

# SAN JOAQUIN VALLEY DRAINAGE AUTHORITY

P O Box 2157 Los Banos, CA 93635  
209 826 9696 Phone 209 826 9698 Fax

October 23, 2008

Pamela Creedon, Executive Officer  
Central Valley Regional Water Quality Control Board  
11020 Sun Center Drive #200  
Rancho Cordova, CA. 95670-6114

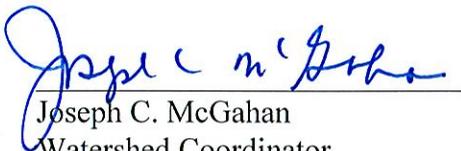
Subject: Westside San Joaquin River Watershed Coalition  
Submittal of Management Plan and Focused Management Plan

Dear Pamela,

Attached are two documents required under the Irrigated Lands Regulatory Program. One is the Management Plan for the Westside Coalition and the other is a Focused Management Plan concentrating on two of our highest priority watersheds, Ingram and Hospital Creeks. These plans have gone through several reviews with your staff and are now ready for final submittal.

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

If you should have any questions on these submittals I can be reached directly at 559-582-9237.



Joseph C. McGahan  
Watershed Coordinator  
Westside San Joaquin River Watershed Coalition

# **SAN JOAQUIN VALLEY DRAINAGE AUTHORITY**

## **Westside San Joaquin River Watershed Coalition Management Plan – General Approach**

**FINAL**

**October 23, 2008**

## Table of Contents

Section 1: Management Plan Overview .....	MP-1
Section 2: The Westside San Joaquin River Watershed Coalition .....	MP-3
Section 3: Plan Prong 1: Water Quality Improvement – General Approach .....	MP-8
Section 4: Plan Prong 2: Focused Plans and Adaptive Strategy for Modification .....	MP-26
Section 5: Summary of Management Plan Action Items .....	MP-27
Section 6: Management Plan Implementation and Reporting Schedule.....	MP-28
Section 7: Responsible Parties.....	MP-29
Section 8: Relationship Between this Management Plan and the Monitoring and Reporting Program Order for the Westside Coalition .....	MP-31

## List of Tables

Table 1	Count of Results Outside of Water Quality Values .....	MP-5
Table 2	Summary of Tiers by Individual Monitoring Sites.....	MP-25
Table 3	Anticipated Focused Plan Schedule .....	MP-28
Table 4	Implementation Schedule .....	MP-29

## **Section 1: Management Plan Overview**

The Westside San Joaquin River Watershed Coalition (Westside Coalition or Coalition) received a letter from Pamela Creedon, Executive Officer of the Regional Water Quality Control Board (Regional Board or Board) dated November 30, 2006 that informed the Coalition of the requirement to develop and implement a management plan to address water quality exceedances at locations where there has been more than one exceedance within three years. The letter included a memorandum that identified the constituents and monitoring sites that had reported more than one exceedance and the required components of a management plan to address them. This request was partially in response to the Water Quality Strategy submitted to the Regional Board by the Westside Coalition on July 31, 2006 and subsequent discussions.

The Westside Coalition has developed this Management Plan (Plan) to address the requirements for a plan in the Regional Water Board Order R5-2008-0005 (Board Order), as listed below.

1. Identify irrigated agriculture source -- general practice or specific location -- that may be the cause of the water quality problem, or a study design to determine the source.
2. Identify management practices to be implemented to address the exceedances.
3. Develop a management practice implementation schedule. Implementation may occur through another Regional Water Board regulatory program designed to address the specific exceedances.
4. Develop management practice performance goals with a schedule.
5. Develop a waste-specific monitoring schedule.
6. Develop a process and schedule for evaluating management practice effectiveness.
7. Identify the participants and Coalition Group(s) that will implement the Management Plan.
8. Identify a routine schedule of reporting to the Regional Board.

This Plan utilizes a two-pronged approach to address these Board Order requirements. First, a general approach is described which will be utilized throughout the Coalition Group subwatersheds. The general approach will identify the common strategies that will be used throughout the subwatersheds, but which will vary among constituent types. For example, the approach that will be used to address toxicity will be distinctly different

than the approach that will be used to address the exceedances for *E. coli*. These different approaches are described in this Plan document.

The second prong is the use of Focused Watershed Management Plans (Focused Plans), which identifies a much more specific strategy to achieve Management Plan implementation and improvements in water quality in specific watersheds. The Focused Plans will identify water quality improvement goals and appropriate management practices (MPs) for implementation, will set forth timelines for implementation, and will describe the tracking mechanism to measure progress toward the goals.

The Regional Board has recognized the achievement of water quality goals. The Board also understands that plan timelines are difficult and that the Coalition will need to acquire more information to know which will be appropriate and achievable. For this reason, the success of the Plan will be measured not only in improvements in water quality measurements, but also in achievement and quantification of MPs; particularly with the completion of the Focused Plans.

Therefore, as part of its second prong, the Plan identifies an adaptive strategy and a procedure for modifications to change components for flexibility or to address new issues by addendum, including but not limited to, ongoing modifications of the Management Plan monitoring program and implementation strategy to address identified water quality issues within the Coalition's area. Thus, the Plan is intended to be a living document, and activities identified within this Plan will be reviewed and evaluated on a continuous basis in consultation (at least quarterly) with Regional Board staff to realize the intended water quality improvements and to assure that resources are utilized in the most efficient manner. Consistent with the Westside Coalition's structure, membership, and authorities, the Plan may involve regional, district-based, or individual activities as appropriate. Ultimate enforcement responsibilities for discharges from individual parcels will remain with the Regional Board. This Plan categorizes the water quality issues into logical groups and subareas based on the apparent cause and

likely effective management activities that may be used to address the issue(s). Potential management activities are identified and an implementation schedule is included in this Plan.

The Westside Coalition is reporting and has compared water quality monitoring results to recommended water quality values (WQV) as requested by the Irrigated Lands Regulatory Program (ILRP) staff, even though some of the values have not been adopted in applicable regulations. Reporting of monitoring results that fall outside of the requested values should not be construed as acquiescence that these values are applicable water quality objectives under the Basin Plan. The Westside Coalition's efforts are focused on addressing known water quality issues.

## **Section 2: The Westside San Joaquin River Watershed Coalition**

In April 2004, the San Joaquin Valley Drainage Authority (SJVDA) submitted a Watershed Evaluation Report for the Westside San Joaquin River Watershed Coalition. The Westside Coalition Watershed generally lies on the west side of the San Joaquin River from approximately the Stanislaus County Line to the north to 10 miles south of Mendota to the south and encompasses an area of approximately 496,000 acres. There are approximately 4,000 landowners and 1,500 operators within the watershed. The Westside Coalition includes water and irrigation districts, private water companies, individuals, and Federal, State, and private managed wetlands. A number of rural communities and the City of Los Banos are also situated within the Coalition's external boundaries, but are not part of the Coalition. See **Figure 1** of the Monitoring and Reporting Program (MRP) Plan (February 2008) for Monitoring Station Locations.

