

San Joaquin River Chlorpyrifos and Diazinon 2011 Water Year Annual Monitoring Report

For Compliance with the Central Valley Regional Water Quality Control Board Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff Into the Lower San Joaquin River (October 2005)



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TABLE OF CONTENTS

List of Tables	iv
List of Figures	vii
List of Appendices	viii
List of Acronyms	ix
List of Units	xi
List of Terms	xii
References	xiii
Amendment Summary	xiv
Executive Summary	xv
Introduction	1
Monitoring Objectives and Design	2
Monitoring Objectives	2
Monitoring Design	5
Sampling Coordination.....	8
Monitoring Frequency and Timing.....	8
Constituents Monitored.....	11
Sample Site Descriptions	12
Rainfall Records	22
Sampling and Analytical Methods	25
Monitoring Results	27
Sample Details	27
Laboratory and Field Quality Assurance Results	31
Chemistry	31
Chemistry Completeness	31
Summary of Precision and Accuracy	32
Comparison with TMDL Objectives	34
Objective 1: Determine compliance with established water quality objectives and the loading capacity applicable to diazinon and chlorpyrifos in the San Joaquin River.	34
Water Quality Objectives.....	34

Loading Capacity	34
Objective 2: Determine compliance with established load allocations for diazinon and chlorpyrifos.	35
ESJWQC Load Allocation Compliance	35
Westside Coalition Load Allocation Compliance.....	38
Objective 3: Determine degree of implementation of management practices and strategies to reduce off-site movement of diazinon and chlorpyrifos	40
ESJWQC Implementation of Management Practices to Reduce Off Site Movement of Diazinon and Chlorpyrifos.....	40
Westside Coalition Implementation of Management Practices to Reduce Off Site Movement of Diazinon and Chlorpyrifos.....	44
Objective 4: Determine degree of effectiveness of management practices and strategies to reduce off-site movement of diazinon and chlorpyrifos	46
ESJWQC Effectiveness of Management Practices to Reduce Off Site Movement of Diazinon and Chlorpyrifos.....	46
Westside Coalition Effectiveness of Management Practices to Reduce Off Site Movement of Diazinon and Chlorpyrifos.....	47
Objective 5: Determine whether alternatives to diazinon and chlorpyrifos are causing surface water quality impacts.....	47
ESJWQC Assessment of Alternatives to Diazinon and Chlorpyrifos.....	48
Westside Coalition Assessment of Alternatives to Diazinon and Chlorpyrifos	56
Alternatives Detected	57
Objective 6: Determine whether the discharge causes or contributes to toxicity impairment due to additive or synergistic effects of multiple pollutants.	59
ESJWQC Evaluation of Toxicity Impairment Due to Additive or Synergistic Effects of Multiple Pollutants	59
Westside Coalition Evaluation of Toxicity Impairment Due to Additive or Synergistic Effects of Multiple Pollutants.....	62
Objective 7: Demonstrate that management practices are achieving the lowest pesticide levels technically and economically achievable	63

LIST OF TABLES

Table 1. WQOs for chlorpyrifos and diazinon.	2
Table 2. Monitoring Objectives for the control of diazinon and chlorpyrifos runoff into the Lower San Joaquin River and associated ESJWQC and Westside Coalition actions.	4
Table 3. ESJWQC and Westside Coalition MRP Order/MRPP, QAPP, AMRs/SAMRs, Management Plans, and MPURs submission dates.	5
Table 4. ESJWQC and Westside Coalition chlorpyrifos and diazinon TMDL San Joaquin River sampling sites.	13
Table 5. San Joaquin River sampling sites and associated drainage subareas identified in the Basin Plan to be used in assessing compliance with load allocations.	13
Table 6. ESJWQC and Westside Coalition upstream tributary sites monitored during the 2011 water year.	14
Table 7. San Joaquin River monitoring sites and associated upstream tributaries monitored during the 2011 water year.	16
Table 8. Estimated land use acreage upstream of the San Joaquin River sampling sites.	21
Table 9. Top ten crops (based on acreage) upstream of each San Joaquin River sampling site.	21
Table 10. Sampling procedures, containers, sample volumes, preservation and storage techniques, and holding times.	25
Table 11. Field parameters and instruments used to collect measurements.	25
Table 12. Site specific discharge methods.	25
Table 13. Field and laboratory analytical methods.	26
Table 14. Sample details for San Joaquin River samples collected during the 2011 water year.	28
Table 15. Monitoring dates of San Joaquin River sample sites and upstream tributaries during 2011 water year.	30
Table 16. ESJWQC and Westside Coalition sample counts, field Quality Control counts and percentages.	31
Table 17. ESJWQC and Westside Coalition summary of holding time evaluations for environmental, field blank, field duplicate and matrix spike samples.	31
Table 18. ESJWQC and Westside Coalition summary of Quality Assurance and Quality Control evaluations.	32

Table 19. Tally of chlorpyrifos and diazinon TMDL load capacity compliance per each of the six San Joaquin River stations since the inception of San Joaquin River monitoring (January 2010 through September 2011).	35
Table 20. ESJWQC tributary monitoring schedule for chlorpyrifos and diazinon during the 2011 water year.	36
Table 21. Chlorpyrifos and diazinon San Joaquin River TMDL load allocation calculations for ESJWQC tributaries sampled during the 2011 water year.	37
Table 22. Chlorpyrifos applications made four weeks prior in subwatersheds with chlorpyrifos exceedances.	37
Table 23. Tally of ESJWQC chlorpyrifos and diazinon TMDL load allocation compliance per each of the subareas since the inception of San Joaquin River monitoring (January 2010 through September 2011).	38
Table 24. Chlorpyrifos and diazinon San Joaquin River TMDL load allocation calculations for Westside Coalition tributaries sampled during the 2011 water year.	39
Table 25. Tally of Westside Coalition chlorpyrifos and diazinon TMDL load allocation compliance per each of the subareas.	39
Table 26. Chlorpyrifos applications made four weeks prior in subwatersheds with chlorpyrifos exceedances.	40
Table 27. Implemented management practices designed to reduce offsite movement of chlorpyrifos and diazinon in the ESJWQC first and second priority subwatersheds (current and new) and third priority subwatersheds (current only) listed by TMDL subarea.	43
Table 28. Management practice inventory data for subwatersheds in the Westside Coalition region.	45
Table 29. Count of exceedances and samples collected for chlorpyrifos and diazinon in the ESJWQC first and second priority subwatersheds.	46
Table 30. Active ingredients of pesticides recommended by PCAs to growers in the ESJWQC region as alternatives to chlorpyrifos for the control of vine mealybug in vineyards, orangeworms in almond orchards, and codling moths in walnut orchards.	49
Table 31. ESJWQC tributary monitoring schedule for potential alternatives to chlorpyrifos and diazinon during the 2011 water year.	53
Table 32. Water column detections of potential alternative pesticides in ESJWQC tributaries during the 2011 water year.	54

Table 33. ESJWQC tributary water column and sediment toxicity exceedance summary for the 2011 water year..... 55

Table 34. ESJWQC tributary chlorpyrifos and pyrethroid results for toxic sediment samples collected during the 2011 water year. 55

Table 35. Insecticide applications within the Westside Coalition in order of highest application area..... 56

Table 36. Detections of metals and pesticides and toxicity results associated with chlorpyrifos detections in ESJWQC tributaries during the 2011 water year. 61

Table 37. Westside Coalition sites showing aquatic toxicity to *Ceriodaphnia dubia*. 62

LIST OF FIGURES

Figure 1. Formula used to calculate chlorpyrifos and diazinon loading capacity in San Joaquin River and load allocation for waterways entering the River.....	2
Figure 2. Chlorpyrifos and diazinon San Joaquin River TMDL Decision Tree for compliance monitoring and actions resulting from non compliance of the San Joaquin River load capacity.	7
Figure 3. Pounds of diazinon applied to the Lower San Joaquin River watershed from 2004 through 2010.	10
Figure 4. Pounds of chlorpyrifos applied to the Lower San Joaquin River watershed from 2004 through 2010.	10
Figure 5. San Joaquin River monitoring sites and drainage subareas.....	17
Figure 6. San Joaquin River monitoring sites, associated subareas, and upstream ESJWQC and Westside Coalition tributaries monitored during the 2011 water year.	18
Figure 7. San Joaquin River monitoring sites and associated subwatershed drainage areas (may include multiple subareas) with ESJWQC and Westside Coalition tributaries monitored during the 2011 water year.	19
Figure 8. Precipitation history from October 1, 2010 through March 31, 2011.....	23
Figure 9. Precipitation history from April 1 through September 30, 2011.....	24
Figure 10. Acreage with one or more implemented management practice per each category in the ESJWQC first, second, and third priority subwatersheds.	41
Figure 11. Count of chlorpyrifos and diazinon detections from 2006 through 2011 in the Westside Coalition tributaries.	47
Figure 12. Pounds of chlorpyrifos and alternative pesticides use on grape vineyards in the ESJWQC region.	51
Figure 13. Chlorpyrifos and alternative pesticide use on almond orchards in the ESJWQC region.	51
Figure 14. Chlorpyrifos and alternative pesticide use on walnut orchards in the ESJWQC region.	52

LIST OF APPENDICES

Appendix I	Chain of Custody Forms
Appendix II	Monitoring Results
Appendix III	Field and Laboratory QA Results
Appendix IV	Concentration Based Load Calculations
Appendix V	Field Sheets
Appendix VI	Monitoring Photos

LIST OF ACRONYMS

AMR	Annual Monitoring Report
CDEC	California Data Exchange Center
CIMIS	California Irrigation Management Information System
COC	Chain of Custody
DO	Dissolved Oxygen
DWR	(California) Department of Water Resources
ESJWQC	East San Joaquin Water Quality Coalition
FB	Field Blank
FD	Field Duplicate
ILRP	Irrigated Lands Regulatory Program
LCS	Laboratory Control Spike
LCSD	Laboratory Control Spike Duplicate
MDL	Minimum Detection Limit
MLJ-LLC	Michael L. Johnson, LLC
MPUR	Management Plan Update Report
MRPP	Monitoring and Reporting Program Plan
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	Not Detected
OP	Organophosphate pesticides
PAM	Polyacrylamide
PCA	Pesticide Control Advisor
pH	Power of Hydrogen
PR	Percent Recovery
PUR	Pesticide Use Report
PFTE	Polytetrafluoroethylene
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
S	Sum
SAMR	Semi-Annual Monitoring Report
SC	Specific Conductance
SJR	San Joaquin River
SOP	Standard Operating Procedure
TIE	Toxicity Identification Evaluation

TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
USGS	United States Geological Survey
Westside Coalition	Westside San Joaquin River Watershed Coalition
Westside Coalition MRP	Monitoring and Reporting Program Order No R5-2008-0831
WQO	Water Quality Objective
YSI	Yellow Springs Instruments

LIST OF UNITS

cm	centimeter
cfs	cubic feet per second
°C	degrees Celsius
L	Liter
µg	microgram
µmhos	micromhos
µS	microsiemens
mg	milligram

LIST OF TERMS

ArcGIS – Geographic Information Systems mapping software

Basin Plan – Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition

Basin Plan Amendment - Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff into the Lower San Joaquin River (Final Staff Report October 2005)

Coalitions –East San Joaquin Water Quality Coalition and Westside San Joaquin River Watershed Coalition

Drainage –water that moves horizontally across the surface or vertically into the subsurface from land

ESJWQC region – The region within the Central Valley that is monitored by the East San Joaquin Water Quality Coalition

Not detected – A constituent within a sample is below the minimum detection limit

Regional Board – Central Valley Regional Water Quality Control Board

Waterbody –standing or flowing water of any size that may or may not move into a larger body of water, including lakes, reservoirs, ponds, rivers, streams, tributaries, creeks, sloughs, canals, laterals and drainage ditches

Water year – the twelve month period from October through September, designated by the calendar year in which it ends and which includes nine of the twelve months

Watershed – The land area that drains into a stream; the watershed for a major river may encompass a number of smaller watersheds that ultimately combine at a common point. (EPA terms of environment: <http://www.epa.gov/OCEPAt/terms/wterms.html>)

Westside Coalition region – The region within the Central Valley that is monitored by the Westside San Joaquin River Watershed Coalition

REFERENCES

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University of California Agriculture and Natural Resources, Statewide Integrated Pest Management Program, 2012b, UC Pest Management Guidelines: Grape, Vine Mealybug: <http://www.ipm.ucdavis.edu/PMG/r302301911.html> (accessed April 2012).

University of California Agriculture and Natural Resources, Statewide Integrated Pest Management Program, 2012c, UC Pest Management Guidelines: Walnut, Codling Moth: <http://www.ipm.ucdavis.edu/PMG/r881300211.html> (accessed April 2012).

AMENDMENT SUMMARY

Table A. Chlorpyrifos and diazinon TMDL 2012 AMR amendments summary.

ITEM #	AMENDMENT DATE	AMENDMENT DESCRIPTION	AMENDED ITEM
1	June 1, 2012	Revisions were made to Table 6 to include all ESJWQC and Westside Coalition monitoring sites shown in Figures 6 and 7.	Table 6, pages 14-15
2	June 1, 2012	Revisions were made to Figure 10, Table 27, and associated verbiage to include currently implemented management practice data for ESJWQC third priority subwatersheds per Regional Board staff request.	Figure 10, page 42 Table 27, page 43 Verbiage, pages 41-44

EXECUTIVE SUMMARY

The Lower San Joaquin River (SJR) is divided into seven subareas as described in the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff into the Lower San Joaquin River (hereafter Basin Plan Amendment). The Central Valley Regional Water Quality Control Board (Regional Board) developed the Basin Plan Amendment (finalized in October 2005) to establish a Total Maximum Daily Load (TMDL) for the organophosphate pesticides chlorpyrifos and diazinon in the lower reaches of the San Joaquin River. As part of the Basin Plan Amendment, a surveillance and monitoring program is required to collect information necessary to assess compliance with six monitoring objectives. The East San Joaquin Water Quality Coalition (ESJWQC) and Westside San Joaquin River Watershed Coalition (Westside Coalition) developed a monitoring strategy to comply with the chlorpyrifos and diazinon TMDL program Monitoring Objectives:

1. Determine compliance with established water quality objectives (WQOs) and the loading capacity applicable to diazinon and chlorpyrifos in the San Joaquin River.
2. Determine compliance with established load allocations for diazinon and chlorpyrifos.
3. Determine the degree of implementation of management practices to reduce off-site movement of diazinon and chlorpyrifos.
4. Determine the effectiveness of management practices and strategies to reduce off-site migration of diazinon and chlorpyrifos.
5. Determine whether alternatives to diazinon and chlorpyrifos are causing surface water quality impacts.
6. Determine whether the discharge causes or contributes to a toxicity impairment due to additive or synergistic effects of multiple pollutants.
7. Demonstrate that management practices are achieving the lowest pesticide levels technically and economically achievable.

The Coalitions submitted a memorandum to the Regional Board on April 29, 2011 that confirmed the same approach would be employed during the 2011 water year as the 2010 water year, with a few modifications. The approach includes compliance monitoring quarterly at the six compliance points in the San Joaquin River, compliance monitoring monthly monitoring at three of the six compliance points (SJR @ Sack Dam, SJR @ Lander Ave, and SJR @ Las Palmas Ave (Patterson)), tributary monitoring based on each Coalitions approved monitoring plan on a monthly basis, and an assessment of the monitoring objectives and results on an annual basis on May 1st. In part due to the change in the report timing, the ESJWQC and Westside Coalition created a decision tree to guide the Coalition's actions when a non compliant load is detected in the San Joaquin River. These compliance points are (from upstream to downstream, Table 4):

- San Joaquin River at Sack Dam,
- San Joaquin River at Highway 165 (Lander Ave) near Stevinson (USGS 11260815),
- San Joaquin River at Hills Ferry,

- San Joaquin River at Las Palmas Avenue near Patterson (USGS 11274570),
- San Joaquin River at the Maze Boulevard (Highway 132) Bridge (USGS 11290500), and
- San Joaquin River at the Airport Way Bridge near Vernalis (USGS 11303500).

Each Coalition sampled three of the six compliance points as well as tributaries within their respective subregions as per each Coalition's monitoring plan. Water samples collected from the San Joaquin River were analyzed for chlorpyrifos and diazinon. Habitat information and field data, including dissolved oxygen (DO), pH, specific conductance (SC), and water temperature were collected at each site during each monitoring event. Discharge was obtained via Department of Water Resources (DWR) gauge readings posted on the California Data Exchange Center (CDEC) Website.

During the reporting period, there were no detections of chlorpyrifos or diazinon in water samples collected from the San Joaquin River. Diazinon was not detected in water samples from either of the Coalitions' tributaries. Chlorpyrifos exceeded the WQOs and load allocations in tributaries during irrigation months in both Coalition regions. Monitoring results indicated one instance in which there was the potential for chlorpyrifos to interact with other constituents in a synergistic or additive manner and cause toxicity in the ESJWQC region; monitoring indicated no such instances in the Westside Coalition region. Potential alternative pesticides to chlorpyrifos and/or diazinon were detected in the ESJWQC and Westside Coalition regions, but it is unknown if the pesticides were used as an alternative or as part of a management rotation.

To address these water quality impairments, the ESJWQC developed an overall management plan for all 27 waterways sampled between 2004 and 2008 and set priorities for both waterways and constituents in those waterways. In setting priorities, the Coalition is focusing first on constituents likely originating from agriculture including pesticides and sediment. The outreach and education strategy focuses on informing growers of impairments in their watershed and providing information on effective management practices. A key component of the Coalition's management strategy is to hold individual member meetings to discuss farm management practices and water quality impairments. The Coalition considers the significant decrease in chlorpyrifos exceedances in 2009 through 2011 an important step in demonstrating the effectiveness of its management plan strategy.

The Westside Coalition is also in the process of evaluating management practice implementation and effectiveness. To accomplish this, the Westside Coalition utilizes its two-pronged strategy guided by the tiered approach described in the Westside Coalition Management Plan. Because there is likely an overlap in effect from practices to address a specific constituent, the Westside Coalition identified a prioritized, tiered list of actions to be taken to address impairments of the most immediate concern (highest tier constituents), and, presumably, those actions will also benefit lower prioritized (tiered) constituents. These actions are then employed under two concurrent approaches (prongs) to improve water quality within the region. The General Approach identifies and employs common, constituent-specific strategies that can be applied throughout the region. Focused Watershed Management Plans, the second prong, identify and employ a subwatershed specific approach to implement management practices and improve water quality. Together, these strategies enable the Westside Coalition to

adequately assess water quality and management practice implementation in its region. Management practices assessments are reported in the Westside Coalition Semi-Annual Monitoring Reports (SAMRs).

Both Coalitions monitor chlorpyrifos, diazinon, and several other constituents as a part of tributary monitoring within their respective regions. Results from ESJWQC and Westside Coalition tributary monitoring during the reporting period (October 2010 through September 2011) are discussed as they pertain to the TMDL Objectives 1 through 7. Additional details can be found in the ESJWQC Annual Monitoring Report (AMR) submitted March 1, 2012 and the Westside Coalition SAMRs submitted June 15, 2011 (September 2010 through February 2011 data) and November 30, 2011 (March 2011 through August 2011 data) and to be submitted in the June 15, 2012 SAMR (September 2011 data).

INTRODUCTION

The Lower San Joaquin River (SJR) is divided into seven subareas as described in the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff into the Lower San Joaquin River (hereafter Basin Plan Amendment). The seven areas include agricultural drainages monitored under the Irrigated Lands Regulatory Program (ILRP) by the East San Joaquin Water Quality Coalition (ESJWQC) and Westside San Joaquin River Watershed Coalition (Westside Coalition). These two Coalitions were formed to ensure growers within those regions were in compliance with the ILRP conditional waiver.

The Central Valley Regional Water Quality Control Board (Regional Board) developed the Basin Plan Amendment (finalized in October 2005) to establish a Total Maximum Daily Load (TMDL) for the organophosphate pesticides chlorpyrifos and diazinon in the lower reaches of the San Joaquin River. As dictated by the Basin Plan Amendment, a surveillance and monitoring program is required to collect information necessary to assess compliance with seven monitoring objectives. Assessment of compliance with the Basin Plan Amendment is addressed at two levels: 1) water quality within the Lower San Joaquin River at six compliance points, and 2) water quality within the subareas that drain to the Lower San Joaquin River.

The ESJWQC and the Westside Coalition conducted monitoring during the 2011 water year (October 2010 through September 2011) to assess compliance with the Lower San Joaquin River concentration based loads at the six compliance points identified in the Basin Plan Amendment. This report summarizes the water quality monitoring conducted at the compliance points during the reporting period and compares those results with the water quality objectives (WQOs) outlined in the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Fourth Edition, hereafter referred to as the Basin Plan).

Each Coalition conducts a monitoring program under the ILRP designed to assess water quality within their region. In addition, both Coalitions developed management plans to address exceedances of the chlorpyrifos and diazinon water quality objectives in specific subwatersheds. The results summarized below are for an additional monitoring program put into place by the Coalitions to address the Basin Plan amendments to regulate discharges of organophosphate pesticides. This annual report discusses how the Coalitions are addressing load allocations for the subareas that drain to the San Joaquin River through their monitoring and implementation strategies outlined in their respective monitoring and management plans.

MONITORING OBJECTIVES AND DESIGN

MONITORING OBJECTIVES

The ESJWQC and Westside Coalition developed a monitoring strategy to comply with the chlorpyrifos and diazinon TMDL program Monitoring Objectives. The Monitoring Objectives include:

1. Determine compliance with established water quality objectives (WQOs) and the loading capacity applicable to diazinon and chlorpyrifos in the San Joaquin River.
2. Determine compliance with established load allocations for diazinon and chlorpyrifos.
3. Determine the degree of implementation of management practices to reduce off-site movement of diazinon and chlorpyrifos.
4. Determine the effectiveness of management practices and strategies to reduce off-site migration of diazinon and chlorpyrifos.
5. Determine whether alternatives to diazinon and chlorpyrifos are causing surface water quality impacts.
6. Determine whether the discharge causes or contributes to a toxicity impairment due to additive or synergistic effects of multiple pollutants.
7. Demonstrate that management practices are achieving the lowest pesticide levels technically and economically achievable.

The chlorpyrifos and diazinon WQOs (Basin Plan, 4th Edition, page III-6.01) are used to determine the concentration based loading capacity for the San Joaquin River and load allocations within the upstream tributaries (Table 1). Both the loading capacity of the San Joaquin River and load allocation of any tributary to the river shall not exceed one, as determined from the formula listed in Figure 1.

