:

3.1 Environmental Checklist. Pursuant to California Code of Regulations, title 23, section 3777(a)(2), a Draft SED must include a "completed Environmental Checklist," a sample of which is attached as Appendix A to Chapter 27 of Title 23 of the California Code of Regulations. While the sample checklist "may be modified as appropriate to meet the particular circumstances of a project." it further notes that "[t]he issues identified in the Environmental Checklist must be evaluated in the checklist or elsewhere in the SED." (Cal. Code Regs., tit. 23, § 3777(a)(2)) Instead of specially modifying the checklist for the proposed TMDL, the Regional Board used an outdated and superseded version. The Regional Board should note that a new version of the checklist was created in 2011, and the questions and issues unique to the operative version must be addressed and evaluated for the SED to be in full compliance with CEQA and Section 3777(a)(2).

Staff Response: Staff notes the comment by the city that staff used an outdated and superseded CEQA checklist for the TMDL. Staff compared the TMDL CEQA checklist with the 2012 CEQA guideline checklist and the questions are identical and the city's comment is unfounded. Here is a link to the 2012 guidelines.
http://ceres.ca.gov/ceqa/docs/CEQA_Handbook_2012_wo_covers.pdf

3.2 Baseline. The SED does not appear to identify what baseline is being used to measure the impacts of the Project. Because an understanding of the existing environmental baseline/current conditions is necessary to measure the impacts of a project, as well as the impacts of selecting the No Project alternative, a disclosure of the baseline being used to assess the different environmental impacts is vital. The SED is deficient as currently drafted because it fails to identify the environmental baseline/current conditions.

Staff Response: The baseline/current conditions are described in the TMDL Technical Report. Section 1, General Comments of the CEQA Substitute Environmental Document (SED) states that:

"The detailed environmental setting and authority for the proposed amendment, which incorporates Total Maximum Daily Loads and an Implementation Program for pesticides in the TMDL project area is set forth in the Project Report entitled, "Total Maximum Daily Loads for Toxicity and Pesticides in the Santa Maria Watershed in Santa Barbara, San

Luis Obispo and Ventura Counties, California." The Project Report identifies the environmental setting and need for the project."

3.3 Water Resources. The SED does recognize that the TMDL will result in some significant unavoidable impacts to water resources. However, it fails to properly come to the correct conclusion regarding the significance of all potential impacts to water resources, and its conclusion that mitigation will reduce some of the impacts to a level of less than significant is insufficiently supported and, ultimately, incorrect.

Regarding the environmental checklist's Utilities and Service Systems Impact (c) (re: construction of storm water drainage facilities), the SED notes that the project may trigger the need for "structural improvements or changes to storm water drainage systems areas in urban and residential areas." (SED at 37.) However, without disclosure of what kinds of structural improvements or changes this would likely entail, it states that, because the storm water drainage systems are already in place, "staff does not anticipate that structural changes or large-scale construction, resulting in a substantial, or potentially substantial, adverse change in the environment, will occur." (Ibid.) In violation of CEQA, this conclusory statement is not supported by analysis or substantial evidence, and it does not comport with the remainder of the document.

Staff Response: Staff anticipates based on discussion with CASQA and the City that implementation in the urban areas will rely mostly on use restriction on the pesticides implemented by DPR. There is the possibility that implementation could occur within the storm water system. Particularly since the storm water system also drains agricultural lands and it is possible that a vegetative treatment system could be installed into the stormwater system. Such a system would not require extensive grading or change in the system.

The January 2013 Staff Report notes that the City of Santa Maria's, the County of Santa Barbara's, and the City of Guadalupe's urban storm water must comply with pyrethroid pesticide TMDLs, OC Pesticide TMDLs, Additive Toxicity TMDLs, and the Aquatic Toxicity TMDL (Staff Report at 9-10). However, the only "Reasonably Foreseeable Method of Compliance" that is identified for these agencies to meet these standards is through "Low Impact Development," which is "urban development with site drainage that has a high level of infiltration to runoff due to the use of onsite pervious [surfaces], native landscaping and infiltration and water reuse systems." (SED at 5.) The identified specific potential techniques for meeting these consist of "rain barrels and cisterns, green roofs, permeable paving surfaces for driveways and patios, rain interceptor trees, soil amendments to improve infiltration, directing roof downspouts to pervious areas and retention grading and vegetated swales." (Ibid.) However, there is no analysis of how these techniques could help attain the identified TMDLs, how much incorporation of these techniques will be required to meet the TMDL requirements, or what the environmental impacts of the total amount of implementation will be. In addition, it would not be possible to only incorporate these changes into new development, since the TMDL would apply to existing systems, and if these are currently insufficient, they will likely have to be changed, which would involve actions that must be disclosed, described, and analyzed as a potential impact of the TMDL. Accordingly, the SED's conclusion that a "less than significant impact" will result is entirely unsupported, and

substantial evidence and analysis must be added in order to support this conclusion of less-than-significant impact, if indeed it can be supported.

Staff Response: The statement by the City that the only "Reasonably Foreseeable Method of Compliance" is Low Impact Development (LID) is incorrect. There are several other methods of compliance noted in the SED including: water and sediment control basin, vegetative treatment systems and reductions in pesticide use. Staff should have clarified in the SED that reductions in pesticide use would include the urban pyrethroid pesticide regulations developed by DPR, which provide a cost effective way to achieve the TMDL and would reduce pollution from existing developments. The City also has many existing sediment basins that reduce pesticide loading. The urban pyrethroid regulations are an existing regulation that was adopted statewide. It is beyond the scope of the TMDL to do an environmental analysis of an existing program.

Regarding Utilities and Service Systems Impact (d) (sufficient water supplies from existing entitlements and resources), the SED states that there will be a less than significant impact, despite the fact that some foreseeable compliance measures require use of water supplies. (SED at 37-38.) This conclusion regarding significance appears supported only if unidentified "responsible parties" "take into consideration their existing water resources" when selecting the appropriate compliance measures and if the "recommend[ation] that vegetated treatment options ... incorporate native species" is followed. (!d. at 38.) These measures that will reduce impacts that could otherwise be significant appear to be suggested mitigation measures. Accordingly, the correct conclusion of significant appears to be "less than significant with mitigation." However, CEQA requires that any mitigations measures "'will actually be implemented as a condition of development, and not merely adopted and then neglected or discarded.'" (Katzeff, supra, 181 Cai.App.4th at 613, quoting Napa Citizens for Honest Govt v. Napa County Bd. of Supervisors (2001) 91 Cai.App.4th 342, 358-359; see also Pub. Res. Code, § 21081.6(b) (all mitigation measures must be fully enforceable].) Because the "mitigation" here is merely suggested and not enforceable or mandatory, the measures do not constitute "mitigation" under CEQA, and there is no likelihood that the significant impacts will be reduced. For this reason, the impact conclusion for Utilities and Service Systems Impact (d) should be changed to "significant."

Staff Response: The Water Board has funded the implementation of several vegetative treatment systems in the Central Coast Region. Staff reviewed several of these projects and determined that the vegetation in vegetative treatment systems are supported by the water in the runoff that is being treated and should not require supplemental irrigation; therefore the impact on water supplies is insignificant (Anderson et al., 2010).

Regarding Hydrology and Water Quality Impacts (a) (water quality standards) and (f) (substantially degrade water quality), the SED notes that structural compliance methods "could cause increases in turbidity and suspended sediment loads episodically and at local-scales, which may violate Basin Plan water quality standards for turbidity and suspended (solids]." (SED at 28, 30.) However, there is no analysis or disclosure regarding how much turbidity and sediment loads could increase or support for why this would be less than significant. Merely because an action is purported to have a beneficial effect in one area (here, a purported reduction in toxicity) does not negate potential adverse effects in another area (the identified increase in sediment and turbidity). (See County Sanitation Oist. No. 2 v.

County of Kern (2005) 127 Cai.App.4th 1544, 1580.) In addition, the statement in this section that implementation of the project's programs and measures will mitigate potential water quality impacts to a level of less than significant does not make sense and appears to conflate project implementation and mitigation, two distinct concepts under CEQA. (SED at 28, 30.) This should be clarified and/or rectified.

Staff Response: Staff acknowledges the City's comment that the SED did not include and analysis of sediment loading. Sediment load analysis is beyond the program level CEQA analysis of the SED. The CEQA analysis does provides a description of structural management practices such as the construction of water and sediment control basins of vegetative treatments systems that during construction soil will be disturbed. Soils disturbed during construction poses a risk of erosion and sedimentation of surface waters. Agricultural operations enrolled under the Ag Order are required to develop a farm plan with storm water management plans. Construction activities would be mitigated by storm water management practices included in the farm plan.

Staff concurs with the City that the Hydrology and Water Quality Impacts (a) (water quality standards) and (f) (substantially degrade water quality) could have potentially significant impacts based on increased use of replacement pesticides and the SED was changed from "Less than significant with mitigation" to "Potentially significant impact." In the SED staff provides supporting evidence that the use of pesticides such as malathion and pyrethroids has increased as the use of pesticides such as diazinon and chlorpyrifos has decreased.

Regarding Hydrology and Water Quality Impacts (c) (substantially alter drainage patterns leading to erosion or siltation) and (d) (substantially alter drainage patterns leading to substantial increases in surface runoff), the conclusion for both is "less than significant impact," but both refer to the implementation of "appropriately designed mitigation measures." (SED at 29.) If mitigation is required to reduce an impact to a level of less than significant, the conclusion of significance should be changed to "less than significant with mitigation." However, because the referenced mitigation measures are not even identified, much less made enforceable or mandatory, the "mitigation" is illusory, and the conclusion as to these impacts should be identified as significant.

Staff Response: To provide clarification, the methods of compliance outlined in the SED were selected from the UC Extension Farm Plan Guide and are intended to reduce the movement of pesticide in water and eroding soil (Bianchi et.al, 2009). These practices in addition to preventing pesticide movement, slow and prevent the offsite movement of runoff and sediment from farms. Over all these practices would alter hydrology but in a way that would improve infiltration and reduce flooding and erosion and not contribute to it.

3.4 Agriculture. Contrary to the SED's conclusion of a "[l]ess than significant" impact relating to conversion of farmland, adoption and implementation of the TMDL will likely have significant impacts on agricultural resources in the region. While the SED states that the TMDL does not "require" that any agricultural lands be taken out of production (SED at 16), that is not CEQA's standard. As acknowledged (but then dismissed) in the SED, it is a reasonably foreseeable result of the Project that some agricultural operations may cease in

response to the limitations of the TMDL, as well as because of the expense of complying with the TMDL standards. The SED does not recognize this foreseeable, potentially adverse impact, and has no discussion of the potential cost of compliance or the foreseeable impacts of such. If the Project results in farmland being fallowed, which is a reasonably foreseeable result of the TMDL, that could lead to additional indirect impacts to air quality, biological resources, and geology and soils (due to loss of topsoil). (See, e.g., Westlands Water Dist. v. U.S. (E.D. Cal. 1994) 1994 U.S.Dist.LEXIS 6260, *7-8 [increased land fallowing has attendant increases in fugitive dust emissions]; Brian E. Gray, The Market and the Community: Lessons from California's Drought Water Bank (2008) 14 Hastings W.-N.W. J. Env. L. & Pol'y 41, 87 [fallowing land reduces food and nesting habitat for wildlife]; Westlands Water Dist. v. United States (E.D. Cal. 1994) 1994 U.S.Dist.LEXIS 6276, *52 [finding lack of water for farmland could result in soil erosion and depletion of quality soil]; Sharratt et al., Loss of Soil and PM10 from Agricultural Fields Associated With High Winds on the Columbia Plateau (2006) 32 Earth Surf. Process, Landforms, 621-630 [fallowing leads to increased levels of soil erosion]; Soil Erosion: A Food and Environmental Threat (2006) 8 Environment, Development and Sustainability 119-137, 124 (2006) [leaving cropland unplanted exposes soil to erosion; soil erosion in the United States costs billions of dollars in loss of productivity].) Increased fallowing can also result in aesthetic impacts relating to the degradation of the visual character of the land if it is converted from verdant farmland to weed-choked, barren fields, belying the SED's conclusion of "no impact" at all in this area. (SED at 15.) The SED should be revised to recognize and analyze these potential direct and indirect impacts.

The SED notes that growers and agricultural specialists have alerted the Regional Board that regulatory burdens relating to existing limitations this TMDL is supposed to address have already "resulted in loss of agricultural production particularly to broccoli crops," with one grower reporting crop losses of over 20% and a need to keep ground out of production to meet the existing thresholds. (SED at 16.) The SED notes that "[t]here may be more crop loss from discontinued use of chlorpyrifos and diazinon." (Ibid.) Despite this acknowledgement, the SED claims that discontinuation of farming "would likely not change [the land] from prime agricultural land use," because "some growers will be capable of absorbing some crop loss" (how many?) and "[n]ew mitigation measures could be developed for controlling pests" (what kind?), statements that are entirely conclusory and that are not supported by substantial evidence. (Ibid.) The SED also notes that broccoli growers will face economic hardship due to crop loss, but concludes that these growers will merely switch to strawberries or lettuce, without any analysis of the feasibility or the environmental impacts of this change. (!d. at 16-17.) It also states that pesticides can continue to be used if treatment enzymes are used or irrigation measures are changed to eliminate irrigation run-off, but there is no analysis of the feasibility or efficacy of these measures. (/d. at 17.) There is simply no substantial evidence supporting any of the conclusory statements in this section (and many of the other sections in the SED). It is important that the SED recognize that, if up to 20% of cropland has already been lost by one grower, the proposed TMDL would cause even greater losses, because farmers are clearly already suffering under current restrictions. The mention of unidentified, currently non-existent mitigation measures that "could be developed" in the future is mere wishful thinking and certainly does not meet the standard for mitigation to be specific, enforceable, and mandatory. Further, the SED fails to contain support for the proposition that discontinued use of cropland will not change the land from prime farmland; land loses its designation as prime, or other type of important, farmland if it is out of production for

more than four years. (Guide to the Farmland Mapping and Monitoring Program, available at: http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp_guide_2004.pdf, at p. 6.)