**Organizational Structure:** The San Joaquin Valley Drainage Authority, a California joint powers agency, is the umbrella organization for the Westside Coalition. Its members are water, irrigation and drainage districts generally on the west side of the San Joaquin Valley interested in a variety of drainage issues, from Tracy to Tulare Lake. The Westside Coalition is a special project under the SJVDA formed by some of the irrigation and water districts for the purposes of providing coverage as a watershed

coalition for landowners and operators under the ILRP. The Westside Coalition is comprised of the lands within Del Puerto Water District, Patterson Irrigation District, the San Joaquin River Exchange Contractors Water Authority (which includes Central California Irrigation District, San Luis Canal Company, Firebaugh Canal Water District, and Columbia Canal Company), Tranquillity Irrigation District/Fresno Slough Water District, Twin Oaks Irrigation District, West Stanislaus Irrigation District, Oak Flat Water District, El Solyo Water District, Stevinson Water District, White Lake Mutual Water Company, Lone Tree Mutual Water Company, Turner Island Water District and San Luis Water District. Grassland Water District/Grassland Resource Conservation District, State Refuges managed by the California Department of Fish and Game, and Federal Refuges managed by the U. S. Fish & Wildlife Service cover 128,000 acres. Each of the above agencies is acting on behalf of the lands located within its boundaries and engages its individual landowners and operators in the Westside Coalition's program for funding, monitoring and MP implementation. A number of additional individual landowners outside of organized districts have also joined the Westside Coalition.

The Coalition is governed by a Steering Committee that meets monthly in an open and public forum. The chairman may appoint ad hoc committees to develop recommendations on specific issues. The Coalition contracts with a Watershed Coordinator, and the Steering Committee provides direction to the Watershed Coordinator following discussion and appropriate action at these meetings. The Watershed Coordinator provides the primary communication link between the Coalition and the Regional Board. The Watershed Coordinator also serves as the primary communication link for water quality issues and ILRP information to the member districts, who then communicate with the landowners and operators. Follow up with individual members is directly through the Watershed Coordinator. The Watershed Coordinator assists the districts in grower outreach through presentations at meetings and grower workshops, providing results of water quality monitoring and providing results of MP evaluations. The structure of the Coalition takes advantage of the leadership of existing water and drainage entities upon whom landowners and water users are accustomed to rely for information and direction, and can provide direct

landowner assistance and information through the watershed coordinator. It is based upon the principle that proactive leadership is the most effective and appropriate tool to maximize individual landowner and operator cooperation in achieving watershed-based water quality improvement goals and is not structured as a regulatory enforcement body.

**Summary of Monitoring Results:** In July of 2004, the Westside Coalition began its Phase I Monitoring, which included general physical and drinking water constituents, analyses for 30 different organophosphate pesticides, aquatic toxicity testing for algae, fathead minnow, and water flea, and sediment toxicity testing. In July of 2006, the Coalition implemented Phase II Monitoring with added constituents for nutrients, metals, and carbamate, herbicide, organochlorine, and pyrethroid pesticides. In the 36 month period from July 2004 through August 2007, the Westside Coalition has collected and reported more than 30,000 constituent results through its monitoring plan. **Table 1** shows the number of water quality results that fall outside of the recommended WQV at each monitoring site between July 2004 and August 2007.

**Table 1: Count of Results Outside of Water Quality Values**

	July 2004 through August 2007																		
	DPCHW	DPCR	HCARR	ICARR	LBCCC	LBCHW	MRDRR	MSUSL	NWHFR	OCAHW	OCARR	ROLFA	SCAOV	SSALA	SSASD	SJRLA	TSAER	WWNCR	
Ceriodaphnia	2	1	3	0		2	1	1	0	6	3	1	1	4	3	1	0	0	
Fathead	0	1	1	1	1	0	0	0	1	0	1	0	0	0	0	0	2	0	
Algae	1	1	3	3	0	0	4	1	2	2	0	0	0	6	6	3	1	2	
Total Pesticides	8	16	28	36	1	0	20	2	11	32	27	3	6	9	11	2	0	16	
DDD	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
DDE	2	7	9	9	0	0	5	0	7	12	12	1	2	1	0	0	0	7	
DDT	0	1	7	8	0	0	2	0	0	4	2	0	1	0	1	0	0	4	
Chlorpyrifos	1	5	5	8	1	0	7	2	3	8	9	2	1	8	10	1	0	4	
Diazinon	2	1	5	2	0	0	2	0	0	2	1	0	2	0	0	1	0	0	
Dimethoate	0	0	0	5	0	0	2	0	0	3	1	0	0	0	0	0	0	1	
Diuron	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lambda cyhalothrin	1	0	0	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0	
Permethrin	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Es/fenvalerate	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Methyl parathion	2	1	1	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	
Hyalella	5	4	5	6	2	1		1	3	5	1	0	0	1	0	1	1	5	
TSS	0	0	16	17	2	1	0	0	0	3	2	0	0	0	2	0	0	4	
E. Coli	18	20	24	18	10	23	17	12	25	26	33	16	7	12	13	12	16	15	
EC	3	8	1	9	11	33	8	34	39	3	1	20	1	39	20	21	6	1	
TDS	5	17	8	17	5	36	11	36	35	6	9	22	6	39	21	20	1	7	
D.O.	1	0	0	2	6	10	4	0	9	2	1	5	0	1	3	0	8	0	
pH	11	5	3	1	1		3	1	2	1	4	3	1	1	5	5	7	6	

The site code abbreviations are defined below along with a brief description of each monitoring site. Map Designations are shown on Figure 1 of the MRP.

- Hospital (HCARR) and Ingram Creeks (ICARR) (Designation 1 & 2). The confluence of Hospital and Ingram Creeks is on the 303(d) list for pesticides. The sites are each located on the individual creeks, upstream of the confluence. Both of these creeks are significant drainages for the Patterson subarea.
- Westley Wasteway (WWNCR, Designation 3). Westley Wasteway is a significant drainage for the Patterson subarea for both tailwater and storm runoff. Land use upstream of this monitoring station is similar to that of Del Puerto Creek. The Westley Wasteway is also a dewatering channel for the Delta-Mendota Canal.
- Del Puerto Creek (DPCCR and DPCHW, Designation 4 & 5). Del Puerto Creek is on the 303(d) list for pesticides and is a major drainage for the Patterson subarea and major storm runoff collector. Two stations are identified on this waterbody; one near the discharge to the San Joaquin River, and one at Highway 33, near the middle of the Patterson subarea. Biological assessments are performed on Del Puerto Creek to assess its overall health, which will be useful in relating to collected water quality data.
- Salado Creek (SCOAV), Ramona Lake (ROLFA), and Marshall Road Drain (MRDRR) (Designations 6, 7 & 8). All three of these are significant drainages for the Patterson subarea. All three carry tailwater from similar land use areas, as well as operational spills. Salado Creek also collects storm water runoff from the City of Patterson. The outlet of Salado Creek is a pipe discharge into the San Joaquin River, and access for sampling is subject to the water level and flow conditions of the river, which frequently prevent sample collection. As of March 2008, the Westside Coalition discontinued monitoring at the Salado Creek location.
- Orestimba Creek (OCAHW and OCARR, Designation 9 and 10). There are two monitoring locations on Orestimba Creek; one near the discharge point to the San Joaquin River; and one upstream at Highway 33. The importance of Orestimba Creek is similar to that of Del Puerto as it is on the 303(d) list for

pesticides, is a major drainage for the Patterson subarea, and is included in the biological assessment portion of the monitoring program.