Table 1. WQOs for chlorpyrifos and diazinon.

PESTICIDE	MAXIMUM CONCENTRATION AND AVERAGE PERIOD
Chlorpyrifos	0.025 µg/L ; 1-hour average (acute) 0.015 µg/L ; 4-day average (chronic) Not to be exceeded more than once in a three year period.
Diazinon	0.16 µg/L ; 1-hour average (acute) 0.10 µg/L ; 4-day average (chronic) Not to be exceeded more than once in a three year period.

Figure 1. Formula used to calculate chlorpyrifos and diazinon loading capacity in San Joaquin River and load allocation for waterways entering the River.

$$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$

Where

C_D = diazinon concentration in µg/L

WQO_D = diazinon water quality objective; 0.1 µg/L

C_C = chlorpyrifos concentration in µg/L

WQO_C = chlorpyrifos water quality objective; 0.015 µg/L

The WQO used for diazinon and chlorpyrifos reflects the 4-day average (chronic) maximum listed in Table 1. If the measured concentration of either constituent exceeds its WQO in a sample collected from the San Joaquin River, the loading capacity is exceeded. If the measured concentration of either constituent exceeds its WQO in a sample collected from a tributary within one of the seven subareas, the load allocation is exceeded. The chlorpyrifos and diazinon loading capacity or load allocation can be exceeded if the combined concentrations of chlorpyrifos and diazinon cause the sum (S) to be greater than one, even if both concentrations are below the two constituents' respective WQOs.

To assess compliance with Objective 1, the ESJWQC and Westside Coalition conducted monitoring at six designated compliance sites on the San Joaquin River during the 2011 water year. To assess compliance with Objectives 2 through 7, the Coalitions reviewed the results of the San Joaquin River monitoring relative to the monitoring and outreach conducted within their respective Coalition regions as a part of the ILRP. Table 2 is an overview of the ESJWQC and Westside Coalition actions and associated reporting documents, if any, utilized to assess each of the seven Monitoring Objectives. The Comparison with TMDL Objectives section of the report explains each Coalition's strategy to assess compliance with the Objective and the outcomes of their strategies during the reporting period. Table 3 lists all the ESJWQC and Westside Coalition submission dates for each of their reporting elements listed in Table 2; each relevant document is listed below for each Coalition as reference.

Westside Coalition

- Monitoring and Reporting Program Order No R5-2008-0831 (Westside Coalition MRP),
- Westside Coalition Draft Quality Assurance Project Plan (QAPP),
- Semi-Annual Monitoring Reports (SAMR) including management plan status updates,
- Westside Coalition Management Plan and Focused Watershed Plans

ESJWQC

- ESJWQC Monitoring and Reporting Program Plan (MRPP),
- ESJWQC Quality Assurance Project Plan (QAPP),
- Annual Monitoring Reports (AMR),
- ESJWQC Management Plan, and
- ESJWQC Management Plan Update Reports (MPUR).

Table 2. Monitoring Objectives for the control of diazinon and chlorpyrifos runoff into the Lower San Joaquin River and associated ESJWQC and Westside Coalition actions.

Refer to Table 3 for submission dates of all documents listed in this table.

TMDL			LOCATION OF
OBJECTIVE NUMBER	COALITION	COALITION ACTIONS	ADDITIONAL INFORMATION ¹
1	ESJWQC and Westside Coalition	<ul style="list-style-type: none"> Monitor 6 compliance sites on the San Joaquin River. Assess monitoring results to determine compliance with chlorpyrifos and diazinon WQO. Assess monitoring results to determine compliance with chlorpyrifos and diazinon loading capacity. 	None
2	ESJWQC	<ul style="list-style-type: none"> Conduct representative monitoring of the Coalition region according to Monitoring Strategy explained in MRPP. Assess monitoring results to determine compliance with chlorpyrifos and diazinon load allocations. 	ESJWQC MRPP, Management Plan, and MPURS
	Westside Coalition	<ul style="list-style-type: none"> Conduct representative monitoring of the Coalition region according to Monitoring Strategy and Schedule explained in the Westside Coalition MRP. Assess monitoring results to determine compliance with chlorpyrifos and diazinon load allocations 	Westside Coalition MRP and Management Plan
3 and 4	ESJWQC	<ul style="list-style-type: none"> Adhere to strategy put forth in the ESJWQC Management Plan to determine current management practices to reduce off-site movement of chlorpyrifos and diazinon. Status reported in MPURS 	ESJWQC Management Plan and MPURS
	Westside Coalition	<ul style="list-style-type: none"> Adhere to strategy put forth in the Westside Coalition Management Plan to determine current management practices to reduce off-site movement of chlorpyrifos and diazinon. Status reported in SAMRs. 	Westside Coalition Management Plan and SAMRs
5	ESJWQC	<ul style="list-style-type: none"> Conduct representative monitoring of Coalition region according to Monitoring Strategy outlined in ESJWQC MRPP to determine whether alternatives to diazinon and chlorpyrifos are causing surface water impairments. Assess and discuss monitoring results in ESJWQC Management Plan and MPURS. 	ESJWQC MRPP, Management Plan, and MPURS
	Westside Coalition	<ul style="list-style-type: none"> Conduct representative monitoring of Coalition region according to Monitoring Strategy outlined in Westside Coalition MRP to determine whether alternatives to diazinon and chlorpyrifos are causing surface water impairments. Assess and discuss monitoring results in Westside Coalition SAMRs. 	Westside Coalition MRP and SAMRs
6	ESJWQC	<ul style="list-style-type: none"> Conduct representative monitoring of Coalition region according to Monitoring Strategy explained in ESJWQC MRPP to assess toxicity and determine if agricultural discharge contributes to toxicity impairment due to additive or synergistic effects of multiple pollutants. Assess and discuss monitoring results in ESJWQC Management Plan and MPURS. 	ESJWQC MRPP, Management Plan, and MPURS
	Westside Coalition	<ul style="list-style-type: none"> Conduct representative monitoring of Coalition region according to Monitoring Strategy explained in Westside Coalition MRP to assess toxicity and determine if agricultural discharge contributes to toxicity impairment due to additive or synergistic effects of multiple pollutants. Assess and discuss monitoring results in Westside Coalition SAMRs. 	Westside Coalition MRP and SAMRs
7	ESJWQC	<ul style="list-style-type: none"> The ESJWQC assesses the information collected to meet Objectives 3 and 4 to determine if management practices are achieving the lowest pesticides levels technically and economically achievable in the ESJWQC Management Plan and MPURS. 	ESJWQC Management Plan and MPURS
	Westside Coalition	<ul style="list-style-type: none"> The Westside Coalition assesses the information collected to meet Objectives 3 and 4 to determine if management practices are achieving the lowest pesticides levels technically and economically achievable in the Westside Coalition Management Plan and SAMRs. 	Westside Coalition Management Plan and SAMRs

¹Information is in addition to the San Joaquin River Chlorpyrifos and Diazinon TMDL AMRs.

Table 3. ESJWQC and Westside Coalition MRP Order/MRPP, QAPP, AMRs/SAMRs, Management Plans, and MPURs submission dates.

Organized by Coalition and submission date.

COALITION	DOCUMENT NAME	SUBMISSION DATE	SAMPLING DATES ADDRESSED
ESJWQC	ESJWQC MRPP	August 25, 2008	NA ¹
ESJWQC	ESJWQC QAPP	August 25, 2008	NA ¹
ESJWQC	ESJWQC SAMR	June 30, 2008	October 2007 – March 2008
ESJWQC	ESJWQC Management Plan	September 30, 2008	August 2004 – December 2007
ESJWQC	ESJWQC SAMR	March 1, 2009	April – September 2008
ESJWQC	ESJWQC AMR	March 1, 2010	October 2008 – December 2009
ESJWQC	ESJWQC MPUR	April 1, 2010	October 2008 – December 2009
ESJWQC	ESJWQC AMR	March 1, 2011	January – December 2010
ESJWQC	ESJWQC MPUR	April 1, 2011	January – December 2010
ESJWQC	ESJWQC AMR	March 1, 2012	January – December 2011
ESJWQC	ESJWQC MPUR	April 1, 2012	January – December 2011
Westside Coalition	Westside Coalition MRP Order No.R5-2008-0831	September 15, 2008	NA ¹
Westside Coalition	Westside Coalition Management Plan and Focused Management Plan	October 23, 2008	March 2009 to Present
Westside Coalition	Westside Coalition QAPP (Draft)	June 30, 2009	NA ¹
Westside Coalition	Westside Coalition SAMR	June 15, 2009	September 2008 – February 2009
Westside Coalition	Westside Coalition SAMR	November 30, 2009	March – August 2009
Westside Coalition	Westside Coalition SAMR	June 15, 2010	September 2009 – February 2010
Westside Coalition	Westside Coalition SAMR	November 30, 2010	March – August 2010
Westside Coalition	Westside Coalition SAMR	June 15, 2011	September 2010 – February 2011
Westside Coalition	Westside Coalition SAMR	November 30, 2011	March – August 2011
Westside Coalition	Westside Coalition SAMR	To be submitted June 15, 2012	September 2011 – February 2012

NA¹ – Not Applicable. The document addresses and is applicable to the entire project, not a subset of sampling dates.

MONITORING DESIGN

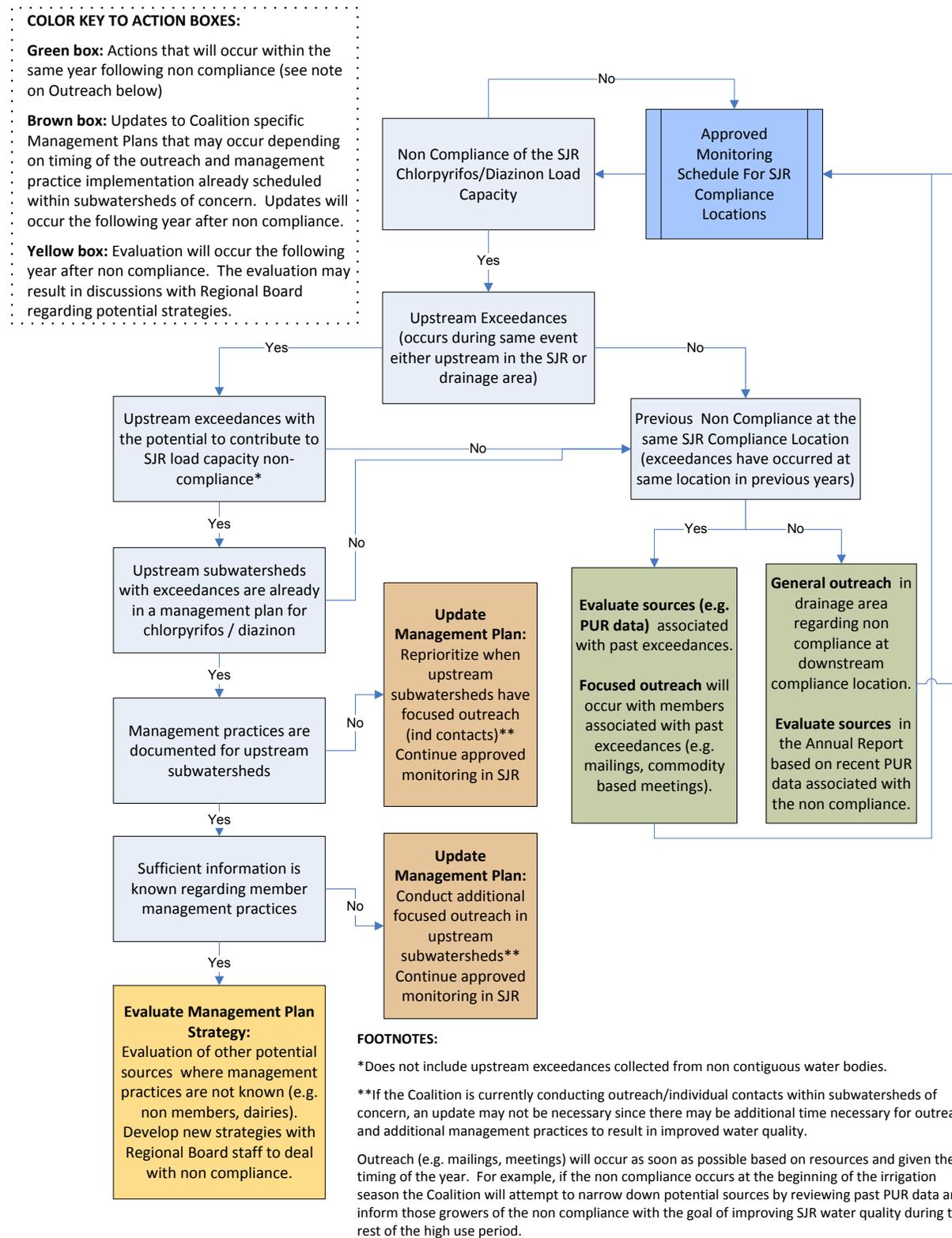
The monitoring design for the 2011 water year closely followed the monitoring design utilized in 2010. The memorandum submitted to the Regional Board on May 14, 2010 outlined the approach to implement the monitoring component for the San Joaquin River chlorpyrifos and diazinon TMDL. This approach includes compliance monitoring of chlorpyrifos and diazinon in the San Joaquin River at six compliance points on a quarterly basis, monthly tributary monitoring based on each Coalition’s approved monitoring plan, and an assessment of the monitoring objectives and results on an annual basis.

The Coalitions submitted a memorandum to the Regional Board on April 29, 2011 that confirmed the same approach would be employed during the 2011 water year, with two modifications. First, results from monthly monitoring by the Westside Coalition of three of the six compliance points (SJR @ Sack Dam, SJR @ Lander Ave, and SJR @ Las Palmas Ave (Patterson)) will be considered as TMDL compliance point monitoring and included in the annual assessment. Second, the Coalitions and Regional Board agreed to move the chlorpyrifos and diazinon AMR due date from October 31 to May 1 to better coordinate and streamline the TMDL program reporting requirements with those of the ILRP.

As a result of these modifications, 2011 San Joaquin River TMDL monitoring data were collected at six of the compliance points on a quarterly basis and three of the compliance points on a monthly basis. This report includes a complete analysis and discussion of all monitoring data collected from October 2010 through September 2011.

In part due to the change in the report timing, the ESJWQC and Westside Coalition created a decision tree to guide the Coalition's actions when a non compliant load is detected in the San Joaquin River (Figure 2). The decision tree enables the Coalitions to adequately and efficiently address water quality impairments found in the San Joaquin River.

Figure 2. Chlorpyrifos and diazinon San Joaquin River TMDL Decision Tree for compliance monitoring and actions resulting from non compliance of the San Joaquin River load capacity.



Sampling Coordination

San Joaquin River TMDL monitoring and Westside Coalition tributary monitoring is typically scheduled for the second Tuesday of the month and is adjusted for storm events as necessary.

From October 2010 through April 2011, the ESJWQC monitored its tributaries on the third Tuesday of every month. From May through September 2011 ESJWQC tributary monitoring occurred two consecutive Tuesdays during each month due to increased workload due to additional monitoring locations. Half of ESJWQC tributary monitoring (northern section) occurred on the second Tuesday of each month and the second half of tributary monitoring (southern section) occurred on the third Tuesday of each month.

Monitoring Frequency and Timing

Monitoring frequency is designed to characterize the concentrations of chlorpyrifos and diazinon in the San Joaquin River. Monitoring occurred monthly at three of the six compliance points (SJR @ Sack Dam, SJR @ Lander Ave, and SJR @ Las Palmas Ave (Patterson)) to evaluate water quality throughout the year. Monitoring occurred quarterly at all six compliance points and was scheduled to coincide with predicted peak pesticide use and, hence, potential peak concentrations in waterways. Peak pesticide use was determined using Pesticide Use Reports (PURs) and past monitoring data. Below is a description of the most common crops for which chlorpyrifos and/or diazinon are applied and the month in which quarterly monitoring is planned. Quarters are assigned based on a calendar year.

Quarter 4: October - December

Chlorpyrifos applications in October and November are mostly due to post harvest applications to grapes for vine mealybug (Figure 4). Quarterly monitoring occurs in October to capture any runoff that may occur during this time. The few dormant applications of diazinon that still occur begin in December prior to the storm season. Dormant spray runoff is captured in the following quarter after a majority of the dormant sprays are expected to occur and when rain events have the potential to result in diazinon and/or chlorpyrifos runoff.

Quarter 1: January - March

Dormant season insecticide applications occur between December and February and the first quarter sampling is scheduled to assess discharges in storm drainage. In general, diazinon use has decreased significantly in recent years. However, when it is applied, use peaks from December through February (Figure 3). Chlorpyrifos use is relatively low from November through February and increases in March due to applications to alfalfa (Figure 4). If the Coalitions are unable to capture a storm event, first quarter monitoring will occur in March.

Quarter 2: April - June

Chlorpyrifos use increases in May (Figure 4) during which time it is applied to permanent crops such as almonds and walnuts and crops such as alfalfa and corn. Minimal use of diazinon occurs from April through June (Figure 3) when it is applied to cherries, tomatoes, cantaloupes and melons. Quarterly monitoring is therefore scheduled for May during this quarter.

Quarter 3: July -September

Chlorpyrifos use increases from July through August (Figure 4) when it is applied to many crops including alfalfa, almonds (hull-split applications), walnuts (codling moth applications), and corn. During this time, the most use occurs in July which also coincides with the month that chlorpyrifos exceedances are most likely occur. Diazinon use during this time is mostly to cantaloupes and melons. Quarterly monitoring is scheduled in July during this quarter.

Figure 3. Pounds of diazinon applied to the Lower San Joaquin River watershed from 2004 through 2010.
 Years refer to calendar years.

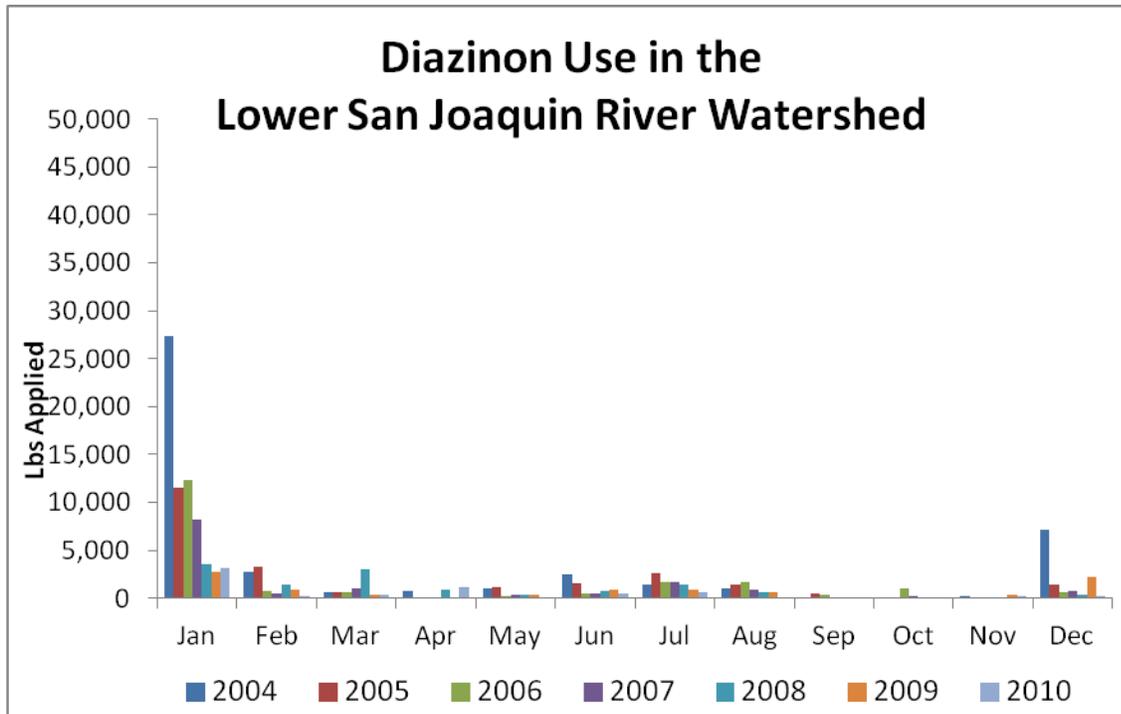
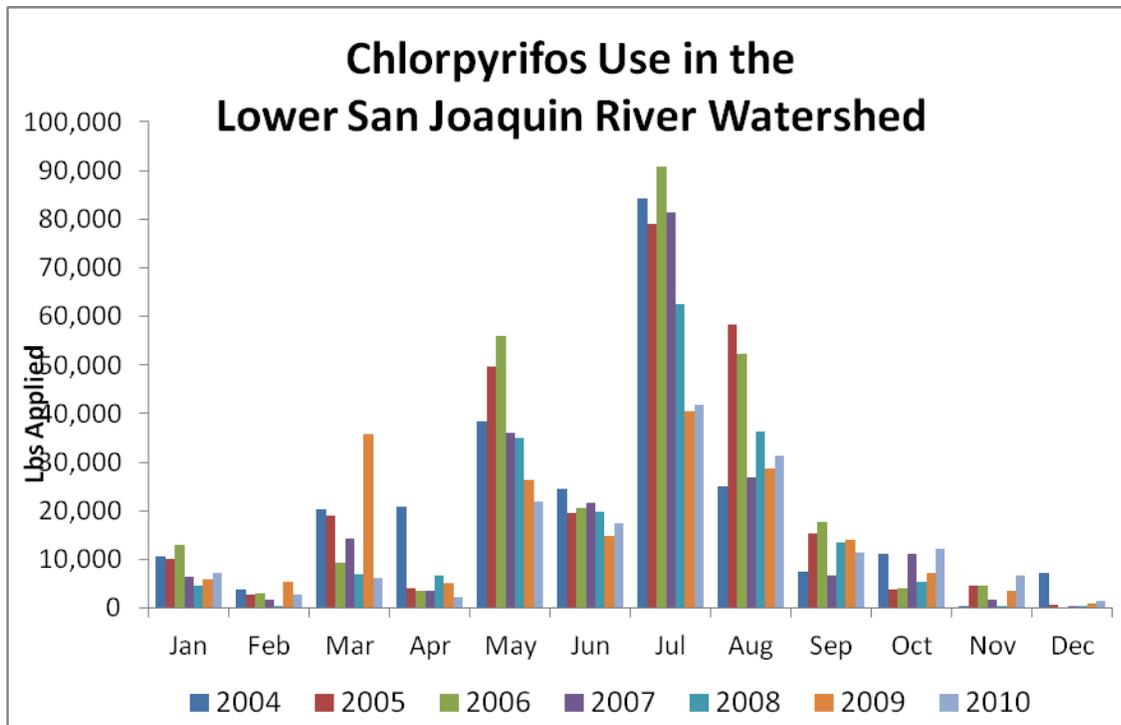


Figure 4. Pounds of chlorpyrifos applied to the Lower San Joaquin River watershed from 2004 through 2010.
 Years refer to calendar years.



