

**CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)  
CHECKLIST AND ANALYSIS**

**for**

**Total Maximum Daily Loads for Toxicity and  
Pesticides in the Santa Maria Watershed in Santa  
Barbara, San Luis Obispo and Ventura Counties,  
California**

**Central Coast Regional  
Water Quality Control Board**

Prepared under the California Environmental Quality Act  
(CEQA) Requirements of a Certified Regulatory Program

***Prepared October 2013***

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## 1. INTRODUCTION AND PROJECT DESCRIPTION

California Regional Water Quality Control Board, Central Coast Region (hereinafter Central Coast Water Board) is required to develop and adopt a total maximum daily load (TMDL) and an associated implementation plan for surface waters that are not achieving water quality standards (40 CFR 130.6(c)(1), 130.7, California Water Code section 13242). A TMDL is the maximum amount of a pollutant that a water body can receive and still achieve water quality standards. Several water bodies in the Santa Maria River watershed are not achieving water quality standards due to toxicity and pesticides.

The Central Coast Water Board is the Lead Agency under the California Environmental Quality Act (CEQA) for evaluating the environmental impacts of the proposed amendment to the Water Quality Control Plan for the Central Coastal Region (Basin Plan). The Central Coast Water Board proposes an amendment to the Basin Plan to incorporate the **Total Maximum Daily Loads for Toxicity and Pesticides in the Santa Maria Watershed** (TMDL for Toxicity and Pesticides).



Figure 1. Location Map of the Santa Maria Watershed and Central Coast Region

Pursuant to Public Resources Code section 21080.5, the Resources Agency has approved the Regional Water Boards' basin planning process as a "certified regulatory program" that adequately satisfies the California Environmental Quality Act (CEQA) (Public Resources Code,

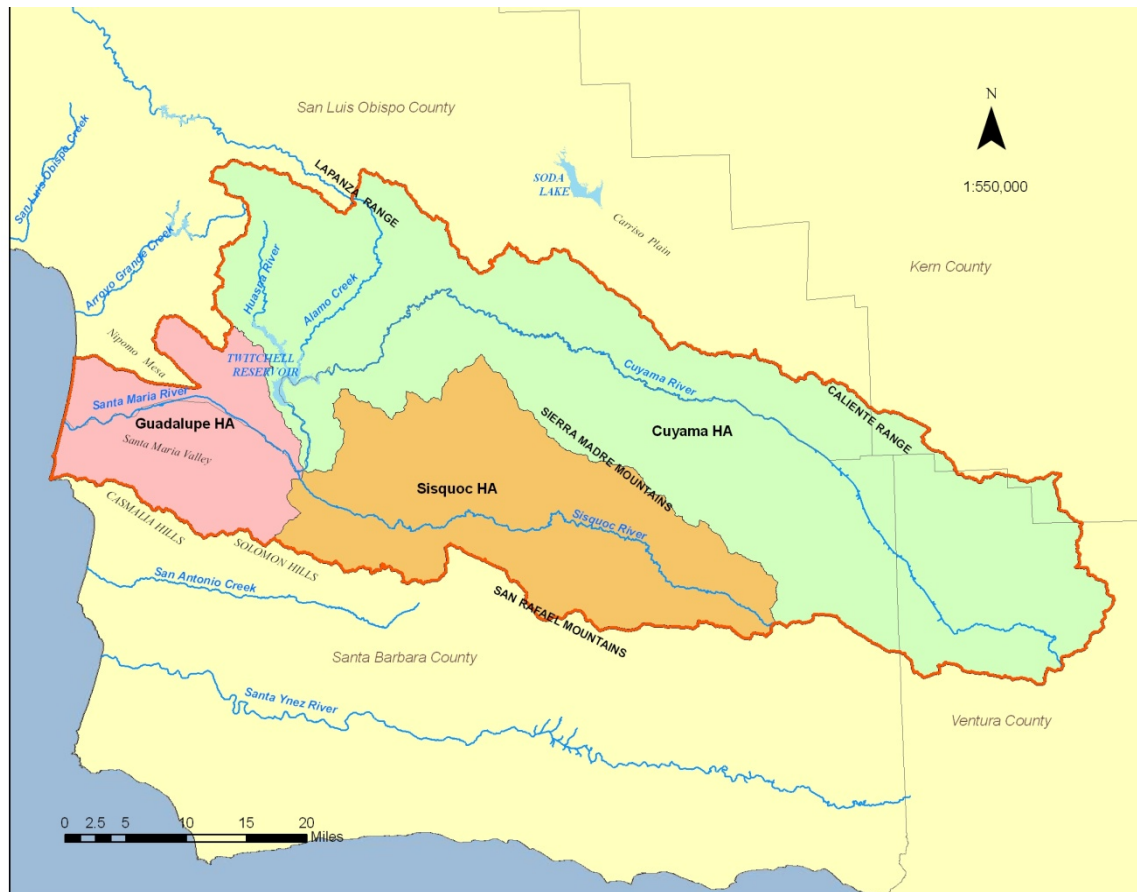
Section 21000 et seq.) requirements for preparing environmental documents (14 Cal. Code Regs. §15251(g); 23 Cal. Code Regs. § 3782.). Central Coast Water Board staff has prepared substitute environmental documents (SED) for this project that contain the required environmental documentation as set forth in the State Water Board's CEQA regulations (23 Cal. Code Regs. § 3777.). The SED includes the TMDL Staff Report and its attachments, including this CEQA Checklist and Analysis.

**This CEQA Checklist and Analysis analyzes environmental impacts that may occur from reasonably foreseeable methods of implementing the TMDL for Toxicity and Pesticides.**

The SED will be considered for approval by the Central Coast Water Board when it considers adoption of the TMDL for Toxicity and Pesticides. Approval of the SED includes the process of: (1) addressing comments, (2) confirming that the Central Coast Water Board considered the information in the SED, and (3) affirming that the SED reflects independent judgment and analysis by the Central Coast Water Board (Section 15090 of CEQA Guidelines (Title 14 of California Code of Regulations)).

The project area is the Santa Maria River watershed (refer to Figure 1). The Santa Maria River watershed is located on the central coast of California and lies in portions of San Luis Obispo, Santa Barbara, and Ventura Counties. The Santa Maria Watershed is referred to as the Santa Maria Hydrologic Unit 312 in the Basin Plan and is comprised of the Cuyama, Sisquoc and Guadalupe subwatersheds. The Cuyama and Sisquoc subwatersheds are mostly undeveloped and their surface waters were not identified as impaired for toxicity or pesticides. However toxicity and pesticide impaired waters were identified in the Guadalupe subwatershed, which is referred to as the Santa Maria Valley.

The Santa Maria Valley is a coastal valley with a broad alluvial plain that is transected from east to west by the Santa Maria River. The Santa Maria River flows to the ocean along the northern boundary of the City and is separated from the City by a man made levee, which also protects farmland. Inside the levee, farmland and the City drain to an extensive network of man-made flood control channels and basins that outlet to the Santa Maria River. Other surface water features in the valley are Orcutt Creek on the southern side of the Valley and Oso Flaco Creek and Oso Flaco Lake on the north; both of which are impaired. Santa Maria Valley has a Mediterranean climate with moderated year round temperature and seasonal winter rainfall, which averages 13.75 inches per year.



**Figure 2 Project Area and Watersheds**

The TMDL for Toxicity and Pesticides addresses surface waters in the Santa Maria watershed that are impaired for toxicity and pesticides based on exceedance of general narrative objectives in the Basin Plan. The TMDL for Toxicity and Pesticides describes numeric targets and allocations aimed at achieving the general objectives and protection of beneficial uses of water. The general objectives are:

*General Objective for Toxicity: 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. Compliance with the objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, toxicity bioassays of appropriate duration, or other appropriate methods.*

*General Objective for Pesticides: No individual pesticide or combination of pesticides shall reach concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life.*

The goal of the TMDL for Toxicity and Pesticides is to restore and protect beneficial uses, which are described in the Basin Plan along with water quality objectives. Water bodies can be assigned specific beneficial uses in the Basin Plan or be designated ones. Designated beneficial uses of water bodies impaired in the Santa Maria Valley include: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Wildlife Habitat (WILD),

Cold Fresh Water Habitat (COLD), Warm Fresh Water Habitat (WARM), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Rare, Threatened, or Endangered Species (RARE), Estuarine Habitat (EST), Freshwater Replenishment (FRESH), Commercial and Sport Fishing (COMM), and Shellfish Harvesting (SHELL). Waterbodies without specific designated beneficial uses in the Basin Plans are assigned Municipal and Domestic Water Supply beneficial uses and protection of both recreation and aquatic life.

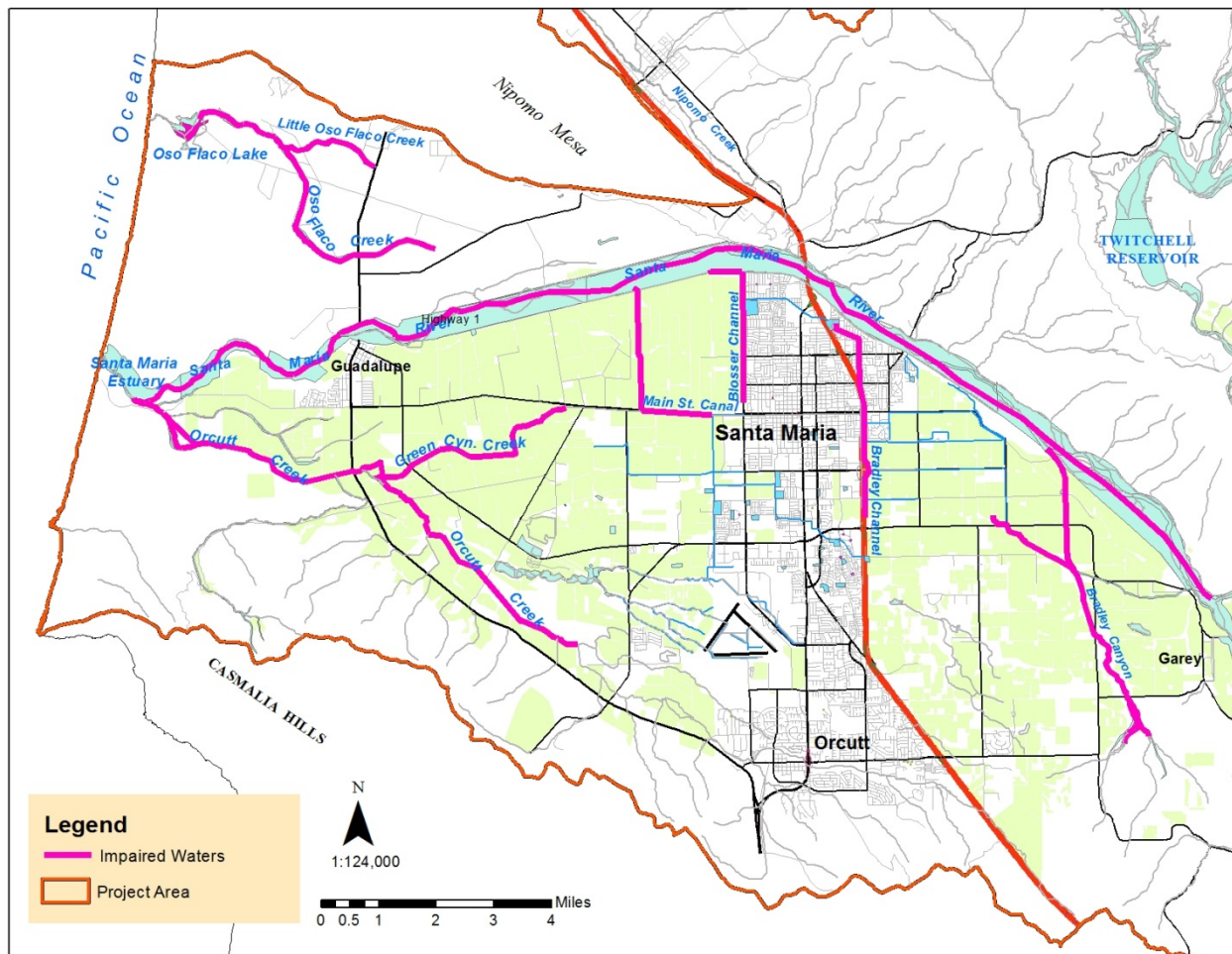
Impaired water bodies in the Santa Maria River watershed are listed on the Clean Water Act Section 303(d) list for water quality impairments due to unknown toxicity, sediment toxicity, and the presence of the pesticides chlorpyrifos, diazinon, DDTs, dieldrin, and toxaphene. Additional impairments are anticipated due to presence of synthetic pyrethroid pesticides that were identified during development of the TMDL for Toxicity and Pesticides. Due to the Clean Water Act 303(d) listings, the Central Coast Water Board is required to adopt a TMDL and an associated implementation plan (40 CFR 130.6(c)(1), 130.7, California Water Code section 13242). Clean Water Act section 303(d) listings and anticipated additional impairments addressed in the TMDL are summarized in the table below.

<b>Waterbody</b>	<b>303(d) Listed Pollutant</b>	<b>Additional Impairments<sup>2</sup></b>
Blosser Channel	Unknown Toxicity	Chlorpyrifos, Diazinon, pyrethroids, DDT
Bradley Canyon Creek	Unknown Toxicity	--
Bradley Channel	Chlorpyrifos, Sediment Toxicity, Unknown Toxicity	Diazinon, Pyrethroids, DDT
Greene Valley Creek	Chlorpyrifos, Unknown Toxicity	--
Little Oso Flaco Creek	Sediment Toxicity, Unknown Toxicity	--
Main Street Canal	Chlorpyrifos, Diazinon Unknown Toxicity	Pyrethroids, DDT
Orcutt Creek	Chlorpyrifos, DDT, Diazinon, Dieldrin, Sediment Toxicity, Unknown Toxicity	Pyrethroids
Oso Flaco Creek	Sediment Toxicity, Unknown Toxicity	Malathion, DDT
Oso Flaco Lake	Dieldrin	Chlordane, DDT
Santa Maria River	Chlorpyrifos, DDT, Dieldrin, Endrin, Sediment Toxicity, Toxaphene, Unknown Toxicity	Diazinon, Pyrethroids

<sup>1</sup> State Water Resource Control Board Waterbody ID

<sup>2</sup>Additional Impairments are exceedances of water quality objectives in waterbodies identified during TMDL development and subsequent to the most recent 303(d) listing cycle.