In order to be adequate under CEQA, the analysis for Agricultural Resources Impacts (a) and (c) must disclose the amount of farmland that could foreseeably be lost as a result of the proposed TMDL. To the extent substantial evidence exists to support a conclusion that some of this farmland will remain prime (or other important) farmland, that evidence must be disclosed and analyzed. To the extent mitigation could reduce this impact to a level of less than significant, those specific mitigation measures must be disclosed, analyzed as to how successful they would be at reducing impacts, how feasible they would be, and whether they would have any significant impacts of their own, and then those measures must be made mandatory and enforceable. Otherwise, the SED must disclose that the proposed TMDL will result in significant impacts to agricultural resources.

Staff Response: Staff acknowledges the concerns of the City regarding impacts to agricultural resources from reductions in use of chlorpyrifos. Staff analyzed the use of chlorpyrifos on broccoli from 2006 to 2012 along with crop harvested, yield and crop value (refer to Table 1). Chlorpyrifos use has consistently declined since 2006 with a sharp drop in 2012. Broccoli is the second most valuable crop in Santa Barbara County and the crop value and crop acres remained relatively constant from 2006 to 2012. Therefore at the county scale impacts to agriculture appear to be minimal.

Table 1 Pounds of Lorsban 15G granular insecticide (chlorpyrifos active ingredient) product applied to broccoli crops in Santa Barbara County along with broccoli crop acres and crop value in millions of dollars from 2006 to 1012

Year	Number of Applications**	Pounds of Product Applied**	Harvested Acreage*	Yield Per Acre*	Crop Value in Millions of Dollars*
2006	773	85,724	28,250	598	128
2007	653	75,596	28,376	608	131
2008	516	55,313	27,954	684	159
2009	477	44,738	26,293	671	149
2010	223	22,277	26,395	622	122
2011	244	35,002	27,248	642	126
2012	65	9,448	27,220	634	131

Source: * County Agricultural Production Report, ** County of Santa Barbara Pesticide Use Data
Notes: Yield unit measured as 22lb. cartons of broccoli

Staff noted in the SED that one grower reported 20% broccoli crop loss on fields that were no longer treated with chlorpyrifos. Crop data indicates that countywide broccoli production has not diminished even with reductions in chlorpyrifos. It may be that losses are more localized in areas with higher pest thresholds due to local production and environmental factors. The grower who reported the 20% loss also mentioned the increased use of water and fertilizer to offset reduced production from plants impacted by pest infestations.

Treatment enzymes are a potential mitigation measure that would allow growers to use chlorpyrifos and meet allocation by treating polluted runoff. CSIRO of Australia developed a treatment enzyme that neutralizes soil or water polluted with chlorpyriphos. The enzyme has been evaluated in several successful trials in California but is not yet available commercially (CURES, 2007) (Anderson et al. 2010). Growers could also implement practices such as low volume drip irrigation and tailwater recovery systems that can eliminate discharge.

The City requests that the Water Board calculate the amount of farmland that would be taken out of production due to adoption of the TMDL. Table 1 provides evidence that while a grower as reported some crop loss overall broccoli production has not diminished in Santa Barbara County and loss of cropland is not expected. In addition cropland that is valuable for broccoli is suitable for other crops such as lettuce and strawberries, which are productive in the region and not susceptible to the same soil borne pests that are treated with chlorpyrifos with broccoli. In Santa Barbara County strawberries are the number one ranked crop in at over $441 million dollars and lettuce is the number 4 ranked crop at over $66 million (Santa Barbara County, 2012). Therefore given the availability and value of replacement crops it is unlikely that farmland will be taken out of production and it is unnecessary for the staff to analyze the amount of farmland lost.

It is possible that some broccoli growers may face large crop loss and economic hardship from soil insect pests if chlorpyrifos and diazinon are not available. Therefore, staff changed the conclusion for agricultural impacts to "Potentially significant impacts." There are several growers in the watershed that grow only broccoli that may be at risk if there were large crop infestations of soil pests such as Cabbage Maggot (Delia radicum). UC Pest Management Guidelines for controlling Cabbage Maggots recommends soil treatment with either chlorpyrifos or diazinon (UCANR, 2013). As the City noted above, one grower reported a 20% crop loss from soil insect pests since he stopped applying chlorpyrifos. If this translated to an equivalent economic loss it may not be economical for some growers that only grow broccoli to remain in business.

3.5 Air Quality. For Air Quality Issue (c) (cumulatively considerable net increase of any criteria pollutant for which the project region is not in attainment), the SED states that: "[l]mplementation of structural BMPs that could result in fine particulate matter and vehicle emissions, such as the BMPs [relating to] land disturbance and excavation, could contribute to the problems with these pollutants. However, any contribution would be very small, and nominal given both the temporary nature of any such impacts and the fairly small nature of any such construction activity given the size of the basin." (SED at 18.)

The SED then comes to a conclusion of less than significant for Air Quality Issue (c), as well as for Issue (d). (Ibid.) Unfortunately, little or no evidence is given that supports these conclusions. How much would the contribution be? Is the air basin in attainment, or in compliance with all the pollutants of concern that could be generated? What is the extent of the structural BMPs that might be implemented, resulting in how much construction and how much air pollution/traffic? The discussion as to these impacts is too conclusory, with no substantial evidence put forth to support the conclusions of no impact. It also appears to conflict with the analysis in other sections of the SED, including the Biological Resources

section, which states that there are structural compliance methods that "involve significant earth-moving or land disturbance" (id. a t 19) and the cultural resources section, which recognizes that the Project may result in "construction of a large-scale infrastructure." (/d. at 24.) These sections should be made consistent, and the facts and estimates supporting the conclusion of less than significant should be disclosed and the conclusions revisited. These air quality impacts must be combined with those that could result from the proposed TMDL's significant impacts to agricultural resources, an impact which could result in indirect significant air quality impacts by itself. In addition, the air quality standard for issue (e) is whether the Project will create any objectionable odors. (/d. at 18-19.) However, the analysis of this impact appears to have been cut and pasted wholesale from the discussion of air quality issue (d), without even any mention of odors. The exact same mistake was made in the Nutrient TMDL SED, unfortunately demonstrating the lack of care, specifics, and analysis in both SEDs.

Staff Response: Staff acknowledges the City's concerns regarding the adequacy air quality impact analysis in the SED and staff prepared additional analysis in the SED. Based on the additional analysis, staff concluded that the project would have potentially significant short-term impacts to air quality. Santa Barbara County does not attain clean the clean air standards for ozone and fine particulate matter and the implementation of structural BMPs project could have short term net increase in these pollutants (Air Quality (c)). Due to the close proximity of agricultural and urban lands, construction of structural BMPs could also result in potentially significant impacts to sensitive receptors such as schools, residences and hospitals (Air Quality (d)).

Staff evaluated the potential for management practices to create objectionable odors that effect a substantial number of people and BMPs such as woodchip bioreactors may be built in close proximity to urban areas and they can produce hydrogen sulfide gas as byproduct if not properly designed and managed (Air Quality (e)).

3.6 Biological Resources. Adoption and implementation of the TMDL could also have potentially adverse impacts to biological resources. Because the Project may result in the discontinuation of agriculture on some land within the Project area, it is reasonably foreseeable that some owners of this land could choose to develop that land into residential or commercial uses. More intense land uses could result in adverse impacts upon wildlife. Birds, rodents, and listed and special status species have historically used wildlands and farmlands as habitat, and this fauna could be displaced upon land use conversion. While the SED recognizes potentially significant impacts to biological resources due to implementation of structural compliance and other measures, the sole proposed mitigation measure is consultation with the wildlife agencies. (SED at 19.) However, it notes that no mitigation measures may be available, but, instead of coming to a conclusion that significant impacts to biological resources would result, it merely states that additional review and findings would be required. (Ibid.) This does not comport with the requirements of CEQA. (See Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 440-441 [mitigation measure containing prohibition on foreseeable future activities related to a project that could result in significant impacts insufficient and improper attempt to tier off future CEQA document; analysis of these foreseeable future impacts required].)

In addition, the SED notes that the TMDL could result in significant impacts to listed species, including the California red-legged frog, due to the tailwater discharge reductions that are essentially required due to, and certainly a foreseeable result of, the proposed project. (SED at 19-20.) The SED states that the wildlife agencies[3] proposed mitigation measures to reduce these impacts, such as phasing in implementation of requirements in some areas and adjusting them on a watershed basis, but these are not required by the SED. (/d. at 19.) The mitigation measures that the SED does identify for the red-legged frog consist of "stakeholders in the watershed . . . developing a mitigation and monitoring plan" and "assuring suitable flow regime is maintained," and stating that such mitigation measures "should encourage growers along channels to minimize soil erosion and trap tailwater sediments before discharging into streams." It also encourages mitigation measures that "increase[] channel vegetation and cover . .." (!d. at 21.) These constitute improperly deferred mitigation, as they are mere nebulous ideas about results the Regional Board hopes will be achieved. In addition, none constitute specific, enforceable mitigation measures, and none are analyzed regarding what impacts the mitigation measures themselves may cause. (See Stevens v. City of Glendale (1981) 125 Cai.App.3d 986, 995.) There is simply no evidence supporting the efficacy of unidentified mitigation measures that may or may not be developed or implemented in the future, and whether such measures would have impacts of their own must be ascertained.

Staff Response: Staff acknowledges the comments from the City. Please refer to comment 3-4 for staff's response to conversion of agricultural land.

Staff acknowledges the City's comments regarding the identification of biological impacts and mitigation and staff revised the conclusions in the SED to "Potentially significant impacts."

Regarding potential significant impacts to biological resources, the SED identified several drainages within and just outside the City are habitats for endangered species such as California red-legged frog. The habitats are man-made drainages supported by artificial flows of water from irrigation and urban runoff. The drainage system is a complex setting and staff recommends that dischargers develop a mitigation plan with the flood control agency to see if impacts to the habitat can be mitigated to a level of less than significant, rather than find potentially significant impact. It is not possible for the Staff to determine the exact impacts to habitat that implementation of the TMDL would have on the drainages, because the growers have many options to implement and some have less impact on flows than others. In addition, cropping and irrigation practices change frequently in the watersheds. Based on assessment of recent pesticide used data, described above under comment 3-4, it appears that many operations are choosing to cease using some of the pesticides addressed in the TMDL. This practice may not restrict the discharge of water to meet allocations in the TMDL and could result in less than significant impacts to biological resources. However there is still the potential for growers to implement BMPs that reduce discharge into drainages and impact biological resources.

With regards to mitigation please note that staff may not prescribe "enforceable mitigation" because the Central Coast Water Board may not specify the manner of compliance with its orders; dischargers may comply in any lawful manner. (Wat. Code §

13360). The Court in San Joaquin River Exchange Contractors Water Authority v. State Water Resources Control Board (2010) 183 Cal.App.4th 1110, upheld the SED document at issue in that case and found that the Regional Board had listed options for implementing the TMDL but that the CEQA analysis on the implementation options could not be performed until the dischargers chose the methods they wished to use.

3.7 Greenhouse Gases ("GHGs"). The SED concludes that there will be a less-than-significant impact related to the generation of GHG emissions as a result of the Project. (SED at 27.) The SED admits that short-term increases in traffic during the construction and installation of structural compliance methods are a foreseeable impact of the Project, but states that they "would not be anticipated to rise to the level of a substantial adverse change on the climate." (Ibid.) However, this discussion is conclusory, with no facts or data supporting the conclusions of less than significant and no impact. How much GHGs may be generated as a result of the Project upon wide- spread adoption of the structural compliance method? Are there any applicable thresholds of significance? Would the amount of GHGs violate any threshold that has been set? In order to understand and fully support the conclusions as to significance, this section should be revised and additional data and analysis added.

Staff response: With regard to Greenhouse Gas Emissions VII (a), reasonably foreseeable methods of compliance are likely to require additional motor vehicle trips and increased traffic during construction and maintenance of structural BMPs, which would increase greenhouse gas emissions from mobile sources. Considering the likely small contributions of the reasonably foreseeable methods of compliance relative to major facilities (i.e., cement plants, oil refineries, fossil-fueled electric-generating facilities/providers, cogeneration facilities, hydrogen plants, and other stationary combustion sources), the contribution from structural BMP implementation is small in scale and is not cumulatively considerable and would not result in a significant impact on the environment.

An estimation of the amount of greenhouse gas emissions generated from foreseeable compliance methods is consistent with project-level CEQA analysis, rather than planning level CEQA analysis required of certified regulatory programs. Although not foreseen, should implementation projects reach such a scale then project level CEQA analysis would be used to estimate GHG's to address this issue.

3.8 Land Use and Planning. Land Use and Planning Impact (b) (conflict with any applicable land use plan) comes to a conclusion of less than significant, despite the fact that it notes that the TMDL conflicts with the Santa Barbara County Comprehensive Plan's[4] goals to assure and enhance viable agricultural production. (SED at 31.) The SED then suggests potential mitigation measures. (Ibid.) First, if mitigation measures are necessary to reduce a significant impact to a level of less than significant, the appropriate conclusion is "less than significant with mitigation." Second, the SED states that "[c]rop loss could be mitigated" by the continued use of the pesticides the TMDL restricts and the use of a treatment enzyme to degrade pesticides or utilizing irrigation measures to eliminate irrigation run off. (Ibid.) However, as discussed multiple times above, these measures are not made mandatory and enforceable, and therefore they do not constitute mitigation pursuant to CEQA. Third, there is no analysis of the feasibility and efficacy of these mitigation measures or the likelihood that they would be

adopted, and therefore no support for the claim that the non-binding mitigation is even possible, much less that impacts would be reduced at all. Accordingly, the SED should be changed to conclude that impacts to Land Use and Planning are significant.