Constituents Monitored

Water samples collected from the San Joaquin River for this TMDL were analyzed for chlorpyrifos and diazinon. Samples collected by the Westside Coalition during their normal monthly monitoring were analyzed for additional constituents for compliance with the ILRP and are described in the Westside Coalition MRP. Results from ILRP monitoring (both additional SJR constituents and tributary monitoring) are reported in the Westside SAMR and the ESJWQC AMR. Habitat information and field data, including dissolved oxygen (DO), pH, specific conductance (SC), and water temperature, were collected at each site during each monitoring event. Discharge calculations were obtained from Department of Water Resources (DWR) gauge readings posted on the California Data Exchange Center (CDEC) website. The sampling procedures and analytical methods are further discussed in the Sampling and Analytical Methods section.

SAMPLE SITE DESCRIPTIONS

The Basin Plan Amendment requires the Coalitions to assess compliance with WQOs and loading capacity for, at a minimum, the six designated water quality compliance points on the San Joaquin River. These compliance points are (from upstream to downstream, Table 4 and Figure 5):

- San Joaquin River at Sack Dam,
- San Joaquin River at Highway 165 (Lander Ave) near Stevinson (USGS 11260815),
- San Joaquin River at Hills Ferry,
- San Joaquin River at Las Palmas Avenue near Patterson (USGS 11274570),
- San Joaquin River at the Maze Boulevard (Highway 132) Bridge (USGS 11290500), and
- San Joaquin River at the Airport Way Bridge near Vernalis (USGS 11303500).

Additionally, the Basin Plan Amendment specifies that compliance with load allocations for nonpoint source discharges into the San Joaquin River must be determined for the following five subareas (from upstream to downstream, Table 5 and Figure 5):

- Bear Creek and Fresno-Chowchilla subareas
- Stevinson and Grassland subareas,
- Turlock, Merced, and Greater Orestimba subareas,
- Tuolumne River, Northeast Bank, and Westside Creek subareas, and
- Stanislaus River, North Stanislaus, and Vernalis North subareas.

Five of the six compliance points on the San Joaquin River monitor drainage from these subareas (Table 5 and Figure 5).

During the 2011 water year, the Coalitions sampled 41 tributaries for chlorpyrifos and diazinon (22 in ESJWQC region and 19 in Westside Coalition region; Table 6 and Figure 6). San Joaquin River compliance sites and the associated tributaries that drain to each compliance point are listed in Table 7. Although there are no tributaries listed that drain into SJR @ Sack Dam, there is the potential for indirect drainage and spray drift to occur in a small area next to the river upstream of this monitoring location (Figure 7).

Results from ESJWQC and Westside Coalition tributary monitoring are discussed in this report as they pertain to San Joaquin River monitoring. Details of ESJWQC tributary monitoring locations and 2010 and 2011 results can be found in the ESJWQC AMRs submitted March 1, 2011 and March 1, 2012. Westside Coalition tributary monitoring locations and October 2010 through August 2011 results were reported in the Westside Coalition SAMRs submitted June 15 and November 30, 2011. Westside Coalition tributary monitoring locations and results from September 2011 will be reported in the Westside Coalition SAMR to be submitted June 15, 2012.

Table 4. ESJWQC and Westside Coalition chlorpyrifos and diazinon TMDL San Joaquin River sampling sites.

Listed in order of upstream to downstream.

RESPONSIBLE COALITION	SITE NAME	MONITORING FREQUENCY	STATION CODE	LATITUDE	LONGITUDE
Westside	SJR @ Sack Dam	Monthly	541XSJRS	36.98361	-120.50028
Westside	SJR @ Lander Ave	Monthly	541XSJRLA	37.29528	-120.85028
ESJWQC	SJR @ Hills Ferry Rd	Quarterly	541STC512	37.34250	-120.97722
Westside	SJR @ Las Palmas Ave (Patterson)	Monthly	541STC507	37.49778	-121.08167
ESJWQC	SJR @ Maze Blvd	Quarterly	541STC510	37.64194	-121.22778
ESJWQC	SJR @ Airport Way	Quarterly	541SJC501	37.67556	-121.26417

Table 5. San Joaquin River sampling sites and associated drainage subareas identified in the Basin Plan to be used in assessing compliance with load allocations.

Listed in order of upstream to downstream.

SITE NAME	SUBAREAS
SJR @ Sack Dam	NA ¹
SJR @ Lander Ave	Bear Creek, Fresno-Chowchilla
SJR @ Hills Ferry Rd	Stevinson, Grassland
SJR @ Las Palmas Ave (Patterson)	Turlock, Merced, Greater Orestimba
SJR @ Maze Blvd	Tuolumne River, Northeast Bank, Westside Creek
SJR @ Airport Way	Stanislaus River, North Stanislaus, and Vernalis North

NA¹ – Not applicable because this station is not identified as having drainage from subareas as listed in the Basin Plan amendment (see Figure 5). However, this report identifies some drainage possible along the river in the Fresno-Chowchilla and Grassland subareas (see Figure 7).

Table 6. ESJWQC and Westside Coalition upstream tributary sites monitored during the 2011 water year.

The most immediate downstream San Joaquin River monitoring site is listed for each tributary. Tributary map key refers to Figures 6 and 7.

TRIBUTARY MAP KEY	SJR DOWNSTREAM MONITORING LOCATION	COALITION REGION	TRIBUTARY SITE NAME	TRIBUTARY STATION CODE	TRIBUTARY LATITUDE	TRIBUTARY LONGITUDE
1	SJR @ Maze Blvd	Westside	Blewett Drain at Highway 132	541XVH132	37.640520	-121.229600
2	SJR @ Maze Blvd	Westside	Del Puerto Creek at Hwy 33	541XDPCHW	37.514210	-121.158750
3	SJR @ Maze Blvd	Westside	Del Puerto Creek near Cox Road	541XDPCR	37.539400	-121.122100
5	SJR @ Maze Blvd	Westside	Hospital Creek at River Road	541XHCARR	37.610472	-121.230778
6	SJR @ Maze Blvd	Westside	Ingram Creek at River Road	541XICARR	37.600222	-121.225056
8	SJR @ Hills Ferry Rd	Westside	Los Banos Creek at China Camp Road	541XLBCCC	37.114500	-120.889500
9	SJR @ Hills Ferry Rd	Westside	Los Banos Creek at Hwy 140	541XLBCHW	37.276200	-120.955500
10	SJR @ Hills Ferry Rd	Westside	Los Banos Creek at Sunset Ave.	541XLBCSA	37.027500	-120.889800
11	SJR @ Las Palmas Ave	Westside	Marshall Road Drain near River Road	541XMRDRR	37.436300	-121.036200
12	SJR @ Hills Ferry Rd	Westside	Mud Slough Upstream of San Luis Drain	541XMSUSL	37.263880	-120.906110
13	SJR @ Hills Ferry Rd	Westside	Newman Wasteway near Hills Ferry Road	541XNWHFR	37.320400	-120.983400
14	SJR @ Las Palmas Ave	Westside	Orestimba Creek at Hwy 33	541XOCAHW	37.377150	-121.058120
15	SJR @ Las Palmas Ave	Westside	Orestimba Creek at River Road	541XOCARR	37.413880	-121.014166
16	SJR @ Hills Ferry Rd	Westside	Poso Slough at Indiana Ave	541XPSAIA	37.006200	-120.599600
17	SJR @ Las Palmas Ave	Westside	Ramona Lake near Fig Avenue	541XROLFA	37.478800	-121.068400
18	SJR @ Hills Ferry Rd	Westside	Salt Slough at Lander Ave	541XSSALA	37.247900	-120.852200
19	SJR @ Hills Ferry Rd	Westside	Salt Slough at Sand Dam	541XSSASD	37.136600	-120.761900
20	SJR @ Hills Ferry Rd	Westside	Turner Slough at Edminster Road	541XTSAER	37.304100	-120.900800
21	SJR @ Maze Blvd	Westside	Westley Wasteway near Cox Road	541XWWNCR	37.558200	-121.163700
22	SJR @ Lander Ave	ESJWQC	Ash Slough @ Ave 21	545XASAAT	37.054500	-120.415800
23	SJR @ Lander Ave	ESJWQC	Bear Creek @ Kibby Rd	535XBCAKR	37.312800	-120.413800
24	SJR @ Lander Ave	ESJWQC	Berenda Slough along Ave 18 1/2	545XBSAAE	37.018200	-120.326500
25	SJR @ Lander Ave	ESJWQC	Cottonwood Creek @ Rd 20	545XCCART	36.868600	-120.181800
26	SJR @ Lander Ave	ESJWQC	Deadman Creek @ Gurr Rd	535XDCAGR	37.193600	-120.561200

TRIBUTARY MAP KEY	SJR DOWNSTREAM MONITORING LOCATION	COALITION REGION	TRIBUTARY SITE NAME	TRIBUTARY STATION CODE	TRIBUTARY LATITUDE	TRIBUTARY LONGITUDE
27	SJR @ Lander Ave	ESJWQC	Deadman Creek @ Hwy 59	535DMCAHF	37.198100	-120.486900
29	SJR @ Lander Ave	ESJWQC	Dry Creek @ Rd 18	545XDCARE	36.981800	-120.219500
30	SJR @ Maze Blvd	ESJWQC	Dry Creek @ Wellsford Rd	535XDCAWR	37.660200	-120.874300
31	SJR @ Lander Ave	ESJWQC	Duck Slough @ Gurr Rd	535XDSAGR	37.214200	-120.559600
32	SJR @ Lander Ave	ESJWQC	Duck Slough @ Hwy 99	535XDSAHN	37.250100	-120.410000
33	SJR @ Las Palmas Ave	ESJWQC	Highline Canal @ Hwy 99	535XHCHNN	37.415300	-120.755700
34	SJR @ Las Palmas Ave	ESJWQC	Highline Canal @ Lombardy Rd	535XHCHNN	37.455600	-120.720700
35	SJR @ Lander Ave	ESJWQC	Howard Lateral @ Hwy 140	535XHLAHO	37.307900	-120.782000
36	SJR @ Maze Blvd	ESJWQC	Lateral 2 1/2 near Keyes Rd	535LTHNKR	37.547800	-121.092740
37	SJR @ Lander Ave	ESJWQC	Livingston Drain @ Robin Ave	535XLDARA	37.316900	-120.742300
38	SJR @ Lander Ave	ESJWQC	McCoy Lateral @ Hwy 140	535XMLAHO	37.309450	-120.787590
39	SJR @ Las Palmas Ave	ESJWQC	Merced River @ Santa Fe	535XMRSFD	37.427100	-120.672100
40	SJR @ Lander Ave	ESJWQC	Miles Creek @ Reilly Rd	535XMCARR	37.258200	-120.475500
41	SJR @ Airport Way	ESJWQC	Mootz Drain Downstream of Langworth Pond	535XMDDLDP	37.705510	-120.894380
42	SJR @ Las Palmas Ave	ESJWQC	Mustang Creek @ East Ave	535XMCAEA	37.491800	-120.683900
43	SJR @ Las Palmas Ave	ESJWQC	Prairie Flower Drain @ Crows Landing Rd	535XPFDCL	37.442200	-121.002400
44	SJR @ Airport Way	ESJWQC	Rodden Creek @ Rodden Rd	535XRCARD	37.790420	-120.807900

Table 7. San Joaquin River monitoring sites and associated upstream tributaries monitored during the 2011 water year.

Listed in order from upstream to downstream.

SITE NAME	UPSTREAM TRIBUTARY SITE NAMES
SJR @ Sack Dam	None
SJR @ Lander Ave	All stations listed in the row above and San Joaquin River at Lander Ave, Ash Slough @ Ave 21, Bear Creek @ Kibby Rd, Berenda Slough along Ave 18 1/2, Cottonwood Creek @ Rd 20, Deadman Creek @ Gurr Rd, Deadman Creek @ Hwy 59, Dry Creek @ Rd 18, Duck Slough @ Gurr Rd, Duck Slough @ Hwy 99, Howard Lateral @ Hwy 140, Livingston Drain @ Robin Ave, McCoy Lateral @ Hwy 140, Miles Creek @ Reilly Rd
SJR @ Hills Ferry Rd	All stations listed in the rows above and Los Banos Creek at Sunset Ave., Los Banos Creek at China Camp Road, Los Banos Creek at Hwy 140, Newman Wasteway near Hills Ferry Rd., Mud Slough Upstream of San Luis Drain, Poso Slough at Indiana Ave, Salt Slough at Lander Ave, Salt Slough at Sand Dam, Turner Slough at Edminster Road
SJR @ Las Palmas Ave	All stations listed in the rows above and Marshall Road Drain near River Road, , Orestimba Creek at Hwy 33, Orestimba Creek at River Road, Ramona Lake near Fig Avenue, Highline Canal @ Hwy 99, Highline Canal @ Lombardy Ave, Merced River @ Santa Fe, Mustang Creek @ East Ave, Prairie Flower Drain @ Crows Landing Rd
SJR @ Maze Blvd	All stations listed in the rows above and Blewett Drain at Highway 132, Del Puerto Creek at Hwy 33, Del Puerto Creek near Cox Road, Hospital Creek at River Road, Ingram Creek at River Road, Westley Wasteway near Cox Road, Dry Creek @ Wellsford Rd, Lateral 2 1/2 near Keyes Rd
SJR @ Airport Way	All stations listed in the rows above and Mootz Drain Downstream of Langworth Pond, Rodden Creek @ Rodden Rd

Figure 5. San Joaquin River monitoring sites and drainage subareas.



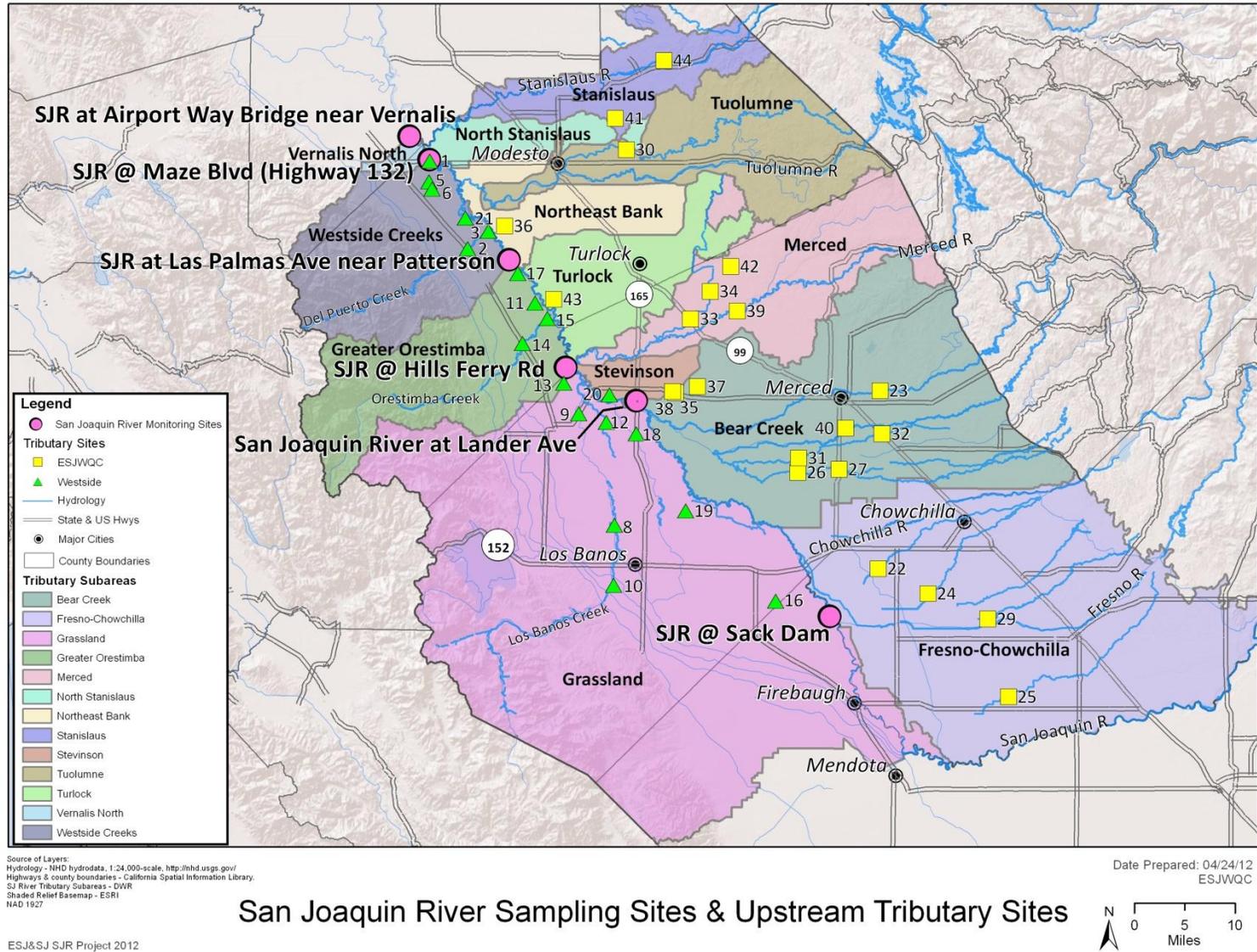
Source of Layers:
 Hydrology - NHD hydrodata, 1:24,000-scale, <http://nhd.usgs.gov/>
 Roads, highways, railroads, county boundary, city outlines - California Spatial Information Library.
 SJ River Tributary Subareas - DWR
 Shaded Relief Basemap - ESRI
 NAD 1927

Date Prepared: 10/06/10
 ESJWQC

San Joaquin River Sampling Sites



Figure 6. San Joaquin River monitoring sites, associated subareas, and upstream ESJWQC and Westside Coalition tributaries monitored during the 2011 water year. Refer to Table 7 for tributary map key.



San Joaquin River Sampling Sites & Upstream Tributary Sites

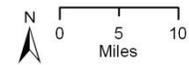
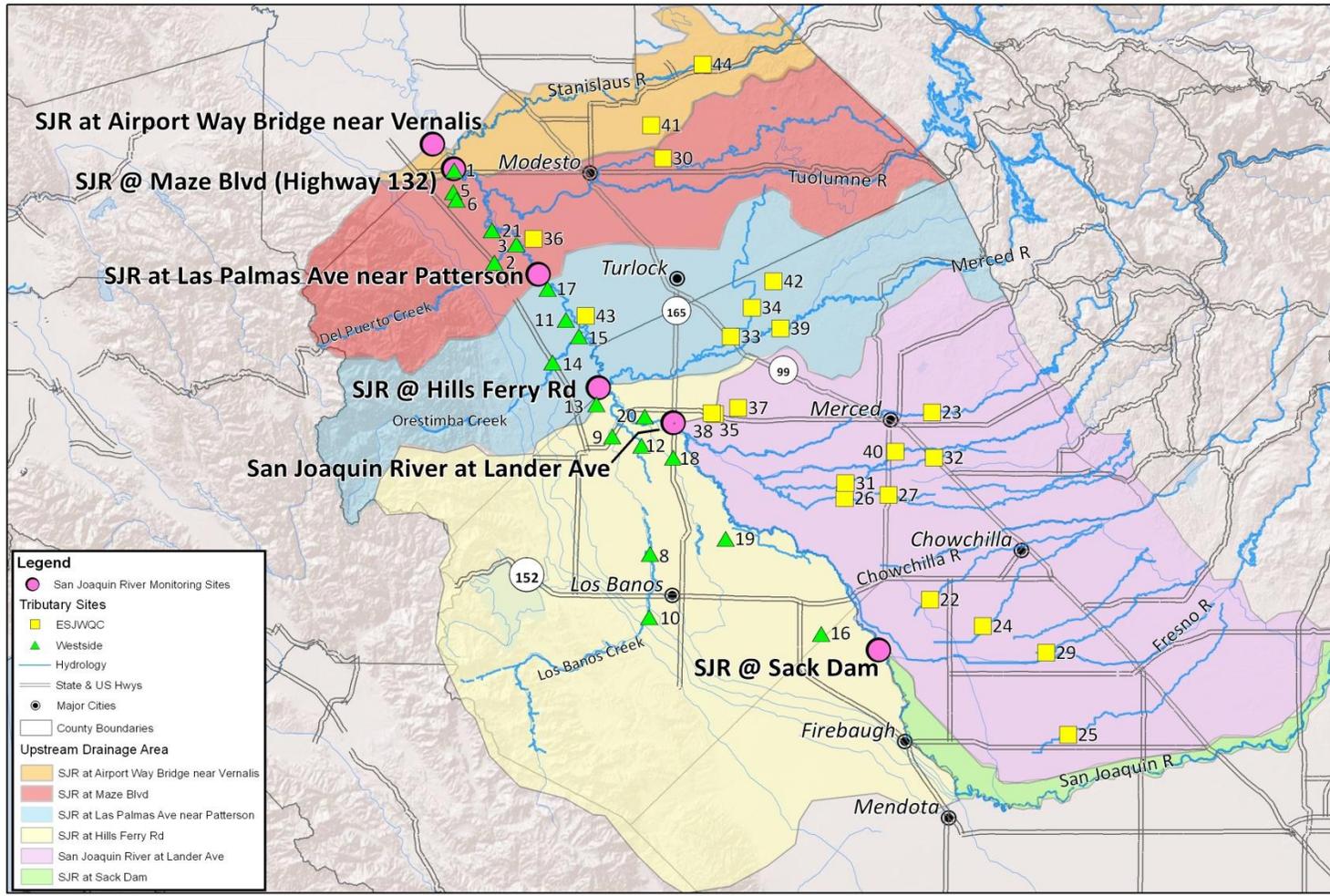


Figure 7. San Joaquin River monitoring sites and associated subwatershed drainage areas (may include multiple subareas) with ESJWQC and Westside Coalition tributaries monitored during the 2011 water year.

Refer to Table 7 for tributary map key.