**Figure 3 Map of impaired waters in the Santa Maria Valley**

The TMDL includes an analysis of pollution sources in the watershed. The TMDL addresses impairments from pesticides that are currently applied to control agricultural pests and non-agricultural pests in urban areas. Agricultural pesticides include organophosphate pesticides (chlorpyrifos, diazinon and malathion) and pyrethroids. Chlorpyrifos and diazinon were common urban pesticides until their use was stopped by EPA in 2001 and 2004 respectively. In the Santa Maria Valley chlorpyrifos was applied almost exclusively as a granular insecticide as a soil treatment on newly planted broccoli. Diazinon was used primarily on lettuce and cole crops (broccoli, cauliflower and cabbages). While malathion was used on a variety of crops it was used mainly on lettuce and strawberries. Pyrethroids are now commonly used in place of chlorpyrifos and diazinon in urban areas and urban drainages were identified as impaired during TMDL development for pyrethroids along with being listed as impaired for unknown toxicity. In addition to currently applied pesticides, the TMDL addresses impairments from legacy organochlorine pesticides (chlordane, dieldrin, toxaphene and DDTs) that were applied decades ago but persist in the environment. Both currently applied and legacy pesticides can be transported into surface waters in storm water and irrigation runoff and the practices described in the following implementation section describe ways to reduce and control runoff.

The TMDL assigns waste load allocations (WLAs) to point sources and load allocations (LAs) to nonpoint sources, and provides an implementation schedule. WLAs will be implemented through the City of Santa Maria and County of Santa Barbara's Separate Storm Sewer System

(MS4) permits. LAs will be implemented through regulatory mechanisms of the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated lands (Agriculture Order) that implements the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Policy)*.

USEPA has authority under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to assure that pesticides, when used properly, will not harm the environment. USEPA assures proper use through label directions. DPR is the lead agency for regulating the use of pesticides in California and is mandated by State law to protect the environment from the adverse effects of pesticide use. Additionally, DPR and the Water Boards have signed a Management Agency Agreement to address pesticide water quality problems using an approach described in the California Pesticide Management Plan for Water Quality (California Pesticide Plan) developed by the agencies. DPR is a state regulatory agency and DPR regulations and the MAA are implemented at the local level by the San Luis Obispo and Santa Barbara County Agricultural Commissioners. These efforts, as well as requirements described in MS4 permits and the Agriculture Order will be used to implement the TMDL for Toxicity and Pesticides.

In addition to assigning load allocations, the TMDL establishes estimated milestones and timelines for achieving the numeric targets in the watershed. The timelines were estimated for groups and classes of pesticides in the TMDL. The target dates to achieve the TMDLs are as follows:

- organophosphate pesticide chlorpyrifos and diazinon - 2016
- malathion – ten years after TMDL approval by Office of Administrative Law (OAL)
- pyrethroids – 15 years after approval by OAL
- organochlorine pesticides – unknown

## **2. REGULATORY REQUIREMENTS FOR ENVIRONMENTAL IMPACT ANALYSIS**

This section presents the regulatory requirements for assessing environmental impacts of a TMDL implemented through a Basin Plan amendment at the Central Coast Water Board. The TMDL for Toxicity and Pesticides in the Santa Maria watershed is evaluated at a program level of detail under a Certified Regulatory Program and the information and analyses are presented in the SED, including this CEQA Checklist and Analysis.

The Staff Report and its attachments, including this CEQA Checklist and Analysis, together with responses to comments and the resolution approving the amendment, fulfill the requirements of California Code of Regulations section 3777, Subdivision (a), and the Central Coast Water Board's substantive CEQA obligations. In preparing these CEQA substitute documents, the Central Coast Water Board considered the requirements of Public Resources Code section 21159 and California Code of Regulations, title 14, section 15187, and intends these documents to serve as a tier-one environmental review.

Any potential environmental impacts associated with implementation of the TMDL for Toxicity and Pesticides depend upon the specific compliance projects selected by the responsible parties, some of whom are public agencies subject to their own CEQA obligations. (See Pub. Res. Code § 21159.2.) There could be adverse environmental impacts if the responsible parties do not properly mitigate the effects at the project level. The SED identifies mitigation measures

that should be considered at the project level. Consistent with CEQA, the SED does not engage in speculation or conjecture but rather considers the reasonably foreseeable feasible mitigation measures, and the reasonably foreseeable alternative means of compliance, which would avoid, eliminate, or reduce the identified impacts.

**a. Exemption from Certain CEQA Requirements**

The California Secretary of Resources has certified the State and Regional Boards' basin planning process as exempt from certain requirements of CEQA, including preparation of an initial study, negative declaration, and environmental impact report (California Code of Regulations, Title 14, Section 15251(g)). As the proposed amendment to the Basin Plan is part of the basin planning process, the environmental information developed for and included with the amendment can substitute for an initial study, negative declaration, and/or environmental impact report.

**b. California Code of Regulations and Resources Code Requirements**

While the "certified regulatory program" of the Central Coast Water Board is exempt from certain CEQA requirements, it is subject to the substantive requirements of California Code of Regulations, Title 23, Section 3777(a), which requires a written report that includes a description of the proposed activity, an analysis of reasonable alternatives, and an identification of mitigation measures to minimize any significant adverse environmental impacts. Section 3777(a) also requires the Central Coast Water Board to complete an environmental checklist as part of its substitute environmental document. This checklist is provided in section 5 of this document.

In addition, the Central Coast Water Board must fulfill substantive obligations when adopting performance standards such as TMDLs, as described in Public Resources Code section 21159. Section 21159, which allows expedited environmental review for mandated projects, provides that an agency shall perform, at the time of the adoption of a rule or regulation requiring the installation of pollution control equipment, or a performance standard or treatment requirement, an Environmental Analysis of the reasonably foreseeable methods of compliance. The statute further requires that the environmental analysis at a minimum, include, all of the following:

- (1) An analysis of the reasonably foreseeable environmental impacts of the methods of compliance.
- (2) An analysis of reasonably foreseeable feasible mitigation measures to lessen the adverse environmental impacts.
- (3) An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation that would have less significant adverse impacts. (Pub. Resources Code, § 21159(a).)

Section 21159(c) requires that the Environmental Analysis take into account a reasonable range of:

- (1) Environmental, economic, and technical factors,

- (2) Population and geographic areas, and
- (3) Specific sites.

**c. Program and Project Level Analyses**

Public Resources Code §21159(d) specifically states that the public agency is not required to conduct a “project level analysis.” Rather, a project level analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Pub. Res. Code §21159.2.) Notably, the Central Coast Water Board is prohibited from specifying the manner of compliance with its regulations (Water Code §13360), and accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by responsible parties.

This CEQA Checklist and Analysis identifies the reasonably foreseeable environmental impacts of the reasonably foreseeable methods of compliance (Pub. Res. Code, §21159(a)(1).), based on information developed before, during, and after the CEQA scoping process that is specified in California Public Resources Code section 21083.9. This analysis is a program level (i.e., macroscopic) analysis. CEQA requires the Central Coast Water Board to conduct a program level analysis of environmental impacts. (Pub. Res. Code, §21159(d).) Similarly, the CEQA Checklist and Analysis does not engage in speculation or conjecture (Pub. Res. Code, §21159(a).). When the CEQA analysis identifies a potentially significant environmental impact, the accompanying analysis identifies reasonably foreseeable feasible mitigation measures. (Pub. Res. Code, §21159(a)(2).) Because responsible parties will most likely use a combination of implementation alternatives, the CEQA Checklist and Analysis has identified the reasonably foreseeable alternative means of compliance. (Pub. Res. Code, §21159(a)(3).)

**d. Purpose of CEQA**

CEQA’s basic purposes are to: 1) inform the decision makers and public about the potential significant environmental effects of a proposed project, 2) identify ways that environmental damage may be mitigated, 3) prevent significant, avoidable damage to the environment by requiring changes in projects, through the use of alternative or mitigation measures when feasible, and 4) disclose to the public why an agency approved a project if significant effects are involved. (Cal. Code Regs., tit. 14, §15002(a).)

To fulfill these functions, a CEQA review need not be exhaustive, and CEQA documents need not be perfect. They need only be adequate, complete, and good faith efforts at full disclosure. (Cal. Code Regs., tit.14, §15151.) The Court stated in *River Valley Preservation Project v. Metropolitan Transit Development Board* (1995) 37 Cal.App.4th 154, 178:

“[a]s we have stated previously, “[our] limited function is consistent with the principle that [t]he purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind...” (City of Santee v. County of San Diego (1989) 214 Cal.App.3d 1438, 1448 [263 Cal. Rptr. 340]; quoting Laurel Heights I, supra, 47 Cal.3d at p. 393.) “We look ‘not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.’ (Guidelines, §§

15151.)” (City of Fremont v. San Francisco Bay Area Rapid Transit Dist., supra, 34 Cal.App.4th at p. 1786.)

Nor does a CEQA require unanimity of opinion among experts. The analysis is satisfactory as long as those opinions are considered.

In this document, the Central Coast Water Board staff has performed a good faith effort at full disclosure of the reasonably foreseeable environmental impacts that could be attendant with the proposed TMDL for Toxicity and Pesticides.

#### **e. Determining Significant Impacts and Thresholds of Significance**

A key component of CEQA is determining whether environmental impacts are significant. A significant effect on the environment is defined as a substantial or potentially substantial adverse change in the environment. (Public Resource Code §§ 21068, 21100(d); Cal. Code Regs. tit. 14 § 15382.) To assess the impact of a proposed project on the environment, the lead agency examines the changes to existing environmental conditions that would occur in the affected area if the proposed project were implemented. (Cal. Code Regs. tit. 14 § 15125.2, subd.(a); *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal. App.4<sup>th</sup> 645.) The basis of determining whether an impact is potentially significant is the comparison of project impacts to thresholds of significance for protecting the resource. Thresholds of significance are quantitative or qualitative analytical criteria used to determine the effects of a project on the environment. The thresholds may vary with the setting of the TMDL and may be developed on the basis of an individual project or the lead agency may have established thresholds. The lead agency can also consider thresholds of significance adopted for other projects or by other agencies (Cal. Code Regs., tit. 14, §15064.7). For the TMDL for Toxicity and Pesticides, Central Coast Water Board staff considered thresholds of significance adopted in other TMDLs, including ones used by other regulatory programs and public agencies. Since the project lies primarily within Santa Barbara County, Central Coast Water Board staff particularly considered and used thresholds from the County of Santa Barbara Planning and Development Department as described in their *Environmental Thresholds and Guidelines Manual* (CSBPD, 2008).

### **3. ENVIRONMENTAL SETTING**

This section describes the current environmental conditions of project area, the Santa Maria Watershed and more specifically the Santa Maria Valley, which is referred to as the Guadalupe Hydrologic Area in the Basin Plan. The regional geographic setting is described above in the project description section and also in the TMDL Project Report. The following are more specific descriptions of the natural and built environments of the Santa Maria Valley in the context of the TMDL project.

**Land Use:** The Santa Maria Valley floor is composed of intensively cultivated irrigated row crops and urban development. Almost one third of the land in the Santa Maria Valley is comprised of cultivated crops (refer to Table 1) and another 17 percent is developed land, both of which are located in the valley floor. The foothills that border the inland side of the watershed are mostly undeveloped non-native grassland and chaparral. The developed urban land is primarily within the City of Santa Maria, the unincorporated community of Orcutt and the much smaller City of Guadalupe. The cities have populations of 99,553, 28,905 and 7,080, respectfully, based on the 2010 census.

The largest developed area in the Santa Maria Valley is the City of Santa Maria, which encompasses approximately 15,094 acres. It is located in the center of the valley along Highway 101. It is bordered to the north by the Santa Maria River and along the west by cultivated farm land. In the City, over one third of the land use is designated for residential use and another 20 percent of the city's land is designated as open space. Other designated uses include public facilities, commercial, office use, industrial and airport service (CSM, 2011).

Orcutt is an unincorporated community located between southern edge of the City of Santa Maria to the Casmalia foothills and comprises a planning area of over 14,000 acres. The community is under the jurisdiction of Santa Barbara County. Orcutt is mostly developed with residential housing and has only a small amount of commercial or industrial land uses. The planning area also encompasses over 5,000 acres of agricultural land and over 1,600 acres of open space (SBCPD, 2005).

Guadalupe is a small community of approximately 1,400 acres located on the western portion of the Santa Maria Valley near the Guadalupe Dunes. It is on the south bank of the Santa Maria River in Santa Barbara County. Highway 1 runs through the city, which is the location of the city's commercial and industrial core. Approximately one third of the land use is residential development and another third is used for agriculture or open space (CG, 2002).

**Table 1 Santa Maria Valley land cover**

<b>Land Cover</b>	<b>Acreage</b>	<b>Percent</b>
Open Water	224	0%
Developed, Open Space	11699	8%
Developed, Low Intensity	8955	6%
Developed, Medium Intensity	4485	3%
Developed, High Intensity	146	0%
Barrens Land	5390	3%
Deciduous Forrest	0	0%
Evergreen Forrest	1758	1%
Mixed Forrest	4138	3%
Shrub/ Scrub	22253	15%
Grassland/ Herbaceous	35713	23%
Pasture Hay	9977	7%
Cultivated Crops	43781	29%
Woody Wetlands	1542	1%
Emergent Herbaceous Wetlands	1521	1%
<b>Total Acreage</b>	<b>151580</b>	<b>100%</b>

Source: GIS summary of 2001 National Land Cover Database data of the watershed (MRLC, 2001).

**Agriculture:** Agriculture is largest industry in Santa Barbara County with a gross production of over 1.2 billion dollars and the Santa Maria Valley is one of the major agricultural production areas in the county. The top value crops in the county, in decreasing order, are strawberries, broccoli, wine grapes and head lettuce and the Santa Maria Valley is the main area in the

county in which they are grown. Farmland in Santa Barbara County is considered “Prime” by the planning department, if cropland produces a return of at least \$200 per acre. Most cropland in the Santa Maria Valley is considered prime. San Luis Obispo and Santa Barbara Counties have agricultural preserve programs and the programs enroll farmland in Williamson Act contracts, which restrict changes in land use for reduced property tax assessments. Land mapped under Williamson Act contract is shown on the map in Figure 3. Most irrigated agricultural parcels shown in the project area are prime farm land under Williamson Act Contract.

