

# SAN JOAQUIN VALLEY DRAINAGE AUTHORITY

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October 23, 2008

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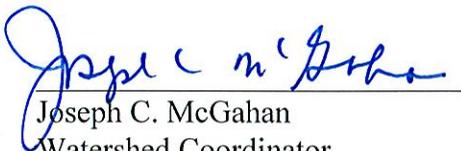
Subject: Westside San Joaquin River Watershed Coalition  
Submittal of Management Plan and Focused Management Plan

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  
Focused Watershed Management Plan  
Ingram and Hospital Creeks**

**FINAL**

**October 23, 2008**

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## **Section 1: Background and Need**

In accordance with the Westside San Joaquin River Watershed Coalition (Westside Coalition or Coalition) Management Plan dated September 12, 2008, a focused water quality improvement plan has been developed within specific subwatersheds. This focused effort will address Tier 1 Management Plan Priorities (aquatic toxicity, pesticides, sediment toxicity and sediment discharge) at two priority watersheds (Ingram Creek and Hospital Creek). The focused effort will address the specific details for eight requirements listed below for Management Plans identified in the (MRP) Order R5-2008-0005. These requirements are addressed generally, in the Management Plan – General Approach, and are being addressed in a more specific and complete way for the Focused Watershed Management Plan (Focused Plan) described here.

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 (Regional Board or 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 Water Board.

The focused effort includes (1) a detailed watershed map of the subwatersheds, (2) determinations of pesticide use, (3) determination of management practice (MP) implementation, (4) intensified outreach to growers, (5) approach to implement additional MPs to address exceedances, and (6) monitoring to determine MP effectiveness.

**Ingram and Hospital Creeks:** The first focused watershed management plan will be developed for the Ingram and Hospital Creeks subwatersheds to address water column and sediment toxicity, suspended solids, as well as pesticide exceedances. The

attached figures document the reasoning to select Ingram and Hospital Creeks as a first priority for focused management plan development. 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. **Figure 1** titled Water Quality Value Exceedances shows that Ingram and Hospital Creeks have had one of the greatest percentages of exceedances for both sediment toxicity as well as total suspended solids (TSS). **Figure 2** shows exceedances of Ingram and Hospital Creeks total suspended solids. Flow at the two sites is shown in **Figure 3**. The Westside Coalition's (**Figure 4**) adaptive strategy will guide the process. Watershed maps have been developed for the Ingram Creek and Hospital Creek subwatersheds (see **Figures 5, 6 and 7**).

## **Section 2: Source Identification**

With respect to the water quality concerns regarding pesticides, toxicity and sediment, it is clear that agriculture is a significant contributor. The specific agricultural parcels that may be contributing to these problems will be identified by the Coalition to focus mitigation efforts. The specific identity of these parcels will be identified to the Regional Board only if the watershed approach for implementing management practices does not prove to be effective. Water quality exceedances for other measures, such as DO, pH, and nutrients may improve as reductions in pesticide and sediment loadings also are reduced. Monitoring results subsequent to new and additional management practice implementation will help determine if other sources beyond agriculture need to be considered. This information will be reported and shared with the Regional Board on a semi-annual basis.

Exceedances for E-coli (a Tier-2 constituent) will be further evaluated by conducting watershed specific field surveys to identify whether or not agriculture practices in these subwatersheds are contributing to what may be a natural 'background' level of bacteriological contamination (not caused by agriculture). The results of these field surveys will be reported to the Regional Board so that additional actions or modifications to the management plan approach can be determined.

### **Section 3: Identification of Management Practices to be Implemented**

- **Pesticide Use:** Pesticide use, including metal-based pesticides or fungicides (such as copper salts), within the watershed will be obtained from the Stanislaus County Agriculture Commissioner and/or the Department of Pesticide Regulation. The primary and highest-priority pesticides for evaluation will be those which have exceeded water quality triggers in the watersheds (chlorpyrifos, diazinon, dimethoate, esfenvalerate, diuron, lambda-cyhalothrin, and methyl parathion), and also bifenthrin. Some of these pesticides have been identified through previous monitoring data evaluations as the primary sediment and water flea toxicants in the watershed. Generally this data is available approximately three months in arrears. Growers will also be asked about their pesticide use and application methods through management plan surveys. This data will be used to develop a background inventory of applied materials and help determine which changes in pesticide use practices would be most appropriate and focus outreach efforts where most beneficial. Baseline pesticide use for these priority subwatersheds will be included in the Management Plan semi-annual reports to the Regional Board.
- **Baseline Management Practice Inventory:** A grower survey will be distributed to all growers in the priority subwatersheds. If members are not in attendance at meetings, the surveys will be mailed to their residences, or delivered to them on site. The survey results will be used to develop a management practice inventory. This inventory will document current MPs implemented within the Ingram and Hospital Creek subwatersheds. Data will be collected from water districts, government agencies as well as individual growers. The goal will be to characterize as accurately as possible the current level of MP implementation within the subwatershed areas but not necessarily to document the specific locations of every MP implemented. A description of the completeness or overall response of the survey to date, with summary information, will be included in the Management Plan in semi-annual reports. Completion of the MP survey shall be

considered a condition of membership with the Coalition, and every effort will be made to assist the growers in completing the survey. The Coalition sets the goal of 90% completeness for the survey returns, and failure to meet this completeness goal will be discussed with the Regional Board staff. The information to be gathered is shown in **Figure 8**. This information will be used to determine what practices are currently in place, so that identification of additional MPs necessary to improve water quality can be clarified and later evaluated.