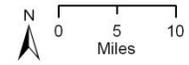
Legend

- San Joaquin River Monitoring Sites
- Tributary Sites**
- ESJWQC
- ▲ Westside
- Hydrology
- State & US Hwys
- Major Cities
- County Boundaries
- Upstream Drainage Area**
- SJRW at Airport Way Bridge near Vernalis
- SJRW at Maze Blvd
- SJRW at Las Palmas Ave near Patterson
- SJRW at Hills Ferry Rd
- San Joaquin River at Lander Ave
- SJRW at Sack Dam

Source of Layers:
 Hydrology - NHD hydrodata, 1:24,000-scale, <http://hhd.usgs.gov/>
 Highways & county boundaries - California Spatial Information Library
 SJ River Tributary Subareas - DWG
 Shaded Relief Basemap - ESRI
 NAD 1982

Date Prepared: 04/24/12
 ESJWQC

San Joaquin River Sampling Sites & Upstream Drainage



ESJ&SJ SJRW Project 2012

To better characterize the upstream drainage area for each of the San Joaquin River monitoring compliance points, the Coalitions reviewed land use acreage based on United States Department of Agriculture (USDA) cropland data from 2009 (Table 8). The entire drainage area is estimated to include three and a half million acres with nearly two million acres estimated to be irrigated agriculture. Of the irrigated acreage land uses, field crops account for approximately 50% of estimated acreage. Orchards occupy approximately 25%, followed by pasture land and vineyards accounting for 20% and 4% of the total estimated irrigated acreage, respectively. Overall, estimated irrigated land comprises 51% of the land use within the entire Lower San Joaquin River drainage area according to the 2009 USDA cropland data.

Table 9 identifies the crop types with the largest acreage within each compliance point subwatershed based on the USDA 2009 cropland data. Alfalfa acreage is within the top four in all subwatersheds and almond acreage is within the top two in five of the six subwatersheds (Table 9). Corn, grapes, oats, pasture/grasses, tomatoes, and winter wheat are also all very common in the Lower San Joaquin River drainage area.

Figure 7 provides a map of the six San Joaquin River monitoring locations and their entire associated upstream drainage area (cumulative acres); including upstream tributaries sampled by the Coalitions (refer to the tributary map key in Table 6).

Table 8. Estimated land use acreage upstream of the San Joaquin River sampling sites.

Stations are listed in order of upstream to downstream from left to right. Subwatershed totals reflect the acreages within the subareas that drain to each SJR location. Cumulative totals reflect acreages that drain to each SJR location including any land use of upstream SJR locations. Acreages estimated from 2009 USDA data.

	SJR @ SACK DAM	SJR @ LANDER AVE	SJR @ HILLS FERRY RD	SJR @ LAS PALMAS AVE (PATTERSON)	SJR @ MAZE BLVD	SJR @ AIRPORT WAY
Field Crops (I)	18,800	326,200	324,100	163,600	91,900	41,500
Orchard (I)	18,600	177,400	45,900	101,200	101,200	44,600
Pasture (I)	2,400	72,800	137,600	67,400	96,900	11,900
Vineyard (I)	10,100	58,300	4,100	9,000	2,000	500
Estimated Subwatershed Irrigated Acres:	49,900	634,700	511,700	341,200	292,000	98,500
Estimated Cumulative Irrigated Acres:	49,900	684,600	1,196,300	1,537,500	1,829,500	1,928,000
Developed (NI)	8,200	118,200	76,600	55,700	63,900	40,500
Native (NI)	24,300	403,500	497,500	193,000	198,200	47,900
Not Farmed (NI)	1,700	17,100	38,700	6,200	4,500	1,300
Open Water (NI)	1,000	2,100	18,000	1,800	8,800	3,100
Estimated Subwatershed Non-Irrigated Acres:	35,200	540,900	630,800	256,700	275,400	92,800
Estimated Cumulative Non-Irrigated Acres:	35,200	576,100	1,206,900	1,463,600	1,739,000	1,831,800
Estimated Subwatershed Total Acres	85,100	1,175,600	1,142,500	597,900	567,400	191,300
Estimated Cumulative Total Acres	85,100	1,260,700	2,403,200	3,001,100	3,568,500	3,759,800

SJR – San Joaquin River
 I – Irrigated
 NI – Not Irrigated

Table 9. Top ten crops (based on acreage) upstream of each San Joaquin River sampling site.

Listed in order of largest (first row) to smallest acreage (last row). Acreages estimated from 2009 USDA data.

SJR @ SACK DAM	SJR @ LANDER AVE	SJR @ HILLS FERRY RD	SJR @ LAS PALMAS AVE (PATTERSON)	SJR @ MAZE BLVD	SJR @ AIRPORT WAY
Almonds	Alfalfa	Pasture/Grass	Almonds	Pasture/Grass	Almonds
Grapes	Almonds	Alfalfa	Oats	Almonds	Alfalfa
Alfalfa	Pasture/Grass	Tomatoes	Pasture/Grass	Alfalfa	Oats
Pistachios	Grapes	Oats	Alfalfa	Oats	Pasture/Grass
Winter Wheat	Oats	Winter Wheat	Winter Wheat	Walnuts	Walnuts
Pasture/Grass	Winter Wheat	Cotton	Grapes	Tomatoes	Winter Wheat
Oats	Pistachios	Almonds	Tomatoes	Winter Wheat	Corn
Tomatoes	Tomatoes	Corn	Corn	Corn	Other Hays
Corn	Corn	Cantaloupe	Walnuts	Grapes	Tomatoes
Walnuts	Cotton	Grapes	Pistachios	Cotton	Grapes

RAINFALL RECORDS

Daily rainfall records are provided for four locations spread throughout the ESJWQC and Westside Coalition regions: Modesto, Merced, Los Banos and Patterson. Precipitation records were retrieved from the California Irrigation Management Information System (CIMIS). The 2011 water year was the wettest year since 2005 and has been classified as a wet-hydraulic year type. Significant precipitation first occurred in the second half of October and continued throughout the winter months (Figures 8 and 9).

In response to rainfall-induced runoff, storm event samples were collected from the six San Joaquin River compliance points during February. Both the ESJWQC and Westside Coalition also collected storm event samples from their tributary sites during February. In addition, the Westside Coalition collected storm event samples at accessible and flowing monitoring sites, including the three main stem sites monitored by the Westside Coalition, in December and January.

Figure 8. Precipitation history from October 1, 2010 through March 31, 2011.
Data recorded at CIMIS stations in Modesto, Merced, Los Banos and Patterson, CA.

Daily Rainfall in the San Joaquin Valley Region: October 2010 - March 2011

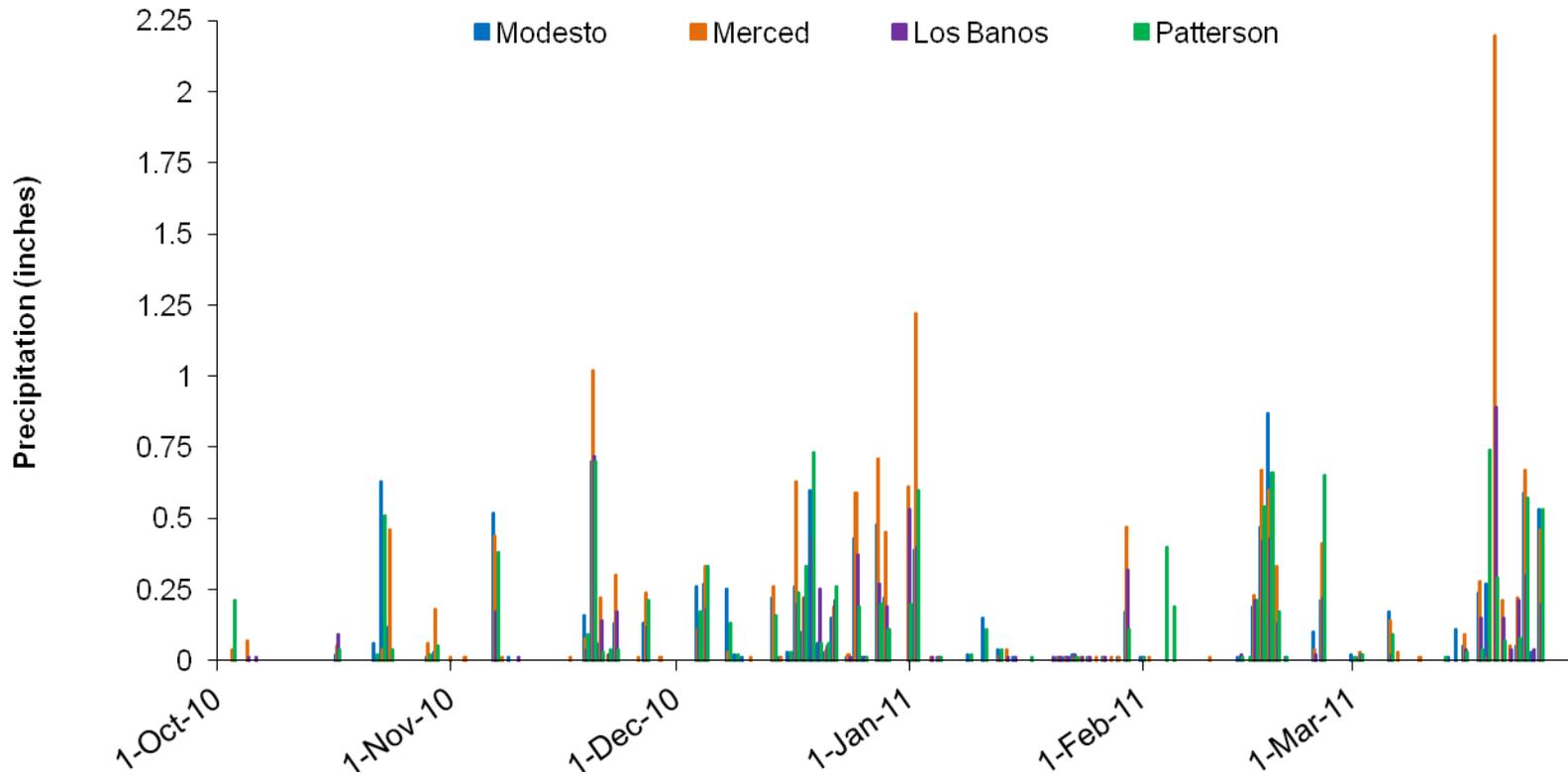
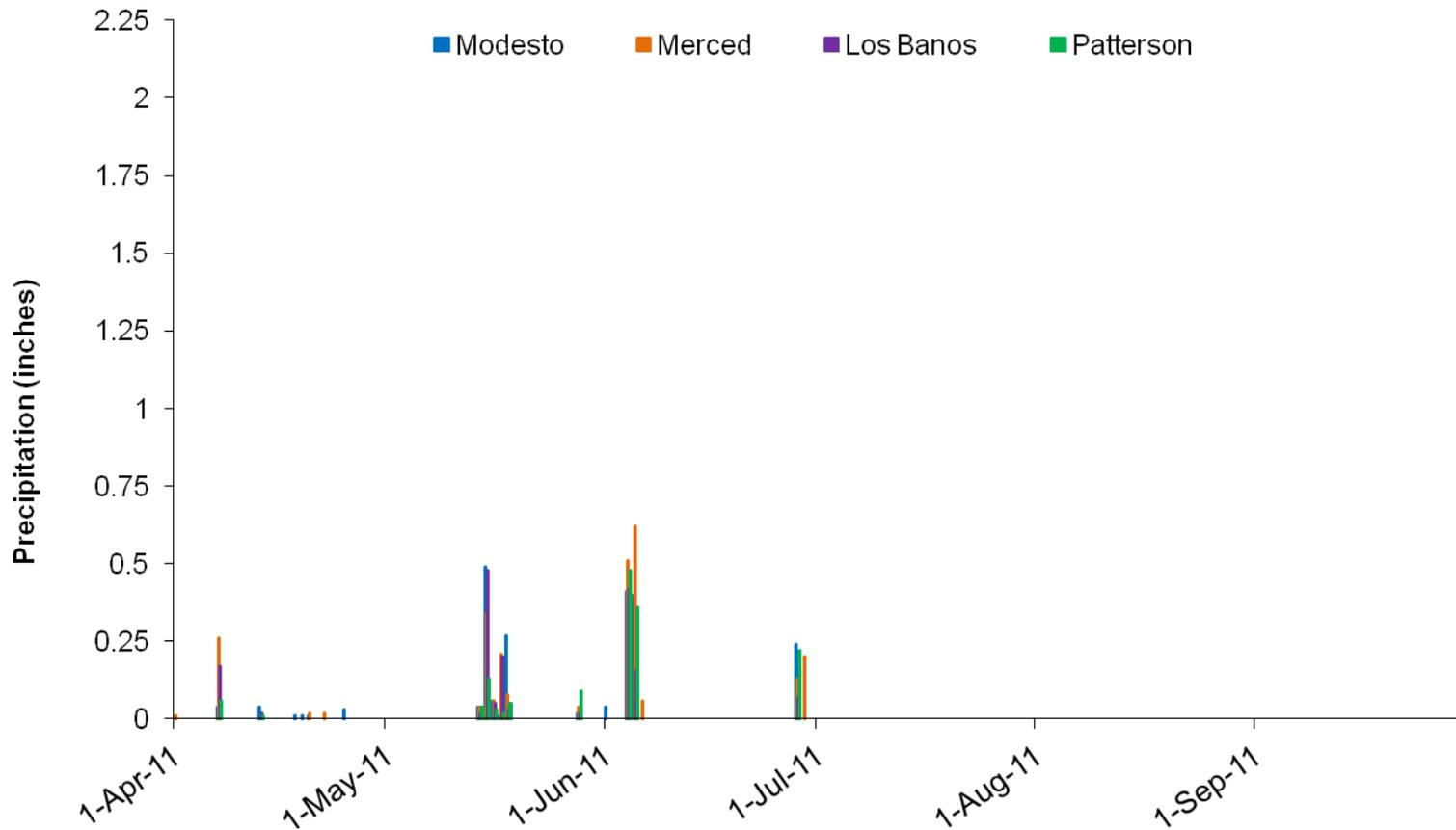


Figure 9. Precipitation history from April 1 through September 30, 2011.

Data recorded at CIMIS stations in Modesto, Merced, Los Banos and Patterson, CA.

Daily Rainfall In The San Joaquin Valley Region: April 2011 - September 2011



SAMPLING AND ANALYTICAL METHODS

Information on sample collection containers, volumes, preservations and holding times is provided in Table 10 and field instrument information in Table 11. Site-specific discharge methods are described in Table 12, and analytical methods and reporting limits (RL) are provided in Table 13.

Field sampling procedures and analytical methods were performed at SJR @ Airport Way, SJR @ Hills Ferry Rd, SJR @ Las Palmas and SJR @ Maze Blvd as outlined in the standard operating procedures (SOPs) provided in the ESJWQC QAPP. ESJWQC field samplers collected an integrated river water sample using a three liter polytetrafluoroethylene (PFTE) bottle from a bridge crossing. Amber glass bottles were filled from the integrated sample collected in the PFTE bottle. The complete ESJWQC field sampling SOPs were included in Appendix I of the San Joaquin River Chlorpyrifos and Diazinon 2010 AMR (submitted October 31, 2010); no deviations from these procedures occurred during the monitoring.

The Westside Coalition sampled the SJR @ Lander Ave, SJR @ Las Palmas and SJR @ Sack Dam according to the field sampling procedures and analytical methods described in the Westside Coalition QAPP. The Westside Coalition field samplers collected sample water directly into amber glass bottles from the San Joaquin River bank at each site. Due to safety concerns, Westside Coalition samplers avoid bridge sampling where possible. The complete Westside Coalition field sampling SOPs were included in Appendix I of the San Joaquin River Chlorpyrifos and Diazinon 2010 AMR (submitted October 31, 2010); no deviations from these procedures occurred during the monitoring.

Table 10. Sampling procedures, containers, sample volumes, preservation and storage techniques, and holding times.

ANALYTICAL PARAMETER	SAMPLE VOLUME ¹	SAMPLE CONTAINER	INITIAL PRESERVATION/HOLDING REQUIREMENTS	HOLDING TIME ²
Organophosphates	1 L	1 L Amber Glass	Store at 4°C; extract within 7 days	40 Days

¹ Additional volume may be required for QC analyses.

² Holding time after initial preservation or extraction.

Table 11. Field parameters and instruments used to collect measurements.

PARAMETER	INSTRUMENT
Dissolved Oxygen	YSI Model 556
Temperature	YSI Model 556
pH	YSI Model 556
Specific Conductance	YSI Model 556
Discharge	DWR Gauge/CDEC Website

DWR – California Department of Water Resources

CDEC – California Data Exchange Center

Table 12. Site specific discharge methods.

RESPONSIBLE COALITION	SITE NAME	DISCHARGE METHOD	GAUGE
Westside	SJR @ Sack Dam	DWR Gauge	CDEC San Joaquin River near Dos Palos (SDP)
Westside	SJR @ Lander Ave	DWR Gauge	CDEC San Joaquin River near Stevenson (SJS) ¹

RESPONSIBLE COALITION	SITE NAME	DISCHARGE METHOD	GAUGE
ESJWQC	SJR @ Hills Ferry Rd	USGS and DWR Gauge	CDEC San Joaquin River Near Newman (NEW)
Westside	SJR @ Las Palmas Ave (Patterson)	DWR Gauge	CDEC San Joaquin River near Patterson (SJP)
ESJWQC	SJR @ Maze Blvd	DWR Gauge	CDEC San Joaquin River at Maze Rd Bridge (MRB)
ESJWQC	SJR @ Airport Way	DWR Gauge	CDEC San Joaquin River near Vernalis (VNS)

¹The last available discharge data for this gauge station was March 5, 2010. Station SMN (San Joaquin River above Merced River) is used where SJS data are not available.

Table 13. Field and laboratory analytical methods.

CONSTITUENT	MATRIX	ANALYZING LAB	RL	MDL	ANALYTICAL METHOD
Physical Parameters					
pH	Water	Field Measure	0.1 pH units	NA	EPA 150.1
Specific Conductance	Water	Field Measure	100 µmhos/cm	NA	EPA 120.1
Dissolved Oxygen	Water	Field Measure	0.1 mg/L	NA	SM 4500-O
Temperature	Water	Field Measure	0.1 °C	NA	SM 2550
Organophosphates					
Chlorpyrifos	Water	APPL Inc	0.015 µg/L	0.0026 µg/L	EPA 8141A
Diazinon	Water	APPL Inc	0.02 µg/L	0.004 µg/L	EPA 8141A

RL – Reporting Limit
MDL – Minimum Detection Limit
cfs - Cubic Feet per Second

MONITORING RESULTS

As described in the Monitoring Objectives section, this report includes all San Joaquin River monitoring data collected from October 2010 through September 2011.

Original Chain of Custody (COC) forms were scanned and converted to pdf. Copies of the COCs are provided in Appendix I. COCs were faxed by the laboratories to Michael L. Johnson, LLC (MLJ-LLC) and Summers Engineering after the receipt of samples. As such, they are complete and accurate records of sample handling and processing and reflect the timing of sample collection and delivery to the laboratories. Sample collection and delivery were performed according to the ESJWQC QAPP and Westside Coalition QAPP. If there were any discrepancies between the COC and sample delivery, the issues were resolved and documented directly on the COC.

Complete monitoring results from sampling conducted at the six compliance points on the San Joaquin River are included in Appendix II (Monitoring Results) and Appendix III (Field and Laboratory Quality Assurance (QA) Results). The results in Appendix II include field parameter results (DO, SC, pH, temperature and discharge) and laboratory analyses for chlorpyrifos and diazinon. Field and laboratory QA data including field duplicate (FD), field blank (FB), laboratory blank, laboratory duplicate, laboratory control spike and matrix spike results are included in Appendix III and are discussed in the Laboratory and Field Quality Assurance Results and Summary of Precision and Accuracy sections.

Loading capacity and compliance were determined for all environmental samples collected from the San Joaquin River during the reporting period. There were no detections of either chlorpyrifos or diazinon at any of the San Joaquin River monitoring sites during the 2011 water year. Loading capacities and compliance status are reported in Appendix IV (Table IV-1) and discussed in the Comparison with TMDL Objectives section of this report.

All field data sheets can be found in Appendix V. Appendix VI contains monitoring site photos from all events. All associated laboratory reports (as pdfs) are submitted along with this report.

SAMPLE DETAILS

Table 14 lists each San Joaquin River sampling location, sample date, sample time and type of monitoring for each sampling event conducted by the Coalitions during the 2011 water year.

As explained in the Monitoring Objectives and Design section of this report, sampling frequency and timing were determined based on the history of chlorpyrifos and diazinon use and the potential for irrigation and/or storm runoff. As a result of significant rainfall in December, January, and February, the Westside Coalition collected two rain event sample sets designated Rain Event 11 (collected December 20 and 21, 2010 and January 3 and 4, 2011) and Quarter1/Rain Event (collected February 22 and 23) at its three San Joaquin River sites (SJR @ Sack Dam, SJR @ Lander Ave, and SJR @ Las Palmas Ave (Patterson)). The ESJWQC also monitored its three San Joaquin River sites on February 18, 2011 to

capture rain runoff from winter storms during Quarter1/Rain Event (SJR @ Maze Blvd, SJR @ Hills Ferry Rd, and SJR @ Airport Way).

Table 15 lists the 2011 water year sampling dates of the San Joaquin River sites and sampling dates of each Coalition's tributary monitoring during the same months.

Table 14. Sample details for San Joaquin River samples collected during the 2011 water year.