**Soils and Geology:** The Santa Maria Valley is a highly productive agricultural region in part due to the flat well drained alluvial soils in the valley. Most of these soils are considered prime agricultural soils and support a wide range of cultivated crops. Soils generally do not pose a constraint to development. The broad valley is underlain by 200 to 2,800 foot thick unconsolidated alluvial deposits that form the aquifer basin beneath the valley. The aquifer is comprised of alluvium, dune sands, and the Orcutt, Paso Robles, Pismo and Careaga Formations. The alluvial deposits are supported by consolidated sedimentary and metamorphic rocks that also bound the sides of the basin and make up the surrounding hills (Worts, 1951). To the south are the Solomon and Casmalia Hills and to the east are the Sierra Madre and San Rafael mountains (refer to Figure 2). The Nipomo Mesa, comprised of dune deposits, is to the north of the valley.

**Mineral Deposits:** The Santa Maria has a history of extensive oil development. Orcutt was established in the early 1900’s when oil extraction was booming in the valley. Production occurred in Orcutt and was scattered throughout the valley from the Santa Maria oil field. Oil production also occurred starting in the 1940s in the Guadalupe Dunes. Oil production in the valley eventually diminished, however, limited production continues today. Other mineral extraction includes commercial sand and gravel mining from the Santa Maria and Sisquoc River channels. The aggregate is an important resource for concrete products and road aggregates.

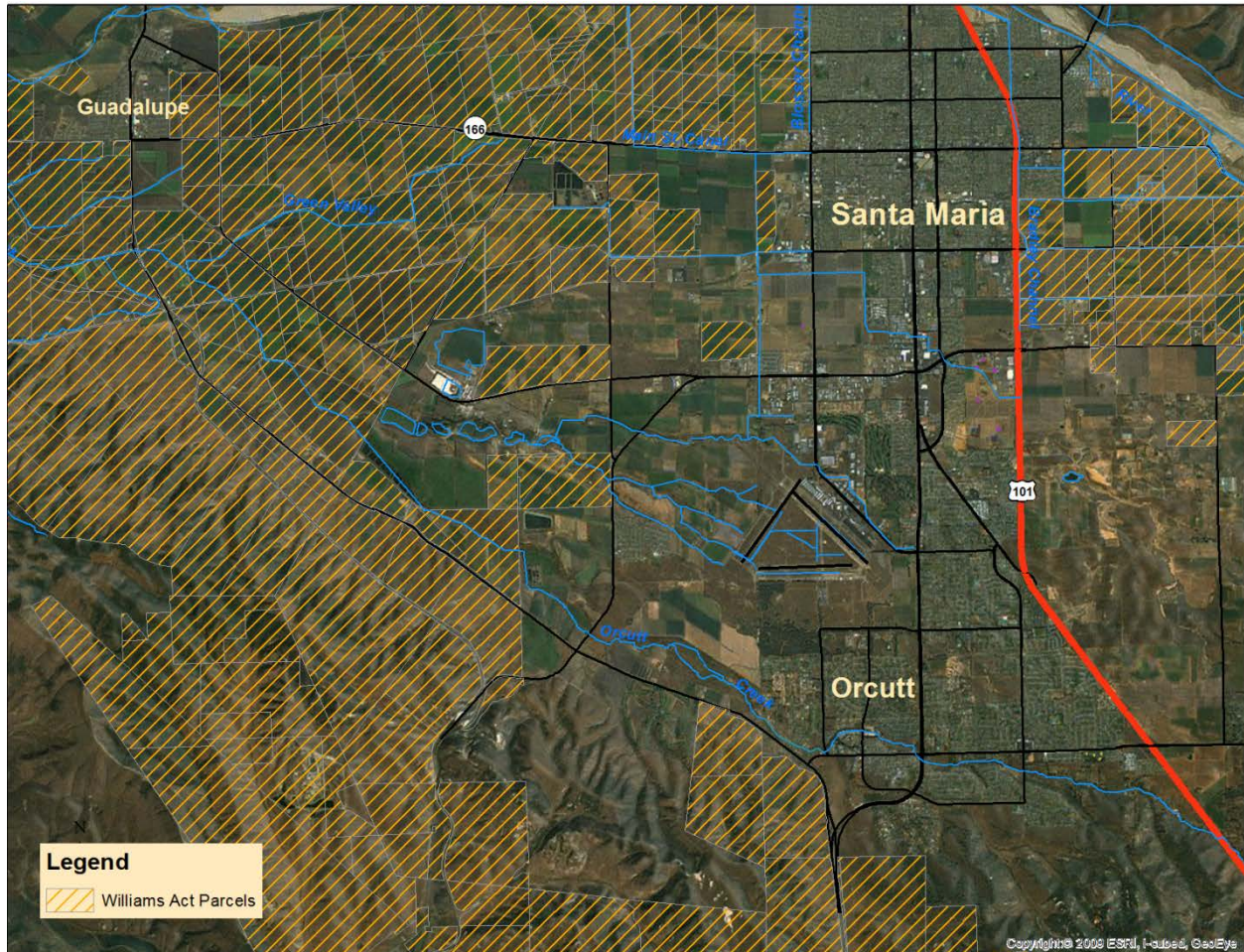


Figure 4 Map of agricultural land under Williamson Act contract

**Biology (vegetation and wildlife):** Diverse natural vegetation and wildlife habitats are supported in Santa Maria Valley. While the valley floor is mainly developed, there are important habitats and corridors. The Santa Maria River is a broad channel that transects the valley and the river provides riparian habitat and is a wildlife corridor to much less disturbed habitats that surround the valley. Also, minor streams and drainage channels that cross the valley provide corridors for wildlife to the foothills and coastal dunes.

In addition to the Santa Maria River there are many important wetland habitats including the Santa Maria estuary, Oso Flaco Lake, Oso Flaco Creek and Orcutt/Solomon Creek. These wetlands support many rare and endangered species such as the California red-legged frog and the tiger salamander.

The Guadalupe-Nipomo Dunes lie along the coast at the base of the valley and separate the alluvial agricultural valley and the Pacific Ocean. The dunes are a fairly undisturbed and provide a diverse ecosystem that supports healthy populations of mule deer, bobcat and mountain lion and are home to over 120 species of rare plants and animals. Migratory birds, pelicans, peregrine falcons, western snowy plover and California least terns are also found in the dunes and along the coast (UFWS 2013).



The foothills surrounding the valley support plant communities such as chaparral, annual grasslands, oak woodlands, and coastal and riparian scrub and are home to wildlife. The foothills also connect the valley to the extensive undeveloped wilderness to the east of the Santa Maria Valley in the Los Padres National Forrest. Los Padres National Forest provides diverse wildlife habitat to many threatened and endangered species including California Condors.

**Air Quality:** Air quality is monitored and reported in the project area by the Santa Barbara County Air Pollution Control District (APCD) and the San Luis Obispo County APCD. The air quality is assessed by comparison of monitoring data to federal and state government air quality standards and is assessed for the following parameters: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, sulfates, lead, hydrogen sulfide, vinyl chloride and visibility reducing particulates (SBAPCD, 2013). The standards in Santa Barbara County were attained for all pollutants except ozone and particulate matter (PM10). Although the standards for ozone were exceeded, pollution levels have steadily decreased over the last two decades and air quality is improving (SBAPCD, 2013). Santa Barbara County meets the federal PM10 standard but exceeds the state standard.

**Water Resources:** Water is a critical resource in the Santa Maria Valley for irrigated agriculture and municipal use. The municipalities use both groundwater pumped from the Santa Maria groundwater basin and water imported from the State Water Project. The City of Santa Maria is the largest municipal water user and uses mostly imported state water but also depends on groundwater. Golden State Water is the water purveyor for Orcutt, which relies primarily on groundwater but also has an allotment for state water. Nitrate contamination of the aquifer is a problem in the valley and a concern for safe drinking water supplies. The Santa Maria groundwater basin is recharged from infiltration that occurs along the Santa Maria River stream channel which receives surface and subsurface flows from the Sisquoc watershed as well as water released from Twitchell Reservoir, which captures rainfall runoff intermittently from the Cuyama watershed.

The Santa Maria groundwater basin is a court adjudicated groundwater basin and the court stipulation between the parties guides management and monitoring of basin water supply and water use (LSCE 2011). Water supply and estimated use in the basin is summarized in an annual report prepared for the courts. The estimated 2010 agricultural groundwater requirements are summarized in Table 2 and municipal pumping and state water deliveries are summarize in Table 3.

**Table 2. 2010 Estimated agricultural groundwater requirements**

<b>Crop</b>	<b>Acres</b>	<b>Water Use (acre feet)</b>
Rotational Vegetables	33,850	~70,000
Strawberries	10,000	12,800
Vineyards	4,700	3,000
Other Crops	2,100	2,000
<b>Total Irrigated Crops</b>	<b>50,650</b>	<b>87,200</b>

Source: 2010 Annual Hydrologic report (LSCE, 2011)

**Table 3. 2010 Municipal water supplies in acre feet**

<b>Purveyor</b>	<b>Groundwater Pumping</b>	<b>State Water Deliveries</b>	<b>Total Supplies</b>
City of Santa	3,087	10,207	13,294

Golden State Water	7,487	248	7,735
City of Guadalupe	880	0	880
<b>Total</b>	<b>11,454</b>	<b>10,455</b>	<b>21,909</b>

Source: 2010 Annual Hydrologic report (LSCE, 2011)

**Waste Water Treatment:** Each of the communities in the Santa Maria Valley has its own waste water treatment plant. The City of Santa Maria discharges waste water to land at a facility on the western edge of the city. Wastewater from the city is treated and discharges to groundwater from percolation ponds. Laguna County Sanitation District is a county agency that provides sewer service to the community of Orcutt. Some of the treated waste water is recycled for crop irrigation and pasture land. The City of Guadalupe has a treatment plant along the lower Santa Maria River and the waste water is applied to land.

**Flood Control/Drainage:** The Santa Maria River is a large braided river channel that drains the very large Sisquoc and Cuyama watersheds as well as adjacent lands. The threat of flooding along the Santa Maria River from large flows out of the upper watersheds necessitated the construction of a levee systems along the the river. One levee is constructed on the south side of the river from Fulger’s Point, which is just upstream of the confluence of the Cuyama and Sisquoc River, to just upstream of the City of Guadalupe, a distance of seventeen miles. A five mile levee was also constructed on the north side of the river between farmland and the river. Original construction of the levees was completed in 1963 and were recently improved to protect against the risk of flooding. A network of flood control channels and basins were constructed behind the levees to drain communities and farm land. The flood control in the Santa Maria Valley is provided by the Santa Barbara County Flood Control and Water Conservation District.

**Transportation/Traffic:** Regional vehicular access to the Santa Maria Valley from the north and south is provided by U.S. Highway 101 and State Highway 1. The Valley has one regional airport, the Santa Maria Public Airport. The valley also has daily Amtrak passenger train service with a station in Guadalupe. Main Street (Highway 166) is a major east-west road that connects the City of Santa Maria to the City of Guadalupe and Broadway Street (State Route 135) is a major north-south street from the City of Santa Maria to Orcutt. The economic base in the valley is agriculture and trucks comprise a major portion of the traffic.

#### **4. DESCRIPTION OF TMDL ALTERNATIVES**

CEQA environmental analysis of the TMDL for Toxicity and Pesticides includes an analysis of potentially feasible alternatives that encompass actions within the jurisdiction of the Central Coast Water Board and implementing parties. During development of the TMDL for Toxicity and Pesticides, Central Coast Water Board staff considered several alternatives that are described below. The program alternatives considered are: a.) No Action Alternative, b.) Mass Balance Calculated TMDL Alternative, c.) Aquatic Toxicity Numeric Criteria TMDL Alternative, and d.) TMDL for Toxicity and Pesticides.

**a. No Action Alternative**

Because a TMDL is required by Section 303(d) of the Clean Water Act, the No Action Alternative is analyzed to allow decision makers to compare the impacts of approving a proposed alternative and its components compared with the impacts of not approving a proposed alternative.. Under a No Action Alternative, the Central Coast Water Board would not require TMDL implementation or monitoring. The TMDL would rely on existing programs to address water quality impairments. For currently applied pesticides, existing efforts would continue to implement management practices and monitor water quality if the TMDL was not adopted and it is likely that water quality would continue to improve. The efforts may not be directed towards the specific water quality impairments identified in the TMDL and progress towards meeting TMDL goals would not be monitored as efficiently as possible, which would affect prioritization and adaptive management efforts, and would likely leave surface waters unprotected for a longer period of time.

Water quality impairments from synthetic pyrethroids and legacy organochlorine pesticides are not specifically addressed in current Central Coast Water Board regulatory programs. While pyrethroids are regulated to protect water quality by DPR and USEPA for professional agricultural and non-agricultural uses, consumer applications are not regulated by these agencies. Additionally, DPR and EPA, in part, rely on Central Coast Water Board efforts for their regulatory planning. Stormwater programs implementing the TMDL would likely be the most effective mechanism to achieve goals; however, current regulation of stormwater does not specifically address discharges of pyrethroids and organochlorines. Therefore, without TMDL implementation, water quality problems would persist. Regulations addressing professional applications of pyrethroids are relatively new and the TMDL monitoring will provide a means to assess effectiveness of the regulations. Organochlorine pesticides are no longer used and are persistent in the environment and are not regulated under existing programs. The No Action Alternative would leave a significant gap in implementation and monitoring to address organochlorine impairments.

Assuming the responsible parties do not take action on their own to address pyrethroids and organochlorines, water quality standards will not be attained and the TMDLs will not be achieved. Furthermore, beneficial uses of waterbodies in the TMDL project area will continue to be impaired and go unprotected.

However, the No Action Alternative is contrary to federal and state law. Therefore, the failure to implement a Toxicity and Pesticides TMDL is unlawful.