- Newman Wasteway (NWHFR, Designation 11). The Newman Wasteway is a significant drainage path for the Patterson subarea and is on the 303(d) list for salt and pesticides. This site measures drainage that originates from the southerly region of the Patterson subarea. Newman Wasteway is also a dewatering channel for the Delta-Mendota Canal and is sized to carry very high flows (>300 cfs).
- The San Joaquin River at Sack Dam (SJRSB) and Lander Avenue (SJRLA) (Designations 12 & 13). These are baseline sites to establish the water quality backdrop in the San Joaquin River. The Sack Dam site is a water supply site that delivers water to agricultural areas within the Dos Palos subarea as well as wetland water supplies. It can also receive agriculture return waters from the Tranquillity subarea. It is included to determine supply side water quality that may be affected by upstream discharge.
- Mud Slough (MSUSL) and Salt Slough (SSALA, and SSASD) (Designations 14, 15 & 16). These sites measure both drainage originating from the Los Banos and Dos Palos subareas that flow through the wetlands, as well as discharge from the wetlands themselves. Both Mud and Salt Sloughs are on the 303(d) list for a variety of constituents. In addition to the Westside Coalition's monitoring program, the Central Valley Regional Water Quality Control Board's Surface Water Ambient Monitoring Program (SWAMP) collects and analyzes samples from these sites throughout the year. These samples are analyzed for selenium, boron, and electric conductivity (EC), along with other constituents. The SWAMP data is available via the internet at:  
<http://www.waterboards.ca.gov/centralvalley/programs/agunit/swamp/index.html>.
- Los Banos Creek (LBCCC and LBCHW, Designations 17 & 18). Los Banos Creek carries storm water runoff from the Coastal Mountain Range, the City of Los Banos, and from the adjacent agricultural lands and wetlands. It also receives tail water from the Los Banos subarea. Two stations have been established on this waterbody: Los Banos Creek at China Camp Road, upstream

of the wetland area within the Los Banos subarea, and Los Banos Creek at Highway 140, within the wetlands.

- Turner Slough (TSAER) (Designation 19). This station is located on the east side of the San Joaquin River and measures drainage from a portion of the Patterson subarea.

### **Section 3: Plan Prong 1: Water Quality Improvement – General Approach**

Water quality improvement goals, ongoing and planned MPs, implementation schedule, assessment and procedures are grouped within this plan according to the identifying metric (e.g., aquatic toxicity), and the potential cause or managed constituent (e.g., pesticides).

The Westside Coalition proposes to develop a Management Practice Inventory.

This Management Practice Inventory will strive to document current MPs implemented within the watershed. Data will be collected from water districts, government agencies as well as individual growers. The goal will be to generally characterize the current level of MP implementation within the Coalition area but not to document the specifics of every MP implemented.

The Coalition will also inventory funding sources available to growers to help implement MP implementation. These funding sources may be specific to sub-watersheds or generally applicable to the entire Coalition. A list of potential funding sources will be generated and distributed to growers to facilitate MP implementation. Summarized and updated information on MP implementation and funding will be provided in each semi-annual monitoring report submitted to the Regional Board.

#### **Aquatic Toxicity, Pesticides, and Metals:**

- *Ceriodaphnia dubia* (water flea): There have been 29 measurements of significant toxicity to the water flea between July 2004 and August 2007. The Coalition has performed 11 Toxicity Identification Evaluations (TIEs) as follow-up. The TIEs generally indicated non-polar organic materials (both metabolically and non-

metabolically activated) as the likely cause, implying that pesticides were involved. Water chemistry data frequently measured detectable amounts of pesticides during events where toxicity was measured. Sites affected by water flea toxicity and detected insecticides are:

Del Puerto Creek (Cox Rd. & Hwy 33)	Ingram Creek at River Road
Orestimba Creek (Hwy 33 & River Rd.)	Los Banos Creek at Hwy 140
Salt Slough (Sand Dam & Lander Ave)	Hospital Creek at River Rd.
Marshall Rd Drain at River Rd.	

- *Selenastrum capricornutum* (algae): There have been 37 measurements of significant toxicity to algae between July 2004 and August 2007, and three TIEs performed. One TIE was inconclusive due to insufficient toxicity. However, the others indicated herbicides and/or divalent cations (metals) as the potential cause. In some, but not all, events where algae toxicity was measured, herbicides were also detected in the water. Copper and zinc are also known to impact algae growth. The Westside Coalition has analyzed water for these metals since July of 2006,. Sites affected by algae toxicity are:

Hospital creek at River Rd.	Marshall Rd Drain at River Rd.
Salt Slough (Sand Dam and Lander Ave.)	Orestimba Creek at Highway 33
Ingram Creek at River Rd.	Newman Wasteway
Westley Wasteway	San Joaquin River at Lander Ave.

- *Pimephales promelas* (fathead minnow): There have been eight measurements of significant toxicity to fathead minnow between July 2004 and August 2007. Some follow-up samples were collected and none indicated persistent toxicity. A number of these measurements have been linked to pathogen interference (bacteria or virus infection) rather than site water effects. Turner Slough is the only monitoring site that has measured more than one result with significant toxicity, and of the two events at that site, one was associated with pathogen interference.
- *Pesticides*: Fifteen of the monitoring sites have exhibited more than one measurement of a pesticide that exceeded WQV's. Several pesticides have exhibited multiple exceedances at one or more locations. Pesticide concentrations and TIEs have indicated that pesticides (e.g. chlorpyrifos for water flea, and diuron for algae) are frequently the likely cause of observed toxicity. This Management Plan and the Focused Plans (see section 4) are intended to identify general

outreach and management that will occur and that are expected to reduce these occurrences, as well as to develop further monitoring and evaluation strategies to characterize the causes of the exceedances where necessary, so that efficient mitigation techniques can be developed.