RESPONSIBLE COALITION	SITE NAME	STATION CODE	EVENT GROUP	SAMPLE DATE	SAMPLE TIME	FAILURE REASON
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Qrt4	12-Oct-10	11:00	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Qrt4	12-Oct-10	13:00	None
Westside Coalition	SJR @ Sack Dam	541XSJRSD	Qrt4	12-Oct-10	14:30	None
ESJWQC	SJR @ Airport Way	541SJC501	Qrt4	21-Oct-10	10:40	None
ESJWQC	SJR @ Hills Ferry	541STC512	Qrt4	21-Oct-10	9:10	None
ESJWQC	SJR @ Maze	541STC510	Qrt4	21-Oct-10	10:10	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event73	9-Nov-10	11:05	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event73	9-Nov-10	13:00	None
Westside Coalition	SJR @ Sack Dam	541XSJRSD	Event73	9-Nov-10	14:30	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event74	14-Dec-10	10:30	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event74	14-Dec-10	10:00	None
Westside Coalition	SJR @ Sack Dam	541XSJRSD	Event74	14-Dec-10	13:50	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Rain Event11	20-Dec-10	11:30	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Rain Event11	21-Dec-10	11:15	None
Westside Coalition	SJR @ Sack Dam	541XSJRSD	Rain Event11	21-Dec-10	15:30	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event75	11-Jan-11	11:00	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event75	11-Jan-11	11:00	None
Westside Coalition	SJR @ Sack Dam	541XSJRSD	Event75	11-Jan-11	14:00	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event76	8-Feb-11	10:30	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event76	8-Feb-11	14:20	None
Westside Coalition	SJR @ Sack Dam	541XSJRSD	Event76	8-Feb-11	14:00	None
ESJWQC	SJR @ Airport Way	541SJC501	Qrt1/Rain Event	18-Feb-11	12:30	None
ESJWQC	SJR @ Hills Ferry	541STC512	Qrt1/Rain Event	18-Feb-11	10:30	None
ESJWQC	SJR @ Las Palmas Ave (Patterson)	541STC507	Qrt1/Rain Event	18-Feb-11	11:20	None
ESJWQC	SJR @ Maze	541STC510	Qrt1/Rain Event	18-Feb-11	12:00	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Qrt1/Rain Event	23-Feb-11	12:00	None
Westside Coalition	SJR @ Sack Dam	541XSJRSD	Qrt1/Rain Event	23-Feb-11	15:25	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event77	8-Mar-11	11:15	None

RESPONSIBLE COALITION	SITE NAME	STATION CODE	EVENT GROUP	SAMPLE DATE	SAMPLE TIME	FAILURE REASON
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event77	8-Mar-11	15:30	None
Westside Coalition	SJR @ Sack Dam	541XSJRS	Event77	8-Mar-11	15:30	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event78	12-Apr-11	11:00	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event78	12-Apr-11	13:30	None
Westside Coalition	SJR @ Sack Dam	541XSJRS	Event78	12-Apr-11	15:00	None
ESJWQC	SJR @ Airport Way	541SJC501	Qrt2	10-May-11	8:00	None
ESJWQC	SJR @ Hills Ferry	541STC512	Qrt2	10-May-11	14:30	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Qrt2	10-May-11	11:35	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Qrt2	10-May-11	12:30	None
ESJWQC	SJR @ Maze	541STC510	Qrt2	10-May-11	9:00	None
Westside Coalition	SJR @ Sack Dam	541XSJRS	Qrt2	10-May-11	15:35	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event80	14-Jun-11	11:10	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event80	14-Jun-11	12:30	None
Westside Coalition	SJR @ Sack Dam	541XSJRS	Event80	14-Jun-11	15:00	None
ESJWQC	SJR @ Airport Way	541SJC501	Qrt3	12-Jul-11	8:00	None
ESJWQC	SJR @ Hills Ferry	541STC512	Qrt3	12-Jul-11	10:00	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Qrt3	12-Jul-11	10:50	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Qrt3	12-Jul-11	17:30	None
ESJWQC	SJR @ Maze	541STC510	Qrt3	12-Jul-11	8:20	None
Westside Coalition	SJR @ Sack Dam	541XSJRS	Qrt3	12-Jul-11	14:45	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event82	9-Aug-11	11:00	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event82	9-Aug-11	16:30	None
Westside Coalition	SJR @ Sack Dam	541XSJRS	Event82	9-Aug-11	15:30	None
Westside Coalition	SJR @ Lander Ave	541XSJRLA	Event83	13-Sep-11	11:00	None
Westside Coalition	SJR @ Las Palmas Ave (Patterson)	541STC507	Event83	13-Sep-11	16:45	None
Westside Coalition	SJR @ Sack Dam	541XSJRS	Event83	13-Sep-11	15:00	None

Table 15. Monitoring dates of San Joaquin River sample sites and upstream tributaries during 2011 water year.
 "X" indicates sampling occurred.

SAMPLING EVENT	DATE	SAN JOAQUIN RIVER						TRIBUTARIES	
		@ SACK DAM (WC)	@ LANDER AVE (WC)	@ HILLS FERRY RD (ES)	@ LAS PALMAS AVE (WC)	@ MAZE BLVD (ES)	@ AIRPORT WAY (ES)	ESJWQC	WESTSIDE COALITION
Qrt4	12-Oct-10	X	X		X				X
	19-Oct-10							X	
	21-Oct-10			X		X	X		
Nov	9-Nov-10	X	X		X				X
	16-Nov-10							X	
Dec	14-Dec-10	X	X		X			X	X
Rain Event	20/21-Dec-10 and 3/4-Jan-11	X	X		X				X
Jan	11-Jan-11	X	X		X				X
	18-Jan-11							X	
Feb	8-Feb-11	X	X		X				X
Qrt1/ Rain Event	17-Feb-11							X	
	18-Feb-11			X	X ¹	X	X		
	22/23-Feb-11	X	X						X
Mar	8-Mar-11	X	X		X				X
	15-Mar-11							X	
Apr	12-Apr-11	X	X		X				X
	19-Apr-11							X	
Qrt2	10-May-11	X	X	X	X	X	X	X ²	X
	17-May-11							X ³	
Jun	14-Jun-11	X	X		X			X ²	X
	21-Jun-11							X ³	
Qrt3	12-Jul-11	X	X	X	X	X	X	X ²	X
	19-Jul-11							X ³	
Aug	9-Aug-11	X	X		X			X ²	X
	16-Aug-11							X ³	
Sep	6-Sep-11							X ²	
	13-Sep-11	X	X		X			X ³	X

WC – Westside Coalition

ES – ESJWQC

¹ ESJWQC sampled this site during the event.

² First half (northern section) of ESJWQC tributary monitoring.

³ Second half (southern section) of ESJWQC tributary monitoring.

LABORATORY AND FIELD QUALITY ASSURANCE RESULTS

During the 2011 water year, all six compliance monitoring locations within the San Joaquin River were accessible at the time of sampling and had continuous flow. Because the ESJWQC and Westside Coalition share sampling responsibilities, each Coalition was responsible for three sites per sampling event and each Coalition collected its own set of field Quality Control (QC) samples. SJR @ Lander Ave, SJR @Sack Dam, and SJR @Las Palmas (Patterson) sites were visited a total of 14 times, and SJR @Maze Boulevard, SJR @Airport Way near Vernalis, and SJR @ Hills Ferry were visited a total of four times.

CHEMISTRY

All results are tabulated in Appendix II and Appendix III. Results were flagged if they did not meet data quality objectives (acceptability criteria). Copies of the ESJWQC database and copies of the Westside Coalition excel spread sheets are submitted to the Regional Board with the hardcopy of this report.

Chemistry Completeness

Chlorpyrifos and diazinon were monitored at all six compliance locations during the report period. Not including laboratory QA or field QC samples, 54 chlorpyrifos and 54 diazinon environmental samples were collected and analyzed. Completeness was 100% for environmental samples collected for analysis.

For each sampling event, a field duplicate and field blank were collected by each Coalition so that each Coalition's three sites had their own set of associated QC samples. Hence, there were two field duplicates and two field blanks per each sampling event. Field blanks and field duplicates each compromised 20% of the total samples analyzed (Table 16).

All chemistry batches were reviewed for completeness. All batches during the reporting period had complete QC or QA. Hold times for all chemistry analysis were met for both Coalitions (Table 17).

Table 16. ESJWQC and Westside Coalition sample counts, field Quality Control counts and percentages.

METHOD	ANALYTE	ENV. SAMPLES (#)	ENV. AND FIELD QC SAMPLES (#)	FIELD BLANKS (#)	FIELD BLANKS (%)	FIELD DUP. (#)	FIELD DUP. (%)
EPA 8141A OP	Chlorpyrifos	54	90	18	20.0%	18	20.0%
EPA 8141A OP	Diazinon	54	90	18	20.0%	18	20.0%

Table 17. ESJWQC and Westside Coalition summary of holding time evaluations for environmental, field blank, field duplicate and matrix spike samples.

METHOD	ANALYTE	DATA QUALITY OBJECTIVE	NUMBER OF SAMPLES	SAMPLES WITHIN CONTROL LIMITS	PERCENT SAMPLES ACCEPTABLE
EPA 8141A OP	Chlorpyrifos	7 days	126	126	100%
EPA 8141A OP	Diazinon	7 days	126	126	100%
Total			252	252	100%

SUMMARY OF PRECISION AND ACCURACY

The Coalitions reviewed the number of samples analyzed and the percentage per analyte of those samples that met acceptability criteria (Table 18). A brief overview is provided below to assess overall precision and accuracy. Precision and accuracy criteria were met for 99.5% of the samples for all analytes and all criteria.

One hundred percent of field blanks and duplicates met acceptability criteria (Table 18).

Lab blanks were run with each batch, and 100% of the samples met acceptability criteria (Table 18).

Surrogates were run with each pesticide analysis. Surrogate recoveries related to chlorpyrifos and diazinon analyses for the San Joaquin River sites were within specific acceptance criteria for 98.8% of all samples analyzed (Table 18). The triphenyl phosphate surrogate run with June 2011 samples recovered above the acceptance limit of 129% in the laboratory control spikes (LCS)/laboratory control spike duplicate (LCSD) pair.

Matrix spikes (MS) and LCS were performed for each batch to assess accuracy and possible matrix interference. One hundred percent of percent recoveries (PR) for MS and LCS samples were within acceptable criteria (Table 18). A duplicate analysis was performed per batch to assess precision on the LCS and/or MS. Laboratory precision assessed by the relative percent difference (RPD) of laboratory duplicates met acceptability criteria in 97.1% of MSDs and 100% of LCSDs samples (Table 18). During July 2011, the chlorpyrifos RPD for a single MS/matrix spike duplicate (MSD) pair was 33.9%, exceeding the data quality objective of less than 25%.

Table 18. ESJWQC and Westside Coalition summary of Quality Assurance and Quality Control evaluations.

SAMPLE TYPE CODE	METHOD	ANALYTE	DATA QUALITY OBJECTIVE	NUMBER OF SAMPLES	SAMPLES WITHIN CONTROL LIMITS	PERCENT SAMPLES ACCEPTABLE
Field Blank	EPA 8141A OP	Chlorpyrifos	<RL or < (env sample/5)	18	18	100%
Field Blank	EPA 8141A OP	Diazinon	<RL or < (env sample/5)	18	18	100%
Field Blank Total				36	36	100%
Field Dup	EPA 8141A OP	Chlorpyrifos	RPD ≤ 25	18	18	100%
Field Dup	EPA 8141A OP	Diazinon	RPD ≤ 25	18	18	100%
Field Dup Total				36	36	100%
Lab Blank	EPA 8141A OP	Chlorpyrifos	<RL	18	18	100%
Lab Blank	EPA 8141A OP	Diazinon	<RL	18	18	100%
Lab Blank Total				36	36	100%
Surrogate	EPA 8141A OP	Tributylphosphate (Surrogate)	RPD ≤ 25; PR 60-150	179	179	100%
Surrogate	EPA 8141A OP	Triphenyl phosphate (Surrogate)	RPD ≤ 25; PR 56-129	179	177	98.8%
Surrogate Total				358	356	99.4%
MS and MSD	EPA 8141A OP	Chlorpyrifos	PR 61-125	36	36	100%

SAMPLE TYPE CODE	METHOD	ANALYTE	DATA QUALITY OBJECTIVE	NUMBER OF SAMPLES	SAMPLES WITHIN CONTROL LIMITS	PERCENT SAMPLES ACCEPTABLE
MS and MSD	EPA 8141A OP	Diazinon	PR 57-130	36	36	100%
Matrix Spike Total				72	72	100%
MSD	EPA 8141A OP	Chlorpyrifos	RPD ≤ 25	18	17	94.4%
MSD	EPA 8141A OP	Diazinon	RPD ≤ 25	18	18	100%
Matrix Spike Duplicate Total				36	35	97.1%
LCS and LCSD	EPA 8141A OP	Chlorpyrifos	PR 61-125	32	32	100%
LCS and LCSD	EPA 8141A OP	Diazinon	PR 57-130	32	32	100%
Laboratory Control Spike Total				64	64	100%
LCSD	EPA 8141A OP	Chlorpyrifos	RPD ≤ 25	14	14	100%
LCSD	EPA 8141A OP	Diazinon	RPD ≤ 25	14	14	100%
Laboratory Control Spike Duplicate Total				28	28	100%

COMPARISON WITH TMDL OBJECTIVES

The Lower San Joaquin River chlorpyrifos and diazinon TMDL objectives include:

1. Determine compliance with established water quality objectives (WQOs) and the loading capacity applicable to diazinon and chlorpyrifos in the San Joaquin River.
2. Determine compliance with established load allocations for diazinon and chlorpyrifos.
3. Determine the degree of implementation of management practices to reduce off-site movement of diazinon and chlorpyrifos.
4. Determine the effectiveness of management practices and strategies to reduce off-site migration of diazinon and chlorpyrifos.
5. Determine whether alternatives to diazinon and chlorpyrifos are causing surface water quality impacts.
6. Determine whether the discharge causes or contributes to toxicity impairment due to additive or synergistic effects of multiple pollutants.
7. Demonstrate that management practices are achieving the lowest pesticide levels technically and economically achievable.

The monthly monitoring of three compliance points and quarterly monitoring of six compliance points in the San Joaquin River during the 2011 water year was designed to assess compliance with Objective 1. Objectives 2 through 7 are addressed individually by each Coalition through an assessment of results and outcomes of actions taken (e.g. monitoring, outreach, etc.) to meet the specifications of either Coalition's ILRP monitoring program. The following sections assess the ESJWQC's and Westside Coalition's compliance with the seven TMDL objectives.

OBJECTIVE 1: DETERMINE COMPLIANCE WITH ESTABLISHED WATER QUALITY OBJECTIVES AND THE LOADING CAPACITY APPLICABLE TO DIAZINON AND CHLORPYRIFOS IN THE SAN JOAQUIN RIVER.

Water Quality Objectives

Table 1 in the Monitoring Objectives and Design section identifies the WQOs for chlorpyrifos and diazinon (0.015 µg/L and 0.10 µg/L, respectively). All samples collected from the San Joaquin River during the 2011 water year were below detection limits for chlorpyrifos and diazinon and were therefore below WQOs. Complete environmental monitoring results are listed in Appendix II; complete Quality Control monitoring results, including field duplicates, are listed in Appendix III.

Loading Capacity

All samples collected from the six monitoring locations were in compliance with loading capacity since there were no detections of either chlorpyrifos or diazinon (Appendix IV, Table IV-1).

The number of samples meeting the SJR loading capacity is tallied for each compliance location in relation to the number of samples collected (Table 19). Overall, 99% of the samples collected to assess TMDL compliance since January 2010 have been compliant with the loading capacity (Table 19). Since monitoring to assess compliance with the chlorpyrifos and diazinon TMDL in the Lower San Joaquin River began in January 2010, there has been a single non compliant load. On July 22, 2010, the chlorpyrifos WQO objective was exceeded at a concentration of 0.041 µg/L in samples collected from SJR @ Las Palmas Ave (Patterson) and resulted in an exceedance of the loading capacity of the San Joaquin River. There have been no detections of diazinon in samples collected by either Coalition from the San Joaquin River. Potential sources of the non compliant load were discussed in the 2011 MPUR (Status of TMDL Constituents section, pages 117-122).

Table 19. Tally of chlorpyrifos and diazinon TMDL load capacity compliance per each of the six San Joaquin River stations since the inception of San Joaquin River monitoring (January 2010 through September 2011).

RESPONSIBLE COALITION	SITE NAME	SAMPLE DATES	COMPLIANT	OUT OF COMPLIANCE	TOTAL SAMPLES COLLECTED	PERCENT COMPLIANT
Westside	SJR @ Sack Dam	Jan 2010 - Sep 2011	17	0	17	100%
Westside	SJR @ Lander Ave	Jan 2010 - Sep 2011	17	0	17	100%
ESJWQC	SJR @ Hills Ferry Rd	Jan 2010 - Sep 2011	7	0	7	100%
Westside	SJR @ Las Palmas Ave (Patterson)	Jan 2010 - Sep 2011	16	1	17	94%
ESJWQC	SJR @ Maze Blvd	Jan 2010 - Sep 2011	7	0	7	100%
ESJWQC	SJR @ Airport Way	Jan 2010 - Sep 2011	7	0	7	100%
Total			71	1	72	99%

OBJECTIVE 2: DETERMINE COMPLIANCE WITH ESTABLISHED LOAD ALLOCATIONS FOR DIAZINON AND CHLORPYRIFOS.

As discussed above, the ESJWQC and Westside Coalition are required to assess compliance with load allocations for agricultural discharges to the San Joaquin River for each of the five subareas (Figure 2). The two Coalitions each characterize and assess water quality within their respective regions through their own strategies of representative monitoring (described in the ESJWQC MRPP and Westside Coalition MRP). The following sections include a review of results of the Coalition’s respective tributary monitoring during the 2011 water year and apply the formula in Figure 1 to assess compliance with chlorpyrifos and diazinon load allocations.

ESJWQC Load Allocation Compliance

The ESJWQC monitored 21 tributaries for chlorpyrifos and diazinon from October 2010 through September 2011 (Table 20). There were three instances where the load allocation was greater than 1; all three instances were due to chlorpyrifos concentrations exceeding the chlorpyrifos WQO (Table 21). All non compliant load allocations occurred in the Bear Creek and Fresno-Chowchilla subarea (Table 21).

Exceedances of the chlorpyrifos WQO occurred in samples collected from Deadman Creek @ Hwy 59 on April 19, 2011 and September 13, 2011, resulting in a load of 1.03 and 3.23, respectively (Table 21). The third non compliant load allocation occurred in samples collected from Berenda Slough along Avenue 18 ½ on April 19, 2011 which resulted in a load of 1.36 (Table 21). Samples collected within the River to assess load capacity compliance had no detections of chlorpyrifos or diazinon in any of the months sampled including May and September. Berenda Slough typically dries up before it reaches the San Joaquin River. The chlorpyrifos detected in Deadman Creek may have been either degraded or diluted prior to entering the River or, since the Deadman Creek @ Hwy 59 site is miles from the San Joaquin River, the water from the creek may have been diverted for irrigation purposes before entering the River.

There were no detections of diazinon during the 2011 water year, and there have been no detections of diazinon in ESJWQC tributaries since the TMDL surveillance and monitoring program began in January 2010. A tabulation of load allocations for all tributary results is included in Appendix IV (Tables IV-2 through IV-5).

Table 20. ESJWQC tributary monitoring schedule for chlorpyrifos and diazinon during the 2011 water year. Only tributary sites scheduled for chlorpyrifos (C) and/or diazinon (D) analysis are listed.

SUBAREA	TRIBUTARY SITE NAME	MONITORING TYPE AND YEAR	OCT 2010	NOV 2010	DEC 2010	JAN 2011	FEB 2011	MAR 2011	APR 2011	MAY 2011	JUN 2011	JUL 2011	AUG 2011	SEP 2011
Bear Creek, Fresno-Chowchilla	Ash Slough @ Ave 21	A10	C,D	C,D	C,D									
Bear Creek, Fresno-Chowchilla	Bear Creek @ Kibby Rd	MPM11								C		C		
Bear Creek, Fresno-Chowchilla	Berenda Slough along Ave 18 ½	A11				C,D								
Bear Creek, Fresno-Chowchilla	Cottonwood Creek @ Rd 20	A11				C,D								
Bear Creek, Fresno-Chowchilla	Deadman Creek (Dutchman) @ Gurr Rd	A10	C,D	C,D	C,D									
Bear Creek, Fresno-Chowchilla	Deadman Creek @ Hwy 59	A11				C,D								
Bear Creek, Fresno-Chowchilla	Dry Creek @ Rd 18	MPM11					C,D		C			C		
Tuolumne River, Northeast Bank	Dry Creek @ Wellsford Rd	A11				C,D								
Bear Creek, Fresno-Chowchilla	Duck Slough @ Gurr Rd	A11				C,D								
Bear Creek, Fresno-Chowchilla	Duck Slough @ Hwy 99	MPM11								C		C		C
Turlock, Merced	Highline Canal @ Hwy 99	A11				C,D								
Turlock, Merced	Highline Canal @ Lombardy Rd	A11				C,D								
Bear Creek, Fresno-Chowchilla	Howard Lateral @ Hwy 140	A10, MPM11	C,D	C,D	C,D						C			
Tuolumne River, Northeast Bank	Lateral 2 ½ near Keyes Rd	A10, MPM11	C,D	C,D	C,D				C			C		
Bear Creek, Fresno-Chowchilla	Livingston Drain @ Robin Ave	MPM11				C					C	C	C	
Bear Creek, Fresno-Chowchilla	McCoy Lateral @ Hwy 140	A11				C,D								
Turlock, Merced	Merced River @ Santa Fe	A11				C,D								
Stanislaus River, North Stanislaus	Mootz Drain Downstream of Langworth Pond	A10	C,D	C,D	C,D									
Turlock, Merced	Mustang Creek @ East Ave	A10	C,D	C,D	C,D									
Turlock, Merced	Prairie Flower Drain @ Crows Landing Rd	A11				C,D								
Stanislaus River, North Stanislaus	Rodden Creek @ Rodden Rd	A11				C,D								

A10- Assessment Monitoring for constituent during 2010 (October—December)

A11- Assessment Monitoring for constituent during 2011 (January—September)

MPM11-Management Plan Monitoring for constituent during 2011 (during months of past exceedances)

Table 21. Chlorpyrifos and diazinon San Joaquin River TMDL load allocation calculations for ESJWQC tributaries sampled during the 2011 water year.

Only positive detections shown.

SUBAREA	SITE NAME	SAMPLE DATE	CHLORPYRIFOS (µG/L)	DIAZINON (µG/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Bear Creek, Fresno-Chowchilla	Berenda Slough along Ave 18 1/2	4/19/2011	0.021	<0.004	1.36	Out of compliance
	Deadman Creek @ Hwy 59	4/19/2011	0.016	<0.004	1.0267	Out of compliance
	Deadman Creek @ Hwy 59	9/13/2011	0.049	<0.004	3.2267	Out of compliance

To assess the sources contributing to the exceedances of the chlorpyrifos WQO in samples collected from tributary sites, PUR data four weeks prior to each exceedance in the associated subwatershed were evaluated (Table 22). In the four weeks prior to the three exceedances, the majority of applications and pounds applied were to alfalfa in both subwatersheds in April and September (Table 22). A single application to wheat in April and walnuts in September may have also contributed to exceedances in Deadman Creek @ Hwy 59 site subwatershed (Table 22). PUR data for 2011 are preliminary and may not be complete at the time of this report.

Table 22. Chlorpyrifos applications made four weeks prior in subwatersheds with chlorpyrifos exceedances.