**b. Mass Balance Calculated TMDL Alternative**

A mass balanced calculated TMDL alternative would achieve the TMDL by allocating amongst dischargers the maximum mass of pesticide that the receiving waters could receive and still achieve water quality standards. This approach would require first the determination of the amount of pesticide that the impaired surface waters could assimilate and achieve the standard. Then the TMDL would allocate the total allocation mass of pesticide between the dischargers, assigning a wasteload allocation to point sources and a load allocation to nonpoint sources. To accomplish this, stream flow needs to be predictable throughout the year. The calculation would usually consider natural background pollution, but since pesticides are not natural, it would not. The TMDL would also apply a margin of safety to the allocations to account for and protect water quality from uncertainties in the prediction.

Staff evaluated this approach during development of the TMDL and determined that it would not be effective in achieving the TMDL goals due to the hydrology of the watersheds and the sources of pollution. The flow in many of the impaired streams in the Santa Maria watershed do not have natural perennial flows and are dominated by ephemeral irrigation runoff. These streams have flows that are unpredictable and flashy with passing pulses of runoff from irrigated farm fields (CMP, 2009). In these runoff dominated impaired waters, there is little baseflow that can assimilate the pesticides in the runoff. Assimilation of a pollutant is the foundation of a mass balance calculated TMDL and with streams dominated by run-off, the pollution concentrations in the runoff must be at a nontoxic level to meet water quality standards.

Staff anticipates that massed based allocations would be at very low levels since the pesticide targets for surface waters are at extremely low concentrations and extensive implementation would be necessary to meet allocations. Practices to meet allocations would include: irrigation efficiency, sediment basins, vegetative treatment systems, low impact development, IPM and region watershed drainage treatment systems. Staff determined that implementation of these practices could result in potentially significant environmental impacts to farmland, air quality, biological resources, and hydrology.

Based on the discussion above, staff anticipates that it would be very difficult to develop and meet water quality targets and protect aquatic life beneficial uses with a mass based TMDL, and with a mass based TMDL there would still be many potentially significant environmental impacts; therefore a concentration based allocation is more appropriate for the TMDL.

**c. Aquatic Toxicity Numeric Criteria TMDL Alternative**

With the aquatic toxicity TMDL alternative, dischargers would receive TMDLs based on standard EPA numeric aquatic toxicity tests (refer to Table 4) and they would not receive numeric concentration based TMDLs for specific pesticides. Toxicity to invertebrates would be tested using chronic toxicity tests for two species: 1) the 6-8-day water column exposures with the water flea, *Ceriodaphnia dubia*, (USEPA, 2002), and; 2) the 10-day sediment exposures with *Hyalella azteca* (USEPA, 2000) (refer to Table 4). A toxicity determination would be based on a comparison of the test organisms' response to the receiving water sample compared to the control using a statistical evaluation. Along with toxicity tests, if a sample is declared "fail" (i.e., toxic), then additional receiving water sample(s) would be collected and evaluated to determine the causative toxicant(s).

**Table 4. EPA Standard Aquatic Toxicity Tests**

<b>Parameter</b>	<b>Test</b>	<b>Biological Endpoint Assessed</b>	<b>Test Method #</b>
Water Column Toxicity	Water Flea – <i>Ceriodaphnia</i> (6-8 day chronic)	Survival and reproduction	EPA-821-R-02-013 using alpha of 0.20
Sediment Toxicity	<i>Hyalella azteca</i> (10-day chronic)	Survival	EPA 100.1 using alpha of 0.25

The utility of having the target be a toxicity-based metric is that the TMDL will address pesticides currently identified as causing the impairment, and will also identify other toxicants. It is important to use toxicity as an indicator because the approach incorporates the potential effects of the pesticide active ingredient (e.g., diazinon), the other chemicals in the formulated

product, breakdown products, and the interaction among these chemicals in addition to other chemicals in the receiving water. It also addresses any alternative pesticides which may be used in the future. The toxicity target assessment is an interpretation of the Basin Plan toxicity narrative objective.

Central Coast Water Board staff considered the numeric aquatic toxicity TMDL as an alternative and determined that it would be achievable and protective of aquatic life beneficial uses from currently applied organophosphate and pyrethroid pesticides. However, the TMDL also address legacy organochlorine pesticides that bioaccumulate in the food chain. Numeric aquatic toxicity test are not indicators of the potential of polluted sediments to bioaccumulate in the environment.

Implementation of an aquatic toxicity based TMDLs would have potentially significant impacts on the environment from the implementation of management practices. Practices to meet allocations would include: irrigation efficiency, sediment basins, vegetative treatment systems, low impact development, IPM and region watershed drainage treatment systems. Staff determined that implementation of these practices could result in potentially significant environmental impacts to farmland, air quality, biological resources, and hydrology.

#### **d. TMDL for Toxicity and Pesticides**

This alternative is based on the TMDL for Toxicity and Pesticides that is presented and proposed for Central Coast Water Board consideration. The TMDL Project Report provides a summary of surface waters in the Santa Maria watershed impaired with toxicity and pesticides and the federal Clean Water Act requirements to address the impairments. The TMDL develops numeric targets for specific pesticides impairing surface waters along with toxicity targets and fish tissue targets for legacy organochlorine pesticides. Point and nonpoint sources of pollutants are also identified and assigned allocations to meet the targets. Staff developed a range of TMDLs to assure protection of beneficial uses of surface waters.

The following TMDLs are included in the preferred alternative:

- Numeric concentration based TMDLs for organophosphate pesticides (chlorpyrifos, diazinon and malathion)
- Additive toxicity TMDL for organophosphate pesticides
- Additive toxicity TMDL for pyrethroid pesticides
- Aquatic toxicity TMDLs
- Organochlorine pesticide TMDLs (sediment and fish tissue concentrations)

The TMDL Technical Report also describes existing and proposed implementation and monitoring programs to address impairments from both currently applied pesticides and legacy organochlorine pesticides. Implementation for currently applied pesticides relies on an interagency approach between the Water Boards and DPR that is outlined in the California Pesticide Management Plan for Water Quality and the Manage Agency Agreement that agencies have to protect water quality. Additional existing efforts include urban stormwater programs, the Agricultural Order and DPR surface water protection regulations. There aren't existing programs to address organochlorine water quality problems and implementation is focused on a community-based watershed approach lead by stakeholders. Implementation alternatives are described in Section 4 and the environmental impacts of implementation are analyzed and discussed in Sections 6 and 7.

Taking a broad view of the proposed TMDL and practices in Section 4, there are three implementation categories: 1) pesticide use restrictions/use reductions, 2) onsite water quality management practices, and 3) regional watershed treatment systems. As discussed in sections 6 and 7, implementation of practices within these areas will result in potentially significant environmental impacts to environmental resources. Staff determined that there could be potentially significant impacts to prime farmland, air quality, biological resources, hydrology and water quality, and noise.

The TMDL Report describes the toxicity and pesticide water quality problems in the project area and through the detailed source analysis, establishes linkages from these problems to specific pesticide use. The report also outlines numeric targets for specific pesticides based on established and thoroughly developed criteria. The targets are the basis of load allocations. The TMDLs and targets underwent extensive scientific peer-review and were found suitable to meet the water quality goals of the TMDL.

Staff concludes that adoption of the proposed TMDL and Implementation Plan is both necessary and beneficial to the environment. Currently, the Basin Plan does not include a comprehensive implementation program designed to protect and restore the beneficial uses of surface waterbodies in the TMDL project area. The TMDL implementation plan described in the TMDL Project Report provides the framework for this comprehensive program. Staff acknowledges that the implementation of reasonably foreseeable compliance methods identified in Section 5 could result in potentially significant environmental impacts. However the Staff Report, the draft Basin Plan Amendment, and the Environmental Checklist and associated analyses provide the necessary information pursuant to state law to conclude that the potential environmental impacts from TMDL implementation are outweighed by the environmental benefits achieved from improving and protecting the beneficial uses of water.

#### **e. Recommended Program Alternative**

This environmental analysis finds that the TMDL for Toxicity and Pesticides is the most environmentally feasible alternative.

The key difference between a mass-based TMDL and a concentration based TMDL is that a mass-based TMDL allocates pesticide loads on the maximum mass of pesticide that a waterbody can receive and still meet standards and a concentration based TMDL allocates loads based on a concentration of pesticide. A concern with the mass-based TMDL is that the hydrology of many of the surface waters in the watershed are ephemeral and dominated by discharge flows and the surface waters lack base flow to assimilate the discharge of a pollutant mass. Therefore a mass-based discharge would not be protective unless at concentrations that are protective.

The key difference between a TMDL solely for toxicity and a TMDL for toxicity and pesticides is the TMDL for Toxicity and Pesticides may achieve the TMDL goals sooner due to an increased focus on specific pesticides that were identified as sources of toxicity. This reduces the negative impact to the environment from these pesticides. The focus on specific pesticides increases the awareness of specific materials causing toxicity, which can lead to the implementation of BMPs that are more appropriate to the specific fate and transport properties of the detected pesticides, instead of broad generic pesticide management practices. The recent urban pyrethroid regulations are an example of focused regulations and BMPs specific to a specific pesticide pollution problem. In the case of pyrethroids, DPR developed use

restriction mitigation measures specific to pyrethroids that limit the amount of pesticide applied to impermeable outdoor surfaces, such as concrete, that are susceptible to runoff and they prohibit application over drains and applications during rain. With more pesticide-specific implementation, the TMDL for Pesticides and Toxicity has more specific and tangible milestones to track during TMDL implementation.

## **5. DESCRIPTION OF IMPLEMENTATION ALTERNATIVES**

This Section of the CEQA Checklist and Analysis provides a description of implementation alternatives and the type of sites where they might be placed in compliance with the proposed TMDL for Toxicity and Pesticides.

The Central Coast Water Board is prohibited from specifying the manner of compliance with its regulations (Water Code § 13360), and accordingly, the actual compliance strategies will be selected by responsible parties. Although the Central Coast Water Board does not mandate the manner of compliance, foreseeable methods of compliance are outlined below.

Discharges from irrigated agriculture and urban stormwater are identified in the Final Project Report as the two primary sources of impairment; the following implementation alternatives are arranged by these sources.

### **a. Irrigated Agriculture Implementation Alternatives**

Staff utilized The Farm Water Quality Plan (Farm Plan), Publication 9002, developed by the University of California Division of Agriculture and Natural Resources as the primary source of compliance measures to manage pesticides for protecting water quality from agricultural runoff. The Farm Plan was developed as a site planning tool for growers of irrigated crops to implement water quality protection practices. Implementation of a farm plan and pesticide management practices are requirements of the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Agricultural Order). The farm plan practices can also be found in the USDA, National Conservation Practice Standards; the USDA practice reference number is included with a brief description of the practice. Additional practices were also included in the analysis and are described below.

#### **Pest Management #595**

Pest Management is the management of weeds, plant diseases, insects and invertebrate pests with integrated pest management (IPM) techniques for agricultural production. IPM is supported in University of California Cooperative Extension, which defines IPM as:

*[A]n ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non-target organisms, and the environment.*

Pest Management practices to protect water quality can also include management practices such as irrigation water management, filter strips, conservation crop rotation, hedgerow plantings and herbaceous wind barriers.

#### **Irrigation Water Management #449**

Irrigation water management minimizes the offsite movement and leaching of pesticides through planned efficient irrigation while optimizing crop production. Methods used to optimize irrigation efficiency include evaluation of system distribution uniformity, maintenance of system components and basing irrigation decisions on soil moisture content, crop requirements, evapotranspiration rates and leaching fractions.

#### **Irrigation System, Micro-irrigation #441**

Micro-irrigation systems typically use drip emitters to apply irrigation water more precisely and at a lower rate than traditional furrow and sprinkler irrigation systems. This results in the reduction or elimination of irrigation runoff and the offsite movement of pesticides in water or sediment. Micro-irrigation systems for vegetable and strawberry crops deliver water directly at the plant with a drip emitter in a drip tape line placed on the soil of the raised bed. Components of a micro-irrigation system include specialized pumps, filters, pressure regulators and distribution lines. Additionally, drip tape has a limited life span of several years and specialized equipment is needed for removing tape from field.





**Figure 5-1 Micro drip irrigation system applying water to a lettuce crop on a field in the Santa Maria Valley**

#### **Water and Sediment Control Basins #638**

Water and sediment control basins are excavated or earth formed based basins constructed at the base of fields to detain pesticide contaminated runoff and capture contaminated sediment. Basins are used for both urban stormwater and agricultural runoff.



**Figure 5-2 A water and sediment control basin at the edge of farm field in the Oso Flaco watershed**

**Filter Strip #393**

A filter strip or vegetative buffer strip is an area of vegetation at the end or edge of fields that removes sediment and pollutants from runoff and prevents them from entering adjacent water ways. Synthetic pyrethroid pesticide labels for agricultural applications require the installation of vegetative buffers along fields. The pyrethroid labels for agricultural applications include the following requirements:

*Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as but not limited to, lakes; reservoirs; permanent stream; marshes or natural ponds; estuaries; and commercial fish farm ponds).*

*Only apply products containing (name of pyrethroids) onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat*

**Grassed Waterway #412, Channel Vegetation #322**

Grassed waterways are channels that have been graded and shaped to required dimension and stabilized with vegetation to reduce channel erosion and transport of pesticides. Grassed waterways filter sediment and pesticides and reduce erosion of the channel bed and banks, which contain sediment-bound pesticides such as DDTs.

### **Integrated Vegetative Treatment System (VTS)**

VTS incorporates a series of runoff treatment practices that reduce pesticide contaminants in water and sediment to acceptable levels before water leaves a field. VTS may be comprised of a sediment basin, vegetative ditches and an enzyme dosing system. Basins are vegetative ditches that settle and filter contaminants from the runoff and the enzymes rapidly degrade water soluble organophosphate pesticides by hydrolysis to metabolites of much lower toxicity. VTS were not described in the farm plan but UC Davis evaluated the effectiveness of the systems and describes systems for vegetable production in their research work (Anderson, 2010).

### **Conservation Crop Rotations #328**

Conservation crop rotations may involve the rotation of crops and cover crops to enhance cover and alternate crop residues. The crop and cover rotations may reduce plant pest's thresholds of pests that host on plant residue and thus lessen the use of pesticides. Additionally, growers may time the planting of crops until periods of low pest thresholds.