#### **Section 4: Management Practice Implementation**

Once a baseline of management practices is determined, and the recommended changes to management practices are identified, the Coalition will begin/continue the process of communicating, implementing and documenting the use of new or additional management practices. The semi-annual reports will include an ongoing and updated, detailed description or table documenting individual parcels that are known, or likely, to be contributing to water quality issues in Hospital and Ingram Creeks, known or anticipated new management practices, historical practices, and changes to the previous update, including a summary of affected acres, and may include other pertinent information such as crop type, irrigation type or other details. It is anticipated that by December 30, 2008, the Coalition will have obtained and summarized the baseline information. Therefore by **January 31, 2009**, the Coalition will begin/continue the outreach to growers and other activities that are necessary to implement additional management practices. The result of these activities will be updated, summarized and reported semi-annually to the Regional Board.

- Outreach to Growers: The Westside Coalition will work through the member districts to outreach to the growers. Member districts in these two watersheds include West Stanislaus Irrigation District, Del Puerto Water District and El Solyo Water District. Outreach will occur primarily as organized meetings through the districts, but also as individual field meetings and/or by utilizing mail-out information to resident growers in the subwatershed areas. The Coalition will prioritize contact with individual growers that are likely or potential contributors to

exceedances (such as growers that routinely discharge tail water) as the highest priority. The Coalition will make every effort to contact the growers that are likely or potential contributors, and set the goal of 90% completeness for achieving this. Failure to meet this completeness goal will be discussed with the Regional Board staff.

Outreach topics will be specific to each audience and will include a discussion of the water quality issues and evaluate changes that have been made in management practices subsequent to the initial baseline management practice inventory. Appropriate outreach topics and the correct audience list for the information will be finalized subsequent to the initial baseline survey information collected. This is expected to be completed by December 31, 2008, and will be communicated to the Regional Board staff and included in semi-annual monitoring reports.

- **Implementation Strategy:** Based on the findings from the MP inventory which are expected to be completed and reviewed by December 31, 2008, the Westside Coalition will determine which management practices will be appropriate for specific locations within the priority watersheds of Ingram and Hospital Creeks, and will develop an approach to ensure that the MPs are implemented and develop the plan by January 31, 2009. Part of this approach will include the pursuit of funding sources to assist growers and districts with the capital resources that may be necessary for specific constructed management practices. These funding sources may be specific to sub-watersheds or generally applicable to the entire coalition. This approach will be described and communicated to the appropriate Coalition members and reported to the Regional Board in the semi-annual monitoring report.
- **Management Practices:** A management practice “toolbox” has been developed for growers within the Ingram and Hospital Creek subwatersheds. The tools included are focusing on reducing the amount of silt discharged from irrigated

fields through proven and practical means. These include the application of PAM to reduce the suspension of sediment in tailwater, and the construction and maintenance of sedimentation ponds to settle out silt before tailwater is discharged. Information regarding pesticide application methods, equipment calibration and communications with aerial applicators will also be described to the appropriate growers and landowners. It is anticipated that by removing silt from tailwater discharge, and by controlling the potential for pesticide overspray, sediment and water quality within Ingram and Hospital Creeks will improve.

### **Section 5: Management Practice Performance Goals and Schedule**

The performance goals for this management plan are both water quality based and MP implementation based. The MP implementation performance goal will hinge on the information that is derived regarding baseline MPs currently being implemented. Therefore the specific performance goals – other than achievement of water quality goals – will be determined and scheduled by January 31, 2009. This determination and schedule will be provided to the Regional Board and included in the following semi-annual monitoring reports. Additional MPs to be implemented will be identified, and this information will be continuously updated, and periodically reported to the Regional Board in the ongoing semi-annual reports. Generally speaking these goals will be as follows.

- Implement additional use of PAM to address sedimentation discharge.
- Reduce use of pesticides, or incorporate use of pesticides that are less likely to be transported to the waters of the State, or which breakdown quickly and are less likely to impact water quality.
- Calibrate spray rigs utilized on farmed acres to address possible overspray.
- Address potential aerial overspray by identifying the sensitive regions for all aerial applicators, or elimination of this as an acceptable application procedure for Ingram and Hospital Creeks.
- Increase size of vegetated buffer zones along the perimeters of Ingram and Hospital Creeks.

- Construct sediment basins to intercept direct tailwater discharges into Hospital and Ingram Creeks.
- Install high-efficiency irrigation systems such as sprinkler or drip irrigation, tailwater recirculation, gated pipes, shorter runs, etc, where warranted by the crops that are grown.

It must be noted that these are long term goals, and the most appropriate measures will be finalized subsequent to the initial management practice survey findings. The Focused Plan will be a living document that will be re-evaluated in conjunction with the Regional Board staff, and re-prioritized as effectiveness of the activities are re-evaluated.

The water quality goals for Tier 1 of the Focused Plan in Hospital and Ingram Creeks are as follows.