An additional goal of this Management Plan is to establish monitoring and management activities on behalf of members of the Westside Coalition who are or who may be dischargers of chlorpyrifos and diazinon, as required in the Regional Board's Basin Plan for the Sacramento and San Joaquin River basins. The Basin Plan sets forth Total Maximum Daily Load (or TMDL) requirements for dischargers of chlorpyrifos and diazinon, and requires that dischargers of these two compounds comply with the monitoring and management criteria defined in the Basin Plan. The TMDL limits for chlorpyrifos and diazinon that apply to dischargers within the Westside Coalition are concentration-based numeric limits applied to specified segments of the San Joaquin River, as defined in the Basin Plan. To demonstrate compliance with the TMDL limits, several agriculturally-influenced tributaries to the San Joaquin River are routinely monitored, as described in the Westside Coalition's Monitoring and Reporting Program Order. In addition to the monitoring defined in the MRP Order (and to comply with the requirements of the TMDL), the Westside Coalition will also begin monitoring for chlorpyrifos and diazinon in the San Joaquin River at additional locations that may include the crossings at Las Palmas Avenue and at Maze Boulevard, at least quarterly, and beginning in 2010. The actual timing, frequency and exact locations for compliance monitoring in the San Joaquin River to be performed by the Westside Coalition will depend upon evaluation of ongoing monitoring results of tributaries, and monitoring to be performed by other organizations, including the East San Joaquin Coalition. Actual monitoring frequency and locations for San Joaquin River monitoring for chlorpyrifos and diazinon to be performed by the Westside Coalition in 2010 and beyond will be determined and documented in the form of an addendum to the Management Plan, or a revised Management Plan, prior to January 2010.

Strategy: The Coalition's strategy to address aquatic toxicity resulting from pesticide and metals discharge will be to reduce the amount of these constituents that are discharged. The proposed strategy involves a combination of tailwater reduction and application control. The Coalition and Districts will continue to educate growers on effective management practices and to assist in logistical support, financial support, and other actions to encourage the adoption of those practices by individual farmers. In addition, district-wide and regional management activities/projects will be investigated and pursued where practical and feasible. These projects may include funding assistance programs for growers, district-sponsored irrigation management evaluations, and district-wide tailwater return/recirculation projects. Additionally, the Westside Coalition will compile the current status of management practices within the region from member district information and individual surveys. More specifics regarding the approach for MP implementation will be provided in the Focused Plans.

Strategy Objective: The Coalition's objective would be to increase the number of MPs implemented that would address toxicity, and reduce the number of measurements of aquatic toxicity to water flea and algae. Another objective is to reduce the number of WQV exceedances for pesticides. Evaluation of the progress towards meeting these goals will be described in the semi-annual monitoring reports.

Strategy Goals: Providing motivation and resources to growers that will ensure implementation of MPs is one of the Coalition's goals. Another goal is to quantify the implemented management activities that manage pesticide and metal discharges. Activities may include strict adherence to pesticide label requirements, conversion to high-efficiency irrigation systems, construction of vegetated drainages, tailwater management systems (including tailwater return systems and sedimentation ponds), and the implementation of integrated pest management programs that utilize alternatives to pesticides for pest management.

Strategy Metric: The Coalition's monitoring program will indicate the number of toxicity measurements and exceedances of pesticides, providing a direct measurement of the

impact of this strategy. Management practices will also be inventoried and reported to provide a quantification of the implementation level. These inventories will be more thoroughly developed in the Focused Plans.

#### Current and On-Going Activities:

- **Irrigation Improvement Funding Assistance:** A number of the districts are providing financial assistance to their growers for the purchase and/or installation of high efficiency irrigation systems. These assistance programs come in the form of grants or loans through State programs (such as the Agricultural Drainage Loan Program) or are self funded through the District. Irrigation system improvements not only improve water use efficiency (reducing the demand on the Delta water supply) but also reduce or even eliminate tailwater discharge. Currently, Central California Irrigation District, San Luis Canal Company, and Del Puerto Water District have implemented funding assistance programs to a total of \$7,150,000. These are the three largest districts within the Westside Coalition, representing more than 200,000 acres.
- **Grower Education and Outreach Meetings:** Since the inception of monitoring in July of 2004, the Westside Coalition has held numerous outreach meetings across the Coalition area, where information was presented on the Coalition activities including monitoring results and recommended MP implementation. Forty-three meetings with presentations to over 2,500 people have occurred. Meeting attendees have included growers, Pest Control Advisors (PCA), applicators, registrants, District staff, and Regional Board staff. Although no data on activities has been collected, a number of the attendees have indicated that these meetings have caused them to make operational changes.
- **Regional Tailwater Return Systems:** In 2005, Patterson Irrigation District and West Stanislaus Irrigation District were awarded grants for the construction of one regional and one on-farm tailwater collection and return system. Both of these projects are in progress and will be completed by 2009. These systems will reduce the amount of tailwater discharged to Del Puerto and Ingram Creeks.

Columbia Canal Company already has a closed tailwater return system in place for the 17,000 acres within their boundary.

- MP Investigations: Since 2004, the Westside Coalition has participated in a number of MP studies. These studies have been detailed in the Annual and Semi-Annual Monitoring Reports submitted to the ILRP.

#### Future Action Items:

- Continue water quality monitoring and reporting program as described in the Westside Coalition MRP Order.
- Compile a Management Practice Inventory. The Westside Coalition is in the process of compiling a management practice inventory to determine what management practices are used within the Coalition area. This will be more thoroughly addressed in the Focused Plans.
- Determine Regional Pesticide Application. Obtain pesticide use data from Agricultural Commissioners in Fresno, Madera, Merced, and Stanislaus Counties and process this data to provide regional information on pesticide use. Regional pesticide use will be used to help the Coalition communicate with growers, PCAs and applicators that have the potential to beneficially impact water quality issues. This will be more thoroughly addressed in the Focused Plans.
- Provide information on effective MPs identified through the studies to landowners and operators and considered for funding programs on an individual, district or regional basis.
- Address specifications within Focused Plans to landowners and operators regarding MP implementation that is necessary to address water quality problems.
- Track changes in water quality to determine effectiveness of changes in practices; reevaluate practices as appropriate.
- Continue to provide updated, summarized information on all action items to the Regional Board in the semi-annual monitoring reports.

**Sediment Toxicity and Sediment Discharge:**

- Hyalella Azteca: There have been 41 measurements of significant toxicity to *Hyalella* between July 2004 and August 2007. Eight monitoring sites within the Coalition have measured sediment toxicity more than once, and six of those sites are located within the northern region. Three TIEs have been performed by the SWAMP program on sediment from Hospital Creek, Ingram Creek, Westley Wasteway, and Del Puerto Creek (Cox Road), and pesticide analyses have been performed at Ingram Creek and Orestimba Creek at Highway 33. These follow-up studies have indicated that pesticides may be the cause of the toxicity. In particular, small concentrations of pyrethroids and DDT/DDE have been measured in some of the sediment samples. Sites affected by sediment toxicity are:

Hospital Creek at River Rd.	Ingram Creek at River Rd.	Westley Wasteway
Del Puerto Creek (River Rd. & Hwy 33)	Orestimba Creek at Hwy 33	Turner Slough
Newman Wasteway		

Sediment Discharge: Seven monitoring sites have measured more than one exceedance of the Total Suspended Solids (TSS) value, four of which have also measured more than one sediment toxicity exceedance. The sites exceeding the TSS value are:

Hospital Creek at River Rd.	Ingram Creek at River Rd.	Marshall Road Drain at River Rd.
Orestimba Creek at Hwy 33 & River Rd.	Westley Wasteway	Salt Slough at Sand Dam

Strategy: The Westside Coalition strategy to address sediment toxicity will be to encourage MPs that reduce sediment discharge. Focused Plans will identify MPs that Coalition members will be expected to implement, and will develop a practical approach to ensure that it occurs. Although there is not an exact correlation between TSS exceedances and sediment toxicity, the Westside Coalition expects that implementing management practices to reduce sediment discharge will, over time, improve sediment conditions and reduce the occurrence of toxicity. The Coalition therefore will prioritize its activities on sites with both sediment toxicity and TSS exceedances. Results of sediment TIEs and sediment pesticide analyses imply that pyrethroids and legacy insecticides (such as DDT) may be the primary cause of sediment toxicity, and these

materials are known to adhere to suspended sediment and settle out of the water column. Additional management plan activities will be focused toward pyrethroid applications.