### **Cover Crop #340**

Seasonal cover crops are annual plantings of vegetation cover during the rainy season to production fields. Cover crops benefit water quality by reducing runoff and erosion. Cover crops can be planted when the fields are fallow or inter-planted in between strawberry rows.

### **Treatments to Degrade Pesticides in Agricultural Irrigation Run-off**

Treatments to degrade pesticides in agricultural irrigation run-off involve the application of a technology or product to accelerate the breakdown of pesticides to levels that meet water quality criteria. Landguard is an example of a treatment enzyme product that accelerates the breakdown of chlorpyrifos and diazinon residues in runoff. The product and technology has been developed in Australia by the Commonwealth Scientific and Industrial Research Organization (CSIRO) and is used there for the treatment of contaminated soil and irrigation runoff. Landguard works by rapidly hydrolyzing organophosphate pesticides into two low toxicity breakdown products. The enzyme was isolated from naturally-occurring bacteria that had evolved in soils contaminated with high levels of organophosphate pesticides. Trials have been conducted using Landguard to treat irrigation runoff on central valley farms by the Coalition for Urban/Rural Environmental Stewardship (CURE, 2007) and on the central coast by the U.C. Davis Marine Pollution Studies Laboratory and found to be effective (Anderson Et al. 2010).

### **Reduce or Discontinue the Use of Pesticides Addressed in the TMDL**

To meet load allocations and achieve surface water targets irrigated farming operations could discontinue use of pesticides addressed in the TMDL. At the CEQA scoping meeting for the TMDL, stakeholders reported that many farming operations in the Santa Maria Valley have discontinued the application of chlorpyrifos on cole crops. In the TMDL source analysis, Central Coast Water Board staff concluded that chlorpyrifos use had been significantly reduced in the lower Santa Maria watershed from 2006 to 2008. Moreover, EPA, through label restrictions, has limited the number of applications of diazinon on crops.

A component of this measure may be the selection and application of alternative pesticides to treat pests. In particular, restrictions on the use of Diazinon and chlorpyrifos may result in an increase in the use of malathion.

**b. Urban Runoff Implementation Alternatives**

**Low Impact Development (LID)**

LID is urban development with site drainage that has a high level of infiltration to runoff due to the use of onsite pervious services, native landscaping and infiltration and water reuse systems. Specific LID techniques include: 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.

**IPM for Pests of Homes, Structures and People**

This category refers to the use of environmentally friendly pest management strategies around homes and structures and people in non-agriculture setting. Management strategies include making homes less attractive to pests, using baits, spot treatments, crack and crevice treatments, avoiding applications to hard surfaces and avoiding applications to drainage areas, avoiding applications during precipitation, and pin stream treatment. DPR has recently adopted urban pesticide regulations that require professional applicators to use IPM application strategies.

**c. Regional Watershed Implementation Alternatives**

Regional watershed implementation treats the combined runoff from multiple sites into a treatment system. The Santa Maria valley has many manmade flood control drainage channels that are often combined agricultural and urban drainages systems, suitable for regional treatment. Two common types of systems are vegetative drainage ditch treatment systems and regional basin and wood chip nitrate bioreactor treatment systems.

**Vegetative Drainage Ditch Treatment Systems**

Vegetative drainage ditches have several water quality functions. Drainage ditches can be stores of sediment contaminated with persistent organochlorine pesticides, such as DDTs, and contain vegetation that stabilizes sediment thereby preventing erosion and transport to receiving waters. Vegetation also slows runoff in the ditch, settling suspended fine sediments. Vegetation also accelerates the breakdown of pesticides in the channels. To establish vegetation, ditches may need to be re-shaped, cultivated and planted; additionally, some ditches may require irrigation to germinate and establish plantings. Once established, vegetated channels require maintenance, which may include weeding, mowing and removal of sediment deposits.

**Regional Watershed Drainage Basins and Woodchip Nitrate Bioreactor Treatment Systems**

Basins and bioreactor systems are primarily intended to remove nitrate from runoff but also remove pesticides that settle in basins with fine sediment. Additionally, pesticides can be adsorbed to wood chips in the bioreactor. There are existing basins in the Santa Maria valley flood control systems, such as at the terminus of Bradley and Blosser channels, that could serve as settling areas for suspended fine sediments. Also, the City of Santa Maria and the Cachuma RCD have considered construction of a woodchip bioreactor to treat runoff from Bradley Channel watershed. In addition, the Central Coast Water Board has contracted with the San

Luis Coastal RCD to build a bioreactor, vegetative treatment system and sediment basin in a portion of the lower Oso Flaco watershed to demonstrate these treatment systems.

The image below shows a woodchip bioreactor installed in the Central Coast Region.



Figure 3 Photo taken of a woodchip bioreactor installed at a rest stop in Shandon California.

## 6. ENVIRONMENTAL CHECKLIST

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS -- Would the project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Substantially degrade the existing visual character or quality of the site and its surroundings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. --Would the project:</b>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</b>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is not attainment under an applicable federal or state ambient air	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>IV. BIOLOGICAL RESOURCES -- Would the project:</b>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>V. CULTURAL RESOURCES -- Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource as	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
defined in §15064.5?				
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>VI. GEOLOGY AND SOILS -- Would the project:</b>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste-water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>VII. GREENHOUSE GAS EMISSIONS</b> <b>Would the project:</b>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a significant impact on the environment?				
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>VIII. HAZARDS AND HAZARDOUS MATERIALS</b> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>IX. HYDROLOGY AND WATER</b>				

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>QUALITY -Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete ground water supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>X. LAND USE AND PLANNING</b>				
<b>Would the project:</b>				

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XI. MINERAL RESOURCES -- Would the project:</b>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally –important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XII. NOISE Would the project result in:</b>				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
excessive noise levels?				
<b>XIII. POPULATION AND HOUSING -- Would the project:</b>				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIV. PUBLIC SERVICES</b>				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XV. RECREATION –</b>				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVI. TRANSPORTATION/TRAFFIC -- Would the project:</b>				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
volume to capacity ratio on roads, or congestion at intersections)?				
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVII. UTILITIES AND SERVICE SYSTEMS -Would the project:</b>				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
permitted capacity to accommodate the project's solid waste disposal needs?				
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVIII. MANDATORY FINDINGS OF SIGNIFICANCE</b>				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## 7. ENVIRONMENTAL EVALUATION DISCUSSION

The Environmental Substitute Document must include an analysis of the reasonably foreseeable environmental impacts of the methods of compliance, and the reasonably foreseeable mitigation measures relating to those impacts.

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).”*

## I. AESTHETICS

Would the project:

### (a) – Have a substantial adverse effect on a scenic vista?

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 4. will have an adverse impact on a scenic vista. None of them would either block a scenic vista or substantially degrade the scenic vista.

### (b) – Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**Answer:** No impact.

**Discussion:** There are no designated state scenic highways in the TMDL project area according to GIS data from the Calif. Dept. of Transportation.

### (c) – Substantially degrade the existing visual character or quality of the site and its surroundings?

**Answer:** No impact.

**Discussion:** Reasonably foreseeable methods of compliance identified in Section 4. are of such a nature such that they are not expected to degrade the visual character or quality within the TMDL project area.

### (d) – Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

**Answer:** No impact.

**Discussion:** Reasonably foreseeable methods of compliance identified in Section 4. are of a nature such they would not create new sources of substantial light or glare which adversely affect day or nighttime views in the TMDL project area.

## II. AGRICULTURE RESOURCES:

Would the project:

### (a) – Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

**Answer:** Potentially significant impact.

**Discussion:** The proposed TMDL for Toxicity and Pesticides does not propose or require any person to take agricultural lands out of production. Rather, the proposed TMDL for Toxicity and Pesticides relies on implementation based on an existing regulatory program adopted by the Central Coast Water Board (the Agricultural Order). The Agricultural Order requires growers to comply with the Water Code and the Basin Plan by reducing or eliminating discharges of pollutants into surface and groundwater to the extent that water quality objectives are achieved and beneficial uses protected using management practices.

The Agricultural Order also requires growers to conduct monitoring and reporting. Implementation, monitoring, and reporting requirements (described in the Agricultural Order) generally increase with threat to water quality; the greater the threat, the more is required. Tier-1 discharges are considered less of a threat to Tier-2, which are less of a threat than Tier-3. Therefore, Tier-3 farming operations have the greatest regulatory burden, relative to Tiers 1 and 2. Growers using chlorpyrifos or diazinon and discharging to an impaired waterbody in the project area are in Tier-3; they could be moved to a lower tier if they discontinue using chlorpyrifos and diazinon, or stop discharging to an impaired waterbody.

Growers and agricultural specialists commented at the CEQA scoping meeting that the primary management measure to address chlorpyrifos and diazinon water quality problems, and to reduce their regulatory burden, is to cease applying the pesticides. They stated that this has resulted in loss of agricultural production particularly to broccoli crops that are no longer treated with chlorpyrifos to control soil insect pests. One grower reported crop losses of over 20% and reported the need keep ground out of production due to high pest thresholds.

There may be more crop loss from discontinued use of chlorpyrifos and diazinon. Even with the crop loss, the land use would likely not change from prime agricultural land use from that crop loss; the land is still productive and some growers will be capable of absorbing some crop loss, and they will find different ways of controlling pests. New mitigation measures could be developed for controlling the pests or managing discharge. There are small growers in the Santa Maria Valley that specialize in broccoli production. These operations could face economic hardship due to crop loss and it may not be profitable for them to remain in operation. However, as stated above, this land would likely remain in prime agricultural production.

Crop loss could be mitigated through continued use of chlorpyrifos to control pests and the use of mitigation measures to treat or control run-off. For example, growers could implement measures discussed in Section 2, such as utilizing irrigation measures or sediment basins to eliminate irrigation run-off. Monitoring components of the Agricultural Order would assure compliance with the TMDL water quality targets. However, the sediment basins could be constructed on cropland and, therefore, could result in a loss of prime farmland.

In summary, staff conclude that there could be two types potentially significant impacts to Farmland from implementing the TMDL; these impacts are: 1) the of loss of agricultural productivity due to discontinued use of pesticides and 2) loss of prime agricultural land due to implementation of structural management practices, such as sediment basins.

**(b) – Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**Answer:** No impact.



None of the reasonably foreseeable non-structural or structural compliance methods identified in Section 2. would be expected to conflict with existing zoning for agricultural uses or a Williamson Act contract.

**(c) – Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?**

**Answer:** Potentially significant impact.

**Discussion:** Food safety issues could result indirectly in additional potentially substantial conversion of farmland to non-agricultural land. Stakeholders have concerns about vegetated treatment systems attracting wildlife which might impact leafy green production and risk food safety, thereby indirectly taking viable farmland out of production due to issues arising from food safety risks. It should be noted that many animals (birds, rodents, deer etc.) in fact presently use degraded drainages. Food safety risk could be mitigated through rodent fencing and raptor poles to reduce rodent populations and proper selection of plant species that deter pest species. Implementation of these mitigation measures are within the jurisdiction of the responsible parties listed in the TMDL for Toxicity and Pesticides (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

### **III. AIR QUALITY**

**Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:**

**(a) – Conflict with or obstruct implementation of the applicable air quality plan?**

**Answer:** No Impact

**Discussion:** None of the reasonably foreseeable methods identified in Section 4. would be expected to result in any conflicts with or obstruction to the implementation of the applicable air quality plan. The implementation measures do not result in changes in land use or traffic that could cause an increase in emission, therefore the TMDL for Toxicity and Pesticides is consistent with plans such as the Air Quality Attainment Plan, the Congestion Management Plan and the Regional Transportation Plan (CSBPD, 2008). Additionally the Air Quality Attainment Plan is the county's plan to attain the state ozone standard and the plan accounts for construction and agricultural emissions, such as would be generated by implementing the TMDL in the plan.

**(b) – Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

**Answer:** Potentially significant impact

**Discussion:** Please refer to the below subsection (c) for a discussion of violation of air quality standards.

**(c) – Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is not attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

**Answer:** Potentially significant impact.

**Discussion:** Santa Barbara County does not attain state clean air standards for ozone and fine particulate matter (CSBPD, 2008). Some of the structural and the non-structural reasonably foreseeable compliance methods identified in Section 4. could potentially result in short-term net increase of these pollutants during construction. Vehicle emissions are a major source of ozone precursor emissions (reactive organic compounds and nitrogen oxides) and grading and agricultural tilling are sources of fine particulate matter.

Standard dust control construction management practices should mitigate fine particulate pollutions from soil disturbance activities such as grading and excavating basins or tilling for vegetation plantings. For most construction projects in Santa Barbara County, grading ordinances require dust control measures.

The Santa Barbara County Environmental Thresholds and Guidelines Manual do not have short-term air quality thresholds for reactive organic compounds and nitrogen oxides, but the guideline determined that construction emissions of these compounds were insignificant. It was determined as insignificant based on a county-wide survey of emissions that found construction emissions comprise a small percent of the total emissions; therefore the added construction emissions should be insignificant.

The project should not result in long-term impacts to air quality since the project should increase vegetation on bare ground along farms and in drainage channels as well as a decrease in disturbed soil. Also there should not be any long-term increases in emissions because implementation project construction would occur for a short period of time.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL for Toxicity and Pesticides, but notes that there are mitigation measures available to reduce the potentially significant environmental impacts. However, implementation of these mitigation measures are within the jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

**(d) – Expose sensitive receptors to substantial pollutant concentrations?**

**Answer:** Potentially significant impacts

**Discussion:** Construction of structural management practices could potentially, temporarily, expose sensitive receptors such as schools, residences, apartments, and hospitals to increased levels of fine particulate matter. In the Santa Maria valley, urban areas are in close proximity to irrigated agricultural land uses and drainage channels that may be subject to excavation and grading for the construction of structural management practices.