- Eliminate aquatic toxicity.
- Eliminate sediment toxicity.
- Reduce total suspended solids to values below the recommended water quality value.
- Eliminate detection of pesticides.

Progress toward meeting performance goals will be evaluated by the Coalition and Regional Board staff at meetings held quarterly. Any necessary changes to the strategy, activities or goals of the Focused Watershed Management Plan will be identified at these meetings. The notes of the meetings will be recorded and archived.

Performance goals for the Focused Plan will be based on implementation of management practices. More details will be developed for MP implementation following completion of the survey and survey assessment which will describe the baseline MP information. Focused Plan Interim Performance Goals are presented in **Table 1**.

**Table 1: Focused Plan Interim Performance Goals**

<b>Focused Plan Step</b>	<b>Outcome</b>	<b>Completion Date</b>
1. Development of survey document	Survey form that inquires about MPs relevant to Tier 1 parameters	31 July 2008
2. Completion of grower survey	Submittal by 90% of growers	15 November 2008
3. Finalize survey findings	Report on MP Baseline	30 December 2008
4. Determine effective MPs and develop next steps	Detailed plan for next steps in Focused Plan for Ingram & Hospital Creeks	31 January 2009

**Section 6: Constituent Specific Monitoring**

A revised Monitoring and Reporting Program Order has been developed for the Westside Coalition for the purpose of complying with the Irrigated Lands Waiver program and to support the activities of the Management Plan, including the focused plan. This monitoring and reporting plan includes flexible provisions for Special Project Monitoring that will allow the Coalition to adapt to changing field conditions, by submitting revisions to the Management Plan (which must be approved by the Executive Officer) that can document changes in the frequency, locations, or constituents related to Special Project Monitoring. Additionally, more frequent, qualitative monitoring, such as field turbidity measurements at key locations, may be implemented. These results will provide input on the impact of specific management activities. The monitoring schedule for the Focused Plan will be addressed through surveillance-level monitoring described as follows, as well as through the Westside Coalition MRP Order routine monitoring.

Surveillance-Level Monitoring. Surveillance-level monitoring (SLM) will be qualitative in nature and provide the Westside Coalition with a general indication as to whether or not the implemented activities are having an impact. SLM will consist of field turbidity

readings and photographs of site conditions. SLM sites may be monitored on a rotating basis, depending on farming activities.

SLM Schedule. Water and sediment monitoring at Ingram and Hospital Creeks will occur as indicated in the Westside San Joaquin River Watershed Coalition Monitoring and Reporting Program Order, and the Management Plan. In addition to the regularly scheduled monitoring, local district staff will perform SLM on a weekly basis during the irrigation season. This monitoring will be combined with other duties of the district staff and the specific day and time of monitoring will vary from week to week. **Table 2** shows the list of SLM sites and an estimated schedule of monitoring.

**Table 2: SLM SITE MONITORING**

<b>SLM Site</b>	<b>Monitoring Frequency</b>	<b>Constituents Measured</b>	<b>Other Observations</b>
Ingram Creek at River Road	Weekly	Flow, turbidity	Photograph, agricultural activities, date, time, weather
Hospital Creek at River Road	Weekly	Flow, turbidity	Photograph, agricultural activities, date, time, weather
Ingram Creek at Highway 33	Random	Flow, turbidity	Photograph, agricultural activities, date, time, weather
Hospital Creek at Highway 33	Random	Flow, turbidity	Photograph, agricultural activities, date, time, weather
Westley Tailwater Return Project Inlet	Random (monthly minimum)	Flow, turbidity	Photograph, agricultural activities, date, time, weather
Westley Tailwater Return Project Outlet	Random (monthly minimum)	Flow, Turbidity	Photograph, agricultural activities, date, time, weather
Other Farm Sedimentation Pond Inlet/Outlet*	Random (monthly minimum)	Flow, Turbidity	

SLM Method and Constituents. The purpose of SLM is to provide qualitative data for the purpose of estimating the impacts of activities and water quality trends. Because of this, high precision data is not required. SLM sites will be visited according to the

schedule and staff availability. Upon arriving at the SLM site, general conditions will be noted on the field sheet including date, time, weather and farming activities. Photographs with a date/time stamp will be taken as appropriate and a turbidity measurement will be made to determine the field turbidity. Provided there is safe access, turbidity readings will be made at the inlet and outlet of the sedimentation ponds to estimate settling efficiency.

Coordination with other Coalition Monitoring. The SLM program was developed concurrently with the revised Westside Coalition Monitoring and Reporting Program Order, and each monitoring program compliments the other. See the MRP Order for a detailed discussion of the monitoring of Hospital and Ingram Creeks.

### **Section 7: Process for Evaluating Management Practice Effectiveness**

The effectiveness of management practices implementation will be conducted through the measures identified in on **Table 1**, along with the interim performance goals. Subsequent to completion of Focused Plan Step # 4 (**Table 1**) additional performance goals related to MP implementation will be identified. The ultimate goal of this Focused Plan is to meet the water quality goals identified for the Irrigated Lands Regulatory Program.