Strategy Objective: Reduce the number of measurements of sediment toxicity. Reduce the number of WQV exceedances for TSS. Increase the number of MPs that reduce sediment in tailwater and stormwater.

Strategy Goals: Implement management activities that reduce sediment discharges. Activities may include conversion to high-efficiency irrigation systems, construction of vegetated drainages, tailwater return systems, and sedimentation ponds.

Strategy Metric: The Coalition's monitoring program will indicate the level of total suspended solids (including use of turbidity as a real time estimate of TSS), number of sediment toxicity measurements and exceedances of pesticides in sediment, providing a direct measurement of the impact of this strategy. Management practices will also be inventoried and will be reported to quantify the implementation level. These inventories will be more thoroughly developed in the Focused Plans.

Current and On-Going Activities:

- Activities already mentioned to address aquatic toxicity.
- Use of polyacrimilides (PAM) for sediment management. The Coalition is aware that a number of growers use PAM to reduce the amount of sediment that is carried off their fields in tailwater. However, the number of growers and affected acres have not yet been quantified. The Coalition intends to use the previously mentioned survey to collect data on PAM use and monitoring data to determine where additional use of PAM is needed.
- Use of sediment collection ponds. The Coalition is aware that a number of growers have installed sediment collection ponds (settling ponds) at the ends of their fields to collect and return tailwater. However, the number of growers and affected acres have not yet been quantified. The grower survey will also collect

data on settling pond use, and along with the monitoring data, will be used to determine where additional sediment collection ponds are needed.

- The Marshall Road Reservoir. In 2002, Patterson Irrigation District, with funding assistance from the State of California, constructed a regional tailwater collection and return reservoir. This return system intercepts water from the Marshall Road Drain and diverts it into a 65± acre foot reservoir, where it is returned to the irrigation system. The reservoir collects approximately 2000 cubic yards of sediment that settles out of the diverted water each year.

#### Future Action Items:

- Continue water quality monitoring and reporting program.
- Compile a Management Practice Inventory. The Westside Coalition is in the process of compiling a management practice inventory to determine what management practices are used within the Coalition area. The inventory will collect information on grower sediment management activities, including PAM application and settling ponds.
- Distribute information on MPs that are known to reduce sediment discharge, such as installation of drip irrigation systems, PAM application, and settling ponds.
- Investigate assistance programs to help growers implement MPs that are known to reduce sediment discharge.
- Determine Regional Hydrophobic Pesticide Application. Obtain pesticide use data from Agricultural Commissioners in Fresno, Madera, Merced, and Stanislaus Counties and process this data to provide regional information on pesticide use, particularly pyrethroids, chlorpyrifos and other hydrophobic pesticide uses. Regional pesticide use will be used to help the Coalition make contact with growers, PCAs and applicators that have the potential to impact water quality issues.
- Track changes in water quality to determine effectiveness of changes in practices; reevaluate practices as appropriate.
- Continue to provide updated, summarized information on all action items to the Regional Board in the semi-annual monitoring reports.

**Salinity (Electrical Conductivity and Total Dissolved Solids):**

Fourteen sites have measured electrical conductivity (EC) above the WQV and 17 sites have measured total dissolved solids (TDS) above the WQV. Although EC and TDS have different water quality values listed in the ILRP, they are both essentially measurements of the amount of dissolved salts or salinity in the water. The primary water sources for virtually all of the water users within the Westside Coalition is the Sacramento/San Joaquin Delta or the San Joaquin River. Water from both of these sources contain measurable quantities of salt (often in excess of the WQV), which is imported into the Coalition's area along with the water. Discharge of this salt is necessary in order to maintain viable agriculture.

Regional Differences: Regional Board staff have noted that there is an apparent difference in the frequency and magnitude of salinity measurements between the northern region (Hospital Creek to Orestimba Creek) and the southern region (Newman Wasteway to the San Joaquin River at Sack Dam). There are geographic and geologic differences between these regions that explain this difference. The southern region, in comparison with the northern region, is generally flat and contains mostly poorly drained, heavy clay soils, which retain the applied water. Additionally, shallow impermeable clay lenses in the region tend to create perched water table conditions. As water from the San Joaquin River or Delta is applied for irrigation, the crops extract pure water and leave the salts behind to concentrate in the perched aquifer. The perched water may be drained off and discharged through drainage systems. Perched water conditions are rare in the northern region, and management of the shallow water table is generally not necessary. Water discharge from this region of the Coalition is typically tailwater, which contains less dissolved salts. The northern region of the Coalition is much steeper and contains soils that are generally well drained, although subject to erosion.

Strategy: Salinity exceedances have been an ongoing problem along the west side for decades. The Regional Board has at least two programs ongoing to deal with this

issue. One is the San Joaquin River at Vernalis Salinity and Boron Total Maximum Daily Loads (TMDL) Basin Plan Amendment that was adopted with EPA approval in October 2006. The Westside Coalition and member agencies have participated and will be participating in this TMDL which includes an implementation plan. The State and Regional Boards have also embarked on a project to address the need for sequestration and/or disposal of salts on a regional basis (Central Valley Salinity Alternatives for Long-Term Sustainability, or CV-SALTS). The Westside Coalition has and will continue to participate in this process.

Strategy Objective: Identify sources of salinity within the Westside Coalition and variations in different areas. Incorporate appropriate activities to address salinity as they are identified and required by the Regional Water Board.

Strategy Goal: Participate in ongoing Regional Board programs for the management of salinity, implement monitoring according to the Salt/Boron TMDL, and implement actions that are required by the Regional Board.

Strategy Metric: The Coalition's monitoring program will indicate the number of salinity exceedances, providing a direct measurement of the impact of this strategy. The coalition will also evaluate and provide information in semi-annual monitoring reports on the potential contributing factors to salinity and their locations.

Current and On-Going Activities:

- Continue a water quality monitoring program.
- Reduce discharges by implementation of MPs for other constituents.
- Follow proceedings for implementation of the Salinity TMDL program and distribute information.
- Participate in the CV-SALTS program for the development of long-term solutions.

### Future Action Items:

- Participation with the Salinity TMDL salt management program, including the development of real-time management alternatives.
- Track changes in water quality to determine effectiveness of changes in practices; reevaluate practices as appropriate.
- Continue to provide updated, summarized information on all action items to the Regional Board in the semi-annual monitoring reports.