Staff Response: Refer to the response to comment 3.4.

3.9 Noise. Noise Impacts (a), (b), and (d) concede that noise will be temporarily increased due to implementation of structural BMPs. (SED at 32-33.) However, the SED continues by stating that, because the impacts are temporary and are "associated with the use of heavy equipment," they would not be significant. (Ibid.) There is no support for the proposition that temporary impacts cannot be significant, especially in light of the fact that one of the Appendix A questions is whether a project will cause a substantial temporary increase in ambient noise levels (Appendix A Noise Impact (d)). There is certainly no support for the proposition that increased noise levels are less than significant simply because they are caused by heavy machinery. Noise Impacts (a), (b), and (d) are currently entirely conclusory, with no evidence whatsoever supporting their conclusions of less than significance, much less substantial evidence. Existing noise levels need to be described, as does the increase in noise levels as a result of the proposed TMDL, and then compared to applicable thresholds of significance in order to determine the significance of the TMDL's temporary increase in noise levels.

The conclusion for Noise Impacts (e) and (f) that "the noise associated with heavy equipment use is not any louder than noises that currently can be expected to occur within two miles of an airport" (SED at 33-34) similarly reflects a misunderstanding of CEQA's standards. Noise is additive, and therefore the fact that noise from heavy equipment will be the same level as existing noise from airport operations signifies that noise levels will increase, and could very well exceed applicable thresholds of significance, or exacerbate levels that currently exceed these thresholds. These need to be detailed and compared in order for substantial evidence to support the Regional Board's conclusion of "[l)ess than significant."

Staff Response: Based in part on the City's comments, staff reevaluated the noise impacts in the SED and determined that the project would have potentially significant impacts. The project would likely expose people temporary to increases in ground noise above local standards and would result in temporary increases in ambient noise from the operation of heavy equipment for the construction of structural BMPs. Structural BMPs could also be constructed in close proximity to airport land use and could potentially expose people to excessive noise levels.

3.10 Population and Housing. Population and Housing Impact (a) (induce substantial population growth) states that the proposed TMDL will have "[n]o impact" because it does not propose new homes or businesses or extend roads or infrastructure. (SED at 34.) However, this section fails to acknowledge the fact that the TMDL could likely lead to the conversion of agricultural land to non-agricultural land which, in many areas, would then likely be developed as residential. This potential needs to be disclosed and analyzed in this section.

Staff Response: The conversion of agricultural land to non-agricultural land is unfounded. Refer to response to comment section 3.4.

3.11 Transportation Traffic. The Traffic section of the SED states that the Project will not result in any potentially substantial adverse increase in traffic. (SED at 35.) However, the GHG section admits that a short-term increase in traffic during construction and installation of the structural compliance methods is a foreseeable impact of the Project. (/d. at 27.) This potential level of increase in traffic should be disclosed in the traffic section as well, and the respective impacts analyzed in both sections.

Staff Response: As noted by the City, staff concluded in the Greenhouse Gas Emissions impact analysis section of the SED, that construction of structural compliance measures could result in an increase in vehicular traffic, Staff also concluded that the construction traffic would be typical of ordinary traffic from construction or agricultural operations and impacts would be less than significant.

3.12 Cumulative Impacts. CEQA requires a reasonable analysis of the cumulatively considerable impacts of a proposed project, and this requirement applies to SEDs as well. (Pub. Res. Code, § 21083(b); Env'l Protection Info. Ctr. , supra, 170 Cai.App.3d at 616.) "Cumulatively considerable" impacts means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (State CEQA Guidelines, § 15064(h).)

The SED's less than half a page devoted to cumulative impacts comes to a conclusion of less than significant. (SED at 39.) However, the support for this conclusion is insufficient, as the analysis does not identify any other past, present, or future projects that the Project's impacts are being evaluated with, including the Regional Board's proposed Nutrient TMDL, which will affect the same area and have many of the same types of environmental impacts as the Toxicity TMDL. Many of the project-specific impacts discussed above should appropriately be characterized as significant impacts, particularly given the insufficiency of the mitigation, and such project-specific impacts will almost assuredly also result in cumulative impacts. Much more analysis needs to be added to this section, the conclusion of significance revised, and substantial evidence needs to be provided to support the cumulative impacts section.

Staff Response: Staff reevaluated the cumulative impacts from the project with consideration of impacts from the implementation of other TMDLs in the watershed such as: the TMDL for Fecal Indicator Bacteria, the nutrient TMDL, and the salt TMDL. Staff determined that implementation of the TMDL in conjunction with the other TMDLs could have potentially significant impacts on the environment. Concurrent implementation could accelerate the construction of management practices and associated temporary environmental impacts.

3.13 Mitigation. The Regional Board has an independent obligation to rely upon substantial evidence to support its conclusion that impacts are mitigated to a less- than-significant level. (Communities for a Better Env't v. Cal. Resources Agy. (2002) 103 Cai.App.4th 98.) For the impacts that are identified as less than significant with mitigation (and those erroneously identified as less than significant, but that include discussion of

mitigation measures necessary to reduce impacts), the Regional Board provided no such evidence. As discussed repeatedly above, mitigation measures must be enforceable and mandatory, but none of the mitigation measures referred to in the SED meet this standard. (Katzeff , supra, 181 Cai.App.4th at 613; Pub. Res. Code, § 21081.6(b).)

Staff Response: As noted by the City, staff concluded in the initial SED that many of the impacts from implementing the TMDL including Agriculture Resources, Biological Resources and Water Quality, could be mitigated to less than significant. Staff reevaluated these conclusions and determined that there are potentially significant impacts to these resources.

Even if mitigation is outside the jurisdiction of the lead agency, that does not excuse the agency from meaningfully analyzing and mitigating for an impact if information is available to determine the impact. (County of San Diego v. Grossmont-Cuyamaca Community College Dist. (2006) 141 Cai.App.4th 86, 104.) In County of San Diego , a community college district indicated in its environmental document that off-campus intersections and roadways would be affected by a Master Plan project, which would result in significant impacts unless mitigation were imposed. The district then concluded that mitigation was infeasible because the district lacked jurisdiction over the affected roads and could not ensure that the needed road improvements would actually be implemented. (/d. at 97.) The court rejected the finding of infeasibility based on a claimed lack of jurisdiction. (/d. at 104.) Merely because the Regional Board may be "prohibited from specifying the manner of compliance with its regulations" (SED at 2), that does not signify that mitigation measures can be overlooked, not analyzed, or not adopted as part of the Project approvals.

Staff Response: Staff recirculated the CEQA Analysis and Checklist beginning October 2013 and included discussion of mitigation.

3.14 Alternatives Analysis. In an SED, the Regional Board is required to include "[a]n analysis of reasonable alternatives," which must include "the exploration of feasible less damaging alternatives to the proposed . . . project." (Cal. Code Regs., tit. 23, § 3777(b)(3); Friends of the Old Trees, supra, 52 Cai.App.4th at 1403-1405; Env'l Protection Info., supra , 170 Cai.App.3d at 610.) Here, however, the SED's entire alternatives discussion is barely one page (see SED at 40-41), which is insufficient as a matter of law and underscores the lack of analysis performed. (See Laurel Heights Improvement Assn. v. Regents of Univ. of Cal. (1988) 47 Cal.3d 376, 403 ["cursory," "scant one and one-half page[]" alternatives analysis insufficient under CEQA].) In addition, while the SED states that Section 5 "discusses the preferred alternative, a No Action alternative, and other alternatives" (emphasis added), the document actually analyzes only the proposed Project and No Action alternative, which is not a sufficient range of alternatives unless a showing is made, supported by substantial evidence, that there are no other potentially feasible alternatives. The SED fails to address in any way why no other action alternatives were considered. This must be rectified in order for the SED to constitute a legally compliant CEQA document.

In a subsequent draft of the SED, one type of alternative that could be analyzed, and that is commonly a type of alternative analyzed, is a lesser version of the proposed project. Accordingly, the SED should, at the very least, consider whether project objectives could

be met under less strict and onerous TMDLs. Indeed, due to the insufficient mitigation and lack of analysis, it appears that the TMDL as currently proposed has several significant environmental impacts. Any alternative that could avoid these significant impacts must be included and analyzed. Another potential alternative that should be evaluated is the multi-agency approach discussed in Section 2 of this letter. Under this approach, a general toxicity standard would be developed and the concentration values would be deleted. This alternative is feasible, unlike the TMDL as currently proposed, and has the potential to reduce many of the likely significant impacts. Another possible alternative would be an action that focused solely on research and monitoring, in order to develop data and other substantial evidence to support some future action related to toxicity and pesticides.

Because the analysis of the No Project alternative is so cursory and insufficient, it is impossible to determine the environmental impacts of that alternative. However, in view of the many remaining significant impacts of the proposed TMDL (given the insufficiency of any mitigation and the misidentification of a number of effects as less than significant), it is likely that the project as proposed will have a much greater environmental impact than the No Project alternative. For this reason, of the two alternatives mentioned in the SED, it is likely that the No Project alternative would be a better choice for the environment than the TMDL as proposed.

Staff Response: As an alternative to the TMDL, the City proposes that the SED include a toxicity standard alternative. The Basin Plan already has a toxicity objective and this alternative would be the same as the No Project alternative that was evaluated in the SED. The City argues that the No Project alternative would be a better choice for the environment than adopting the TMDL. Staff disagrees with this assumption. The TMDL provides numeric targets and allocations for specific pesticides that are impairing surface waters, which would result environmental benefits and protection of beneficial uses of water.

3.15 Recirculation. The requirements for recirculation apply the same way to an SED as they do to an EIR. (Joy Road Area, supra, 142 Cai.App.4th at 667-668.) The substantial amount of detail, support, and analysis required to address the SED's deficiencies, including the need to change the conclusions regarding the significance of multiple impacts, constitutes significant new information triggering recirculation. (Ibid.) Accordingly, to the extent the Regional Board elects to continue to pursue the TMDL despite its many significant environmental impacts, the SED must be revised and then recirculated.

Staff Response: Staff revised the SED adding more details and analysis, along with changing several conclusions, therefore the Water Board recirculated the SED.

4.5 Mr. Richard G. Sweet, P.E., Director of Utilities, City of Santa Maria

CONCLUSION

For all the reasons expressed above, the City requests that the Regional Board not move forward with the TMDL as currently proposed. Instead, Santa Maria requests that the Regional Board revise the TMDL and the SED to address the City's comments, and to make the revised documents available for public review. The City appreciates your time in considering these comments.

Staff Response: Staff appreciates the City's review and comments on the TMDL Technical Report and SED. Staff made several substantive technical adjustments to the TMDL Technical Report based on the comments from the City, which are similar to the ones provided by CASQA and the Ms. Hufschmid. Staff reviewed the City's CEQA comments and revised and recirculated the SED.

#5 Ms. Joy Hufschmid, Project Clean Water Manager, County of Santa Barbara

5.1 Ms. Joy Hufschmid, Project Clean Water Manager

Thank you for the opportunity to comment on the proposed Total Maximum Daily Load (TMDL) for Toxicity and Pesticides in the Santa Maria River Watershed. Clean water is important to Santa Barbara County and our goal is to implement a science-based approach to finding effective and efficient methods of improving storm water quality. The County offers the following comments in the spirit of improving the TMDL regulations by ensuring that the overall implementation approach is effective and appropriate.

An overarching concern to the County is that the proposed TMDL will put in place standards that are unattainable because they are beyond the control of the municipalities that are accountable through urban stormwater discharge permits. Specific comments are outlined below. In addition, we fully support the detailed comments and recommendations contained in the California Stormwater Quality Association (CASQA) March 2013 letter on this topic and strongly encourage you to incorporate their suggestions into the final version of the TMDL regulations.

5.2 Ms. Joy Hufschmid, Project Clean Water Manager

Pyrethroid Numeric Targets
It is our understanding that the pyrethroid target numbers, which were prepared by UC Davis with funding from the Central Valley Water Board, have never been adopted by the state or any of the regional water boards. The County's concern is that these first of their kind numeric targets are overly stringent and will not be achievable in urban areas where pyrethroid pesticides are available and approved for use. As currently written, the TMDL regulations will expose municipalities to the risk of being in non-compliance with standards that cannot be reasonably met and that are out of our control. Compliance with the TMDL needs to be determined based on implementation of best management practices or participation in a stakeholder process seeking a statewide, comprehensive approach, rather than based on concentration-based numeric targets. The County concurs with CASQA's view that the proposed toxicity targets provide a more direct method than calculated concentrations for assessing the water quality impact of pyrethroids, and will provide adequate protection of water bodies. The pyrethroid pesticide concentration-based numeric targets should be removed from the TMDL regulations.

Staff Response: In 2011 the bifenthrin pyrethroid target developed by UC Davis was adopted into a TMDL by EPA. It was used as a target and as TMDLs in the Total Maximum Daily Loads for Pesticides, PCBs, and Sediment Toxicity in Oxnard Drain 3, in Ventura County.
http://www.epa.gov/region9/water/tmdl/final.html

Staff addressed the County's concerns about achieving the TMDL with similar comments from the City of Santa Maria under Section 4, comment 2.2.

5.3 Ms. Joy Hufschmid, Project Clean Water Manager

Wasteload Allocation Attainment Plan
Both the Technical Project Report and the Draft Basin Plan Amendment propose to require municipalities to develop a Wasteload Allocation Attainment Plan through which we must individually demonstrate how the wasteload allocations will be achieved. Given that municipalities do not have the legal authority to control pesticide use, preparation of a detailed and prescribed Wasteload Allocation Attainment Plan demonstrating how the County will attain waste load allocations would be ineffective and a waste of limited staff and financial resources.