Standard dust control construction management practices should mitigate fine particulate pollutions from soil disturbance activities such as grading and excavating basins or tilling for vegetation plantings. For most construction projects in Santa Barbara County, grading ordinances require dust control measures. However, as stated above, structural management practices could result in increased levels of fine particulate matter. Construction of the management practices would likely occur over a short period of time; therefore, the impact would be temporary.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL for Toxicity and Pesticides, but notes that there are mitigation measures available to reduce the potentially significant environmental impacts. However, implementation of these mitigation measures are within the jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

**(e) – Create objectionable odors affecting a substantial number of people?**

**Answer:** Potentially significant impact.

**Discussion:** If not properly maintained, woodchip bioreactors have the potential to produce hydrogen sulfide gas, which has an objectionable odor. If this were to occur, the impact could potentially be significant. The impact could be temporary because the woodchip bioreactor could be removed or rendered inoperable. This impact is avoidable if systems are designed to a suitable treatment capacity and operated properly.

**IV. BIOLOGICAL RESOURCES**

Would the project:

**(a) – Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

**Answer:** Potentially significant impacts

**Discussion:** Reasonably foreseeable compliance measures identified in Section 2 could have potentially significant impacts on special status species.

Structural or non-structural compliance methods identified in Section 2 that may potentially result in reduced flows in waterbodies (e.g., reductions in tailwater discharge) may have the potential to have a substantial adverse impact on rare, sensitive, threatened or endangered species or their habitats, but the impact, if any, can be mitigated. Both U.S. Fish and Wildlife and the California State Parks have previously opined on the Ag Order, that there may be potentially significant adverse impacts related to reduction in flows. However U.S. Fish and Wildlife Service indicated that reductions in flows may have a range of potential impacts.. Reduced flow may benefit native species in the long run, making it harder for invasive species

to survive. Reduced flows would likely allow the hydrology to go back to a more natural state; however, it could have negative effects by potentially reducing stream flows and associated freshwater aquatic habitat in areas inhabited by sensitive, rare, threatened or endangered species. The potential negative effects noted above are dependent on many variables including where the flow is reduced, by how much and at what times of the year. California State Parks' position was similar. California State Parks discussed that there would likely be an adjustment period. They suggested further hydrological analysis in these areas where there are special status species with certain water requirements. Additionally, State Parks suggested mitigation measures such as phasing in implementation of requirements in some areas and adjusting them on a watershed basis. Reductions in surface runoff (tailwater discharge) may in fact result in increased percolation to groundwater resulting in an increased potential for shallow groundwater baseflow which could continue to support viable stream flows.

Further, while rare, sensitive, threatened or endangered species are found on or adjacent to irrigated agricultural lands or census-designated urbanized areas in the project area, there are likely negative effects on these species because of current water quality degradation due to toxicity and pesticides. In other words, while rare, sensitive, threatened or endangered species may be present in areas with substantial amounts of regulated flows and agricultural return flows, excessive pesticides resulting in toxicity and water quality degradation are not considered to be a desirable condition for the health and long term sustainability of these species. It is widely acknowledged by many resource professionals and in the scientific literature (refer to TMDL Project Report) that water quality degradation, stream alteration, and human activities have, on balance, constituted an adverse impact to the natural biodiversity of the lower Santa Maria River and Oso Flaco Lake watersheds. Consequently, while sensitive species may be present in some areas because of the discharged water, continuing to discharge water of low quality is not an environmentally desirable or sustainable practice with respect to the viability of sensitive species.

The project could specifically have a significant impact to California red-legged frog (*Rana aurora draytonii*) (CRLF) through modification of habitat due to reduced irrigation return flows to wetland habitats adjacent to the Santa Maria River and in tributary drainages, but potential impacts could be mitigated to less than significant.

Staff reviewed occurrences of rare, sensitive, threatened or endangered species in the TMDL project area using data from the California Natural Diversity Database. The CNDDDB is a program that inventories the occurrences of rare plants, animals and insects in California that is managed by the California Department of Fish and Game (CDFG). A query of CNDDDB found 46 special status species in the TMDL project area (CNDDDB, data from June, 2008) – see Table 32.

Using GIS analysis, staff evaluated the location of amphibians and aquatic plant species in proximity to agricultural flood control drainages and wetland habitats. The analysis showed that there were numerous occurrences of CRLF in the tributary drainages and wetlands along the Santa Maria River and impacts from reductions in irrigation runoff, if a result from implementation of this TMDL, could be significant on habitat and populations. Impacts to CRLF could be significant because reductions in irrigation runoff could alter wetland habitats that are supported by the irrigation runoff during the dry season. Drainage channels in and wetlands along the Santa Maria River from Highway-1 to the head waters of the Santa Maria valley are seasonally supported by irrigation runoff. CRLF are found in wetland and stream habitats with perennial pools and flow; ephemeral streams where the water disappears would likely not support them (Jennings, 1994). They also prefer aquatic habitats with pools and slow moving

water along with dense vegetation such as willows, cattails and bulrushes. CNNDDB indicates the presence of CRLF in Orcutt and Oso Flaco Creeks; these streams in the lower watershed are hydrologically sustained in large part by groundwater baseflow and reductions in irrigation runoff would likely not have an impact on wetland habitat suitable for CRLF in the watersheds.

Additional information on the occurrences of CRLF in the channels was found in the 2005, United States Fish and Wild Life Service's (USFWS) biological opinion for the effects of flood control channel maintenance activities on CRLF (USFWS, 2005). The biological opinion established an environmental baseline for CRLF populations and habitats in waterways with agricultural runoff. The waterways and presence of CRLF are summarized in **Table 21**. **Table 32** shows a list of rare, sensitive, threatened or endangered species in TMDL project area.

Table 5 Waterways and presence of CRLF, USFW 2005 Biological Opinion

<b>Waterway</b>	<b>CRFL Present (based on survey data (2000-2004))</b>	<b>Riparian Vegetation</b>
Unit II Ditch Tailwater Ditch (Main St. Ditch)	14 adults	bulrush, cattails
Unit II Ditch (Main Street Ditch)	4 adults	watercress
West Main Street Ditch	6 individuals, 1 tadpole	Watercress, cattails, bulrush
South Green Canyon drainage	15 adults and subadults	None; weedy species present
Middle Green Canyon drainage	6 adults and subadults	watercress, bulrush
North Green Canyon drainage	1 subadult	watercress, bulrush
Bradley Canyon Channel	1 adult	Bulrush, cattails

Table 6. Rare, sensitive, threatened or endangered species in TMDL project area. Source: Compiled by staff from a query of the California Natural Diversity Database.

<b>Scientific Name</b>	<b>Common Name</b>	<b>Federal Legal Status</b>	<b>CA Legal Status</b>	<b>CA DFG Status</b>	<b>CNPS List</b>
<i>Abronia maritima</i>	red sand-verbena	None	None		4.2
<i>Accipiter gentilis</i>	northern goshawk	None	None	SSC	
<i>Agrostis hooveri</i>	Hoover's bent grass	None	None		1B.2
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	Threatened	SSC	
<i>Amsinckia douglasiana</i>	Douglas' fiddleneck	None	None		4.2
<i>Aquila chrysaetos</i>	golden eagle	None	None	FP WL	
<i>Arctostaphylos purissima</i>	La Purisima manzanita	None	None		1B.1
<i>Arctostaphylos rudis</i>	sand mesa manzanita	None	None		1B.2
<i>Areniscythis brachypteris</i>	Oso Flaco flightless moth	None	None		
<i>Astragalus nuttallii</i> var. <i>nuttallii</i>	ocean bluff milk-vetch	None	None		4.2
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threatened	None		
<i>Castilleja densiflora</i> ssp. <i>obispoensis</i>	San Luis Obispo owl's-clover	None	None		1B.2
<i>Ceanothus cuneatus</i> var. <i>fascicularis</i>	Lompoc ceanothus	None	None		4.2
<i>Ceanothus rigidus</i>	Monterey ceanothus	None	None		4.2
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	Threatened	None	SSC	
<i>Charadrius montanus</i>	mountain plover	Proposed Threatened	None	SSC	
<i>Circus cyaneus</i>	northern harrier	None	None	SSC	

<i>Cirsium rathophilum</i>	surf thistle	None	Threatened		1B.2
<i>Cistanthe maritima</i>	seaside cistanthe	None	None		4.2
<i>Clarkia speciosa</i> ssp. <i>immaculata</i>	Pismo clarkia	Endangered	Rare		1B.1
<i>Deinandra paniculata</i>	paniculate tarplant	None	None		4.2
<i>Dendroica petechia brewsteri</i>	yellow warbler	None	None	SSC	
<i>Emys marmorata</i>	western pond turtle	None	None	SSC	
<i>Erigeron blochmaniae</i>	Blochman's leafy daisy	None	None		1B.2
<i>Erysimum suffrutescens</i>	suffrutescent wallflower	None	None		4.2
<i>Eucyclogobius newberryi</i>	tidewater goby	Endangered	None	SSC	
<i>Euphilotes battoides allyni</i>	El Segundo blue butterfly	Endangered	None		
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	None	None		1B.1
<i>Icteria virens</i>	yellow-breasted chat	None	None	SSC	
<i>Lupinus nipomensis</i>	Nipomo Mesa lupine	Endangered	Endangered		1B.1
<i>Malacothrix incana</i>	dunedelion	None	None		4.3
<i>Monardella frutescens</i>	San Luis Obispo monardella	None	None		1B.2
<i>Monardella undulata</i>	curly-leaved monardella	None	None		4.2
<i>Mucronea californica</i>	California spineflower	None	None		4.2
<i>Nasturtium gambelii</i>	Gambel's water cress	Endangered	Threatened		1B.1
<i>Oncorhynchus mykiss irideus</i>	steelhead - south/central California coast DPS	Threatened	None	SSC	
<i>Phrynosoma blainvillii</i>	coast horned lizard	None	None	SSC	
<i>Prunus fasciculata</i> var. <i>punctata</i>	sand almond	None	None		4.3
<i>Rana draytonii</i>	California red-legged frog	Threatened	None	SSC	
<i>Sanicula hoffmannii</i>	Hoffmann's sanicle	None	None		4.3
<i>Scrophularia atrata</i>	black-flowered figwort	None	None		1B.2
<i>Senecio blochmaniae</i>	Blochman's ragwort	None	None		4.2
<i>Spea hammondii</i>	western spadefoot	None	None	SSC	
<i>Sternula antillarum browni</i>	California least tern	Endangered	Endangered	FP	
<i>Taxidea taxus</i>	American badger	None	None	SSC	
<i>Vireo bellii pusillus</i>	least Bell's vireo	Endangered	Endangered		

SSC – Species of Special Concern

FP – Fully Protecte

WL – Watch List

1B.1 – Rare or Endangered in California or elsewhere, seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

1B.2 – Rare or Endangered in California or elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

4.2 – Limited Distribution, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

4.3 – Limited Distribution, Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Impacts to CRLF could be mitigated by stakeholders in the watershed by developing a mitigation and monitoring plan as part of implementation to mitigate potential impacts to CRLF. Impacts to CRLF could be mitigated to less than significant by assuring suitable flow regime is maintained in water ways to support riparian vegetation and aquatic habitat for the CRLF. Mitigation measures should encourage growers along channels to minimize soil erosion and trap tailwater sediments before discharging into streams. Additionally, pesticide water quality mitigation measures that increases channel vegetation and cover would improve CRLF habitat.

Prior to implementation of structural compliance methods that involve significant earth-moving or land disturbance in areas where sensitive species are located, the implementing parties would consult with California Department of Fish and Game and the U.S. Fish and Wildlife

Service prior to implementing compliance measures and implement mitigation identified by the agencies to avoid impacts to rare, threatened or endangered species. If no such mitigation is available, the activity would not be permitted without additional review and findings. It is anticipated that in most cases installation of structural compliance measures would be of relatively small scale and any impacts could be avoided by adjusting the timing and/or location of the compliance measures to take into account rare, sensitive, threatened or endangered species or their habitats. In addition, alternatives to activities that involve land disturbance may be employed, such as use bioreactors (wood chips), irrigation and nutrient non-structural control measures, or moving crops rows in a direction parallel to riparian zones to reduce runoff.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL for Toxicity and Pesticides, but notes that there are mitigation measures available to reduce the potentially significant environmental impacts. However, implementation of these mitigation measures are within the jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

**(b) – Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?**

**Answer:** Potentially significant impacts.

**Discussion:** The project could have potential significant on sensitive CRLF habitats identified by US Fish and Wildlife Service and identified in the biological opinion for the effects of flood control channel maintenance activities on CRLF (USFWS, 2005). Please see discussion of impacts under the above Biology subsection (a).

**(c) – Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**Answer:** Potentially significant impacts

**Discussion:** As described above under the above Biology subsection (a), implementation of management practices such as: irrigation efficiency, drip irrigation and retention basins could reduce the flow of runoff into surface waters and have an adverse on federally protected wetlands. There are many wetlands in the Santa Maria Valley that are hydrologically supported by irrigation and stormwater runoff. During a field visit in the watershed Central Coast Water Board staff observed freshwater marsh wetlands along the Santa Maria Levee that are hydrologically supported by irrigation runoff from farms (refer to figure 8). Disruption of flows could reduce the size wetland and presence of wetland plants.



**Figure 4 Photo taken from the Santa Maria River Levee facing north towards the Santa Maria River of a marsh wetland with runoff from farm irrigation**

**(d) – Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**Answer:** Less than significant.

**Discussion:** Reasonably foreseeable compliance methods identified in Section 4. will not substantially interfere with migratory fish or wildlife because structural compliance methods are not required within stream beds or in waters of the streams. Also, reasonably foreseeable compliance methods are not anticipated to be spatially large-scale, contiguous, or numerous enough to block migration or use of wildlife nursery sites. To the extent riparian and wetland protection, restoration and enhancement occurs in the project area consistent with identified compliance methods, the movement of any native resident or migratory fish or wildlife species should be expected to be enhanced. The Santa Maria River has habitat possibly suitable for migration of steelhead and may provide a corridor between the ocean and possible spawning areas in the upper Sisquoc River. However, irrigation runoff from farmland adjacent to the Santa Maria River is not of significant volume to influence flows needed for migration. As noted above and demonstrated in Figure 8, irrigation from farms and stormwater runoff support wetland adjacent to the main river channel and do not provide sufficient flows and do not



provide hydrologic connectivity between the ocean and the potential spawning areas in the upper Sisquoc.