### **Section 8: Identification of Implementing Participants**

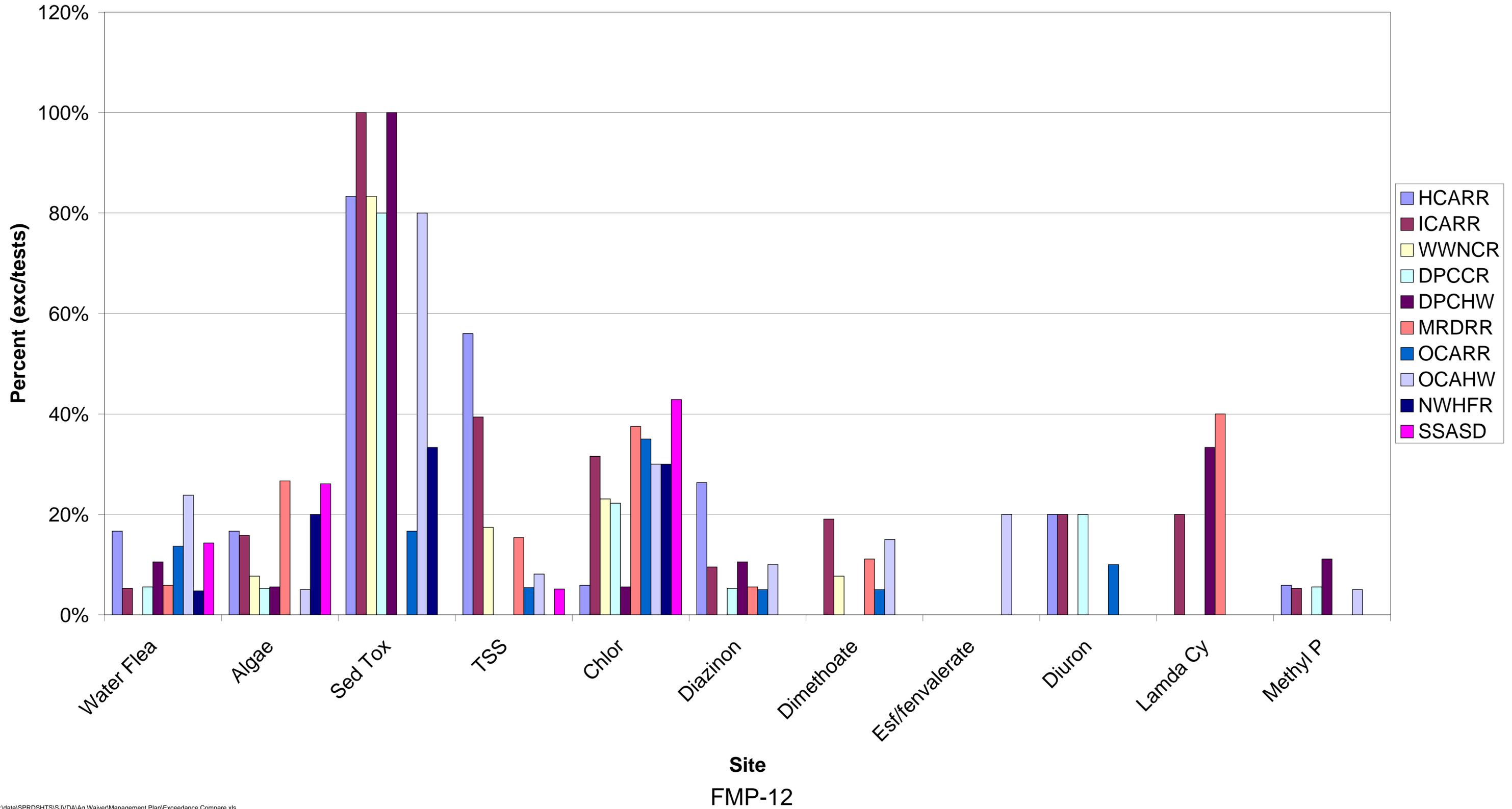
The Westside Coalition will work through the member districts for grower outreach. Member districts in these two watersheds include West Stanislaus Irrigation District, Del Puerto Water District and El Solyo Water District. Individual growers will be expected to cooperate with the MP recommendations that will be provided to them. Cooperation by growers in the efforts to achieve water quality goals is a condition of Coalition membership.

### **Section 9: Schedule for Reporting**

All reports to the Management Plan and Focused Watershed Plan will be included within the Westside Coalition's semi-annual monitoring reports. Quarterly meetings will

be held with Regional Board staff to discuss ongoing activities and to make decisions regarding necessary changes to the Management Plan approach.