The TMDL should explicitly recognize that state and federal pesticide regulators, rather than municipalities, have the authority and primary responsibility to protect the state's surface waters from pesticides. Beyond providing education to homeowners on pesticide use and application methods, there is little the County can do to address pesticide impairment to urban water bodies. The preparation of a Wasteload Allocation Attainment Plan to identify this one management practice is anything but cost-effective. The requirement for municipalities to prepare a Wasteload Allocation Attainment Plan should be removed from the Technical Project Report and the Draft Basin Plan Amendment.

Staff Response: Staff addressed the County's concerns about authority of state agencies to regulate pesticide use in Section 4, comment 1.1. The requirement of a Wasteload Allocation Attainment Plan was not removed from the TMDL. The Wasteload Allocation Plan is an important place for the county to describe its education, outreach, and monitoring plans and programs to protect water quality from pesticides and to address pesticide water quality problems in the TMDL.

5.4 Ms. Joy Hufschmid, Project Clean Water Manager

The County appreciates the opportunity to provide comment and looks forward to working together on implementing a successful and cost-effective TMDL Program. If you have any questions, please don't hesitate to call.

Staff Response: Staff appreciates the county's review and comments on the TMDL Technical Report and SED. Staff also recognizes the long standing efforts of Project Clean Water to protect surface waters from pesticide pollution in Santa Barbara County.

5.5 Ms. Joy Hufschmid, Project Clean Water Manager

#6 Mr. Richard Boon, Chair, California Stormwater Quality Association (CASQA)

6.1 Mr. Richard Boon, Chair, CASQA

On behalf of the California Stormwater Quality Association (CASQA), thank you for giving us

opportunity to provide input into the proposed Total Maximum Daily Load (TMDL) for toxicity and pesticides in the Santa Maria River. Although we do not normally comment on regional TMDLs, this particular TMDL includes elements of statewide significance. Our concerns focus on two specific elements: the numeric targets for pyrethroids and the implementation plan for urban runoff.

CASQA is concerned about pesticides because, on a recurring basis, the use of U.S. EPA and DPR- approved pesticides has resulted in adverse impacts to water quality and aquatic life in receiving waters, potentially leading to violations of NPDES stormwater permits. In recent years, numerous studies have documented the presence of pyrethroid pesticides and pesticide-caused toxicity in both water and sediment of California's urban waterways.[ii] According to the California State Water Resources Control Board, toxicity is widespread in California watersheds—and is almost exclusively caused by currently used pesticides.[iii] This is a statewide problem not unique to the urban portions of the Santa Maria River watershed. For more than a decade CASQA has consistently advocated a statewide solution that relies on effective coordination between state and federal pesticide and water quality regulators.

CASQA shares the Water Board's goal of protecting watersheds from pesticide-related water pollution. Since the mid-1990s, we have been working closely with the State Water Resources Control Board, multiple Regional Water Quality Control Boards, our state pesticide regulators at the Department of Pesticide Regulation (DPR), and Federal pesticide regulators at U.S. EPA toward achieving the goal of eliminating pesticide-related water pollution in California's urban waterways. Together our agencies have made substantial progress toward solving this problem.

Last summer, stemming from this multi-agency collaboration, DPR enacted landmark regulations that modify the way that professional applicators apply pyrethroid insecticides around buildings. In parallel, at DPR's request, pyrethroid product labeling is being changed at the Federal level to provide additional water quality protection. This includes special restrictions on labels for bifenthrin, the most environmentally persistent pyrethroid. The new regulations and labeling will reduce treatments of outdoor impervious surfaces, thus reducing the quantity of pyrethroids carried directly into storm drains by an expected 80-90%.[iv] We believe that under the new DPR regulations, urban receiving waters have a good chance to meet the toxicity values in the proposed TMDL. In addition, during the development of the regulations, DPR committed that if urban water quality problems due to pyrethroids continued subsequent to full implementation of the regulations, it would revisit the issue and consider establishment of additional use restrictions.

Staff Response: Staff acknowledges and appreciates CASQA's understanding of statewide pesticide water quality problems and their continuing efforts to protect water quality from pesticides. The Water Board supports and participates in multi-agency collaboration with DPR, including the recently adopted urban pesticide regulations. Staff concurs with CASQA that these regulations to reduce pyrethroid treatments of impervious surfaces could meet toxicity targets.

6.2 Mr. Richard Boon, Chair, CASQA

Pyrethroids Numeric Targets. Our first concern is that the proposed TMDL includes unnecessarily redundant targets: pesticide water concentration targets and pesticide toxicity targets. The pyrethroid concentration values based on calculated water quality criteria developed U.C. Davis are unimaginably small—some are less than 1 nanogram per liter, and are likely unachievable in urban areas short of banning virtually all outdoor urban uses of these pyrethroids (which cities and counties are legally precluded from doing). These low numbers are partly due to safety factors that arise in the criteria derivation due to the limited available aquatic toxicity data set. We believe that the proposed toxicity targets provide a more direct and realistic method than calculated concentrations for assessing the water quality impact of pyrethroids and will provide adequate protection of water bodies, while avoiding the uncertainty inherent in conservative criteria calculations,

Even if these overly restrictive numeric targets based on conservative assumptions are backed by pesticide regulators, they could backfire if unnecessarily severe pesticide registration restrictions cause a market switch to other insecticides that also cause water quality problems. Such a switch would be a major setback for water quality because pesticide registration actions currently take several years (at a minimum) to catch up to newly identified water quality impairments. Recent California monitoring data for one of these substitute insecticides—fipronil—suggests that it may already be washing into urban creeks at levels sufficient to harm sensitive aquatic organisms.[v] We advise caution to avoid a repeat of what occurred in California in the early 2000s, when U.S. EPA virtually eliminated urban applications of diazinon and chlorpyrifos (which were routinely the cause of toxicity in receiving waters), and the market switched almost completely to pyrethroids.

Staff Response: Staff addressed the concerns about achieving the TMDL under the comments of the City of Santa Maria, Section 4, Comment 2.2.

6.3 Mr. Richard Boon, Chair, CASQA

Implementation Plan. For urban runoff, the implementation section of the draft Basin Plan Amendment is inconsistent with the Technical Project Report, (which states that the TMDL implementation plan "utilizes an interagency approach between DPR and the Water Boards to address pesticide impairments in the Santa Maria Watershed… [which is] is described in the California Pesticide Management Plan for Water Quality.") In keeping with the Pesticide Management Plan, in collaboration with the Water Boards, DPR has evaluated the sources and impacts of pyrethroids in urban runoff, and has already established regulations specifically intended to mitigate these impacts. Contrary to the intent of the Pesticide Management Plan, the Basin Plan Amendment establishes requirements for municipalities to develop a "Wasteload Allocation Attainment Program," through which they must individually demonstrate how they will attain the wasteload allocations.

It should also be noted that a key factor supporting the establishment of the DPR regulations was the infeasibility of relying on local agencies to control pyrethroid contamination of urban runoff, because in California, municipalities do not have the authority necessary to prevent pesticides from occurring in their stormwater discharges. Under State and Federal pre-emptions, municipalities cannot control pesticide labels, they cannot regulate pesticide users, and they cannot determine which pesticides can be sold in their cities. Furthermore, physical

treatment systems to remove pyrethroids from urban runoff to levels below the TMDL's proposed parts per trillion targets are neither economically nor practically achievable.

Since municipalities do not have the ability to control pesticides, requiring holders of urban stormwater discharge permits to individually provide plans demonstrating an end to pesticide water pollution would be ineffective. Pesticide regulators have the authorities necessary to protect the state's surface waters from pesticides—and are demonstrating that they are willing to use their authorities to do so through actions like DPR's recent pyrethroids regulations.

The agricultural implementation section of the proposed Basin Plan amendment references our interagency approach to address pesticide impairments. This discussion should be mirrored in the municipal separate storm sewer systems (MS4) section. The TMDL should build on the interagency approach, by explicitly recognizing that State and Federal pesticide regulators—not municipalities—have the authority and primary responsibility to end urban pesticide water pollution, and identifying full implementation of that authority as the key mechanism for addressing pesticide impairments of urban water bodies.

Staff Response: Staff addressed the CASQA's concerns about achieving the TMDL under the comments of the City of Santa Maria, Section 4, comment 1.1.

6.4 Mr. Richard Boon, Chair, CASQA

In summary, we encourage the Water Board to:

(1) Work with DPR to ensure that the TMDL design reflects DPR's role and authority, and to confirm that DPR stands ready to take the actions necessary to implement the TMDL.

(2) Ensure that the compliance obligations of affected municipalities are both reasonable and feasible within California's pesticide legal framework and the overall context of urban pesticide water pollution, which is a statewide management issue, not a local watershed- specific issue.

(3) Establish only TMDL targets that can reasonably be achieved, such as toxicity targets, which are both protective of water quality and reasonably achievable.

(4) Include provision to work with DPR to prevent impacts from substitute pesticides.vi

(5) Join actively with us and with the State and other Regional Water Boards in supporting the existing collaborative effort to more fully utilize the authority in California and Federal pesticides laws to protect water quality.

Staff Response: Staff appreciates the comments provided by CASQA and we fully support the five items outlined above by CASQA. We look forward to working with CASQA, MS4s, and DPR to address urban pesticide problems.

Thank you for your consideration of our comments. We would be pleased to discuss these

#7 Mr. James W. Wells, President, Environmental Solutions Group, LLC on Behalf of PWG

7.1 Mr. James W. Wells, President, Environmental Solutions Group, LLC on Behalf of PWG

These comments are submitted on behalf of the Pyrethroid Working Group ("PWG"), a coalition of manufacturers of pyrethroid pesticides, pursuant to the Central Coast Regional Water Quality Control Board's ("Regional Board") Notice of Proposed Approval of an Amendment to the Water Quality Control Plan for the Central Coast Basin to adopt Total Maximum Daily Loads for Toxicity and Pesticides in the Santa Maria Watershed in Santa Barbara, San Luis Obispo and Ventura Counties ("Proposed Amendment"). The PWG submits these comments because of multiple concerns with the Proposed Amendment. First and foremost, the PWG objects to the inclusion of pyrethroids in the Proposed Amendment because the Regional Board has not properly followed the state's *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List ("Listing Policy")* with respect to determining if the waterbodies in question are impaired by pyrethroid pesticides. Second, no state adopted water quality objectives ("WQOs") or United States Environmental Protection Agency ("U.S. EPA") 304(a) criteria exist for the pyrethroid pesticides, and the draft criteria used to determine impairment and that are also used as the numeric targets and load allocations in the proposed total maximum daily loads ("TMDLs"), are inappropriate and insufficiently defined. For these reasons, pyrethroid pesticides must be removed from the Proposed Amendment. If pyrethroid pesticides are retained in the Proposed Amendment, significant questions remain with respect to the environmental analysis prepared for compliance with the California Environmental Quality Act ("CEQA"). Further, we must also express concerns with the document as a whole because it lacks transparency with respect to the actual data used for the listing as highlighted by the various points listed below.

As a preliminary matter, the PWG finds significant problems and errors with documents distributed for public review and comment. As clearly indicated in the January 2013 Technical Project Report ("Technical Report"), "no surface waters are currently placed on the 2008-2010 303(d) list as impaired for pyrethroids." (Technical Report, p. 13.) Rather, since adoption of the 2008-2010 303(d) list, staff claim to have identified the Santa Maria River, Main Street Canal,1 and Bradley Channel as being impaired for pyrethroids (Attachment 1 to Staff Report, p. 2), and proposes water column TMDLs for these three waterbodies, and Orcutt Creek (Attachment 1 to Staff Report, p. 6.). The proposed TMDLs are for three specific pyrethroid pesticides – bifenthrin, cyfluthrin, and L-cyhalothrin. (Ibid.) These statements alone are inconsistent with each other, and fail to clearly indicate staff's process for determining impairments and establishing TMDLs for those waterbodies identified as being impaired. Further, based on our review of the public documents, it appears that Regional Board staff have inappropriately grouped all pyrethroids into one class to make determinations of impairment, but then proposes numeric targets and TMDLs for three specific pyrethroids. The Proposed Amendment then also makes a blanket, unsupported statement that "water column TMDLs will result in achieving zero toxicity in sediment from pyrethroids." (Attachment 1 to Staff Report.) As discussed further below, the Technical Report provides insufficient information to tie water column concentrations to sediment toxicity in general. Considering these essential errors, the Regional Board should

not adopt the Santa Maria Watershed Pesticide and Toxicity TMDL, at least to the extent it includes pyrethroid pesticides.

Staff Response: Specific comments are addressed below.

7.2 Mr. James W. Wells, President, Environmental Solutions Group, LLC on Behalf of PWG

I. Improper Determination of Impairment

Staff's identification of these waterways as being impaired for pyrethroid pesticides fails to comply with the state's Listing Policy. We recognize that according to applicable case law, the Regional Board is considered to have "discretion to simultaneously submit to the EPA the identification of the impaired water body and a TMDL for it." (City of Arcadia, et al. v. State Water Resources Control Bd. (2006) 135 Cal.App.4th 1392, 1419 ("City of Arcadia").) However, such discretion does not extend to, or include, the ability of the Regional Board to ignore compliance with the state's Listing Policy, which was not at issue in the City of Arcadia case.