### Escherichia Coli (E. coli):

All sites within the Coalition have measured more than one sample with *E. coli* above the WQV. In September of 2006, the Westside Coalition initiated a DNA study of bacteroides found in areas where exceedances of *E. coli* had previously occurred. This was done as a research mechanism to attempt to better understand the possible source(s) of fecal contamination. The study plan for this project was submitted to the Regional Water Board staff on January 12, 2007, although it has not been approved. The results of this data were submitted on September 27, 2007. The results point to primarily human sources of recent fecal contamination in the limited monitoring sites and dates in which samples were collected. Review of the results are ongoing and follow up work may be required. In December 2007 a subgroup of the Irrigated Lands Regulatory Program Technical Issues Committee was initiated to follow up on *E. coli* and related issues. The subgroup will meet several times in 2008 to make recommendations on further studies or activities that could be undertaken to further understand the *E. coli* exceedances. *E. coli* specific management activities will be impractical to develop until the source can be accurately determined. The Westside Coalition intends to develop a more detailed *E. coli* management plan once this data is available.

Strategy: Determine the source of *E-coli* measurements within the watershed. Implement special studies for this purpose. Develop MPs that will be effective in reducing any discharges of E-coli.

Strategy Objective: Reduce the number of WQV exceedances for E-coli.

Strategy Goal: Once the source of E-coli contamination is determined, implement management activities that reduce discharges.

Strategy Metric: The Coalition's monitoring program will indicate the number of E-coli exceedances, providing a direct measurement of the impact of this strategy. Inventory results which eliminate animal waste fertilizer, irrigated pasture land, or confined animal facilities as a source will be tallied and reported as an additional metric.

Current and On-Going Activities:

- Complete analysis of *E. coli* DNA study and determine if follow-up is needed.
- Include in the Coalition inventories data queries regarding use of animal waste as fertilizer as a management practice – particularly where Focused Plans are being implemented.
- Continue a water quality monitoring program.
- Work with the *E. coli* subgroup to develop further actions.
- Develop an approach to map irrigated pasture, confined animal facilities and areas where animal waste fertilizer may be applied following inventory results.
- Evaluate the strategy for the Westside Coalition during the last quarterly meeting with the Regional Board staff in 2008.

Future Actions:

- Determine sources of *E. coli* based on results of DNA study and/or further studies, information gathered through the grower survey on manure application, and mapping of irrigation pasture and confined animal facilities.
- Eliminate the likelihood of *E. coli* exceedances from irrigated agriculture through a process of elimination from inventories and mapping studies.
- Develop management activities based on findings from the DNA study, inventories and mapping studies.
- Implement these MPs through future Focused Plans, where appropriate.

- Track changes in water quality to determine effectiveness of changes in practices; reevaluate practices as appropriate.
- Continue to provide updated, summarized information on all activities and actions to the Regional Board in the semi-annual monitoring reports.

**Dissolved Oxygen:**

Six monitoring sites have measured more than one sample with dissolved oxygen (DO) outside the WQV. These sites are:

Ingram Creek at River Rd.  
Salt Slough at Sand Dam

Los Banos Creek at China Camp Rd. & Hwy 140  
Newman Wasteway

Turner Slough

A number of factors can affect DO, including biological oxygen demand, low flow conditions, and high turbidity, and DO exceedance may not be the result of agricultural activity. The San Joaquin Valley Drainage Authority has sponsored a study to determine the source of low DO from the upper San Joaquin River to the Stockton Deep Water Ship Channel. This study is utilizing data from a number of tributaries to the San Joaquin River, including sites monitored by the Coalition. The Westside Coalition hopes that this study will provide more accurate information on the source and cause of reduced DO.

However, data collected by the Westside Coalition has provided some evidence regarding the cause of some of the DO levels. Seventeen of the 33 exceedances occurred when the channel flow was significantly less than its capacity and in a stagnant condition (no flow in some cases). These low flow conditions prevent the stream from aerating and replenishing the dissolved oxygen. Turbidity and nutrients may also impact DO levels and the Westside Coalition is in the process of reviewing this data to determine if there is an apparent correlation. It is possible that the MPs that are implemented to reduce sedimentation in the Coalition areas will also help reduce eutrophication and improve dissolved oxygen levels.

Strategy: Work through existing programs and current DO TMDL to facilitate improvements in water quality and analyze available data to determine the probable

cause of low DO measurements. Once this mechanism is understood, develop MPs to address DO issues as appropriate (the connection between low DO and sediment loading has not been established in our creeks – low velocities are just as likely to be the cause).

Strategy Objective: Understand the mechanism that causes low DO levels. Develop MPs to minimize reductions in DO caused by irrigated agriculture and implement them through Focused Plans where appropriate.

Strategy Goal: Through existing programs determine actions that can be taken to improve DO water quality issues and where needed, address MP implementation with the appropriate farmers and operators.

Strategy Metric: The Coalition's monitoring program will indicate the number of dissolved oxygen exceedances, providing a direct measurement of the impact of this strategy. Also, tracking of MP implementation to reduce sedimentation and nutrients will be appropriate metrics to determine compliance.

Current and On-Going Activities:

- Continue a water quality monitoring program.
- Analyze available data to determine the mechanism that causes low DO levels.
- Continue development of sediment and nutrient control measures.
- Continue to participate in the DO study.

Future Actions:

- Develop MPs that will minimize the reduction of DO levels caused by agricultural activities. These actions will be dependant on the findings of the DO study and data analysis.
- Implement these MPs through Focused Plans, where appropriate.
- Track changes in water quality to determine effectiveness of identified actions; reevaluate as appropriate.

- Continue to provide updated, summarized information on all action items to the Regional Board in the semi-annual monitoring reports.

**pH:**

Nine monitoring sites have measured more than one sample outside of the reporting pH level. These sites are:

Hospital Creek at River Rd.  
Los Banos Creek at China Camp Rd.  
Salt Slough at Sand Dam  
Orestimba Creek at River Rd.

Del Puerto Creek (River Rd. & Hwy 33)  
Turner Slough  
Westley Wasteway  
San Joaquin River at Lander Ave.

There were 45 exceedances of pH, the vast majority of which were relatively minor. Thirty of the pH exceedances were within 5% of the pH standard, seven (7) had exceeded the standard by more than 10% and only one had exceeded the standard by more than 20%. The cause of these exceedances is unknown and may not be related to agricultural activities. In light of the other water quality issues (such as pesticides and sediment discharge), the Westside Coalition considers this to be a lower priority issue and has not developed management activities to specifically address pH. It is possible, and perhaps likely, that the previously described activities may impact pH, therefore, the Coalition will continue pH monitoring.

Strategy: Work through existing programs to better understand the mechanisms causing low pH. Determine if they are agricultural based and facilitate improvements in water quality.

Strategy Objective: Understand the causes of, and reduce exceedances of pH.

Strategy Goal: Through existing programs determine actions that can be taken to improve pH water quality issues and where needed, determine a mechanism to implement them.

Strategy Metric: The Coalition's monitoring program will indicate the number of pH exceedances, providing a direct measurement of the impact of this strategy.