### WQV Exceedances



### TSS Exceedances

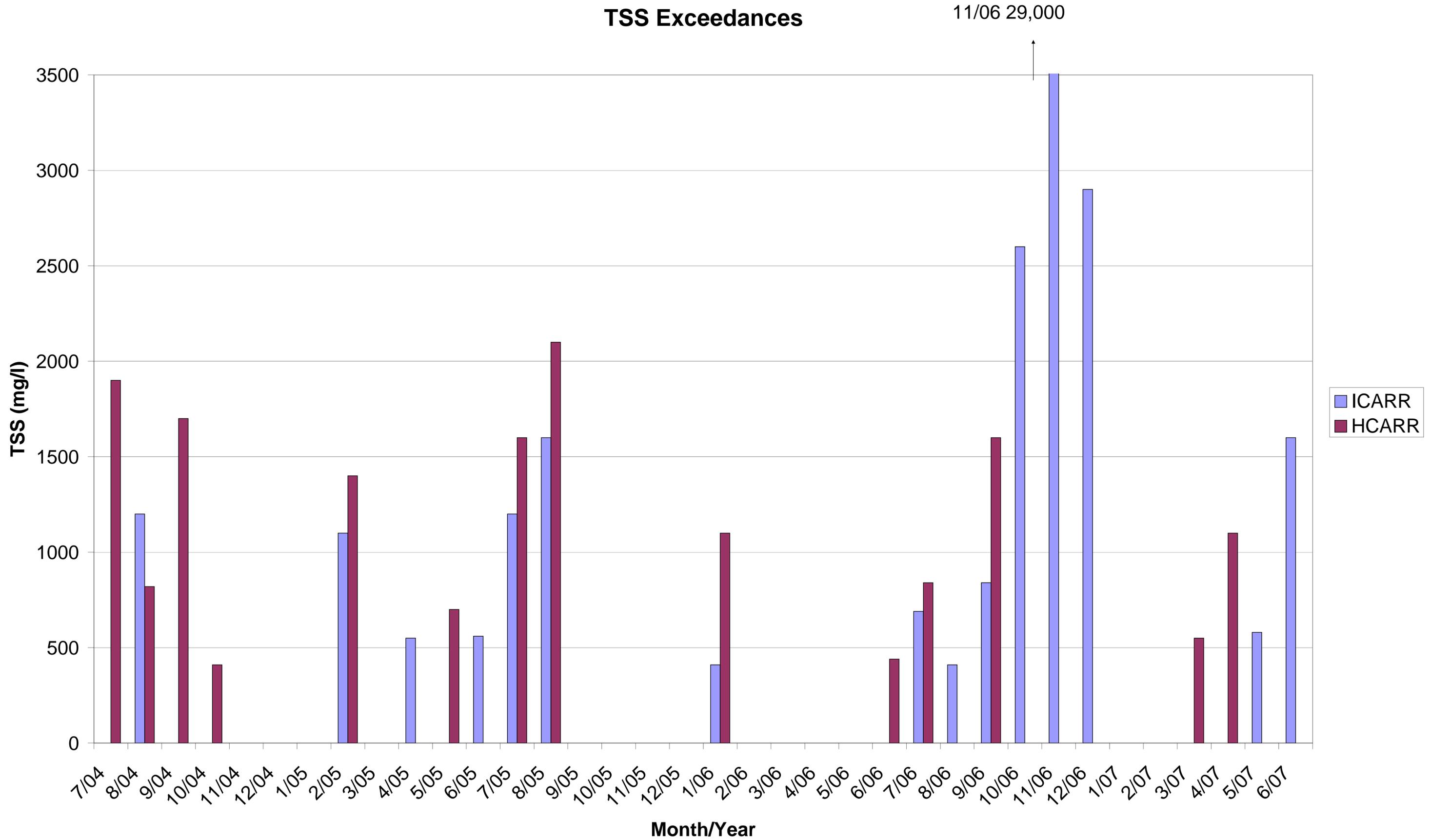
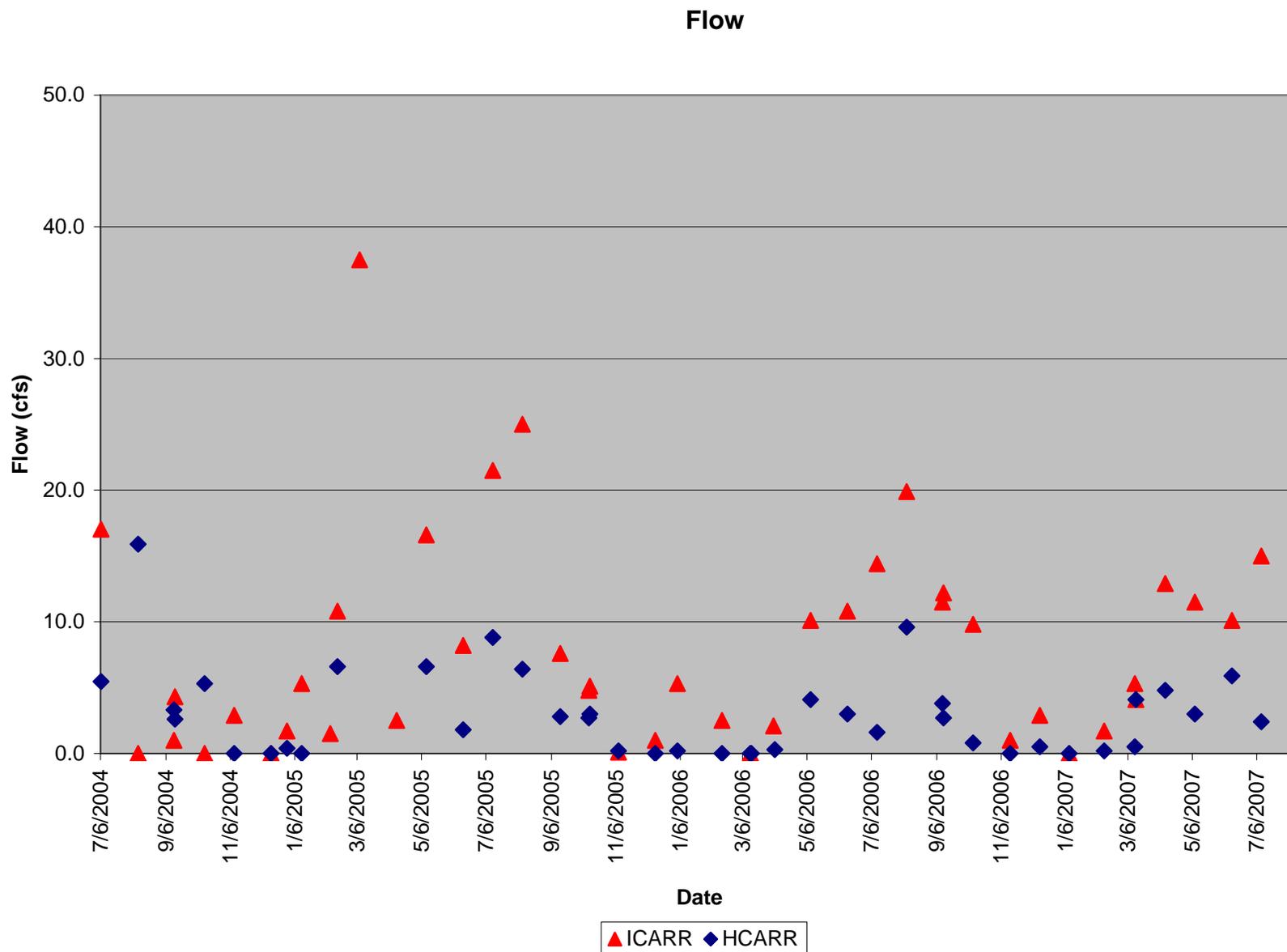