The state's Listing Policy is a regulation adopted by the State Water Resources Control Board ("State Board"), and approved by the state's Office of Administrative Law. It describes the state's process by which the State Board and the regional boards will comply with the federal Clean Water Act ("CWA") section 303(d) requirements for listing impaired waterbodies. (Listing Policy, p. 1.) With respect to determining listings of impairment, the Listing Policy mandates that data and information from waterbodies be "analyzed under the provisions of [the] Policy using a weight-of- evidence approach." (Ibid.) The weight-of-evidence approach articulated in the Listing Policy includes: (1) soliciting and assembling data and information; (2) evaluating data and information using the decision rules specifically contained within the Listing Policy; and, (3) presenting an assessment in fact sheets. Regional Board staff's identification of impairment by pyrethroid pesticides in the specified waterbodies fails to comply with the weight-of-evidence steps required
by the Listing Policy.

Staff Response: Staff acknowledges the comments from the PWG, which for the most part pertain to the 303(d) listing process and policy, but the TMDL is not adding water bodies to the 303(d) list and the PWG comments are not relevant to the TMDL process. The 303(d) listing process occurs separate from the TMDL planning. During TMDL development, staff verifies the 303(d) listings that are the basis of the TMDL and analyzes available water quality data for additional exceedances of water quality criteria. The PWG comments on the listing policy should be directed at the next 303(d) listing cycle and process to determine if the pyrethroids exceedances and 303(d) assessment meets the Listing Policy. Staff clarified in the technical report that the TMDL is not adding impaired waters to the 303(d) list but evaluating additional exceedances of water quality criteria in anticipation of listings in the near future. This is to avoid the need to develop an additional pesticide TMDL when the subsequent pesticide listings occur and addresses an existing water quality problem with pyrethroids now.

7.3 Mr. James W. Wells, President, Environmental Solutions Group, LLC on Behalf of PWG

A. Data and Information Preprocessing

The first step for determining impairment requires that "all data and information for existing listings shall be solicited and assembled as appropriate" (§§ 6.1.1 and 6.1.2.1). Waterbody fact sheets (§ 6.1.2.2) describing the assessments shall be prepared. Evaluation guidelines (§ 6.1.3), if needed, shall be selected and the quality of the data (§ 6.1.4) and quantity of data (§ 6.1.5) shall be assessed." (Listing Policy, p. 2.) Regional Board staff's process as articulated in the Technical Report fails to comply with this provision for a number of reasons. First, to our knowledge, the Regional Board did not actively solicit for data. (See Listing Policy, § 6.1.1, p. 17.) While the Technical Report indicates that staff evaluated data from the Central Coast Ambient Monitoring Program and from three other monitoring studies, the Regional Board did not specifically solicit data with respect to these waterbodies, and for determining if these waterbodies were impaired by pyrethroid pesticides.

Second, with respect to evaluation guidelines, Table 2-5 identifies sediment toxicity guidelines based on LC50s, and an evaluation guideline for cyfluthrin as stated in Fojut, T.L., Tjeerdema, R.S. 2010, for determining impairments by pyrethroids in general. (Technical Report, pp. 18-20.) In contrast, however, the Staff Report includes pyrethroid water column TMDLs for bifenthrin, cyfluthrin, and L-cyhalothrin. (Staff Report, p. 7.) The evaluation guidelines used for determining impairment, at least as implied in Table 2-5, are inconsistent with the Proposed Amendment. Further, the Technical Report fails to include or provide any supporting documentation as to why the evaluation guidelines identified are appropriate for interpreting the narrative objectives at issue. Although the Regional Board maintains considerable discretion with respect to interpreting evaluation guidelines, such an interpretation cannot be arbitrary, capricious, or entirely lacking in evidentiary support. (City of Arcadia, supra, 135 Cal.App.4th at p. 1409.) Based on the information identified in the Technical Report, the Regional Board has not met even this minimal burden of providing evidentiary support for the evaluation guidelines selected.

More importantly, Regional Board staff have failed to comply with the Listing Policy in that the data used for determination of impairment (as identified in Table 2-5) do not meet the data quality and quantity requirements as required by the Policy. For example, the Technical Report indicates that one of the studies relied on to determine impairment from pyrethroid pesticides was the Santa Maria River Watershed and Oso Flaco Creek Watershed TMDL Monitoring Study – Final Report, prepared by Philips, B., et al., from the University of California Davis. This is referred to as the "UCD TMDL Monitoring Study." The Listing Policy states that numeric data are considered credible and relevant for listing purposes (i.e., for determining impairment) if it meets minimum quality assurance/quality control requirements. These minimum requirements include the need for a Quality Assurance Project Plant ("QAPP") or equivalent documentation, and must contain a number of identified elements, including proper chain of custody procedures, statement certifying adequacy of the QAPP, and the rationale for selection of sampling sites, water quality parameters, sampling frequency and methods that assure the samples are spatially and temporally representative of surface water conditions. Our review of the UCD TMDL Monitoring Study indicates that it does not meet the data quality assessment requirements in the Listing Policy. In general, the documentation of the analytical chemistry methods for pyrethroid measurements in this study was lacking. This is particularly important

when extremely low concentrations (low ng/g and ng/L) values are suspected to be toxic to aquatic organisms. Specifically, the EPA method 625M NCI used is very generic and may or may not be appropriate for pyrethroids, and given the low reporting limits it is extremely important to show the precautions taken to identify and avoid interferences.

Further, the study is very limited spatially (two to three sites per sub-watershed) to meet the goals of the study. With respect to the sample sites, there is no discussion regarding how the sample sites were selected, and the criteria used for site selection. The study does not include site coordinates, and instead includes a poor Google earth image to identify site locations. The discussion for sediment sampling methods is inadequate, and fails to indicate how or why certain depositional areas were targeted. The study's data interpretation and analysis with respect totoxicity is also inadequate. For example, there is no discussion with respect to how well the toxicity identification evaluations ("TIE") worked, considering that toxicity was only slightly greater than 20% difference between ambient samples and the control. Further, there appeared to be significant variability of toxicity in the water sampling, which questions the scale of sampling. Moreover, and as admitted by the authors, the study project used abbreviated TIEs.

In addition, the study inappropriately uses estimated values (i.e., j-flagged values) of pyrethroid concentrations to compare to toxicity thresholds. (See UCD TMDL Monitoring Study, Table 7, p. 24.) Because estimated values are below reporting limits, they should not be used to determine if toxicity exists.

The study also includes conclusions that are not supported by the data in the study. For example, the authors make the following statement, "Two of the toxic 312ORC sediment samples and one of the toxic 312SMA sediment samples did not have any chemistry analyzed; therefore, it is not possible to link the cause of toxicity to specific chemicals during these events. However, given evidence from previous monitoring at these sites, toxicity here was likely caused by a combination of the same pesticides." (UCD TMDL Monitoring Study, p. 48.) In another example, the authors indicate that the TIE results were "somewhat constrained by the design of the TIEs." (Id., p. 52.) Abbreviated TIEs were used due to a lack of resources. As a result, treatments that would be used to determine toxicity between the various classes of pesticides were not performed. This is a serious flaw with the study, and questions the TIE analysis results within the study.

With respect to data quantity assessment requirements, the Technical Report also fails to meet the Listing Policy requirements. The Listing Policy indicates that Regional Boards have wide discretion to establish how data and information are evaluated. However, the Listing Policy also includes a list of specific considerations that the Regional Board must consider in using data to assess water quality standards attainment. Estimated data (i.e., j-flagged values) may be used as an ancillary line of evidence but should not be used independently to make a determination of impairment. (Listing Policy, p. 23.) With respect to determining if the Regional Board has met the data quantity assessment requirements of the Listing Policy, it is virtually impossible to do so because Table 2-5 fails to include any discussion of the essential information, as is required by the Listing Policy. This alone indicates that the Regional Board has not met the data quantity assessment requirements. For example, the actual data referenced in the exceedance column is not specifically identified. There is no way to tell from Table 2-5, what data exceeded the evaluation guideline identified. Without this essential

information, the Technical Report fails to provide adequate evidence to support its findings of impairment.

Accordingly, the data and information vaguely referred to in the Technical Report does not comply with the data quality and quantity requirements of the Listing Policy, and, thus, such data and information do not support a determination of impairment, and by extension, the inclusion of pyrethroid pesticides in the Proposed Amendment.

Staff Response: The above comments on data and information preprocessing are in regards to the Listing Policy, and staff did not add water bodies to the 303(d) list. The comments are outside the scope of the TMDL.

7.4 Mr. James W. Wells, President, Environmental Solutions Group, LLC on Behalf of PWG

B. Data and Information Processing

When making listing decisions, or determinations of impairment, the Listing Policy requires that all data and information be evaluated (assuming that the data and information meet the quality and quantity requirements expressed above) using the decision rules listed in section 3 (California Listing Factors) of the Policy. (Listing Policy, p. 3.) The determinations of impairment as specified in Table 2-5 of the Technical Report do not comply with section 3 of the Listing Policy. Even assuming for our purposes here that the data referenced meets data quality and quantity requirements, Table 2-5 provides for improper determinations of impairment for pyrethroid pesticides.

Main Street Canal – Table 2-5 indicates that two of two sediment channels, and one of one water samples exceeds the identified evaluation guidelines. Again, sediment and water column chemistry results cannot be combined to determine impairment. While the two of two sediment samples meet the binomial test requirements of the Listing Policy, the one of one water sample does not. More importantly, the summary of pyrethroid sediment data contained in Appendix C-3 indicates that there is only one sediment sample that exceeded the evaluation guideline being used by Regional Board staff for the sampling location identified. Thus, based on the data summarized in Appendix C-3, the determinations of impairment for the Main Street Channel does not meet the binomial test requirements. With respect to the water column sample, not only does it fail to meet the binomial test but the water column result in question is an estimated, j-flagged value, and not an actual measured concentration of the pyrethroid in question. Thus, the Main Street Channel should not be determined as being impaired for pyrethroids.

Santa Maria River – Table 2-5 indicates that one of two sediment samples exceeded the evaluation guideline for sediment, and that one of one sample exceeded the evaluation guideline for water. In this case, neither sample set meets the binomial test requirements of the Listing Policy. Further, based on the information in Appendix C-3, it appears that only one of three samples exceeded the evaluation guideline for sediment. Thus, there is not sufficient data and information to support a finding that the Santa Maria River is impaired for pyrethroids.

Orcutt Creek – The Staff Report at Table 7 includes a pyrethroid water column TMDL for Orcutt Creek. Table 2-5 of the Technical Report does not include Orcutt Creek, and thus does not indicate that it is impaired for pyrethroid pesticides.

Staff Response: The above comments on data and information preprocessing are in regards to the Listing Policy, and staff did not add water bodies to the 303(d) list. The comments are outside the scope of the TMDL.

7.5 Mr. James W. Wells, President, Environmental Solutions Group, LLC on Behalf of PWG

II. Proposed TMDL Includes Numeric Targets and Load Allocations Based on Improper Criteria

The Technical Report includes proposed numeric targets and TMDLs for the following synthetic pyrethroid pesticides: Bifenthrin, Cyfluthrin, and L-Cyhalothrin. According to the Proposed Amendment, the numeric targets in the TMDLs are numeric interpretations of two narrative WQOs contained in the Water Quality Control Plan for the Central Coast Basin ("Basin Plan"): (1*) "All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life;" and, (2) "No individual pesticide or combination of pesticides shall reach concentrations that adversely affect beneficial uses."* (Staff Report, p. 2.) For the pyrethroid pesticides in question, the staff report indicates that "additional information regarding the derivation of water column targets is provided in Appendix B of the Technical Report." (Staff Report, p. 2.) However, Appendix B of the Technical Report is titled "Load Duration Curves," and it is specific to chlorpyrifos and diazinon. There is no other appendix to the Technical Report that provides additional information with respect to derivation of the water column targets at issue.

Staff Response: The staff report should have indicated that additional information regarding the derivation of pyrethroid targets is in Appendix C-3 Pyrethroid Analysis. Staff corrected this error in the staff report.

At most, the Technical Report includes two brief paragraphs to explain that the synthetic pyrethroid water column numeric targets were taken from the draft water column criteria developed by the Central Valley Regional Water Quality Control Board ("Central Valley Water Board") with the University of California, Davis ("UCD"). (Technical Report, pp. 22-23.) This statement alone is incorrect as it implies that the Central Valley Water Board has adopted and endorsed the criteria in question, which is not the case. The draft water column criteria were developed by UCD through a contract with the Central Valley Water Board, but the criteria have not been approved or endorsed by the Central Valley Water Board itself in any format. In fact, it is unlikely that Central Valley Water Board members are even aware that the criteria exist as the effort to date has been managed at a staff level. Thus, the criteria in question are not and should not be considered adopted WQOs under the Porter-Cologne Water Quality Control Act, Water Code section 13000 et seq. ("Porter-Cologne").