MONITORING EVENT	TRIBUTARY SITE NAME	COMMODITY	NUMBER OF APPLICATIONS	ACTIVE INGREDIENT APPLIED (LBS)	ACRES TREATED
Apr 19, 2011	Berenda Slough @ Ave 18 ½	Alfalfa	4	38.16	176
Apr 19, 2011	Deadman Creek @ Hwy 59	Alfalfa	25	432.39	2,130
		Wheat	1	30.36	132
Sep 13, 2011	Deadman Creek @ Hwy 59	Alfalfa	1	155.77	78
		Walnut	1	33.99	68

The ESJWQC established a management plan for chlorpyrifos in both the Berenda Slough and Deadman Creek subwatersheds, which includes a focused outreach strategy to address chlorpyrifos water quality impairments; the ESJWQC Management Plan is described under Objective 3. The Coalition is in the beginning stages of outreach in both subwatersheds. Berenda Slough along Ave 18 ½ is a third priority subwatershed (high priority from 2011-2013), and the Coalition conducted individual meetings with targeted growers in the subwatershed during 2011 to review their operations and recommend management practices/strategies to reduce the offsite movement of chlorpyrifos in the future. The Coalition is in the process of following up with these growers to assess changes made to their operations. Deadman Creek @ Hwy 59 is a fourth priority subwatershed (high priority from 2012-2014), and the Coalition started conducting individual meetings with targeted growers in 2012. The Coalition's management plan outreach strategy has been effective in reducing the number of exceedances of the chlorpyrifos WQO in high priority subwatersheds across the Coalition region. Therefore, the Coalition believes its outreach in the Berenda Slough and Deadman Creek subwatersheds will address the chlorpyrifos exceedances in the two waterways.

Overall, 93% of ESJWQC tributary samples have been compliant with load allocations since January 2010 (Table 23). The percent of compliant samples increased from 84% during 2010 (January-September 2010) to 97% during the 2011 water year (October 2010-September 2011; Table 23).

Table 23. Tally of ESJWQC chlorpyrifos and diazinon TMDL load allocation compliance per each of the subareas since the inception of San Joaquin River monitoring (January 2010 through September 2011).

SUBAREA	WATER YEAR	IN COMPLIANCE	OUT OF COMPLIANCE	SAMPLES COLLECTED	PERCENT IN COMPLIANCE
Bear Creek, Fresno-Chowchilla	2010	19	5	24	79%
	2011	56	3	59	95%
Stanislaus River, North Stanislaus	2010	9	0	9	100%
	2011	10	0	10	100%
Tuolumne River, Northeast Bank	2010	7	3	10	70%
	2011	12	0	12	100%
Turlock, Merced	2010	12	1	13	92%
	2011	34	0	34	100%
2010¹ TOTAL		47	9	56	84%
2011 WATER YEAR² TOTAL		112	3	115	97%
GRAND TOTAL		159	12	171	93%

¹TMDL monitoring began in January 2010; 2010 data are from January 2010-September 2010.

²Data from the 2011 water year are from October 2010-September 2011.

Westside Coalition Load Allocation Compliance

The Westside Coalition collected monthly samples from flowing tributary sites to the San Joaquin River from October 2010 through September 2011, as well as additional rain event samples in December, January, and February. Although there were no detections of either chlorpyrifos or diazinon in any of the San Joaquin River samples, chlorpyrifos was detected in 16 samples over six different monitoring events, all of which were measured in excess of the load criteria. There were no diazinon detections in the water column. Table 24 shows the sites and dates where chlorpyrifos was detected. However, because there were no detections at any of the San Joaquin River samples, it appears that discharge from these tributaries was not entering the river or that the tributary chlorpyrifos load to the river was not significant. Many of the tributary monitoring sites are several miles from the San Joaquin River. Water measured at a tributary site may be further diluted by downstream inputs or diverted for irrigation, preventing discharge to the river entirely. The Westside Coalition November 2011 SAMR discusses these detections, as well as other pesticide detections, in greater detail. A tabulation of load allocations for all tributary results is included in Appendix IV.

Table 25 tabulates load allocation compliance for all Westside Coalition tributaries per each subarea. Overall, there were percentage of load allocation compliance during the 2011 water year (October 2010 – September 2011; 90%) was greater compared to 2010 (January – September; 79%).

Table 24. Chlorpyrifos and diazinon San Joaquin River TMDL load allocation calculations for Westside Coalition tributaries sampled during the 2011 water year.

Only positive detections shown. There were no diazinon detections at any tributary sites during the 2011 water year.

MAIN STEM MONITORING POINT	TRIBUTARY SITE	SAMPLE DATE	SAMPLE EVENT	FLOW (CFS)	SJR FLOW (CFS)	CHLORPYRIFOS (µG/L)	LOAD	LOAD ALLOCATION COMPLIANCE
SJR @ Hills Ferry Rd	Poso Slough at Indiana Ave	9-Aug-11	82	65	750	1.3	87	Out of compliance
	Poso Slough at Indiana Ave	13-Sep-11	83	21	720	0.12	8.0	Out of compliance
	Salt Slough at Sand Dam	13-Sep-11	83	0	720	0.087	5.8	Out of compliance
SJR @ Las Palmas	Orestimba Creek at River Road	12-Apr-11	78	25	17,875	0.068	4.5	Out of compliance
	Marshall Road Drain near River Rd	10-May-11	79	9.3	6,875	0.09	6.0	Out of compliance
	Orestimba Creek at River Road	10-May-11	79	2	6,875	0.054	3.6	Out of compliance
	Ramona Lake near Fig Avenue	10-May-11	79	NA	6,875	0.065	4.3	Out of compliance
	Marshall Road Drain near River Rd	13-Sep-11	83	5.3	789	0.27	18	Out of compliance
	Orestimba Creek at Hwy 33	13-Sep-11	83	0.15	789	0.09	6.0	Out of compliance
	Ramona Lake near Fig Avenue	13-Sep-11	83	NA	789	0.089	5.9	Out of compliance
SJR @ Maze Blvd	Del Puerto Creek near Cox Road	22-Feb-11	R12	36	10,350	0.023	1.5	Out of compliance
	Del Puerto Creek near Cox Road	10-May-11	79	0	12,375	0.018	1.2	Out of compliance
	Ingram Creek at River Road	10-May-11	79	10.8	12,375	0.067	4.5	Out of compliance
	Del Puerto Creek near Cox Road	14-Jun-11	80	12.5	9,512	0.38	25	Out of compliance
	Westley Wasteway near Cox Road	14-Jun-11	80	2.5	9,512	0.072	4.8	Out of compliance
	Hospital Creek at River Road	13-Sep-11	83	0.5	2,550	0.27	18	Out of compliance

Table 25. Tally of Westside Coalition chlorpyrifos and diazinon TMDL load allocation compliance per each of the subareas.

SUBAREA	WATER YEAR	IN COMPLIANCE	OUT OF COMPLIANCE	SAMPLES COLLECTED	PERCENT IN COMPLIANCE
Greater Orestimba	2010	18	12	30	60%
	2011	26	7	33	79%
Stevinson, Grassland	2010	70	4	74	95%
	2011	87	3	90	97%
Westside Creeks	2010	18	13	31	58%
	2011	30	6	36	83%
2010 WATER YEAR¹ TOTAL		106	29	135	79%
2011 WATER YEAR¹ TOTAL		143	16	159	90%
GRAND TOTAL		249	45	294	85%

¹Water Year is from October through September. Data in the table represents the complete data sets for both Water Years 2010 and 2011.

As is evident from Table 26, the available PUR data is incomplete and does not provide useful information regarding the timing or location of chlorpyrifos applications. Until a more complete PUR dataset is available, detailed analysis of the PUR data is not warranted.

Table 26. Chlorpyrifos applications made four weeks prior in subwatersheds with chlorpyrifos exceedances.

Only listed applications were shown based on available PUR data.

MONITORING EVENT	TRIBUTARY NAME	COMMODITY	NUMBER OF APPLICATIONS	ACRES TREATED
Feb 22, 2011	Del Puerto Creek	Cherries	1	11
		Almond	1	300
May 11, 2011	Orestimba Creek	Walnut	1	15
Sep 13, 2011	Marshall Road Drain	Alfalfa	1	36
Sep 13, 2011	Orestimba Creek	Citrus	1	19
		Almond	1	40
		Alfalfa	1	80
Sep 13, 2011	Ramona Lake	Alfalfa	3	90
Sep 13, 2011	Salt Slough	Alfalfa	7	434

OBJECTIVE 3: DETERMINE DEGREE OF IMPLEMENTATION OF MANAGEMENT PRACTICES AND STRATEGIES TO REDUCE OFF-SITE MOVEMENT OF DIAZINON AND CHLORPYRIFOS

The Coalitions developed their own management practice tracking and evaluation strategies suitable for their regions and members (ESJWQC Management Plan submitted September 30, 2008 and Westside Coalition Management Plan and Focused Management Plan submitted October 23, 2008). The Coalitions review the results of their respective strategies to determine the degree of implementation of management practices and strategies to reduce the offsite movement of chlorpyrifos and diazinon.

ESJWQC Implementation of Management Practices to Reduce Off Site Movement of Diazinon and Chlorpyrifos

If one exceedance of the chlorpyrifos or diazinon WQOs occurs at a tributary monitoring location in the ESJWQC region, the ESJWQC implements a management plan for the subwatershed. To allow for focused source identification, outreach, and evaluation, the ESJWQC prioritizes subwatersheds based on the number, frequency, and magnitude of chlorpyrifos and diazinon exceedances, among other factors (2012 MPUR, page 25 and Table 6). When a subwatershed rotates to high priority, the ESJWQC initiates a three year process designed to document current management practices (Year 1), encourage and document the implementation of new management practices (Years 1 and 2), and evaluate the effectiveness of outreach in the subwatershed via Management Plan Monitoring (MPM) for management plan constituents (Years 1-3). The ESJWQC targets members with the greatest potential to influence water quality including growers with the potential for direct drainage and with past

applications of management plan constituents (e.g. chlorpyrifos or diazinon). The focused outreach and management practice documentation rotates to additional subwatersheds annually. Current high priority subwatersheds include:

First Priority Subwatersheds (2008 – 2010)

- Dry Creek @ Wellsford Rd
- Duck Slough @ Hwy 99
- Prairie Flower Drain @ Crows Landing Rd

Second Priority Subwatersheds (2010 – 2012)

- Bear Creek @ Kibby Rd
- Cottonwood Creek @ Rd 20
- Duck Slough @ Gurr Rd
- Highline Canal @ Hwy 99

Third Priority Subwatersheds (2011-2013)

- Berenda Slough along Ave 18 ½
- Dry Creek @ Rd 18
- Lateral 2 ½ near Keyes Rd
- Livingston Drain @ Robin Ave

The ESJWQC has completed its focused outreach strategy in the first and second priority subwatersheds. The Coalition documented current (in 2008 for first priority and 2009 for second priority) and newly implemented (in 2009-2011 for first priority and 2010-2011 for second priority) management practices on targeted members' parcels. Outreach is ongoing in the third priority subwatersheds. The Coalition has documented current management practices (2010-2011) and is in the process of conducting follow up contacts to document newly implemented practices (2011-2012).

A major goal of ESJWQC outreach is to help growers eliminate the offsite movement of agricultural constituents. The ESJWQC identified five categories of management practices that are effective in reducing the offsite movement of chlorpyrifos and diazinon:

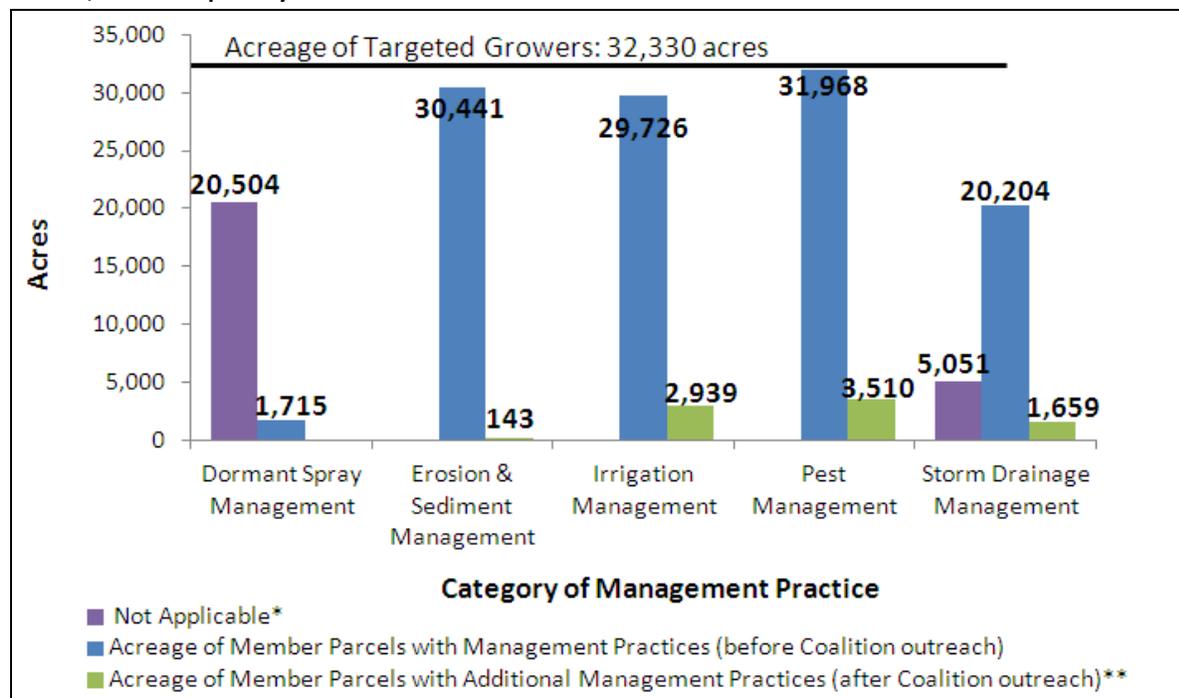
- Irrigation Water Management
- Storm Drainage Management
- Erosion and Sediment Management
- Pest Management
- Dormant Spray Management

Targeted growers in the first, second, and third priority subwatersheds indicated they currently implement management practices within each of the above categories, and several growers in the first

and second priority subwatersheds implemented new management practices in each of these categories following focused Coalition outreach. Figure 10 displays the acreage associated with management practices implemented before Coalition outreach (currently implemented) in first, second, and third priority subwatersheds and after ESJWQC outreach (newly implemented) in first and second priority subwatersheds per each of the five categories (the Coalition is in the process of documenting newly implemented management practices in the third priority subwatersheds). Acreage represented in Figure 10 is associated with at least one, but may have multiple implemented management practices within a category (acreage is only counted once per each category). The majority of targeted acreage in the first, second and third priority subwatersheds has at least one management practice designed to address erosion and sediment management, irrigation management, and pest management. Following ESJWQC outreach, newly implemented practices in the first and second priority subwatersheds focused on irrigation management, pest management, and storm drainage management—categories which the ESJWQC believed would result in the greatest reduction of chlorpyrifos runoff.

Within each of the five categories, growers implemented various management practices (Table 27). Pest management practices such as adjusting spray nozzles to match crop canopy profile and using nozzles that provide the largest effective droplet size to minimize drift are utilized by almost every targeted grower. Other common practices include laser leveling fields and grassing row centers (for orchard and vineyards) (Table 27).

Figure 10. Acreage with one or more implemented management practice per each category in the ESJWQC first, second, and third priority subwatersheds.



*Acreage of members parcels where category of management practice is not applicable (either no dormant sprays or no storm drainage).

**Data of management practice implemented after Coalition outreach is only available for first and second priority subwatersheds; the acres presented exclude third priority subwatersheds.

Table 27. Implemented management practices designed to reduce offsite movement of chlorpyrifos and diazinon in the ESJWQC first and second priority subwatersheds (current and new) and third priority subwatersheds (current only) listed by TMDL subarea.

CATEGORY	MANAGEMENT PRACTICE	BEAR CREEK, FRESNO-CHOWCHILLA		TUOLUMNE RIVER, NORTHEAST BANK		TURLOCK, MERCED		TOTAL	
		GROWERS	ACRES	GROWERS	ACRES	GROWERS	ACRES	GROWERS	ACRES
Dormant Spray Management	Check weather conditions prior to spraying (i.e. storm status)	11	1,168	4	346	2	181	17	1,695
	Do not apply dormant spray when moisture is at field capacity	3	654	0	0	2	181	5	835
	Maintain setback zones	11	1,168	3	131	2	181	16	1,480
	Vegetation cover and/or disked	3	654	0	0	3	201	6	855
Erosion & Sediment Management	Constructed wetlands	0	0	1	2,450	0	0	1	2,450
	Grass Row Centers (Orchards, Vineyards)	81	17,097	38	6,510	6	247	125	23,853
	Maintain vegetated filter strips around field perimeter at least 10' wide	72	11,519	24	6,227	10	595	106	18,341
	Riparian vegetation / fences prevents livestock access to water	6	640	2	53	0	0	8	693
	Vegetation is planted along or allowed to grow along ditches	53	12,024	24	6,532	14	941	91	19,497
Irrigation	Determine Irrigation Schedule by Actual Moisture Levels in Soil/Crop Needs	67	13,576	19	5,489	9	377	95	19,442
	Drainage basins (sediment ponds)	24	6,244	5	3,203	3	227	32	9,674
	Drip irrigation, other	1	229	1	77	0	0	2	306
	Laser leveled fields	81	13,874	39	6,743	14	800	134	21,417
	Microirrigation	24	7,062	15	5,645	4	226	43	12,933
	Polyacrylamide (PAM)	1	15	1	2,450	3	227	5	2,692
	Recirculation - Tailwater return system	35	7,456	7	4,046	6	378	48	11,880
	Reduce Amount of Water Used in Surface Irrigation	9	1,595	1	162	4	468	14	2,225
Pest Management	Adjust spray nozzles to match crop canopy profile	110	22,465	47	8,016	19	1,126	176	31,606
	Calibrate spray equipment prior to each application	50	11,674	23	6,326	18	1,132	91	19,132
	Shut off outside nozzles when spraying outer rows next to sensitive sites	98	19,027	44	7,670	16	794	158	27,491
	Spray areas close to waterbodies when the wind is blowing away from them	105	21,221	44	7,588	20	1,202	169	30,011
	Use air blast applications when wind is between 3-10 mph and upwind of a sensitive site	80	15,961	30	5,895	9	413	119	22,270
	Use electronic controlled sprayer nozzles	5	771	3	2,555	6	362	14	3,688
	Use nozzles that provide largest effective droplet size to minimize drift	111	22,514	45	7,703	20	1,202	176	31,418
	Storm Drainage	Berms Between Field & Waterway	1	71	0	0	0	0	1
Device Controls Timing of Pump/Drain into Waterway	16	5,261	2	3,147	4	512	22	8,920	
Recirculation - Tailwater return system	18	3,848	1	26	0	0	19	3,874	
Settling Pond	20	5,089	3	2,499	3	348	26	7,935	
TOTAL TARGETED		116	22,879	50	8,218	21	1,233	187	32,330

The ESJWQC initiated focused outreach in fourth priority subwatersheds (Black Rascal Creek @ Yosemite Rd, Deadman Creek @ Gurr Rd, Deadman Creek @ Hwy 59 and Hilmar Drain @ Central Ave). Individual meetings are underway with targeted growers to document currently implemented practices. These data will be assessed in the ESJWQC 2013 MPUR.

Westside Coalition Implementation of Management Practices to Reduce Off Site Movement of Diazinon and Chlorpyrifos

In 2008, the Westside Coalition adopted a Management Plan to address water quality exceedances detected by the monitoring order. Although the Management Plan outlined area specific measures based on the exceedances of that region, identified management practices for pesticides (including chlorpyrifos and diazinon) are uniform for the entire Coalition. They include:

- Construct sediment basins to intercept tailwater.
- 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.
- Implement additional use of polyacrylamide (PAM) to address sedimentation discharge.
- Reduce use of pesticides, or incorporate use of pesticides that are less likely to be transported to the State waterways, or which breakdown quickly and are less likely to impact water quality.
- Calibrate ground 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.
- Increase size of vegetated buffer zones along the perimeters waterways.

As a mechanism to encourage and track the implementation of management practices, the Westside Coalition implemented an aggressive outreach program that included field meetings with individual growers, workshops, sponsorship of integrated pest management programs (such as the Sustainable Cotton Program) and a detailed management practice inventory survey to determine what management practices have already been implemented. A status update of management plan implementation is included in each SAMR. Table 28 summarizes the management practice inventory data. In addition to these actions, a staff person of the Westside Coalition travels through the Coalition area on a weekly basis to review irrigation activities, drainage conditions, and meet with growers to review management practice implementation.

In response to the May and September 2011 chlorpyrifos exceedances, the Westside Coalition mailed out letters to growers within each of the watersheds where an exceedance was measured. These letters indicated the location and magnitude of chlorpyrifos exceedances and the importance of implementing management practices to prevent pesticide discharge.

All of these management practices are implemented at the farm-level and driven by a variety of factors, including water supply, crop values, soil quality, and regulatory pressures.

Table 28. Management practice inventory data for subwatersheds in the Westside Coalition region.