**(e) – Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Answer:** No impact

**Discussion:** The City of Santa Maria has an urban forestry program that protects City managed trees, which are usually trees in the street parkways and in front yards along sidewalks. None of the reasonably foreseeable non-structural or structural compliance methods identified in Section 4. are likely to be constructed in areas that would conflict with street trees. In addition the City has an ordinance that requires replacement of trees that are removed for development.

**(f) – Conflict with the provision of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**Answer:** No impact.

**Discussion:** Based on available data there are no adopted Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) currently located in the TMDL project area; therefore there are no impacts to HCPs or NCCPs. The non-structural or structural compliance methods identified in Section 4. are likely congruent with existing management plans that are not adopted, such as the Santa Maria River Estuary Enhancement and Management Plan, insofar as such plans recommend water quality improvement, such as reducing toxicity in surface waters.

## **V. CULTURAL RESOURCES**

Would the project:

**(a) –Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?**

**Answer:** Less than significant.

**Discussion:** Substantial, or potentially substantial, adverse changes to the significance of historical resources as defined in CEQA regulations is not expected to result from the TMDL project. The implementation of non-structural reasonably foreseeable compliance methods identified in Section 4. would not result in a substantial adverse change of a significant historical resource. This is because non-structural compliance methods do not involve land-disturbance or physical effects. Similarly, staff concludes it is unlikely that implementation of any structural compliance method identified in Section 4. would result in a substantial adverse change in the significance of a historical resource. Most of these compliance methods do not involve substantial or large-scale land disturbance to land, which has not been previously disturbed (e.g., irrigated cropland or urban stormwater conveyance structures). If installation of structural BMPs which may involve large scale excavation or land-disturbance activities, or if the construction of a large scale infrastructure is to be conducted, a cultural resources investigation should be conducted before any substantial disturbance of land that has not been disturbed previously. The cultural resources investigation will include, at a minimum, a records search for

previously identified cultural resources and previously conducted cultural resources investigations of the project parcel and vicinity.

**(b) –Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**

**Answer:** Less than significant.

**Discussion:** Substantial, or potentially substantial, adverse changes to the significance of an archaeological resource as defined in CEQA regulations is not expected to result from the TMDL project. The implementation of non-structural foreseeable compliance methods identified in Section 4. would not result in a substantial adverse change of a significant archaeological resource. This is because non-structural compliance methods do not involve land-disturbance or physical effects. Similarly, staff concludes it is unlikely that implementation of any structural compliance method identified in Section 4. would result in a substantial adverse change in the significance of an archaeological resource. Most of these compliance methods do not involve substantial or large-scale land disturbance to land which has not been disturbed previously (e.g., irrigated cropland or urban stormwater conveyance structures). If installation of structural BMPs which may involve large scale excavation or land-disturbance activities, or if the construction of a large scale infrastructure is to be conducted, a cultural resources investigation should be conducted before any substantial disturbance of land that has not been disturbed previously. The cultural resources investigation will include, at a minimum, a records search for previously identified cultural resources and previously conducted cultural resources investigations of the project parcel and vicinity. This record search should also include, at a minimum, contacting the appropriate information center of the California Historical Resources Information System, operated under the auspices of the California Office of Historic Preservation. In coordination with the information center or a qualified archaeologist, a determination regarding whether previously identified cultural resources will be affected by the proposed project must be made and if previously conducted investigations were performed to satisfy the requirements of CEQA. If not, a cultural resources survey would need to be conducted. The purpose of this investigation would be to identify resources before they are affected by a proposed project and avoid the impact. If the impact is unavoidable, mitigation will be determined on a case-by-case basis, as warranted.

**(c) –Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Answer:** Less than significant.

**Discussion:** Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature is not expected to result from the TMDL project. The implementation of non-structural foreseeable compliance methods identified in Section 4. would not result in would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature because these compliance methods do not involve land-disturbance or physical effects. Similarly, it is unlikely that implementation of any structural BMP would result in the destruction of a unique paleontological resource or site or unique geologic feature. Most of these compliance methods do not involve substantial or large-scale land disturbance to land which has not been disturbed previously (e.g., irrigated cropland or urban stormwater conveyance structures). However, in cases where the installation of structural BMPs may involve excavation activities, an investigation of paleontological resources may need to be conducted by a trained professional before any substantial disturbance of land that has not been disturbed previously.

**(d) –Disturb any human remains, including those interred outside of formal cemeteries?**

**Answer:** Less than significant

Staff concluded reasonably foreseeable non-structural compliance methods identified in Section 4. are not expected to disturb any human remains, including those interred outside of formal cemeteries because these compliance methods do not involve land-disturbance or physical effects.

Staff also concludes the foreseeable structural compliance methods identified in Section 4. involving land disturbance or excavation (e.g., construction of retention basins, modification or alteration of stormwater drainage structures) are not expected to disturb any human remains, including those interred outside of formal cemeteries. Most of these compliance methods do not involve substantial or large-scale land disturbance to land which has not been disturbed previously (e.g., irrigated cropland or urban stormwater conveyance structures). If installation of structural BMPs which may involve large scale excavation or land-disturbance activities on previously undisturbed land, or if the construction of a large scale infrastructure is to be conducted and which result in the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the steps identified in CEQA Section 15064.5(e) will be taken.

**VI. GEOLOGY AND SOILS**

**Would the project:**

**(a) – Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
- ii. Strong seismic ground shaking
- iii. Seismic-related ground failure, including liquefaction?
- iv. Landslides?

**Answer:** No impact.

**Discussion:** The reasonably foreseeable compliance methods identified in Section 4. will not have significant adverse effects as described above. Although some implementation strategies could potentially occur below ground, they are not to such a depth or on such a slope, or at such a scale as to result in the ground failure and liquefaction conditions described in VI.(a) above, nor would the compliance methods substantially increase the risk of loss, injury or death of people or structures due to seismic activity above and beyond seismic risks that already exist.

**(b) – Result in substantial soil erosion or the loss of topsoil?**

**Answer:** No impact.

**Discussion:** Reasonably foreseeable methods of compliance identified in Section 4. that could necessitate soil removal, for example construction of certain structural controls such as retention ponds, should not cause a substantial, or potentially substantial adverse change in soil erosion or the loss of topsoil. Staff expects topsoil to be replaced and/or erosion to be minimal. In fact, some of the methods of compliance, for example increases in riparian vegetation,

vegetated treatment systems, impervious area management practices to reduce overland flow, and improved irrigation timing and efficiency would be net improvements to reduce soil loss and erosion in the TMDL project area.

**(c) – Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

**Answer:** No impact.

**Discussion:** Reasonably foreseeable methods of compliance identified in Section 4. should not occur at such a scale as to a substantial, or potentially substantial risk that cause soil instability, landslides, subsidence, liquefaction, or collapse.

**(d) – Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

**Answer:** No impact.

**Discussion:** Implementation of this project should not result in building new structures intended for human occupancy.

**(e) – Have soils incapable of adequately supporting the use of septic tanks or alternative waste-water disposal systems where sewers are not available for the disposal of waste water?**

**Answer:** No impact.

**Discussion:** The project will not have soils incapable of adequately supporting the use of septic tanks or alternative waste-water disposal systems where sewers are not available for the disposal of waste water?

## **VII. GREENHOUSE GAS EMISSIONS**

Would the project?

**(a) – Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Answer:** Less than significant

**Discussion:** Substantial, or potentially substantial, adverse changes to the environment due to generation of greenhouse gas emissions is not expected to result from the TMDL project. The implementation of non-structural foreseeable compliance methods identified in Section 4. would not result in a substantial adverse change because non-structural compliance methods (such as irrigation management and IPM) do not involve energy consumption or energy generation in any significant way. Similarly, staff concludes that implementation of any structural compliance method identified in Section 4. would be unlikely to result in a substantial adverse change. There could be short term increases in traffic during the construction and installation of structural compliance methods, but these activities would be the same as typical construction and maintenance activities in urbanized or rural areas, such as ordinary road and infrastructure maintenance and building activities, or farm operations, and would not be anticipated to rise to the level of a substantial adverse change on the climate through greenhouse gas emissions.

**(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

**Answer:** No impact.

**Discussion:** The implementation of the reasonably foreseeable compliance methods identified in Section 4. does not conflict with implementation of State's AB 32 Scoping Plan<sup>1</sup> to reduce the greenhouse gases that cause climate change. Moreover the Scoping Plan and the TMDL both support efficient use of water, which results in reduced the consumption of energy and reductions in carbon emissions.

### VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project?

**(a) – Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

**(b) – Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

**(c) – Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**(d) – Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

**(e) – For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

**(f) – For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

**(g) – Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**(h)– Expose people or structures to a significant risk of loss injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

**Answer** to all of the above questions having to do with Hazards and Hazardous Materials: No impact.

**Discussion:** Staff determined that here are no reasonably foreseeable methods of compliance as identified in Section 4. that would be expected to use or produce hazardous waste, or that would generate hazardous conditions. Therefore staff determined there would be no impact in terms of Hazards and Hazardous Materials.

### IX. HYDROLOGY AND WATER QUALITY

Would the project:

**(a) – Violate any water quality standards or waste discharge requirements?**

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<sup>1</sup> Calif. Air Resource Control Board, 2008. <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

**Answer:** Potentially significant impact.

**Discussion:** The purpose of the TMDLs is to provide for attainment of water quality standards and restoration of beneficial uses. Through the implementation of structural and non-structural methods of compliance identified in Section 4 to reduce pollutants, staff anticipates that the TMDL for Toxicity and Pesticides will have an overall beneficial impact on water quality in the TMDL project area. Reasonably foreseeable structural compliance methods that involve land disturbance 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. Although the reasonably foreseeable structural methods of compliance could potentially result in a significant impact, the impacts could potentially be mitigated, would be short during construction, and localized at those construction locations.

There is also potential for alternative pesticides to be used as replacements for pesticides specifically addressed in the TMDL for Toxicity and Pesticides. This could result in an increased presence of alternative pesticides in surface waters. For example DPR has found that statewide use of malathion is increasing; use was 40% higher in 2009 than in 2006 (Starner 2011). Additionally Oso Flaco Creek was identified in the TMDL report as impaired for malathion and analysis of pesticide use for the TMDL for Toxicity and Pesticides found a substantial increase in malathion use in the watershed. The increased use of synthetic pyrethroids pesticides is also a potential significant impact to water quality. The use of pyrethroids increased in urban areas after diazinon and chlorpyrifos were banned by EPA.

Water quality impacts from the use of replacement pesticides such as malathion and pyrethroids could be mitigated to less than significant by programs and measures identified in the TMDL report and measures identified section 2 of this CEQA document. Additionally, TMDL monitoring requirements will identify and address pesticide switching that may still cause toxicity; therefore, potentially significant impacts, if any, will be addressed through continued monitoring and not long-lasting.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL for Toxicity and Pesticides, but notes that there are mitigation measures available to reduce the potentially significant environmental impacts. However, implementation of these mitigation measures are within the jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

**(b) – Substantially deplete ground water supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**

**Answer:** No Impact.

**Discussion:** The reasonably foreseeable methods should not result in an increase in groundwater pumping or interfere with recharge. In fact, irrigation efficiency will likely be a

continuing practice to implement the proposed TMDL. The majority of irrigation source water is from groundwater (not surface water). Since irrigation efficiency typically reduces the use of irrigation water, which is ground water, there will not be a negative impact.

**(c) – Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?**

**Answer:** Less than significant impact.

**Discussion:** Reasonably foreseeable structural methods of compliance identified in Section 4. such as retention basins, constructed wetlands and associated construction activities could potentially cause an alteration of the existing drainage pattern locally. However, these methods of compliance are not expected to result in a substantial adverse change resulting in substantial erosion and siltation. In most cases however, these compliance measures would occur at a geographically-small scale, and when installed with appropriately designed mitigation measures, would not be expected to result in substantial erosion of siltation on- or off-site. In addition, some of the compliance methods – particularly structural and vegetative systems for urban runoff management – are intended to approximate, restore, or mimic natural, pre-development runoff and hydrograph patterns which is a desirable environmental result and ultimately beneficial to water quality, and erosion and siltation issues.

**(d) – Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

**Answer:** Less than significant impact.

**Discussion:** Some of the reasonably foreseeable methods of compliance identified in Section 4. such as grassed waterways and channel vegetation could potentially cause an alteration of the existing drainage pattern locally in such a manner that would result in flooding on or off-site. While vegetation prevents channel erosion and pollutant loading, vegetation can also slow down channel stream flows so channels must be larger to support greater capacity. When these drainage systems are sized properly, they should not cause flooding. Also other on-farm conservation practices such as cover crops and sediment basins reduce the amount of flow into drain systems and would mitigate the flow reduction from channel vegetation.

**(e) – Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

**Answer:** Less than significant impact.

**Discussion:** It is unlikely that the reasonably foreseeable methods of compliance identified in Section 4. would constitute a substantial adverse change that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. In fact, many of the methods of compliance for urbanized areas with storm drainage systems are intended to approximate, restore, or mimic natural, pre-development runoff and hydrograph patterns which would be expected to actually reduce the risk of exceedances of stormwater drainage capacities. Further, the implementation of properly designed compliance measures would not result in increases in additional sources of polluted

runoff; in fact, the methods of compliance are intended to reduce concentrations in polluted runoff.

**(f) – Otherwise substantially degrade water quality?**

**Answer:** Potentially significant impact.

**Discussion:** Please refer to the discussion above under the above subsection (a) for description of potentially significant impacts.

**(g) – Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable methods of compliance identified in Section 4. would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

**(h) – Place within a 100-year flood hazard area structures which would impede or redirect flood flows?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable methods of compliance identified in Section 4. would be expected to place structures and have a substantial adverse impact within a 100-year flood hazard area which would impede or redirect flood flows.

**(i) – Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable methods of compliance identified in Section 4. contemplate the use of non-structural or structural methods of compliance that would expose people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

**(j) – Inundation by seiche, tsunami, or mudflow?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable methods of compliance identified in Section 4. contemplate the use of non-structural or structural BMPs that would cause inundation by c, tsunami, or mudflow.

**X. LAND USE AND PLANNING**

Would the project:

**(a) – Physically divide an established community?**

**Answer:** No impact.



Methods of compliance that could potentially physically divide an established community would be physical measures of compliance, such as riparian buffers, retention ponds, and vegetated treatment systems. However, these reasonable foreseeable methods of compliance, as identified in Section 2, do not constitute the risk of a substantial, or potentially substantial, adverse change that would divide a community, because the methods of compliance would be dispersed, not contiguous, and would not be at a large geographic (community-sized) scale.