FIGURE 3



# *Westside San Joaquin River Watershed Coalition Adaptive Management Schematic*

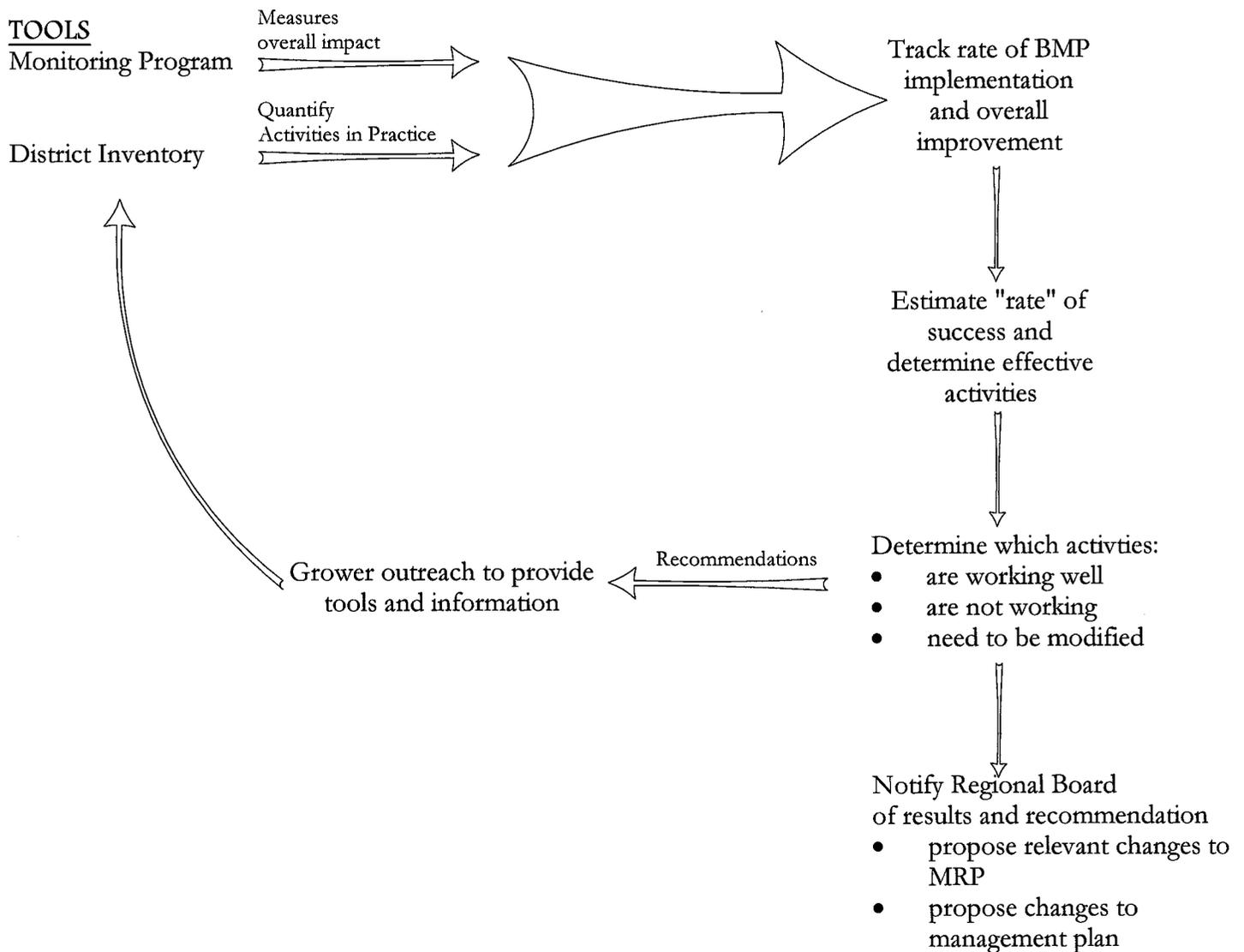
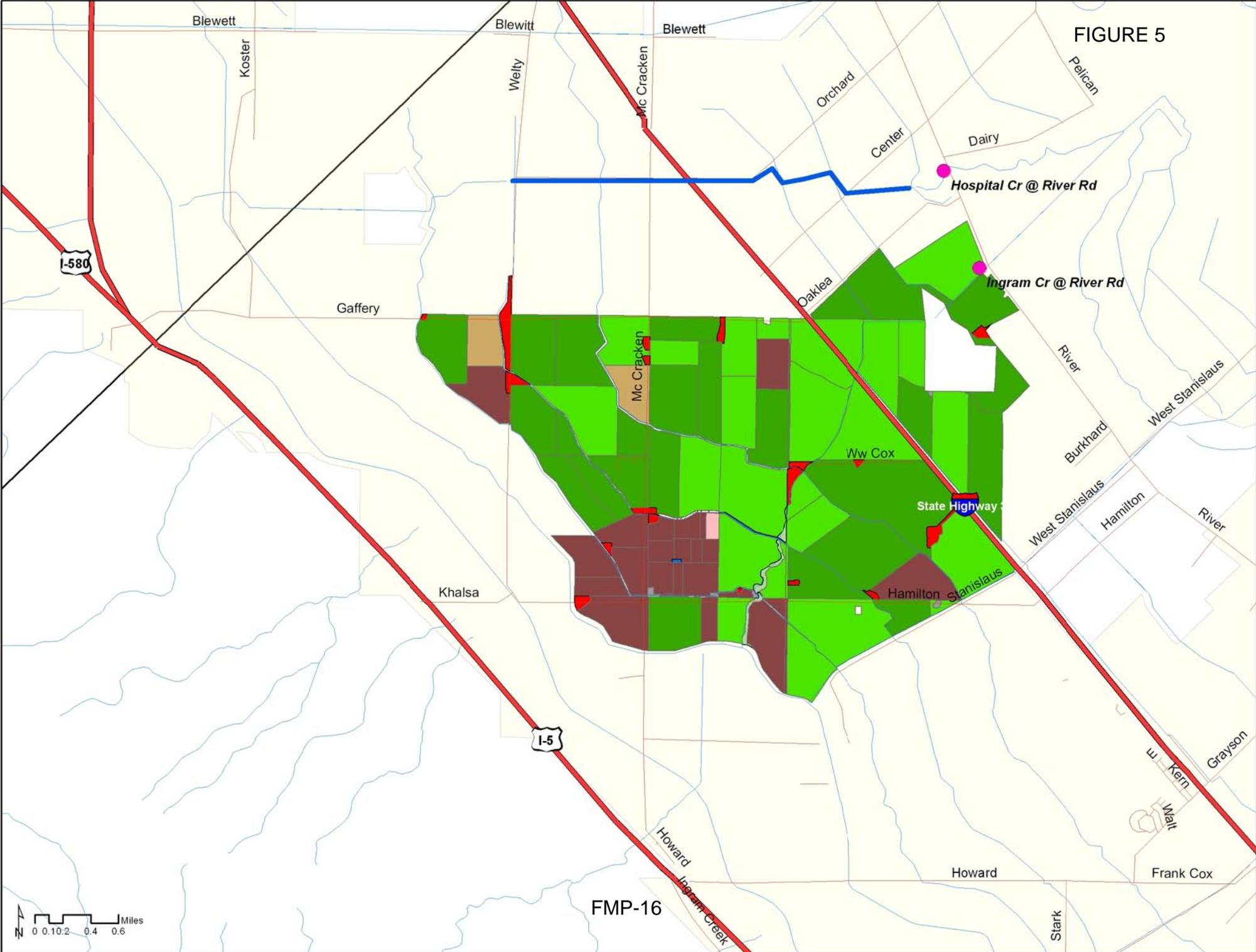
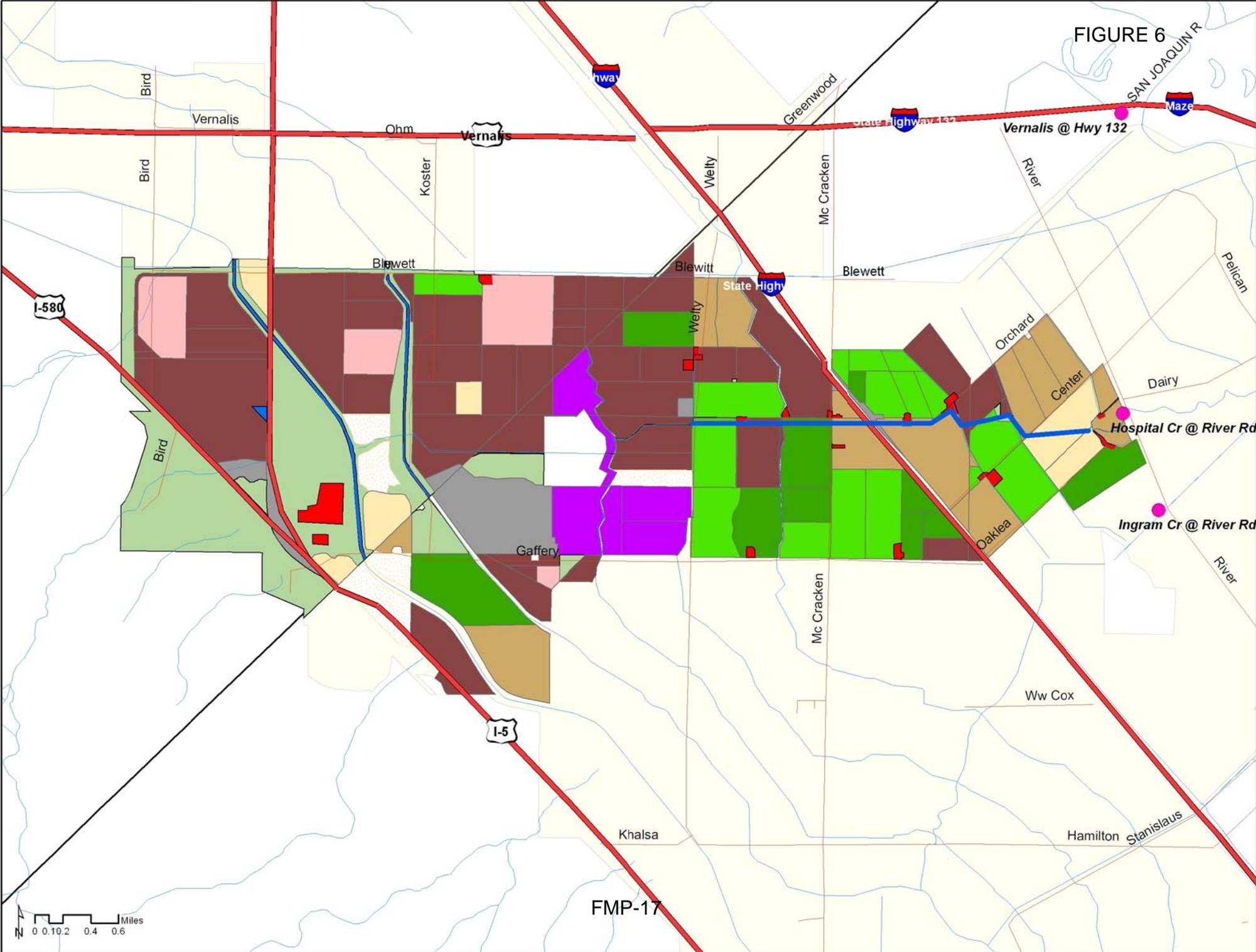