Additionally, changes that are made to address sedimentation and nutrient loading may be effective metrics to indicate action taken that could help pH levels.

Current and Ongoing Activities:

- Continue a water quality monitoring program.

Future Actions:

- Track changes in monitoring data to assess effects of changes in management practices to address other constituents on pH.
- Evaluate practices as appropriate.

Continue to provide updated, summarized information on all action items to the Regional Board in the semi-annual monitoring reports.

Tiered Approach:

The Westside Coalition will address all monitored water quality issues. Because there is likely overlap in effect from practices to address a particular constituent or issue on other constituents or issues, the Westside Coalition has identified a tiered approach to water quality issues. For example, actions that are taken to reduce sedimentation are expected to improve TSS, TDS, TOC, sediment toxicity and turbidity. They may also be the most appropriate actions to improve water column toxicity, detections of legacy pesticides, as well as problems with oxygen levels and pH. This tiered approach will allow efforts focused on the issues that need immediate attention, and the effect on lower tier contaminants may be beneficial as well.

- Aquatic toxicity, pesticides, sediment toxicity and sediment discharge: Tier 1 – source(s), management practices and potential practices have been identified.
- *E. coli* and metals: Tier 2 – source(s) are in the process of being identified. Potential management practices have not been identified. The Westside Coalition will be conducting inventory activities, mapping activities and special studies to help ascertain the source of the problems so that appropriate actions may be taken.

- Salinity: Tier 3 – source(s) are being identified and the Westside Coalition is working with TMDL and other stakeholders for a region-wide solution. Monitoring is being continued, and implementation of MPs will be pursued as specified by the Regional Board.
- Legacy pesticides, dissolved oxygen and pH: Tier 4 – It is anticipated that actions to be taken to address toxicity and sedimentation will help improve problems with legacy pesticides, and understand the mechanisms that contribute to dissolved oxygen and pH water quality issues. Tier 1 contaminants will be addressed first, and the impact by the appropriate MPs on the Tier 4 constituents will be evaluated. Additionally, source(s) and potential management practices are being developed through the DO Upstream Monitoring Studies to be completed in June 2008.

**Table 2: Summary of Tiers by Individual Monitoring Sites**

Waterbody/Subwatershed	Water Flea Tox + Pesticides	Algae Tox + Pesticides	Fathead Minnow Tox + Pesticides	Sediment Discharge and Toxicity	Salinity	E. Coli	Dissoved Oxygen	pH
	Tier 1	Tier 1	Tier 1	Tier 1	Tier 3	Tier 2	Tier 4	Tier 4
Hospital Creek at River Rd.	x	x		x	x	x		x
Ingram Creek at River Rd.	x	x		x	x	x	x	
Westley Wasteway near Cox Rd.				x	x	x		x
Del Puerto Creek near Cox Rd.	x			x	x	x		x
Del Puerto Creek at Highway 33	x			x	x	x		x
Ramona Lake near Fig Ave.					x	x		
Marshall Road Drain at River Rd.	x	x		x	x	x		
Orestimba Creek at River Rd.	x			x	x	x		x
Orestimba Creek at Highway 33	x			x	x	x		
Turner Slough near Edminster Rd.			x*	x	x	x	x	x
Newman Wasteway near Hills Ferry Rd.				x	x	x	x	
San Joaquin River at Lander Ave.					x	x		x
Salt Slough at Lander Ave.	x	x			x	x		
Salt Slough at Sand Dam	x	x		x	x	x	x	x
Los Banos Creek at Highway 140	x				x	x	x	
Los Banos Creek at China Camp Rd.					x	x	x	x
Mud Slough u/s San Luis Drain					x	x		
San Joaquin River at Sack Dam					x	x		

\* Only two exceedances have been measured and one was linked to pathogen interference.

As a means to address multiple water quality concerns within a single subwatershed, the Westside Coalition has developed Focused Watershed Management Plans (Focused Plans) within specific sub-watersheds. These Focused Plans will address Tier 1 management plan priorities and describe specific actions to reduce discharges

within specific subwatersheds. The Focused Plans will include (1) detailed schedule for Focused Plan steps, (2) detailed watershed map of the sub-watershed, (3) determinations of pesticide use, (4) determinations of MP implementation, (5) intensified outreach to prioritized growers, and (6) monitoring to determine MP effectiveness.

The Westside Coalition will use the information learned in this focused effort to help further develop its coalition-wide water quality improvement strategy. Through this process, the Westside Coalition will learn the most effective methods of addressing water quality issues. Ineffective methods will be eliminated and effective strategies will be expanded to other areas. If the focused effort is effective this model can be utilized on other priority sub-watersheds.

A Focused Plan has been developed for the Ingram and Hospital Creek Sub-watersheds. The Ingram and Hospital Creek sites were selected after review of the monitoring data showed that these locations were consistently at the high end of sediment toxicity and total suspended solids exceedances, as well as frequent pesticide exceedances.

The schedule for future focused water quality improvement plans will depend on the outcome of the Ingram and Hospital Creek efforts, but the anticipated Implementation Schedule is presented in **Table 4**. It will be the goal of the Coalition to complete the focused plans on all watersheds within a five-year period. As stated earlier, however, it may not be necessary to develop focused plans for each watershed, depending on the success of the initial efforts and the applicability and transferability of what is accomplished initially to the subsequent watersheds. The Westside Coalition will propose the schedule for the next year's efforts to the Regional Board staff at the last quarterly meeting of the year.

#### **Section 4: Plan Prong 2: Focused Plans and Adaptive Strategy for Modification**

The management plan is designed to maintain flexibility to investigate problems and revise the plan by subwatersheds and issues, e.g., by modification of monitoring

approach, changing of MPs or MP goals, or modifying implementation timelines where experience indicates that a different schedule is needed. Changes will be accomplished through ongoing consultation with the Regional Board staff and will be documented by attaching addenda to the Plan that have been approved by the Executive Officer, and by providing updates describing the changes in semi-annual reports. These updates will describe the relationship of the management changes relative to the MRP Order emphasizing any changes to Special Project Monitoring relevant to the Management Plan or Focused Plans. To implement these discussions it is proposed that the Coalition representatives and the Regional Board staff meet quarterly to collaboratively discuss and reevaluate the status and progress of the Plan activities and the Focused Plans. The activities can then be adjusted, as is necessary and approved by the Regional Board Executive Officer.

#### **Section 5: Summary of Management Plan Action Items**

1. Continue water quality monitoring and reporting program as described in the Westside Coalition MRP Order.
2. Develop and implement Focused Watershed Management Plans.
3. Circulate and compile management practice inventory. The inventory will consist of information regarding irrigation practices and currently implemented MPs, among other items.
4. Develop subwatershed maps that identify regions draining into Coalition monitoring sites. The purpose of these maps will be to assist with outreach activities to make sure that growers operating in specific regions receive the information they need.
5. Determine Regional Pesticide Application. Obtain pesticide use data from Department of Pesticide Regulation and/or Agricultural Commissioners in Fresno, Madera, Merced, and Stanislaus Counties and process this data to provide regional information on pesticide use, including GIS mapping. Regional pesticide use will be used to help the Coalition make contact with growers, PCAs and applicators that have the potential to impact water quality issues.