**(b) – Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

**Answer:** Potentially significant impact.

The County of Santa Barbara Planning and Development Department has an Environmental Thresholds and Guidelines Manual for evaluating environmental impact thresholds for projects in the county (CSBPD, 2008). The thresholds are used for implementing CEQA on projects in the county and have specific guidelines for evaluating impacts to agriculture. To determine the suitability of the project, proposals are evaluated to determine “Will the proposal result in the conversion of prime agricultural land to non-agricultural use, impairment of agricultural land productivity (whether prime or non-prime), or conflict with agricultural preserve programs?” Additionally, mitigation measures to implement the TMDL could conflict with the goals and policies of Agricultural Element of the Santa Barbara County Comprehensive Plan, which are to assure and enhance viable agricultural production.

As discussed in Heading II (a), foreseeable TMDL compliance measures could reduce the productivity of land used to grow broccoli due to crop loss from not applying chlorpyrifos to control soil pests. Loss of agricultural land productivity would be in conflict with existing Santa Barbara County CEQA planning guidelines and the Comprehensive Plan.

Crop loss could be mitigated through continued use of chlorpyrifos to control pests and the use of mitigation measures to treat or control run-off. For example growers could implement measures discussed in Section 2, such as a treatment enzyme to degrade pesticides in run-off or utilize irrigation measures to eliminate irrigation run-off. Monitoring components of the Agricultural Order would assure compliance with the TMDL water quality targets.

**(c) – Conflict with any applicable habitat conservation plan or natural community conservation plan?**

**Answer:** No impact.

Based on available data there are no adopted Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) currently located in the TMDL project area; therefore there are no impacts to HCPs or NCCPs. The non-structural or structural compliance methods identified in Section 4. are likely congruent with existing management plans that are not adopted, such as the Santa Maria River Estuary Enhancement and Management Plan, insofar as such plans recommend water quality improvement, such as reducing toxicity in surface waters.

## **XI. MINERAL RESOURCES**

Would the project:

**(a) – Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

**(b) – Result in the loss of availability of a locally –important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

**Answer** to all of the above questions having to do with Mineral Resources: No impact.

None of the reasonably foreseeable compliance measures identified in Section 4. involve the use of management practices that would result in the loss of availability of a locally-important mineral resource that would be of value to the region and the residents of the state; or result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

## **XII. NOISE**

Would the project result in:

**(a) – Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

**Answer:** Potentially significant impacts.

**Discussion:** The reasonably foreseeable compliance methods identified in Section 4. include the use of structural BMPs that could result in a temporary increase in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Such increased noise levels would likely be associated with heavy equipment operation associated with construction of structural BMPs.

**(b) – Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**

**Answer:** Potentially significant impacts.

**Discussion:** Refer to above section XII(a).

**(c) – A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels currently existing, as noise generation is associated with the short term, temporary use of heavy equipment. Therefore, staff concludes there is no impact pertaining to permanent increases in ambient noise.

**(d) – A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

**Answer:** Potentially significant impacts.

**Discussion:** Refer to above section XII(a).

**(e) – For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

**Answer:** Potentially significant impacts.

**Discussion:** Reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would likely be located within an airport land use plan or within two miles of a public airport or public use airport. The use of heavy equipment for the construction and installation of some structural BMPs could result in temporary increases in existing noise levels and could expose people residing or working to excessive noise levels.

**(f) – For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 4. contemplate the use of structural BMPs that would likely be located within the vicinity of a private airstrip.

### **XIII. POPULATION AND HOUSING**

Would the project:

**(a) – Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

**(b) – Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

**(c) – Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. would displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

#### **XIV. PUBLIC SERVICES**

**(a) – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

**Fire protection?**

**Police protection?**

**Schools?**

**Parks?**

**Other public facilities?**

**Answer** to all of the above questions having to do with Public Services: No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would have an effect upon, or result in a need for new or altered fire protection services, schools, parks, or other public facilities.

#### **XV. RECREATION:**

**(a) – Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

**(b) – Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

## XVI. TRANSPORTATION/TRAFFIC

Would the project:

**(a) – Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?**

**Answer:** Less than significant impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. would cause a substantial, or potentially substantial, adverse increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections). Construction of structural BMPs would temporarily increase traffic. However, due to the size and dispersal of such BMPs, the impact would not be significant.

**(b) – Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. exceed either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.

**(c) – Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

**(d) – Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses.

**(e) – Result in inadequate emergency access?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would affect emergency access.

**(f) – Result in inadequate parking capacity?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that affect parking capacity.

**(g) – Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

**XVII. UTILITIES AND SERVICE SYSTEMS**

**Would the project:**

**(a) – Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs would cause any exceedance of wastewater treatment requirements.

**(b) – Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**Answer:** No Impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would result in a wastewater treatment provider needing to expand existing treatment facilities.

**(c) – Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**Answer:** Less than significant impact.

**Discussion:** MS4 entities could evaluate the need for structural improvements or changes to stormwater drainage systems areas in urban and residential areas. However, because stormwater infrastructure is 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. Also, stormwater discharges are currently subject to Central Coast Water Board permitting requirements which require protection of water quality and prevention of nuisance. Depending on the type of actions to modify or construct stormwater drainage systems, separate environmental review may be required.

**(d) – Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

**Answer:** Less than significant impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of BMPs that would require new or expanded entitlements for water supplies.

A number of compliance methods identified in Section 4. may include use of water supplies; for example irrigation for riparian restoration (tree-planting) and planting of vegetation for certain types of bioretention BMPs (e.g., vegetated swales). The selection of the appropriate compliance measures by responsible parties will need to take into consideration their existing water resources. Basing selection of compliance measures on existing water resources will prevent the need to seek new entitlements. Furthermore, compliance methods identified in the SWRCB NPS encyclopedia (see Section 4. ) also recommends that vegetated treatment options should incorporate native species to the extent feasible such that minimal maintenance is required, including minimal water.

**(e) – Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

**Answer:** No impact.

It is unlikely that implementation of the reasonably foreseeable compliance methods identified in Section 4. will result in the need for a treatment provider, and therefore, to make this determination.

**(f) – Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

**Answer:** No impact.

**Discussion:** None of the reasonably foreseeable compliance methods identified in Section 5. contemplate the use of structural BMPs that would generate a significant source of solid waste, thus there are no significant adverse effects with respect to landfill permitted capacities.

**(g) – Comply with federal, state, and local statutes and regulations related to solid waste?**

**Answer:** No impact.

**Discussion:** Reasonably foreseeable compliance methods identified in Section 5. should generate little, if any, solid waste disposal nor would cause significant adverse effects with respect to compliance with federal, state, or local statutes related to solid waste disposal.

## **XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

**(a) – Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal**

**community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

**Answer:** Potentially significant impact.

**Discussion:** The purpose of the TMDLs is to provide for attainment of water quality standards and restoration of beneficial uses. All of the compliance measures identified in this environmental analysis will likely improve water quality from the current baseline, where many discharges of pollutants are currently occurring in the watershed and will likely continue without the application of these additional protections. Attainment of water quality standards and restoration of designated beneficial uses are expected to result in a net benefit for the quality of the environment.

As discussed previously, under Biological Resources- Category IV(a), CRLF could potentially be adversely affected through modification of habitat due to reduced irrigation return flows to wetland habitats adjacent to the Santa Maria River and in tributary drainages but potential impacts could be mitigated to less than significant.

Further, while rare, sensitive, threatened or endangered species are found on or adjacent to irrigated agricultural lands or census-designated urbanized areas in the project area, there are likely negative effects on these species because of current water quality degradation and excess pesticides associated with agricultural and urban discharges. In other words, while rare, sensitive, threatened or endangered species may be present in areas with substantial amounts of regulated flows and agricultural return flows, excessive pesticides resulting in toxicity and water quality degradation are not considered to be a desirable condition for the health and long term sustainability of these species. It is widely acknowledged by many resource professionals and in the scientific literature (refer to TMDL Project Report) that water quality degradation, stream alteration, and human activities have, on balance, constituted an adverse impact to the natural biodiversity of the lower Santa Maria River and Oso Flaco Lake watersheds. Consequently, while sensitive species may be present in some areas because of the discharged water, continuing to discharge water of low quality is not an environmentally desirable or sustainable practice with respect to the viability of sensitive species.

**(b) – Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

**Answer:** Potentially significant impact.

**Discussion:** Cumulative impacts, defined in section 15355 of the CEQA Guidelines, refer to two or more individual effects, that when considered together, are considerable or that compound or increase other environmental impacts. Cumulative impact assessment must consider not only the impacts of the proposed TMDL implementation plan, but also the impacts from other Basin Plan Amendments, municipal, and private projects, which have occurred in the past, are presently occurring, and may occur in the future, in the TMDL project area during the period of implementation.



There are several TMDLs addressing water quality impairments Santa Maria watershed and staff assessed the potential for these projects to cumulatively impact the environment. The other TMDLs in the Santa Maria watershed are:

- Total Maximum Daily Load for Fecal Indicator Bacteria (FIB TMDL)
- Total Maximum Daily Loads for Nitrogen Compounds and Orthophosphate in the Lower Santa Maria River Watershed and Tributaries to Oso Flaco Lake (Nutrient TMDL)
- Total Maximum Daily Loads for Salts (Salt TMDL)

Implementation of the TMDL for Toxicity and Pesticides in connection to the other TMDLs could have potentially significant impacts on the environment due to overlapping implementation schedules and milestones that could precipitate the implementation of management practices in the watershed. With multiple TMDLs being implemented in the watershed, there could be an increase in funding available for implementation which could accelerate activities to address management practices. Additionally the approval the TMDLs could increase regulatory activity in the watershed, which may lead to increased response by dischargers to implement management practices and subsequently more potential impacts to the environment. In particular, the nutrient and pesticide TMDLs note similar implementation alternatives for irrigated agriculture such as: storage basin, irrigation efficiency and vegetated systems.

Staff evaluated the cumulative impacts of these potential implementation alternatives on the environment and potential significant impacts are outlined below:

Biological Resources – Implementation of the Pesticide TMDL Program in conjunction with the Nutrient TMDL may cause impacts to the CRLF due to reduced flows from irrigated lands into aquatic impact. Management practices such as irrigation efficiency and basins could reduce flows into channels, such as Main Street ditch, and reduce the CRLF habitat in the channel.

Utilities and Service Systems – Implementation of the TMDLs could result in the construction of new storm water drainage systems BMPs such as a regional woodchip bioreactor treatments system that would treat both nutrients and pesticides in runoff.

**(c) – Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

**Answer:** Less than significant.

**Discussion:** The goal of the proposed TMDL and associated actions are intended to improve long term water quality by providing a program designed to protect and restore beneficial uses of surface waters in the TMDL project area, which should result in reduced effects on humans from human use of water.

There is a potential risk of adverse effects on humans from changes in pesticide use from operations discontinuing the use of pesticides addressed in the TMDL and switching to alternatives that may have greater human health risk. Existing environmental programs to ensure worker and consumer safety from pesticides should be adequate to render potential impacts to less than significant.

Pyrethroid pesticides are an important tool available for controlling mosquitos that can transmit vector-borne disease to humans such as West Nile virus and staff investigated whether there use might be restricted use due to the TMDL, which could impact human health. Staff consulted

with the San Luis Obispo County Agricultural Commissioner's office (R. Stockel, personal communication, August 6, 2013) and the Mosquito and Vector Management District of Santa Barbara County (District) (L. Fausett, personal communication, August 6, 2013) regarding vector control and effects on human beings and determined that the TMDL for toxicity and pesticides would not change mosquito control methods and would have no impact on human health. The district monitors mosquitos on the Santa Maria Valley but is not treating for them. They are doing treatments elsewhere in the county but only treat for larvi using larvicides that are specific to controlling mosquitos. These larvicides pose a low risk other aquatic species and the TMDL would not limit their use. Larvicides do not contain pyrethroids or any other pesticide specifically addressed in the TMDL. Pyrethroid pesticides can be used for treating adult mosquitos but are not currently used in the Santa Maria watershed. Any potential application would be spray applications that would likely in urban areas away from streams. Additionally, the discharge of pesticides from vector control applications to waters of the United States are permitted under a statewide NPDES permit and the permit includes mitigation measures to protect water quality.

## **8. STATEMENT OF OVERRIDING CONSIDERATIONS AND DETERMINATION**

Pursuant to CEQA Guidelines section 15093 (Cal. Code. Regs., tit. 14., § 15093), the Central Coast Water Board hereby finds that the project's benefits override and outweigh its potential significant adverse impacts, for the reasons more fully set forth in the Staff Report and attachments thereto, including the CEQA Checklist and Analysis. Specific economic, social, and environmental benefits justify the adoption of this TMDL despite the project's potential significant adverse environmental impacts. The Central Coast Water Board has the authority and responsibility to regulate discharges of waste associated with the sources of pollution causing impairment to water quality. Many of those discharges have caused significant widespread degradation and/or pollution of waters of the state as described in the Final Project Report for Total Maximum Daily Loads for Toxicity and Pesticides in the Santa Maria Watershed in Santa Barbara, San Luis Obispo and Ventura Counties, California and associated reference materials. The TMDL for Toxicity and Pesticides would result in actions to restore the quality of the waters of the state and protect their beneficial uses. While some impacts could occur due to reduced flows, earth-moving, or from implementing other actions to comply with the TMDL for Toxicity and Pesticides as described in the CEQA Checklist and Analysis, the benefits, which include contributing to the present and future restoration of beneficial water uses, and reducing or eliminating pollution and contamination, warrant approval of the TMDL for Toxicity and Pesticides, despite each and every unavoidable impact. Upon review of the environmental information generated for this TMDL for Toxicity and Pesticides, including the CEQA Checklist and Analysis (Attachment 3 of the Staff Report) and in view of the entire record supporting the need for the TMDL, the Central Coast Water Board determines that specific economic, legal, social, technological, environmental, and other benefits of the TMDL for Toxicity and Pesticides outweigh the unavoidable adverse environmental effects, and that such adverse environmental effects are acceptable under the circumstances.

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