	SALT SLOUGH (PARTIAL) (2011/12)		WESTLEY WASTEWAY (2010)		DEL PUERTO CREEK (2010)		ORESTIMBA CREEK (2010)		HOSPITAL CREEK (2009)		INGRAM CREEK (2009)	
	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%
Survey Area	32573	51%	5248		9195		12851					
Surveys Collected	416	36%		100%		100%		100%		100%		100%
Irrigated	32443	100%	4565	87%	7926	86%	11714	91%	5193	69%	5526	96%
Furrow/Flood (% Irrig. Ac.)	24302	75%	1489	33%	3210	41%	4491	38%	1678	32%	4599	83%
Drip/Micro/Sprinkler (% Irrig. Ac.)	8140	25%	2891	63%	3952	50%	5821	50%	3515	47%	927	17%
Fallow/Non Irrigated (% Irrig. Ac.)	130	0%	0	0%	230	3%	1354	12%	1949	26%	3	
Mix of Irrigation Methods (% Irrig. Ac.)			185	4%	535	7%	48	0%				
Tree Crops (% Irrig. Ac.)	394	1%	2891	63%	4237	53%	5481	47%				
Field Crops (% Irrig. Ac.)	32110	99%	1670	37%	3678	46%	5626	48%				
Open / Other (% Irrig. Ac.)	69	<1%	662	15%	325	4%	847	7%				
Sedimentation Ponds (% Field Crops)	0	0%	1092	65%	3331	36%	5019	89%	1085	14%	935	17%
Tailwater Return System (% Field Crops)	0	0%	150	9%	402	4%	2154	38%	205	3%	828	15%
Use of PAM (% Irrig. Ac.)	406	1%	3346	73%	2955	37%	3408	29%	488	7%	4375	79%
Tailwater Leaves Property (% Irrig. Ac.)	28411	88%	2234	49%	3471	44%	4134	35%	1473	20%	4393	79%
Storm water Leaves Property (% Irrig. Ac.)	30520	94%	2517	55%	5050	64%	6384	55%	4118	55%	5204	94%
Dormant Spray Usage (% Tree Crops)	484		905	31%	1147	27%	400	7%	926	12%	22	<1%
Horticultural Oil Usage (% Tree Crops)			905	31%	748	18%	806	15%				

OBJECTIVE 4: DETERMINE DEGREE OF EFFECTIVENESS OF MANAGEMENT PRACTICES AND STRATEGIES TO REDUCE OFF-SITE MOVEMENT OF DIAZINON AND CHLORPYRIFOS

There were no detections of chlorpyrifos or diazinon in the San Joaquin River during the 2011 water year indicating that management practices and strategies implemented by growers in the ESJWQC and Westside Coalition regions were effective at reducing the offsite movement of chlorpyrifos and diazinon. The Coalitions review management practice effectiveness at the subwatershed level within their regions to offer further evidence of management practice effectiveness.

ESJWQC Effectiveness of Management Practices to Reduce Off Site Movement of Diazinon and Chlorpyrifos

As explained under the Monitoring Objective 3 section, the ESJWQC completed its focused outreach process in the first and second priority subwatersheds. Prior to focused outreach, there were five to seven exceedances of chlorpyrifos per year (10-11% of samples collected annually) in the first and second priority subwatersheds (Table 29). There has been only one exceedance of diazinon since 2006 (2% of samples collected in 2008) in the first and second priority subwatersheds (Table 29). The ESJWQC conducted focused outreach from 2009 through 2011 resulting in the implementation of several new management practices designed to address the offsite movement of agricultural constituents, including chlorpyrifos and diazinon (Table 27). Results of Management Plan Monitoring during months of past exceedances and monthly Assessment Monitoring (see monitoring schedule in the ESJWQC MRPP, pages 52-53 and Table 10) indicate the focused outreach and implementation of new management practices in 2009 through 2011 coincided with a decrease in chlorpyrifos and diazinon exceedances (Table 29).

Table 29. Count of exceedances and samples collected for chlorpyrifos and diazinon in the ESJWQC first and second priority subwatersheds.

Years in the table reflect a calendar year, January through December.

CALENDAR YEAR	CHLORPYRIFOS				DIAZINON			
	EXCEEDANCE	SAMPLES ¹	% EXCEEDANCE	LBS APPLIED	EXCEEDANCE	SAMPLES ¹	% EXCEEDANCE	LBS APPLIED
2006	5	49	10%	39,184	0	49	0%	1,703
2007	6	60	10%	31,397	0	57	0%	1,361
2008	7	61	11%	18,234	1	58	2%	966
2009	2	12	17%	18,767	0	5	0%	510
2010	2	17	12%	22,064	0	2	0%	404
2011	0	65	0%	7,029 ²	0	60	0%	239 ²
ALL YEARS	22	264	8%	199,938	1	231	<1%	7,336

¹ Refers to all samples scheduled for constituent analysis (dry sites are included).

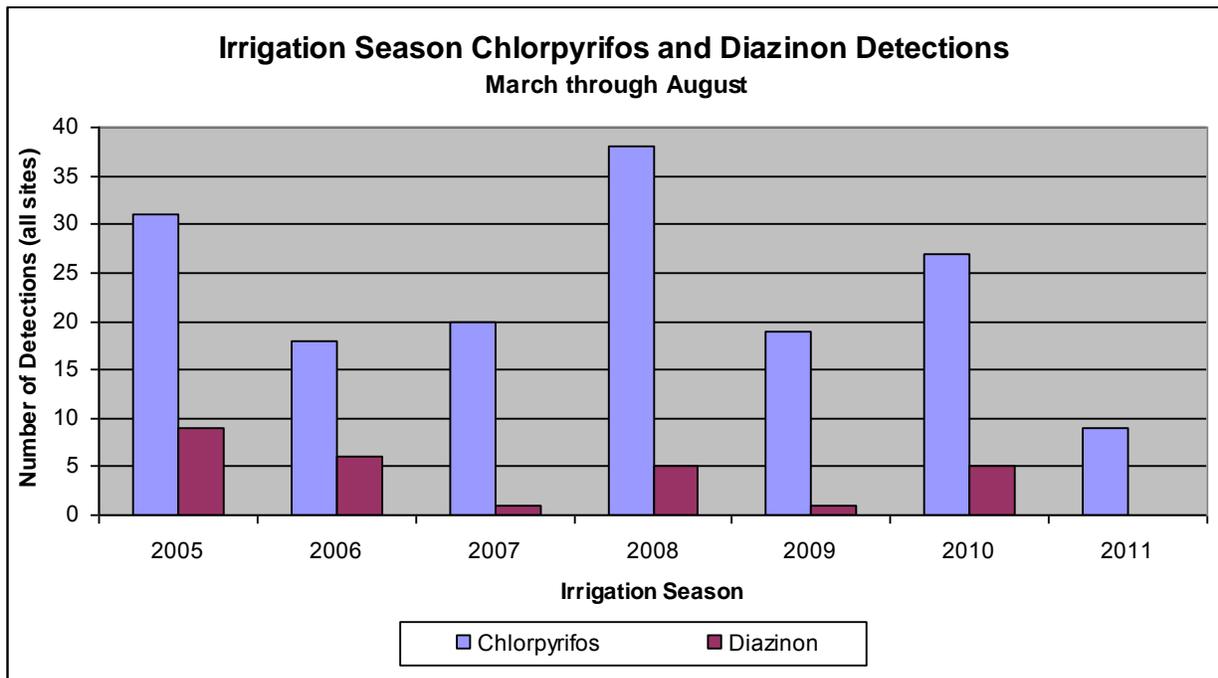
² PUR data only available through June 2011 for Madera County, October 2011 for Merced County, and November 2011 for Stanislaus County.

Westside Coalition Effectiveness of Management Practices to Reduce Off Site Movement of Diazinon and Chlorpyrifos

The absence of chlorpyrifos and diazinon exceedances in the San Joaquin River imply that the implemented management practices have been successful in meeting those load allocations. However, the Westside Coalition continues to struggle with chlorpyrifos exceedances at tributary monitoring sites. Since 2010, the Westside Coalition has mailed 300 notices regarding chlorpyrifos exceedances and followed up with field visits to review water quality impairments and farming activities with individual growers.

A review of chlorpyrifos and diazinon detections since the beginning of the Westside Coalition's monitoring program provides a promising trend. Figure 11 shows the number of detections of both materials during irrigation seasons since 2005.

Figure 11. Count of chlorpyrifos and diazinon detections from 2006 through 2011 in the Westside Coalition tributaries.



OBJECTIVE 5: DETERMINE WHETHER ALTERNATIVES TO DIAZINON AND CHLORPYRIFOS ARE CAUSING SURFACE WATER QUALITY IMPACTS

Overall use of diazinon has declined since 2004 and overall chlorpyrifos use has generally declined since 2006 (Figures 3 and 4). In 2004, 45,132 pounds of diazinon were applied in the San Joaquin River watershed. In 2010, the amount of diazinon used within the San Joaquin River watershed decreased approximately 85% to only 6,764 pounds. As in previous years, a majority of the use (53%) occurred

between December and February. Chlorpyrifos use also decreased in recent years, from 211,792 pounds in 2007 to 162,786 pounds in 2010 (Figure 4).

Chlorpyrifos continues to be a widely used pesticide mostly due to the large number of crops for which it is registered, its relatively low cost, and its effectiveness in controlling a variety of pest species even when pest pressures are high. Despite the benefits of chlorpyrifos, growers are aware of the water quality implications and have been using alternative products throughout the year to reduce pest pressures and avoid harming beneficial insects.

During grower outreach, Coalition representatives encouraged growers to switch to products that are lower risk alternatives to chlorpyrifos and diazinon, and workshops are offered to educate growers about the selection of these alternatives. Several alternative pesticide and product options exist, such as other organophosphates, carbamates, neonicotinoids, and pyrethroids. However, alternatives to chlorpyrifos and diazinon depend on many factors including but not limited to product registration, commodity type, pest pressures, cost, and timing of pest control.

PUR data can provide insight to the products being applied and how use has changed over time; however, multiple alternatives may be applied on a single crop throughout the year to replace chlorpyrifos applications. In addition, the Coalitions do not monitor for many new pesticides being used due to a lack of methods and, in some cases, relatively limited use.

ESJWQC Assessment of Alternatives to Diazinon and Chlorpyrifos

Chlorpyrifos is used on numerous crops to control several different pests within the ESJWQC region. Diazinon is primarily used during dormant spray applications and the practice of spraying during the dormant season is declining within the ESJWQC region (Figure 10). In the ESJWQC region, grapes, almonds, and walnuts are permanent crops to which large amounts of chlorpyrifos are applied annually. The Coalition reviewed PUR data, Pesticide Control Advisors (PCAs) recommendations and timing of applications for these three permanent crops to determine if trends in the use of alternatives to chlorpyrifos could be determined. A larger review of all crops to which chlorpyrifos is applied is beyond the scope of the time available to prepare this report.

The Coalition evaluated recommended alternatives to control vine mealybug in grapes, navel orangeworms in almonds, and codling moths in walnuts. The PCAs working with growers in the ESJWQC region informed the Coalition they currently recommend pest management strategies that include combinations of alternative products for the control of these pests and follow strategies similar to those recommended by the University of California Statewide Integrated Pest Management Program (UC IPM). Table 30 lists the three commodities, their pests, and the alternatives recommended. This table should not be treated as an all inclusive list of all potential alternatives but does include pesticides that are being widely recommended within this region.

Table 30. Active ingredients of pesticides recommended by PCAs to growers in the ESJWQC region as alternatives to chlorpyrifos for the control of vine mealybug in vineyards, orangeworms in almond orchards, and codling moths in walnut orchards.

COMMODITY	PEST	CHEMICAL GROUP	ACTIVE INGREDIENT	COMMON PRODUCT NAME	RECOMMENDED APPLICATION PERIOD / PEST DENSITY
Almond	Naval Orangeworm	Diacyl hydrazine	Methoxyfenozide	Intrepid	Spring spray, hull split sprays
Almond	Naval Orangeworm	Diamide	Chlorantraniliprole	Altacor	Hull split sprays
Almond	Naval Orangeworm	Diamide	Flubendiamide	Belt	Hull split sprays
Almond	Naval Orangeworm	Neonicotinoids	Acetamiprid	Assail	Hull split sprays
Almond	Naval Orangeworm	Neonicotinoids	Imidacloprid	Admire	Hull split sprays
Almond	Naval Orangeworm	Organophosphate	Phosmet	Imidan	Hull split sprays
Almond	Naval Orangeworm	Pyrethroid	Bifenthrin	Bifenture	Hull split sprays
Almond	Naval Orangeworm	Pyrethroid	Esfenvalerate	Asana	Hull split sprays
Grape	Vine Mealybug	Chitin Inhibitor	Buprofezin	Applaud	Delayed dormant, summer
Grape	Vine Mealybug	Neonicotinoids	Acetamiprid	Assail	Summer
Grape	Vine Mealybug	Neonicotinoids	Clothianidin	Clutch	Bloom, summer
Grape	Vine Mealybug	Neonicotinoids	Dinotefuran	Venom	Bloom, summer
Grape	Vine Mealybug	Neonicotinoids	Imidacloprid	Admire	Bloom, summer
Grape	Vine Mealybug	Neonicotinoids	Thiamethoxam	Actara	Summer
Grape	Vine Mealybug	Tetramic acid derivative (ketoenole)	Spirotetramat	Movento	Bloom, summer, post harvest
Walnut	Codling Moth	Carbamate	Carbaryl	Sevin	Moderate populations
Walnut	Codling Moth	Diacyl hydrazine	Methoxyfenozide	Intrepid	Moderate populations
Walnut	Codling Moth	Diamide	Chlorantraniliprole	Altacor	Moderate to high populations
Walnut	Codling Moth	Diamide	Flubendiamide	Belt	Moderate populations
Walnut	Codling Moth	Organophosphate	Methyl Parathion	PennCap-M	High population only
Walnut	Codling Moth	Organophosphate	Phosmet	Imidan	Moderate populations
Walnut	Codling Moth	Pyrethroid	Beta-Cyfluthrin	Baythroid	Moderate to high populations
Walnut	Codling Moth	Pyrethroid	Bifenthrin	Brigade	Moderate to high populations
Walnut	Codling Moth	Pyrethroid	Esfenvalerate	Asana	Moderate populations
Walnut	Codling Moth	Pyrethroid	Lamda-Cyhalothrin	Warrior	Moderate to high populations
Walnut	Codling Moth	Pyrethroid	Permethrin	Pounce	Moderate populations
Walnut	Codling Moth	Spinosyn	Spinetoram	Delegate	Moderate to high populations, supplemental control in organic orchards

UC IPM, 2012a; UC IPM, 2012b; UC IPM, 2012c

For the control of vine mealybug in vineyards, the recommended pest management strategy on the UC IPM website depends on the type of infestation (new/isolated outbreaks or ongoing populations) and soil type (light texture or clay) (UC IPM, 2012b). For new and/or isolated outbreaks of vine mealybug, growers are recommended to apply pesticides during the following time periods:

1. late summer to fall of Year 1,
2. post harvest of Year 1,
3. delayed-dormant season of Year 2,
4. at bloom of Year 2 (for light text soil only), and
5. summer of Year 2.

If outbreaks persist for more than two years, growers are recommended to switch to a yearly management strategy. Application at bloom time should occur in Year 1 and a delayed dormant spray and summer application should occur in Year 2 for light texture soils (alternating spray times/pesticides

each year helps avoid pest resistance). In clay soils, a pesticide should be applied in the spring and again post-harvest. The pesticides recommended per each season are identified in Table 30.

Buprofezin, neonicotinoids, and spirotetramat are applied to vineyards in the ESJWQC region (Figure 12). The pounds of buprofezin and neonicotinoids applied in 2010 were both more than five times the amount applied in 2007. Buprofezin is recommended for application during both delayed dormant and summer sprays whereas neonicotinoids can be applied at bloom or in the summer (Table 30).

Spirotetramat (Movento) is a relatively new systemic chemical that has been shown to be effective in controlling vine mealybug in grapes while not harming beneficial insects. Studies in 2009 by University of California Cooperative Extension entomology farm advisor David Haviland propose the following strategy for controlling vine mealybug: chlorpyrifos (Lorsban) in February, buprofezin (Applaud) in April, spirotetramat (Movento) from April to June, imidacloprid (Admire) in May or June, clothianidin (Clutch) a little later, and possibly a methomyl (Lannate) application close to harvest. He indicates that one or two of the above options will work in most cases (Blake, 2009). Recently, spirotetramat has been more widely used from April through June and neonicotinoids during boom.

Pesticide Control Advisors and UC IPM recommend spraying once a year for control of navel orangeworm on almonds, either in the spring, typically May, or at the hull split in July through August (Table 30) (UC IPM, 2012a). Of the alternative pesticides PCAs recommend for almonds, phosmet, pyrethroids, methoxyfenozide, diamides, and neonicotinoids are applied in the ESJWQC region. Since chlorpyrifos applications to almonds have decreased, applications of methoxyfenozide, diamides, and neonicotinoids have increased (Figure 13). Methoxyfenozide can be applied either during the spring or hull split. Diamides and neonicotinoids are recommended for hull split applications only. Pyrethroid use on almonds has remained relatively consistent from 2004 through 2010 whereas pounds of phosmet applied decreased over time; both are recommended for hull split applications.

Pest management strategies for the control of codling moth in walnut orchards depend on the population density, and different pesticides are recommended for different densities (Table 30) (UC IPM, 2012). Methyl parathion, phosmet, pyrethroids, methoxyfenozide, diamides, spinetoram, and carbaryl are recommended alternatives applied to walnut orchards in the ESJWQC region. Pounds of pyrethroids, methoxyfenozide, diamides, and spinetoram applied have increased since 2006 while pounds of chlorpyrifos applied decreased during this same time period (Figure 14). Pyrethroids and diamides are applicable for both moderate and moderate to high populations, whereas methoxyfenozide and spinetoram are recommended for moderate populations only (spinetoram is also recommended for supplemental control in organics). Methyl parathion (high) and phosmet (moderate) pounds applied remain high; however, use of both the organophosphates has decreased in recent years. Carbaryl applications to walnuts for control of moderate population densities have been inconsistent in past years.

Figure 12. Pounds of chlorpyrifos and alternative pesticides use on grape vineyards in the ESJWQC region.

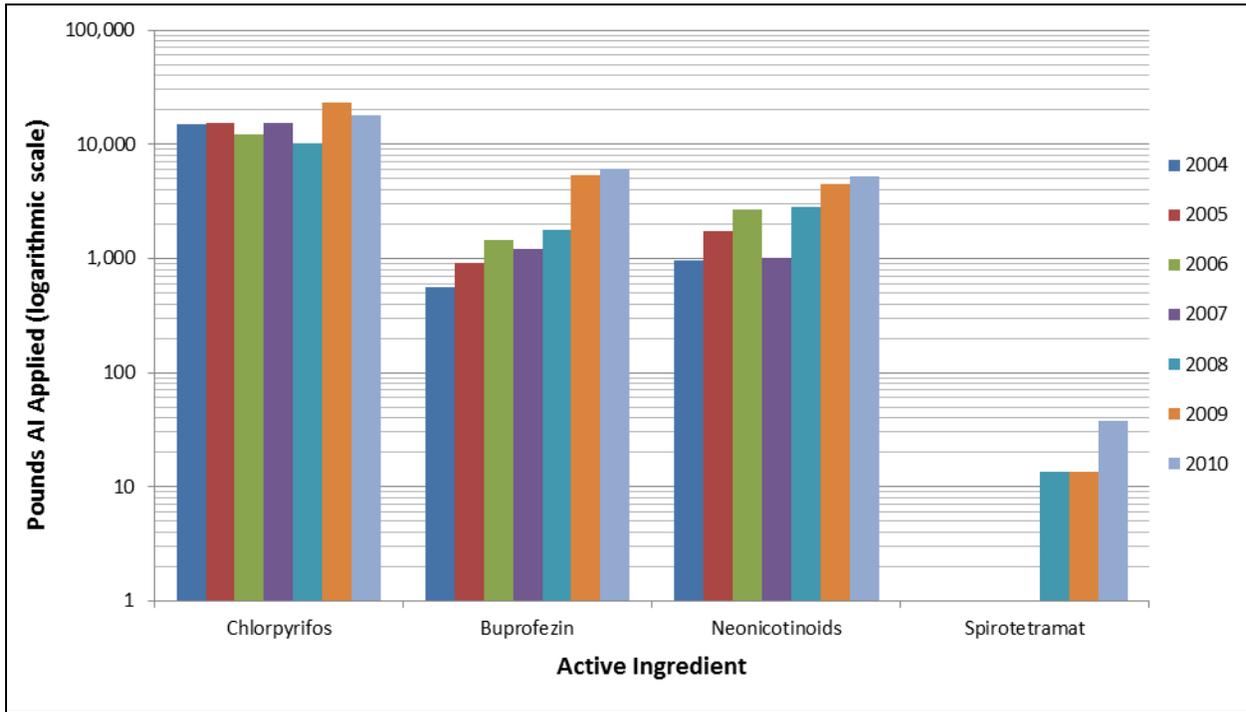


Figure 13. Chlorpyrifos and alternative pesticide use on almond orchards in the ESJWQC region.