Staff Response: Staff clarified in the report that the pyrethroid criteria were developed by UC Davis. Staff acknowledges that the Central Valley Water Board has not adopted the criteria but is in the process of developing a Basin Plan objective to adopt the criteria

along with a Central Valley Pyrethroid TMDL. The following is a link to the Central Valley Water Board's pyrethroid project website and CEQA documents for their Basin Plan Amendments.

http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.shtml

To our knowledge, there are no WQOs or U.S. EPA 304(a) criteria for the pyrethroid pesticides included in the Proposed TMDL. Without explanation, the Technical Report asserts that UCD criteria are appropriate for application here as numeric targets, and to interpret the narrative WQOs. Use of these criteria as numeric targets here is problematic for several reasons. First, the "criteria" in question are not adopted WQOs, and they have not been subject to a formal public review and comment process before the Central Valley Water Board. The water quality criteria in question are contained in a series of Water Quality Criteria Reports as prepared by UCD. The reports were prepared using UCD's "Methodology for Derivation of Pesticide Water Quality Criteria for the Protection of Aquatic Life – Phase II, Methodology Development and Derivation of Chlorpyrifos Criteria" ("UCD Methodology"). When the UCD Methodology was completed, the Central Valley Water Board released a letter to put the UCD Methodology into context. The Central Valley Water Board's letter clearly explains as follows: "Although the development of the UCD Methodology was funded by the Regional Water Board, the UCD Methodology has not been adopted or endorsed by the Regional Water Board. Therefore, criteria developed using the UCD Methodology should not be viewed as being inherently more appropriate than other available criteria." (Attachment 1 hereto, Letter to Interested Parties from Jerrold A. Bruns, Environmental Program Manager, Central Valley Water Board (Sept. 29, 2009).) The letter also clearly states that, "criteria developed using the UCD Methodology should not be considered adopted water quality objectives, unless and until the Regional Water Board adopts, and the State Water Board and the U.S. EPA approve the criteria as water quality objectives pursuant to all applicable statutory requirements." (Ibid.) Thus, by the Central Valley Water Board's own admission, the UCD criteria are not appropriate to use in a regulatory manner until such time that the criteria are adopted as WQOs pursuant to state law, and approved by the State Board and U.S. EPA. It is wholly inappropriate for the Regional Board to disregard the Central Valley Water Board's caution and portray the criteria as something that have been adopted or endorsed by the Central Valley Water Board.

Staff Response: Mr. Wells is referring to a 2009 letter regarding the UC Davis methodology. Staff reviewed the letter from the Central Valley Water Board program manager referenced by the PWG, which clarifies for interested parties that UC Davis was contracted to develop criteria. The Central Valley letter clarifies that the criteria development is a separate process from developing water quality objectives in the Basin Plan and that there are other considerations before a criterion is adopted as a Water Quality Objective. Staff concurs with the statements in the letter, but the TMDL is not developing water quality objectives as suggested by Mr. Wells; it is developing water quality targets and it is appropriate to use the pyrethroid criteria developed by UC Davis as criteria for the TMDL.

Further, to the extent that the Regional Board intends to use the criteria to essentially determine if aquatic life beneficial uses are being impacted, then the Regional Board should consider such criteria to be de facto WQOs, and should essentially comply with the provisions in Porter-

Cologne applicable to adoption of WQOs. Specifically, protection of water quality in California is governed by Porter-Cologne. A fundamental premise of Porter-Cologne is that water quality regulation must be reasonable. (See, e.g., Wat. Code, § 13000.) The Regional Board is empowered to adopt Water Quality Control Plans (also known as Basin Plans), which must include: beneficial uses of the waterbodies in the region; WQOs to reasonably protect the beneficial uses; and a program of implementation for the WQOs. (Wat. Code, §§ 13050(h) & (j), 13240, 13241, 13242.) In formulating a water quality control plan, the Regional Board must seek "to attain the highest water quality which is reasonable, considering all demands being made and to be made on waters of the state and the values involved." (Wat. Code, § 13000, emphasis added.)

WQOs are defined as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area."2 (Wat. Code, § 13050(h), emphasis added.) When establishing WQOs, the state must consider a series of factors, including economics, attainability, and other public interest factors. (See Wat. Code, § 13241.) As the State Board's Chief Counsel has previously explained, Porter-Cologne requires that "objectives must be reasonable, and economic considerations are a necessary part of the determination of reasonableness." (Memorandum to Regional Water Board Executive Officers from William R. Attwater, Chief Counsel, State Water Resources Control Bd. (Jan. 4, 1994), at p. 3, emphasis added.) In adopting WQOs, the state must ensure that the WQOs provide for the reasonable protection of beneficial uses after considering the factors required by Water Code section 13241, including economics and attainability. (See United States v. State Water Resources Control Bd. (1986) 182 Cal.App.3d 82, 109-110 [state "is required to 'establish such water quality objectives . . . as in its judgment will ensure the reasonable protection of beneficial uses . . . .' " (citing Wat. Code, § 13241); id. at p. 118 [state shall consider "all competing demands for water in determining what is a reasonable level of water quality protection."].)
Accordingly, prior to using the UCD criteria as a WQO (or to interpret a narrative WQO), the Regional Board must comply with Porter-Cologne and consider economics and attainability. That has not occurred here.

Staff Response: Mr. Wells asserts that the Water Board "should consider the (pyrethroid) criteria to be "de facto WQOs (water quality objectives), and should essentially comply with the provisions in Porter-Cologne applicable to adoption of WQOs." The proposed TMDL numeric targets are not water quality objectives themselves; they are a quantitative interpretation, a prediction, of the levels of pollutants necessary to implement and achieve an existing narrative water quality objective. Since TMDLs are not water quality objectives, the requirements for adopting such objectives do not apply to TMDLs or their numeric targets. The above comments by the PWG relevant to water quality objectives do not apply to the TMDL.

7.6 Mr. James W. Wells, President, Environmental Solutions Group, LLC on Behalf of PWG

III <u>Comments Regarding CEQA Review</u>

Adoption of the Proposed TMDL is subject to requirements under CEQA. To comply with CEQA, the Regional Board proposes a "Substitute Document" Report for Basin Plan

Amendment. (See Attachment 3 to Staff Report, otherwise referred to as the "Substitute Environmental Document" or "SED".) The SED is the Regional Board's attempt to consider potential environmental impacts that may arise from the reasonably foreseeable means of compliance with the TMDLs. (SED, pp. 3-6.) However, the SED fails to consider a number of reasonably foreseeable means for compliance, and the potential environmental impacts that may occur from such compliance.

A. Evaluation of Implementation Program

Water Code section 13242 provides that the Regional Board shall develop a program of implementation for achieving WQOs that includes a description of the nature of actions that are necessary to achieve the objectives, a time schedule for the actions to be taken, and a description of surveillance to determine compliance with objectives. (See Wat. Code, §§ 13242(a)-(c).) The project description needs to include and clearly describe the implementation program so that the environmental impacts of the "whole of the action" can be adequately assessed as part of the CEQA process. To that end, the SED must evaluate the environmental impacts associated with all actions identified in the implementation program, as well as the reasonably foreseeable actions that will be required to comply with the Proposed Amendment. (*City of Sacramento v. State Water Resources Control Bd.* (1992) 2 Cal.App.4th 960, 969 [regional board's consideration of rice pesticide plan must address environmental effects of steps required to implement plan]; *City of Arcadia*, supra, 135 Cal.App.4th at pp. 1395-1396 [rejecting regional board's functional equivalent document for water quality regulatory plan for failure to consider reasonably foreseeable environmental effects of actions required to implement plan].)

The Implementation and Monitoring Program for the Proposed TMDL is expressly contained in Attachment 1 to the Staff Report (i.e., proposed Basin Plan Amendment language), and is discussed in section 6 of the Technical Report. Generally, implementation for agriculture is expected to occur through compliance with the Regional Board's Conditional Waiver of Waste Discharge Requirements for Irrigated Lands (Order No. R3-2012-0011), and for urban stormwater through development and implementation of a Wasteload Allocation Attainment Program. However, the information contained in the Technical Report is much more extensive than that included in the Staff Report, and implies that the actions for implementation of the Proposed TMDL go above and beyond what is required under the Conditional Waiver of Waste Discharge Requirements for Irrigated Lands. In either case, the SED must evaluate the environmental impacts associated with the Implementation and Monitoring Program. However, the Reasonably Foreseeable Methods of Compliance included in the SED are not consistent with the Proposed Amendment's implementation components. Thus, the SED is defective on its face.

Staff Response: Staff acknowledges Mr. Wells' concern that the implementation described in the TDML Technical Report appears to be different than the Reasonably Foreseeable Methods of Compliance included in the SED and that this inconsistency invalidates the TMDL. The TMDL Technical Report and the SED both describe implementation but for different purposes and with different details. The TMDL Technical Report describes implementation for broad planning purposes, to identify dischargers and implementation and regulatory programs. In the SED staff is evaluating whether specific implementation measures and best management practices when

constructed would have an impact on the environment. In other words the TMDL Technical Report describes programs, plans and policies and the SED describes and evaluates specific mitigation measures that may be implemented through a program, plan of policy. In the SED staff describes compliance measures that are consistent with the implementation described in the TMDL Technical Report and analyzes the impacts of implementation on the environment.

B. Determination of Significant Impacts

One outcome of the establishment of TMDLs for pyrethroids may be improved water quality and habitat for aquatic species. However, if the TMDLs substantially result in the decline in use of pyrethroid pesticides, the project will have widespread secondary impacts that were not assessed in the SED. The SED is supposed to clearly describe the range of actions that would be anticipated to be required to implement the WQOs and the environmental tradeoffs associated with regulation and TMDL implementation. For example, if the establishment of TMDLs leads to restricted or reduced use of pyrethroid pesticides, the SED needs to describe the extent of the anticipated limitations and the consequences of such reductions. This has not occurred.

For example, the primary uses for pyrethroid pesticides in urban areas include structural pest control, landscape maintenance, rights-of-way, and public health pest control. (Daniel R. Oro, et al., *Pyrethroid Insecticides: An Analysis of Use Patterns, Distributions, Potential Toxicity and Fate in the Sacramento-San Joaquin Delta and Central Valley* (Oct. 7, 2005), p. 43.) However the SED omits mention of the important use of pyrethroid pesticides – protection of public health. Specifically, the SED does not mention vector control as a use of synthetic pyrethroids – only agriculture and home applications are mentioned. Pyrethroids are used by agencies charged with the protection of public health for the control of mosquitoes, yellow jackets, and ticks. The SED needs to address the implications for all existing and foreseeable uses of pyrethroids, including their critical role in public health protection.

Further, if pyrethroid pesticides are not available for these purposes, what alternatives are expected to be used and what are the impacts associated with those alternative control methods, including potential impacts to human health if alternatives are less effective? Pyrethroid pesticides are also widely used in agriculture to protect crop viability and yield. If the TMDL is expected to lead to reduced pyrethroid use, what would be the expected effect on crop yield and economic viability of existing agricultural practices? If restrictions on pyrethroid pesticides cause substantial economic impacts that lead to crop shifting or crop idling, these economic impacts could cause significant environmental impacts by contributing to the conversion of agricultural land.

As noted, the SED must describe the specific means of compliance with the TMDL and the potential environmental impacts associated with such compliance. The SED does not do so.

One of CEQA's basic purposes is to inform government decision-makers and the public about the potential significant environmental effects of proposed projects. (CEQA Guidelines, § 15002(A)(1); *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 532 Cal.3d 553.) "[A] paramount consideration is the right of the public to be informed in such a way that it can intelligently weigh the environmental consequences of any contemplated action and have an

appropriate voice in the formulation of any decision." (*Environmental Planning and Information Center v. County of El Dorado* (1982) 131 CalApp.3d 350, 354.) To fulfill this mandate, the SED needs to provide sufficient information about the environmental tradeoffs and related economic effects associated with the TMDLs. However, the SED does not meet this mandate, and thus it fails to comply with the requirements of CEQA.

The SED should also include information about the anticipated economic impact of the TMDLs and all alternatives, as this information is critical to an evaluation of their feasibility and also to the assessment of significant impacts. As noted previously, significant economic impacts to agriculture could have unintended significant environmental impacts if economic impacts caused crops to be taken out of production or cropping patterns to change. But again, the SED is inadequate in this respect. The alternatives discussion in the analysis includes only the preferred alternative, and the "no project alternative." It fails to account for or consider other potential alternatives that could occur, such as a Proposed TMDL applicable to only some of the pesticides identified.

Staff Response: Mr. Wells has described a scenario that is beyond the scope of the TMDL, in which the use of pyrethroids is severely restricted or eliminated. This scenario is not a reasonable alternative for analysis in the SED. In the TMDL Technical Report, staff describes implementation programs to meet the TMDL, none of which recommend or require eliminating the use of pyrethroids. In addition it is anticipated that the implementation programs described in the TMDL, such as the DPR urban pyrethroid regulations, will be effective in reducing pyrethroid pollution and meeting the TMDL allocations and targets. CASQA provided a TMDL comment (number 6.1) that they support new DPR regulations that reduce pyrethroid applications on impervious surfaces and they anticipate that pyrethroid runoff into storm drains will be reduced 80-90%.

7.7 Mr. James W. Wells, President, Environmental Solutions Group, LLC on Behalf of PWG

IV. Conclusion

The PWG appreciates the opportunity to provide these comments on the Proposed TMDL and associated documents. However, as indicated in the detailed comments above, the PWG finds that the Proposed Amendment and associated information fails to adequately support the inclusion of pyrethroid pesticides in the TMDL. Most importantly, there is inadequate data and information to support a conclusion that pyrethroid pesticides are impairing the waterbodies in question. Further, the Regional Board has failed to comply with the Listing Policy to reach such a conclusion, and the SED is inadequate to support Regional Board action. As a result, the Regional Board must remove pyrethroid pesticides from the Proposed Amendment as there is no basis for their inclusion. Please contact me at (916) 443-2793 or jwells@esgllc.net if you have any questions with regard to the above comments.

#8 Ms. Theresa A. Dunham, Somach, Simmons and Dunn a Professional Law Corporation, Attorneys at law on behalf of the FMC Corporation

8.1 Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys at Law, on behalf of the FMC Corporation

On behalf of the FMC Corporation ("FMC"), we appreciate the opportunity to submit comments on the Notice of Proposed Approval of an Amendment to the Water Quality Control Plan for the Central Coast Basin to Adopt Total Maximum Daily Loads for Toxicity and Pesticides in the Santa Maria Watershed in Santa Barbara, San Luis Obispo and Ventura Counties ("Proposed Amendment"). FMC is one of the world's leading specialty chemical companies, and is a registrant for bifenthrin. FMC is also a member of the Pyrethroid Working Group ("PWG"), and hereby supports and incorporates by reference all the comments submitted by the PWG. FMC provides these specific comments regarding the inclusion of bifenthrin in the Proposed Amendment.