FIGURE 5



FMP-16

FIGURE 6





**Westside San Joaquin River Watershed Coalition**  
**Management Practice Survey**

FIGURE 8

**Parcel Number (APN):** \_\_\_\_\_ **Acreage:** \_\_\_\_\_

**Owner/Operator Information**

Company Name: \_\_\_\_\_ Contact Name: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Fax: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_ Email: \_\_\_\_\_  
Watershed/ Receiving Waterbody: \_\_\_\_\_ District: \_\_\_\_\_

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**Management Practices Information**

Irrigation Practices: \_\_\_\_\_ Common Pesticides Used: \_\_\_\_\_  
Crop: \_\_\_\_\_ Acreage: \_\_\_\_\_ Irrig Method: \_\_\_\_\_  
Crop: \_\_\_\_\_ Acreage: \_\_\_\_\_ Irrig Method: \_\_\_\_\_  
Crop: \_\_\_\_\_ Acreage: \_\_\_\_\_ Irrig Method: \_\_\_\_\_

Do you have a Sedimentation Pond? Yes No  
If Yes, How many acres does the pond drain: \_\_\_\_\_  
Does the pond have a return system: Yes No  
How frequently is the pond cleaned out: \_\_\_\_\_

Do you use PAM: Yes No  
If Yes, How many acres: \_\_\_\_\_  
Do you apply a dormant spray: Yes No  
If Yes, How many acres: \_\_\_\_\_  
If Yes, do you apply a pesticide every year: \_\_\_\_\_  
If Yes, do you apply a horticultural oil: \_\_\_\_\_

Do you apply a berm spray: Yes No  
If Yes, What material do you use: \_\_\_\_\_

Do you apply Manure? Yes No  
If Yes, How many acres: \_\_\_\_\_  
If Yes, What kind: \_\_\_\_\_

What other practices do you implement to manage your tail water:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Does tailwater leave your property? Yes No  
Does stormwater leave your property? Yes No

Completed by: \_\_\_\_\_

Questions: Contact Joe McGahan or Chris Linneman at 559-582-9237  
version 2008.2