6. Continue participation in the DO study. Identify appropriate future actions based upon the results of this study.
7. Analyze the results of the E. coli DNA study, inventory manure usage, and map pasture and feed lot locations. Identify appropriate future actions based upon the results of these findings.
8. Continue outreach and education efforts. Continue to hold grower meetings and distribute information regarding monitoring results and BMPs and other potential management activities. These efforts will be tailored to the specific issues within each region/subwatershed.
9. Complete analysis of data correlation among DO and other parameters.
10. Continue participation in the Salinity TMDL program.
11. Track changes in water quality to determine effectiveness of identified actions; reevaluate as appropriate.
12. Provide updated, summarized information on all management plan activities in semi-annual monitoring reports.

**Section 6: Management Plan Implementation and Reporting Schedule**

Monitoring results and activities implemented through the Management Plan and Focused Plans will be reported through the semi-annual reports submitted according to the Monitoring and Reporting Program schedule. The Anticipated Focused Plan Schedule is shown on **Table 3**. The anticipated Implementation Schedule of other Management Plan activities is shown on **Table 4**.

**Table 3: Anticipated Focused Plan Schedule**

<b>Subwatershed Name</b>	<b>Anticipated Start Date</b>
Ingram Creek	2009
Hospital Creek	2009
Orestimba Creek	2010
Del Puerto Creek	2010
Westley Wasteway	2010
Salt Slough	2011
Poso Slough	2011
Reevaluate all subwatersheds and revise schedule	2012

**Table 4: Implementation Schedule**

Item	Action	Affecting	Estimated Start	Estimated Completion
1	Continue a water quality monitoring program	All Categories	On-going	On-going
2	Develop and implement Focused Watershed Management Plans	Site-specific	July 2008	2013
3	Compile MP inventory	All Categories	January 2009	November 2009
4	Develop subwatershed maps	All Categories	On-going	January 2010
5	Determine Regional Pesticide Application	Pesticides, aquatic toxicity	On-going	Annually updated
6	Continue participation in Dissolved Oxygen study	Dissolved Oxygen	On-going	On-going
7	Analyze results of E. Coli study and map/inventory potential sources	E. Coli	September 2007	January 2010
8	Continue outreach and education efforts	All Categories	On-going	Continuous
9	Analyze for correlation between low DO and other parameters	Dissolved Oxygen	September 2008	June 2009
10	Continue participation in Salinity TMDL program	EC/TDS	On-going	On-going
11	Track changes in water quality	All Categories	On-going	On-going

The Coalition will continue to pursue funding that may assist member districts and/or farm operators in implementing MPs.

### **Section 7: Responsible Parties**

The Westside Watershed Coalition is structured to take advantage of the leadership and existing organizational structures of local agency members to engage the individual participants (Program Participants) within their respective boundaries to accomplish water quality improvements through a watershed approach, as required by the Coalition Group Conditional Waiver. The parties who will implement, assess and evaluate the Management Plan and each party's area of responsibilities is described below.

**Watershed Coordinator:** The Watershed Coordinator is the primary liaison with the Regional Board and is responsible for compiling and submitting monitoring data and reports to the Regional Board as required by the Management Plan. The Watershed

Coordinator is also responsible for coordinating and distributing information on monitoring results, MPs, and funding assistance to member Districts and individual Program Participants outside of District boundaries. As part of all of these activities, the Watershed Coordinator is responsible for coordinating efforts to implement the Management Plan and for evaluating and assessing its effectiveness. The Watershed Coordinator is assisted in these tasks as appropriate by the Assistant Watershed Coordinator/Quality Control-Data Manager, Field Coordinators and various consultants, as well as through the District member contacts. The actions of the Watershed Coordinator are subject to the budgeting and policy direction of the Regional Water Quality Steering Committee. In the event a member District notifies the Watershed Coordinator that a Program participant is not cooperating in the Management Plan and is making a discharge that is causing or contributing to exceedance of an applicable water quality standard, the Watershed Coordinator reports such information to the Regional Board for enforcement. In the event the Watershed Coordinator determines that an individual participant outside any District boundaries is not cooperating in the Management Plan and is making a discharge that is causing or contributing to exceedance of an applicable water quality standard, the Watershed Coordinator reports such information to the Regional Board for enforcement.

**Regional Water Quality Steering Committee:** This committee of member District representatives provides policy direction and recommends budgets for the activities of the Watershed Coalition in the implementation of the Westside Coalition Group Conditional Waiver Program, including for implementation and assessment of the Management Plan. Its Chairman may appoint ad hoc subcommittees to address specific issues.

**Member Districts:** The Manager of each District member in the Coalition (or other individual designated to act as the Coalition liaison for a District member) is responsible for providing information from Program Participants within its boundaries to the Watershed Coordinator to assist in implementation, evaluation and assessment of the Management Plan. District Managers are responsible for providing Management Plan

information to the Program Participants within their respective boundaries, such as monitoring results and information on MPs and funding sources. Member District Managers conduct outreach and make contacts with their individual Program Participants and/or request that the Watershed Coordinator undertake such actions. District Member Managers make budget recommendations to their Boards of Directors for participation in the Coalition. Member Districts may seek grants, low interest loans or other funding mechanisms to support Program Participant activities, such as installing tailwater return systems, high-efficiency irrigation systems, or on-farm vegetated ditches. Member Districts may also implement MPs, such as regional sediment removal ponds or return systems serving an area. District Member Managers are responsible to notify the Watershed Coordinator of Program Participants who are not cooperating in implementation of the Management Plan and who are making a discharge that is causing or contributing to exceedance of an applicable water quality standard, for referral to the Regional Board for enforcement.

**Program Participants:** Program Participants are responsible for their own discharges and therefore are responsible to cooperate with the District members and Regional Coordinator in implementing the Management Plan, and in cooperating with District and Watershed Coordinator efforts to evaluate and assess the Plan.

### **Section 8: Relationship Between this Management Plan and the Monitoring and Reporting Program Order for the Westside Coalition**

The Westside Coalition's monitoring program has continued since July 2004. During this monitoring period, it has become apparent that some changes can be made to make the monitoring program more cost efficient and provide more complete and useful data. A revised Monitoring and Reporting Program Order for the Westside Coalition was developed concurrently with the development of this Management Plan. The MRP Order identifies Special Project Monitoring that will be conducted to support the Management Plan and Focused Plans. Special Project Monitoring primarily consists of continued monitoring for constituents such as toxicity and pesticides that have exceeded WQVs more than once at the same location. Core Monitoring, as described

in the MRP Order, will also be used to evaluate progress in meeting the goals of this Management Plan. The Special Project Monitoring described in the MRP Order will be conducted as written, unless and until approved modifications are implemented by revising or amending this Management Plan. The Special Project Monitoring schedule identified in the MRP Order (sites, analytical parameters, frequency or other characteristics) may be modified if documented in an approved addendum to this Management Plan, or in an approved revision to this Plan.