8.2 Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys at Law, on behalf of the FMC Corporation

The Proposed Amendment includes pyrethroid water column TMDLs for bifenthrin that would be applicable to four waterbodies- Bradley Channel, Main Street Canal (or Channel), Orcutt Creek, and Santa Maria River. (Staff Report, p. 7; see also Attachment 1 to Staff Report (proposed basin plan amendment language), p. 6.) The inclusion of bifenthrin-specific TMDLs would normally mean that the Central Coast Regional Water Quality Control Board ("Regional Board") has previously (or in conjunction with the Amendment) determined that bifenthrin specifically, and in accordance with the state's policies and procedures set forth in the Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List ("Listing Policy"), is impairing the four waterbodies for which TMDLs have been proposed. However, the Proposed Amendment and associated documents make no such findings, nor do the documents provide evidence to support any such findings. As discussed extensively in the PWG March 29,2013 comment letter, and thus will not be repeated here, the proposed findings of impairment within the Proposed Amendment fail to comply with the state's Listing Policy for a number of reasons. With respect to bifenthrin, we find these determinations of impairment even more problematic.

Staff Response: Comment noted and addressed above in comment 7.2.

8.3 Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys at Law, on behalf of the FMC Corporation

First, the available water column data for bifenthrin fails to support a finding of impairment. Specifically, the water column data for bifenthrin are presented in Table 3 of Appendix C-3 to the Technical Report. Of the ten data points available for bifenthrin, none exceed the evaluation criteria being used in the Proposed Amendment. Moreover, out of the ten data points, bifenthrin was detected in only two of the samples, and one data point is an estimated,j-flagged value. Thus, the bifenthrin data referenced and relied on in the Proposed Amendment do not support a finding of impairment for bifenthrin in water, and thus do not support the need for bifenthrin water column TMDLs.

Staff Response: The comment regarding impairment is noted and discussion regarding impairment listings was addressed in Comment 7.2. Ms. Dunham states that none of the bifenthrin water monitoring samples exceeded the UC Davis criteria. This is incorrect: bifenthrin was detected in Blosser Channel at 3.6 ng/L (ppt), which is above the chronic

criteria of 0.6 ng/L. This sample, along with a sediment sample in Blosser channel that exceeded the sediment criteria, substantiated the need for addressing bifenthrin in the TMDL. The water sample in Blosser Channel also exceeded the EPA aquatic bench mark for bifenthrin of 1.3 ng/L.

8.4 Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys at Law, on behalf of the FMC Corporation

With respect to the sediment data for bifenthrin, it too fails to support the water column TMDLs proposed. Although the point is not made clearly or discussed in the Technical Report, another critical flaw with the Proposed TMDL is that it appears to use water column TMDLs to address perceived impairments in sediment. This is suggested by the language preceding Table 7 in the proposed basin plan amendment language, "[t]he water column TMDLs will result in achieving zero toxicity in sediment from pyrethroids." (Attachment 1 to Staff Report, p. 6.) The Proposed Amendment provides no information or evidence to support a connection between water column concentrations of pyrethroids and sediment toxicity. Accordingly, the proposed TMDLs for bifenthrin are arbitrary and need to be removed.

Staff Response: Staff provided additional evidence in Appendix C-3 Pyrethroid Analysis to support the use of water column targets in the TMDL to address exceedances of pyrethroid criteria in sediment. The evidence suggests that pyrethroids are found in greater concentrations in stream sediments but the freely dissolved fraction in water is the best indicator of aquatic toxicity (bioavailable concentrations of pyrethroids) and the best numeric target protective of aquatic health. Including bifenthrin in the TMDL is not arbitrary as suggested by Ms. Dunham but is based on exceedances reported and described in Appendix C-3 and described above under comment 8.3. Staff notes Ms. Dunham's mention of the "zero toxicity in sediments" and changed the description of the target in the TMDL and Basin Plan amendment to aquatic toxicity numeric target with and toxic determination based on a comparison of test organism's response compared to control and uses a hypothesis test approach statistical examination of results.

8.5 Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys at Law, on behalf of the FMC Corporation

Likewise, it is inappropriate for the Proposed Amendment to use sediment data to conclude that water column impairments exist, and to support the need for water column TMDLs. Further, the available sediment data do not support findings of impairment from bifenthrin for the four waterbodies identified. Specifically, Table 1 in Appendix C-3 identifies six sediment samples as exceeding the evaluation guideline being used in the Proposed Amendment. However, these six sediment samples are from different sampling locations. The Proposed Amendment provides insufficient information with respect to the location of these sampling locations. At most, there are poor Google earth images in section 4.4 of the Technical Report. However, the information is difficult to read and evaluate. As such, it is difficult, if not impossible, to determine where these six sampling locations are in relationship to one another. Accordingly, alleged exceedances from six different sampling locations fails to support a finding of impairment from bifenthrin for all four waterbodies

Staff Response: Ms Dunham asserts that it is inappropriate to use sediment data to conclude that water column impairment exists. Again, the TMDL is not listing any additional water bodies as impaired but noting additional pesticide exceedances in the watershed that the TMDL is addressing. However, numerous exceedances were detected of pyrethroid criteria in both the sediment and the water column.

Staff acknowledges the need for additional maps to clarify the location of monitoring sites and added more detailed site location maps in Appendix C-3 Pyrethroid Analysis.

8.6 Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys at Law, on behalf of the FMC Corporation

Moreover, three of these six sediment samples are from the University of California Davis *Santa Maria River Watershed and Oso Flaco Creek Watershed TMDL Monitoring Study- Final Report* ("UCD TMDL Study"). As discussed in the PWG comments, the data from this study do not appear to meet the data quality assessment requirements in the state's Listing Policy. Further, with respect to sediment samples, the UCD TMDL Study does not include a thorough description of the sediment sampling methods used, and does not indicate if the sediment sampling methods were consistent with the state's Surface Water Ambient Monitoring Program ("SWAMP") monitoring protocols. There are also statements within the UCD TMDL Study that question the efficacy of the study's results and conclusions. For example, in its discussion with respect to the Santa Maria City Area and sediment, the study claims that the toxicity identification evaluation ("TIE") treatments for two sediment samples were inconclusive because the TIE treatments were "overwhelmed by the higher pyrethroid concentrations measured." (UCD TMDL Study, p. 41.) However, the study admits that the TIEs incorporated only a subset of treatments, and thus resolution of toxicity was prevented. (/d., pp. 41-42.) Considering that the TIEs were not complete, it is inappropriate to draw any conclusions from the information otherwise provided. Thus, the proposed TMDLs for bifenthrin are not supported by any evidence in the record and need to be excluded from the Regional Board's proposed action here.

Staff Response: See response to Comment 7.2 regarding the listing policy. Staff notes Ms. Dunham's comments regarding the TIE treatments by UC Davis; however, the evaluations and conclusions were based on sediment and water column concentrations of pyrethroids and not the TIEs,so her concerns do not apply.

Staff conferred with UC Davis regarding the concerns raised by Ms. Dunham. UC Davis noted that:

" The conclusions that are drawn from TIEs are built on a weight of evidence. There are a number of treatments that can indicate the cause of toxicity, and in some cases these treatments do not provide evidence because the sample is too toxic for the treatment to have any resolution. We believe these treatments did not work because the pyrethroid concentrations were too high and the treatment could not alter the toxicity enough to draw a conclusion.

Regarding the fact that the TIEs were abbreviated, we used a subset of treatments that focused on organic causes of toxicity. We did not focus on metal toxicity because our

previous Estuaries Project detected low metal concentration in the Santa Maria Watershed."

8.7 Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys at Law, on behalf of the FMC Corporation

Second, FMC would like to further echo the concerns expressed by the PWG with respect to the use of the UCD water quality criteria in the manner as suggested in the Proposed Amendment. As the PWG indicated, these are not adopted water quality objectives, and they have not been reviewed or approved by the Central Valley Regional Water Quality Control Board. For this reason alone, use of the criteria is inappropriate. FMC also has additional concerns with the bifenthrin criteria developed by UCD. Specifically, FMC submitted comments to UCD when the draft bifenthrin criteria were first developed, and questioned some of the details with the data selection process. (See Attachment 1 hereto, *Comments on Draft Water Quality Criteria Report for Bifenthrin* (Jan. 12, 2010).) Further, the UCD criteria report failed to include several relevant and reliable studies, which would have resulted in a recalculated acute criterion of 7 ng/L and chronic criterion of 1 ng/L. This further indicates the tentative nature of these criteria, as no regulatory agency or body has officially declared that they are appropriate and reasonable for the protection of aquatic life beneficial uses. Moreover, in its comments on the UCD criteria, FMC commented that pyrethroid water quality samples need to be concentrations of freely dissolved pyrethroids before being compared to the UCD criteria because pyrethroids in general and bifenthrin specifically are bound to particulate matter. Based on our review of the information and data in the Proposed Amendment and associated documents, that has not occurred.

Staff Response: Staff disagrees with Ms. Dunham's assertion that the use of the UC Davis criteria in the TMDL is inappropriate. The criteria do not need to be adopted by the Central Valley Water Board as water quality objectives to be used as criteria in the TMDL, and the UC Davis bifenthrin criteria were adopted by EPA in the Total Maximum Daily Loads for Pesticides, PCBs, and Sediment Toxicity in Oxnard Drain 3 in 2011. Staff reviewed comments by FMC and others on the UC Davis bifenthrin criteria including the above mentioned comment on the criteria calculation and determined that the comments were adequately addressed by UC Davis. In addition, the UC Davis criteria underwent additional scientific peer for development of this TMDL and were found to be sound (see Attachment 5 to the Staff Report). Staff notes the comment that the UC Davis criteria need to be compared to freely dissolved pyrethroids; this was previously described in the TMDL Technical Report and the Basin Plan amendment.

8.8 Ms. Theresa A. Dunham, Somach, Simmons and Dunn Attorneys at Law, on behalf of the FMC Corporation

In light of the significant technical deficiencies with the Proposed Amendment and its application to bifenthrin, it must be amended to delete inclusion of bifenthrin. As indicated above and in the PWG comments, the Proposed Amendment is void of sufficient evidence to support findings that pyrethroids are impairing the four waterbodies in question, and that TMDLs are thus appropriate and necessary for pyrethroid pesticides. Accordingly, the pyrethroid water column TMDLs, and all other associated provisions, cannot be legally

sustained. Please contact me at (916) 446-7979 if you have questions with respect to the comments provided above.

Staff Response: As previously noted under comment 7.2, the TMDL is not listing waterbodies as impaired for pyrethroids but is identifying exceedances of existing standards for pesticides and toxicity that should be addressed in the TMDL. The listing process is a separate process. While Ms. Dunham would remove bifenthrin from the TMDL, staff finds that there is sufficient evidence to support addressing impacts to water quality from pyrethroids in the TMDL.

#9 Ms. Janet Parrish, TMDL Liaison, USEPA, Comment Letter

9.1 Ms. Janet Parrish, TMDL Liaison, USEPA, Comment Letter

U.S. Environmental Protection Agency (EPA) recommends and supports your Board's adoption ofthe proposed Toxicity and Pesticides Total Maximum Daily Loads (TMDLs) for the Santa Maria River Watershed. These TMDLs address the full range of pesticides in the Santa Maria River Watershed, including organophosphates, pyrethroids, and legacy pesticides in the organochloride class. We applaud the inclusion of toxicity targets and TMDLs for the water column, sediment, and fish tissue, to address known, unknown and future impairments due to pesticides and other pollutants. We appreciate that you have included numeric targets equivalent to the water quality objectives for acute and chronic conditions, and for additive conditions (i.e., adding the effects of two or more pesticides when present concurrently in a water body). Extensive scientific evidence shows pesticide compounds within the same class will have a combined, additive effect. Therefore, it is necessary and important to address these issues.

9.2 Ms. Janet Parrish, TMDL Liaison, USEPA, Comment Letter

These TMDLs are toxicity- and concentration-based, which is appropriate for these compounds. EPA
supports the analysis used to develop the TMDLs, which are scientifically sound and rigorously peer-reviewed. They are consistent with EPA water quality guidelines for the pesticides identified. We have some suggestions that we believe will strengthen the TMDLs and clarify some statements in the supporting documents. We believe that these additions will lead to TMDLs that will achieve water quality standards for these pollutants. Our comments are included in the enclosure.

9.3 Ms. Janet Parrish, TMDL Liaison, USEPA, Comment Letter

We look forward to reviewing your final TMDLs when they are submitted to EPA. If you have additional questions or need clarification on the comments above, please call me at (415) 972-3456

#10 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comments

10.1 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comment

General Comments

We appreciate the comprehensiveness and scientific rigor of the analysis and conclusions, and we would like to note that the peer review process supports the values identified for the targets, TMDLs and allocations.

Throughout the documents, including the Project Report, Staff Report, and Resolution, please state all chemistry and toxicity values in either ug/L or ng/L consistently. We suggest using ug/L (ppb). For example, Table 3-2 uses ng/L, while other tables use ug/L.

Please consistently use Lamba-cyhalothrin (as opposed to L-cyhalothrin). Since all pyrethroids are synthetic, it is not necessary to say "synthetic" pyrethroids. Pyrethrins, however, are not synthetic.

Please use consistent reference nomenclature. For example, in some places the report refers to DFG 2000 and other refers to the individual author's name of the same report.

Please cite sources of tables and figures, where appropriate, in the tables and figures.

There is often some confusion between the terms excursion of a water quality standard (which EPA often uses) versus exceedance of the water quality standard. However, the term violation has a more specific meaning. For example, Section 6.2 of the Project Report (Implementation section) uses the term violation of water quality objectives. The term "violations" applies to limits, but not to objectives. It would be helpful if the terms could be consistent with their legal (enforcement) meanings, or provide further explanation to avoid confusion.

Staff Response: Staff revised the documents to address the above comments from Ms. Parrish.

10.2 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comment

Pollutants Addressed

Section 2.4 of the Project Report (Table 1-1 and pp. 10 ff.), the table on p. 2 of the Resolution, Section 4 of the Project Report (pp. 29 ff.), and other tables discussing impairments on the 2010 303(d) list and new impairments should be consistent. Please clarify the new listings that were identified consistently in the text and tables, and ensure that new impairments are correctly identified as such. In addition, please ensure that waterbody names are consistently identified, and are consistent with those on the 303(d) list.

Staff Response: Staff reviewed the reports for consistence and made changes as needed.

For example, the discussion of new listings, and Table 1-1 in the Project Report, and the table on p. 2 of the Resolution, is also inconsistent with Table 2-5 in the Project Report. For example, Table 2-5 does not identify any new impairments for Bradley Canyon Creek, while the text identifies new impairments for pyrethroids and chlorpyrifos. The new DDT impairment identified for Oso Flaco Creek in Table 2-5 and in the text is not included in the other two tables. New pyrethroids impairments identified for Orcutt Creek on p.13 of the Project Report are not included in any of the three tables.

Staff Response: Staff reviewed and compared the impairments in the text and tables and corrected inconsistencies for Oso Flaco Creek and Orcutt Creek noted in the above comment. Bradley Canyon Creek was not identified as newly impaired for chlopyrifos and pyrethroids and no changes were made in the documents.

10.3 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comment

Examples by pollutant are noted below:

DDT Listings. The Project Report on p. II states that only the Santa Maria River is currently listed for DDT, when in fact Orcutt Creek is also listed for DDT. The Project Report incorrectly states that Orcutt is not included in the current list for DDT. However, the two tables correctly include Orcutt Creek as listed for DDT. The text also indicates that Blosser Channel and Oso Flaco Creek (which should be corrected from "Oso Flaco Lake Creek" in the text) are newly identified as having DDT impairments, but they are not identified as such in the summary tables.

Staff Response: Staff corrected page 11 of the TMDL Project Report to state that Orcutt Creek is listed for DDT and corrected that Oso Flaco Creek is impaired for DDT. The summary tables were corrected to include DDT impairments for Blosser Channel and Oso Flaco Creek.

Chlordane Listings. In the second paragraph on p. 12 of the Project Report, it would be helpful to clarify that the chlordane impairment in Oso Flaco Lake is new since the 2010 303(d) list.

Staff Response: Staff clarified that chlordane is a newly identified impairment.

Diazinon Listings. Orcutt Creek is included on the 2010 303(d) list as impaired for diazinon, but is incorrectly identified on p. 12 as a new impairment.

Staff Response: Staff corrected the statement on page 12.

Pyrethroids Listings. New pyrethroids impairments discussed on p. 13 are inconsistent with the tables as well. Bradley Channel is identified with a new impairment, but Bradley Canyon Creek is not. Blosser Channel and Orcutt Creek are not shown with new impairments for pyrethroids.

Staff Response: Bradley Canyon Creek is not included because it was not identified as impaired. Staff included the missing pyrethroid impairments discussed on page 13 but identified in the tables.

10.4 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comment

Numeric Targets

We applaud the comprehensiveness of targets that you have included, and we appreciate that you have worked with our offices to ensure that you are addressing all pesticides impairments in a comprehensive fashion.

On Tables 4 (Resolution and Staff Report) and 3-4 (TMDL Project Report), for the standard aquatic toxicity tests, we would like to note that your analysis includes the most recent knowledge of these compounds. It would be helpful to work with our offices to clarify the method for determining toxicity, and to specify an endpoint. We also suggest the following technical edits: 1) the Ceriodaphnia is a 6-8 day test and 2) Hyalella endpoint is survival and growth. Please make similar corrections to the TMDLs and Allocations.

Staff Response: As suggested, staff worked with EPA to clarify the methods for determing toxicity and to specify an endpoint. Staff made the suggested technical edits to the reports and clarified the language.

We encourage and support the individual pesticide numeric targets, the use of the additive formula and the evaluation of the Basin Plan's narrative toxicity objective, with test results being evaluated following the test of significant toxicity (TST) according to USEPA (2010) and Denton et al., (2011). We support the use of pesticide numeric targets as concentration-based waste load allocations and load allocations.

Staff Response: Staff acknowledges EPA's support of the targets.

The additive formula should be identified separately for pyrethroids and organophosphates. In other words, the text in the summaries (Resolution, Project Report) and in the Numeric Targets, TMDLs and Allocations sections should clarify that the additive formula applies within individual pesticides classes (i.e., additive formula for organophosphates and separate additive formula for pyrethroids).

Staff Response: Staff clearly separated the additive formulas for pyrethroids and organophosphate pesticides.

10.5 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comment

Source Analysis

In the source analysis introductory paragraph (p. 29 in the Project Report), the UC Davis study confirmed the association of toxicity related to currently applied pesticides. We suggest that you include those pesticides identified in the Phillips 20I0 document that is cited.

Staff Response: Staff added some of the results of the UC Davis TMDL monitoring study to the introduction of the source analysis section.

Tables 3-7 to 3-10 (pp. 26 ff. in the Project Report), may have been misnumbered or misidentified.

On p. 34, please clarify why it is unlikely that diazinon impairment to carrots is unlikely (i.e., that diazinon is not applied in that waterbody, but the tributary waterbody where it is applied is not impaired for diazinon).

Staff Response: Staff added clarification in the TMDL Technical Report that carrots are grown primarily in the Cuyama Valley, which has little if any hydrologic connectivity with waters impaired for diazinon in the lower watershed.

On page 38 ofthe Project Report regarding review of POTWs and pyrethroids, the report concludes that POTWs are not a significant source. It is not clear how this conclusion was drawn. Were these results evaluated with an analytical method at a relevant level of detection (at 1 ng/L) to ensure attainment of the numeric targets?

Staff Response: The determination was based on an assessment of the facilities that determined there was little likelihood of pyrethroid polluted runoff entering nearby surface waters. The POTWs discharge either to percolation ponds or to spray fields. Since pyrethroids are hydrophobic and bind to sediment, the likely transport mechanism would be contaminated runoff in sediment.

10.6 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comment

Loading Capacity, TMDLs and Allocations

In general, we recommend that TMDLs be clearly and consistently identified, including the assignments of the TMDLs to specific waterbodies. We appreciate the complexity involved in this set of TMDLs, as you have fully considered the toxicity results and pesticides concentrations for I0 waterbodies and a comprehensive array of pesticides.

As with the Numeric Targets section, for the standard aquatic toxicity tests in Section 5 (pp. 72-73 in the Project Report), we note that the TMDLs have been identified with consideration for the most recent knowledge of these compounds. We suggest working with our offices to clarify the method for determining toxicity, and to specify the TMDLs (equivalent to specifying an endpoint for the numeric targets).

Staff Response: Staff acknowledges the comment and worked with EPA to clarify the method of determining toxicity (refer to above comment 10.4). With most impairments, staff specified TMDLs equivalent to the numeric target end points. The one exception is with pyrethroids where the water column targets were not used as targets as originally planned. Since the primary pathway (loading) of pyrethroids to surface waters is bound to sediment, the TMDL should be based on sediment concentrations of pyrethroids and sediment toxicity. In the aquatic environment pyrethroid partition from sediment to water phases and freely dissolved pyrethroid concentrations are biologically available fraction and are the most protective target.

We suggest identifying Section 5 as "Loading Capacity, TMDLs, and Allocations" and Section 5.2 as "Loading Capacity and TMDLs" (i.e., add "and TMDLs" to the titles)

Staff Response: Comment noted and the changes were made.

As with the Numeric Targets section, it will be helpful to identify the additive toxicity TMDLs for each class of pesticides in Section 5 of the Project Report, and in corresponding sections of the Resolution. In other words, under the section for organophosphate TMDLs, we would suggest

including a table specifying the additive formula TMDLs for organophosphates. For the pyrethroids, we-suggest a similar table identifying the additive formula TMDLs for pyrethroids.

Staff Response: Comment noted and the changes were made.

For the Allocations (Section 5.4, p. 74, as well as in the Resolution and Staff Report), we suggest that the allocations be spelled out for clarity, either by referring to specific tables or by including the specifics for the allocations. Unless the Allocations are different than the TMDLs, it would be fine to identify both TMDLs and allocations in the same table, as long as they are identified as such.

Table 11 in the Resolution and Staff Report refers to both the Load Allocations and the Waste Load Allocations. We recommend identifying it as such.

Staff Response: Comments noted and the changes were made.

10.7 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comment

Linkage Analysis, Margin of Safety, Critical Conditions, Seasonal Variation

The clearest support for the linkage analysis is the fact that the numeric targets are based on water quality objectives and interpretations of EPA and CTR guidelines; the loading capacities are equal to these, and the TMDLs and allocations are set equal to them.

Please discuss conservative assumptions for the Margin of Safety.

Critical conditions are addressed by, among other things, the additive formulas that will identity toxicities in pesticide classes that would be overlooked if only single pesticides were evaluated. We appreciate that these were considered in development of the TMDLs.

Under Section 5.7, Seasonal Variations are addressed generally by using concentrations and toxicity tests for Numeric Targets, TMDLs and Allocations. We agree that more pesticide loading occurs from rain- based events. However, pesticides are also a concern during dry weather (termed "urban drool"). Note that even though the volume of runoff is lower from urban drool than from runoff due to winter rains, pyrethroids are highly toxic pesticides and are therefore a concern for both wet and dry weather periods. In addition, certain pesticides bind to sediments, which tend to move seasonally. We would suggest making note of this in this section.

Staff Response: Comments noted and the changes were made.

10.8 Ms. Janet Parrish, TMDL Liaison, USEPA, Detailed Comment

Implementation and Monitoring

We appreciate the comprehensive and practical approach taken to addressing pesticides impairments. Although EPA does not approve the implementation plan, we applaud the approach, which appears to strive for efficiencies and to make use of multiple programs that are ongoing statewide and in the region.

It appears that this section relies on several ongoing implementation programs as well as additional implementation actions identified for this project. It would be helpful to clearly identity which actions are summaries of existing implementation programs and to identity who implements them, then specify and summarize those actions that you are recommending to fill in gaps in those existing programs. This may be more understandable to those who will be assisting with implementation or subject to specific implementation actions.

Staff Response: Staff added a table to the implementation section that summarizes existing and proposed implementation actions (refer to Section 6.5 of the TMDL Technical Report).

Under the Monitoring and Reporting section, we suggest recommending that dischargers conduct the necessary toxicity tests to determine compliance with this pesticide/toxicity TMDL. These should be the aquatic toxicity tests as described in Section 3.

Staff Response: Staff added references to Section 3 in the pyrethroid monitoring section.

For permits and monitoring requirements, refer to the Hladik et al., (2009) report on proper collection and sampling of water and sediment for pyrethroids. This document discusses the preferred container material, container size, holding conditions and sample-handling to minimize pesticide losses. We suggest including this reference to the section on implementation and monitoring of pyrethroids (page 86).

The SOP for pyrethroids should be for stormwater and irrigated lands as well.

Staff Response: Staff acknowledges the need for standardized collection methods and included the references.

For water column toxicity tests and the discussion on additivity, the additive formulas will be applied separately for organophosphates and pyrethroids. This is important because the mode of action is the same for each pesticide class, and is additive (Bailey et al., 1997). For a good summary of pesticide interaction, see the paper by Lydy et al., (2004).

Please check tables to make sure that the percentages add up to 100%.

On Page 91, we suggest coordinating the sampling of organochlorines monitoring in sediment to the Stream Pollution Trends (SPoT) monitoring program.

Staff Response: Staff included the above references in the TMDL Technical Report.

On page 94, in the discussion of DPR's authority, these surface water regulations have been adopted (2012) for pyrethroids and specific EPA label changes for bifenthrin. Please provide the proper citation and discussion to reflect these regulations.

Staff Response: Staff updated the discussion on the surface water noting that the regulations have been adopted.

In the section on MS4 monitoring requirements, we suggest looking at the specific language in San Francisco Bay Region, Municipal Regional Storm Water NPDES Permit, Order R2-2009-0074, dated October 14, 2009 (in particular, Sections C.8 on Water Quality Monitoring and Section C.9.Pesticides Toxicity Control), for examples of specific language that could be helpful in the Implementation program. Also, just as importantly, testing the water column with Ceriodaphnia and sediment toxicity with Hyalella using the TST statistical approach should be included.

Staff Response: Staff reviewed the order and will advise permitting staff.

The TMDLs should specify how to assess compliance with WLAs. We suggest that the section discussing the Municipal Stormwater Pesticide TMDL Implementation Plan (p.93 of Project Report) should include language such as: "Water Board staff should assess compliance with wasteload allocations by measurements of pollutant concentrations in stormwater outfalls."

Staff Response: Staff added a separate section title, "Determination of Compliance with Wasteload Allocations," which includes a discussion of stormwater monitoring compliance.

We suggest that the Implementation section specify milestones to achieve reductions. For example, Section 6.7 should delineate appropriate milestones for reductions in organochlorines and pyrethroids (e.g., 30 year and 15 year compliance dates, respectively). Example language could include 25%/50%/75%/100% progress toward achieving load allocations within 7/15/22/30 years and 3/6/9/12 years, for organochlorines and pyrethroids, respectively. Alternatively, interim milestones could specify numeric targets over the course of implementation rather than percentage reductions.

Staff Response: Staff added interim milestones for achieving the pyrethroid TMDL. Due to the complexity of predicting the environmental fate of organochlorine pesticides, staff did not develop milestones for organochlorine TMDLs.

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