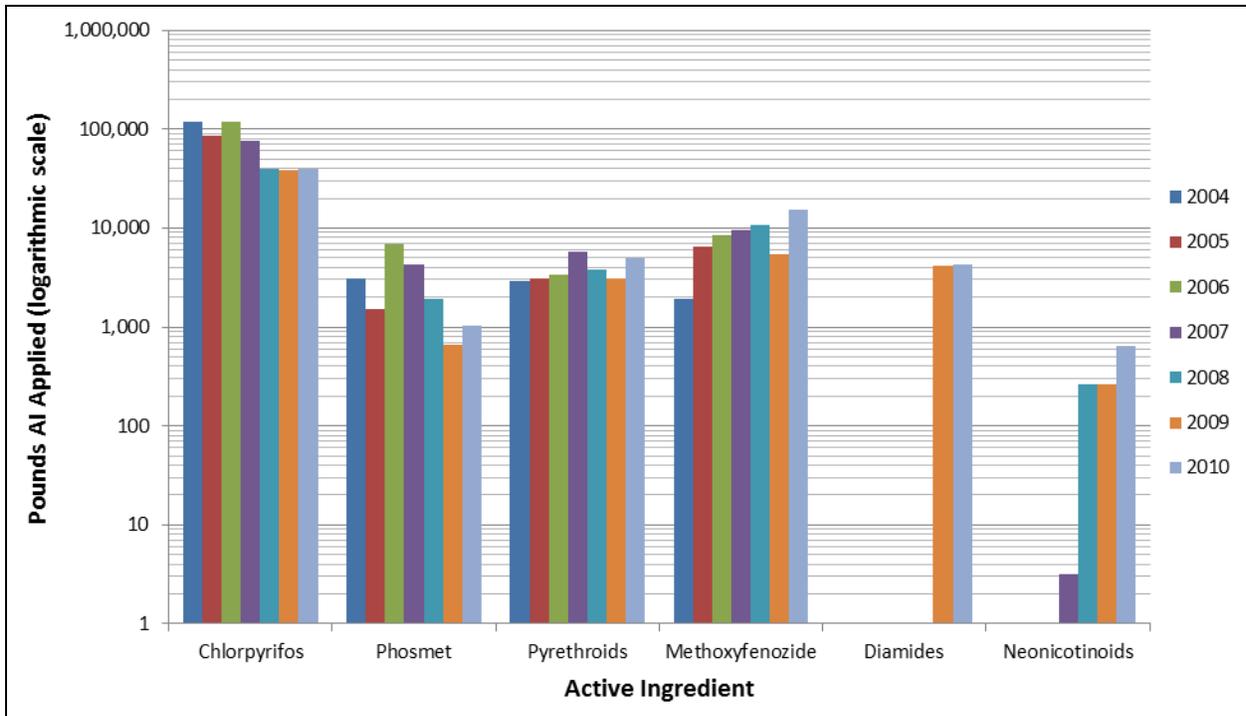
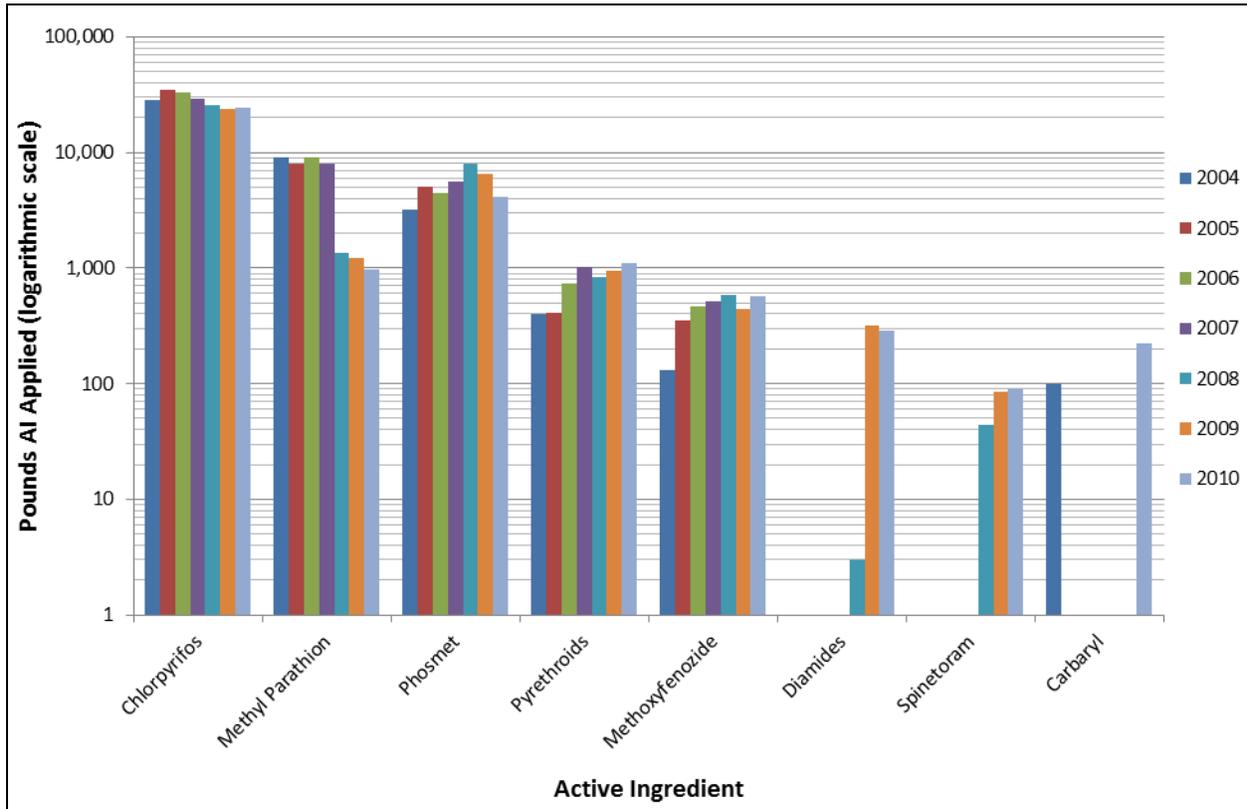


Figure 14. Chlorpyrifos and alternative pesticide use on walnut orchards in the ESJWQC region.



The ESJWQC monitors for seven of the PCA recommended alternative pesticides and several other potential alternative pesticides in its tributaries (Table 31). During the 2011 water year, the ESJWQC sampled 19 tributary monitoring locations for potential alternative pesticides and/or for water column and sediment toxicity that may indicate the presence of alternative pesticides. However, the ESJWQC does not analyze for numerous alternative pesticides including but not limited to the active ingredients in products such as Intrepid, Movento, Assail, Altachlor, Belt, Clutch, and Admire.

Table 31. ESJWQC tributary monitoring schedule for potential alternatives to chlorpyrifos and diazinon during the 2011 water year.

SUBAREA	TRIBUTARY SITE NAME	ORGANOPHOSPHATES											CARBAMATES					TOXICITY				
		AZINPHOS-METHYL	DICHLORVOS	DIMETHOATE	DEMETON-S	DISULFOTON	MALATHION	METHAMIDOPHOS	METHIDATHION	PARATHION, METHYL*	PHORATE	PHOSMET*	ALDICARB	CARBARYL*	CARBOFURAN	METHIOCARB	METHOMYL	OXAMYL	C. DUBIA	P. PROMELAS	H.AZTECA ¹	
Bear Creek, Fresno-Chowchilla	Ash Slough @ Ave 21	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10		
	Bear Creek @ Kibby Rd																		MPM11			
	Berenda Slough along Ave 18 ½	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
	Cottonwood Creek @ Rd 20	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
	Deadman Creek @ Gurr Rd	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	
	Deadman Creek @ Hwy 59	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11
	Dry Creek @ Rd 18																				MPM11	
	Duck Slough @ Gurr Rd	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11
	Howard Lateral @ Hwy 140	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10
McCoy Lateral @ Hwy 140	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
Stanislaus River, North Stanislaus	Mootz Drain downstream of Langworth Pond	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	
Tuolumne River, Northeast Bank	Dry Creek @ Wellsford Rd	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
	Lateral 2 ½ near Keyes Rd	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	
	Rodden Creek @ Rodden Rd	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
Turlock, Merced	Highline Canal @ Hwy 99	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
	Highline Canal @ Lombardy Rd	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
	Merced River @ Santa Fe	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
	Mustang Creek @ East Ave	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	A10	
	Prairie Flower Drain @ Crows Landing Rd	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	
Total Samples Collected		117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	119	117	24		

¹If Hyalella survival is less than 80% compared to the control, the following pesticides will be analyzed for: bifenthrin*, cyfluthrin, cypermethrin, deltamethrin, esfenvalerate*, lambda-cyhalothrin*, permethrin*, fenpropathrin and chlorpyrifos.

A10- Assessment Monitoring for constituent during 2010 (October—December)

A11- Assessment Monitoring for constituent during 2011 (January—September)

MPM11-Management Plan Monitoring for constituent during 2011 (during months of past exceedances)

*Chemical recommended by PCAs as an alternative pesticide for chlorpyrifos applications to grapes, almonds, and/or walnuts in the ESJWQC region.

During the 2011 water year, ESJWQC tributary monitoring indicated carbaryl (carbamate) and dimethoate (organophosphate) impaired water quality, and four pyrethroids may have contributed to water quality impairments. Both carbaryl and dimethoate exceeded their WQTLs (2.53 µg/L and 1 µg/L, respectively) on August 9, 2011 in samples collected from Prairie Flower Drain, and dimethoate also exceeded the WQTL a month later in samples collected from the same site (September 6, 2011; Table 32). Bifenthrin was the only pyrethroid detected in sediment samples toxic to *H. azteca* collected from Dry Creek @ Wellsford Rd on September 9, 2011 and likely contributed to toxicity (Tables 33-34). In addition, water column toxicity to *C. dubia* on August 9, 2011 was also attributed to pyrethroids (Table 33), and, although the ESJWQC does not monitor for pyrethroids in the water column, a review of PUR data identified four pyrethroids that could have contributed to the toxicity: bifenthrin, cypermethrin, deltamethrin, and permethrin.

Carbaryl and pyrethroids are chemicals recommended by PCAs as alternatives to chlorpyrifos applications to grapes, almonds, and walnuts; therefore, alternative pesticides are impairing water quality. However, the percentage of alternative pesticide exceedances and toxicities associated with alternative pesticides is less than 5% for all constituents compared to the number of samples collected (Tables 32-33).

Table 32. Water column detections of potential alternative pesticides in ESJWQC tributaries during the 2011 water year.

Associated WQTLs per each pesticide are listed in parenthesis in the header row; exceedances are bolded.

SUBAREA	TRIBUTARY SITE NAME	SAMPLE DATE	CARBARYL (2.53 µg/L)	DIMETHOATE (1 µg/L)	METHOMYL (0.52 µg/L)
Bear Creek, Fresno-Chowchilla	Deadman Creek @ Gurr Rd	16/Nov/2010		0.37	
Bear Creek, Fresno-Chowchilla	Duck Slough @ Gurr Rd	16/Aug/2011			0.066
Turlock, Merced	Prairie Flower Drain @ Crows Landing Rd	9/Aug/2011	13	10	
Turlock, Merced	Prairie Flower Drain @ Crows Landing Rd	6/Sept/2011	2.3	1.1	
Total Exceedances			1	2	0
Percentage of Exceedances Compared to Total Samples			2%	2%	0%

Table 33. ESJWQC tributary water column and sediment toxicity exceedance summary for the 2011 water year.

SUBAREA	SITE NAME	SAMPLE DATE	SPECIES	TOXICITY END POINT	MEAN	PERCENT CONTROL	TOXICITY SIGNIFICANCE	SUMMARY COMMENTS
Bear Creek, Fresno-Chowchilla	Deadman Creek @ Gurr Rd	11/16/2010	<i>C. dubia</i>	Survival (%)	0	0	SL	A TIE was conducted on 11/19/10 and it was concluded that ammonia was the cause of toxicity.
Bear Creek, Fresno-Chowchilla	Deadman Creek @ Gurr Rd	11/16/2010	<i>P. promelas</i>	Survival (%)	0	0	SL	A TIE was conducted on 11/19/10 and it was concluded that ammonia was the cause of toxicity.
Bear Creek, Fresno-Chowchilla	Duck Slough @ Gurr Rd	9/13/2011	<i>H. azteca</i> ¹	Survival (%)	83	90	SG	
Tuolumne River, Northeast Bank	Dry Creek @ Wellsford Rd	9/6/2011	<i>H. azteca</i> ¹	Survival (%)	65	76	SL	Pyrethroids and chlorpyrifos detected.
Turlock, Merced	Prairie Flower Drain @ Crows Landing Rd	4/19/2011	<i>P. promelas</i>	Survival (%)	80	80	SG	
Turlock, Merced	Prairie Flower Drain @ Crows Landing Rd	8/9/2011	<i>C. dubia</i>	Survival (%)	0	0	SL	A TIE was conducted on 8/11/11 and it was concluded that pyrethroid insecticides were the cause of toxicity.
						<i>C. dubia</i>	<i>P. promelas</i>	<i>H. azteca</i> ¹
Total Toxicities Caused by/Associated with Alternative Pesticides						1	0	1
Percentage of Toxicities Compared to Total Samples						<1%	0%	4%

¹For sediment toxicities, if the percent control is 80% or less, additional sediment chemistry analysis for pyrethroids and chlorpyrifos will occur.

SG-Statistically significantly different from control; greater than 80% threshold

SL-Statistically significantly different from control; less than 80% threshold

TIE-Toxicity Identification Evaluation

Table 34. ESJWQC tributary chlorpyrifos and pyrethroid results for toxic sediment samples collected during the 2011 water year.

SUBAREA	SITE NAME	SAMPLE DATE	<i>H. AZTECA</i> (% CONTROL)	SEDIMENT PESTICIDES µG/KG DW									
				BIFENTHRIN	CHLORPYRIFOS	CYFLUTHRIN	CYHALOTHRIN, LAMBDA	CYPERMETHRIN	DELTA METHRIN:TRALOMETHRIN	ESFENVALERATE/FENVALERATE	FENPROPATHRIN	PERMETHRIN	TETRAMETHRIN
Tuolumne River, Northeast Bank	Dry Creek @ Wellsford Rd	09/06/2011	76	0.32	0.15	ND	ND	ND	ND	ND	ND	ND	ND

ND- Not Detected

Westside Coalition Assessment of Alternatives to Diazinon and Chlorpyrifos

The Westside Coalition tests collected samples for a variety of carbamate, organophosphate, and organochlorine insecticides (depending on the site). During the 2011 water year, a total of 102 insecticides were detected at sites monitored by the Westside Coalition. Of these, 102 were comprised of legacy insecticides that are no longer in use (such as DDT and toxaphene). Of the remaining, 29 were organophosphate insecticides (16 detections of chlorpyrifos, eight of dimethoate, and five of malathion), seven were carbamates (five of methomyl and two of carbaryl), and five were current use organochlorines (two of endosulfan sulfate and one each of endosulfan I, endosulfan II, and methoxychlor).

Sediment pesticide analyses are performed as a follow up to observations of sediment toxicity. During the 2011 water year and pesticide analyses of sediment samples from seven of the monitoring sites indicated that a variety of pyrethroids and chlorpyrifos were the cause of toxicity. Sediment toxicity and pesticide detections are discussed in greater detail in the Westside Coalition's SAMR.

The Westside Coalition also reviewed available PUR data to evaluate applications of insecticides. These results are tabulated in Table 35. Because of the incomplete nature of PUR data, results shown in Table 35 should be considered a partial snapshot of pesticide use.

Table 35. Insecticide applications within the Westside Coalition in order of highest application area.

FRESNO COUNTY	MERCED COUNTY	STANISLAUS COUNTY
Bifenthrin	Lambda-cyhalothrin	Lambda-cyhalothrin
Lambda-cyhalothrin	Malathion	Dimethoate
Chlorpyrifos	Chlorpyrifos	Esfenvalerate
Esfenvalerate	Bifenthrin	Chlorpyrifos
Ziram	Dimethoate	Bifenthrin
Diazinon	Methomyl	Malathion
Permethrin	Esfenvalerate	Carbaryl
Methomyl	Cyfluthrin	Diazinon
	Permethrin	Ziram
	(S)-Cypermethrin	(S)-Cypermethrin
	Aldicarb	Ethoprop
	Fenpropathrin	Permethrin
	Phorate	Acephate
	Ziram	Dicofol
	Acephate	Methomyl
	Carbaryl	
	Methamidophos	
	Diazinon	

Alternatives Detected

The ESJWQC and Westside Coalition detected several alternative pesticides to chlorpyrifos and/or diazinon, including alternatives recommended by PCAs for use on grapes, almonds, and walnuts. Some of these alternative pesticides were found to impair water quality by either exceeding their respective WQOs or contributing to toxicity. Below is a brief description of the detected pesticides.

- Bifenthrin is a pyrethroid insecticide used to treat a variety of insects in orchards and field crops such as alfalfa, cotton, tomatoes, and corn but also has significant residential use.
- Carbaryl is a wide-spectrum carbamate pesticide used as an insecticide, molluscicide and acaricide on a variety of citrus and nut trees and fruit and fiber crops.
- Cyfluthrin is a pyrethroid insecticide used to treat a variety of insects in orchards and field crops such as alfalfa, corn, tomatoes, and cotton.
- Cypermethrin is a pyrethroid insecticide used to treat a variety of insects in field crops such as alfalfa, cotton, onion, and cabbage.
- Deltamethrin is a pyrethroid insecticide used to treat a variety of insects in orchards and field crops such as almonds, corn, cotton, and walnuts.
- Dimethoate is an organophosphate pesticide used to control a wide range of insects. It is used on a variety of field crops including alfalfa, beans, tomatoes, and cotton.
- Endosulfan sulfate, I, and II are organochlorine insecticides used to control a variety of insects and mites on cotton, tomatoes and other field crops. It is in the process of being phased out.
- Lambda cyhalothrin is a pyrethroid insecticide used to treat a variety of insects in orchards and field crops such as corn, tomatoes, and cotton.
- Malathion is an organophosphate insecticide used on a variety of crops including alfalfa, walnuts, lettuce, grapes, and cotton.
- Methomyl is a carbamate insecticide used to control a variety of pests on vegetable, fruit, and field crops.
- Methoxychlor is an organochlorine insecticide that was used to control various nuisance pests (such as cockroaches and mosquitoes) and protect vegetables, fruits, ornamentals, and stored grain. Methoxychlor was banned by the U.S. EPA in 2003.
- Permethrin is a pyrethroid insecticide used to treat a variety of insects in orchards and field crops such as corn, tomatoes, and cotton and is also used for mosquito and residential insect control.

Although the Coalitions detected 12 different insecticides in waterways during this reporting period, it is not possible to determine if any of these materials were selected as an alternative to chlorpyrifos or diazinon or simply part of a grower's pesticide management rotation. Pesticide Control Advisors are recommending the use of some of these pesticides, but the PUR and monitoring data do not allow the Coalitions to establish if the detected pesticides were indeed from applications of pesticides used in an alternative capacity. It is a common cultural practice to rotate pesticide selection through specific modes of action (i.e. pyrethroids to organophosphate to carbamate) in order to minimize the risk of pesticide resistance. As a result of this practice, a material other than chlorpyrifos or diazinon may be

select simply because it was next in the rotation rather than as a specific alternative. Based on the Coalition's conversations with growers and PCA's, regulatory pressure on diazinon use has phased that material out of the pest management rotation. Chlorpyrifos continues to be a preferred material due to its wide range of allowable use and effectiveness. The Coalitions continue to educate growers through outreach of other applicable alternatives to chlorpyrifos.

OBJECTIVE 6: DETERMINE WHETHER THE DISCHARGE CAUSES OR CONTRIBUTES TO TOXICITY IMPAIRMENT DUE TO ADDITIVE OR SYNERGISTIC EFFECTS OF MULTIPLE POLLUTANTS.

The loading capacity and load allocation for chlorpyrifos and diazinon are based on current understanding of the two pesticides' additive effects (Figure 1). All samples were in compliance with the load capacity; there were no detections of chlorpyrifos or diazinon in the San Joaquin River during the 2011 water year (Appendix IV, Table IV-1). Diazinon was also not detected in any water samples collected from either Coalition's tributaries during the reporting period; only chlorpyrifos was detected (Appendix IV, Tables IV-2 through IV-8). Hence, no incidences of interactions between diazinon and chlorpyrifos could be characterized.

In addition, as part of each Coalition's tributary monitoring strategies, the ESJWQC and Westside Coalition sample for a wide range of pesticides and toxicity. Toxicity Identification Evaluations (TIEs) are conducted on toxic water samples to determine the cause of toxicity (if survival is 50% or less compared to the control), and toxic sediment samples are subject to further analysis for chlorpyrifos and pyrethroids (if survival is 80% or less compared to the control). From these results, the Coalitions are able to consider the additive and/or synergistic effects of multiple pollutants.

ESJWQC Evaluation of Toxicity Impairment Due to Additive or Synergistic Effects of Multiple Pollutants

To assess if toxicity occurred due to the additive or synergistic effects of chlorpyrifos or diazinon and another pollutant, the ESJWQC reviewed toxicity results for *Ceriodaphnia dubia* and *Pimephales promelas* in the water column and *Hyalella azteca* in sediment.

There were two samples collected during the 2011 water year that were toxic to *C. dubia*, two that were toxic to *P. promelas*, and two sediment samples that were toxic to *H. azteca* (Table 33). Of the four water column toxicity samples that had a significant reduction in species survival, three had TIEs performed on them. Water samples collected from Deadman Creek on November 16, 2010 were toxic to both species due to high levels of ammonia. The second *C. dubia* toxicity occurred in August 2011 in samples collected from Prairie Flower Drain and was due to pyrethroids (Table 33). There was no chlorpyrifos or diazinon detected in the same water sample. The second *P. promelas* toxicity occurred at Prairie Flower Drain in April; however, the survival was 80% compared to the control and therefore a TIE was not performed (Table 33).

Sediment samples collected from Dry Creek @ Wellsford Rd on September 6, 2011 were toxic to *H. azteca* (Table 33) and chemistry analysis of the sediment indicated bifenthrin (0.32 µg/kg dw) and chlorpyrifos (0.15 µg/kg dw) were present (Table 34). The two chemicals could have interacted in an additive or synergistic manner to cause the sediment toxicity. The second toxic sediment sample was

collected from Duck Slough @ Gurr Rd on September 13, 2011; however, the survival was 83% and therefore no additional chemistry was performed (Table 33).

Diazinon was not detected in any samples collected from October 2010 through September 2011. Chlorpyrifos was detected in three samples from tributaries and several other metals were detected in samples collected at the same time (Table 36). Although these constituents were present in the water column at the same time and there was the potential for interaction, water column toxicity to *C. dubia* or *P. promelas* did not occur during any of these three events (Table 36).

Table 36. Detections of metals and pesticides and toxicity results associated with chlorpyrifos detections in ESJWQC tributaries during the 2011 water year.
 Water Quality Trigger Limits (WQTLs) are listed with each pesticide and metal. Exceedances/toxicities are bolded. Assessment Monitoring occurred during all events listed.

SITE NAME	SAMPLE DATE	CHLORPYRIFOS (0.015 µg/L)	METALS												TOXICITY	
			ARSENIC, TOTAL (10 µg/L)	BORON, TOTAL (700 µg/L)	COPPER, DISSOLVED (HARDNESS BASED TRIGGER LIMIT) µg/L	COPPER, TOTAL (1300 µg/L)	LEAD, DISSOLVED (HARDNESS BASED TRIGGER LIMIT) µg/L	LEAD, TOTAL (15 µg/L)	MOLYBDENUM, TOTAL (10 µg/L)	NICKEL, DISSOLVED (HARDNESS BASED TRIGGER LIMIT) µg/L	NICKEL, TOTAL (100 µg/L)	SELENIUM, TOTAL (5 µg/L)	ZINC, DISSOLVED (HARDNESS BASED TRIGGER LIMIT) µg/L	ZINC, TOTAL (NA)	C. DUBIA, % CONTROL	P. PROMELAS, % CONTROL
Berenda Slough along Ave 18 1/2	4/19/2011	0.021	1.5	18	3.3 (1.36)	4.7	0.07	0.21	1.1	0.37	0.41	0.1	1.2	2	100	98
Deadman Creek @ Hwy 59	4/19/2011	0.016	6.7	24	2.6	4.2	0.06	0.35	2.4	1.2	2.3	0.27	<0.7	2.5	100	98
Deadman Creek @ Hwy 59	9/13/2011	0.049	NT	31	1.2	1.5	NT	NT	NT	1.5	1.8	NT	<0.7	0.7	100	98

NA – Not applicable; WQTL is not established for this constituent.
 NT – Not tested; analysis not scheduled for constituent during event.

Westside Coalition Evaluation of Toxicity Impairment Due to Additive or Synergistic Effects of Multiple Pollutants

The Westside Coalition tests San Joaquin River water samples for a variety of organophosphate, organochlorine, carbamate, and herbicide pesticides at each sampling event. During the 2011 water year monitoring period, the only other pesticides detected were diuron (four detections) and prowl (one detection), none of which exceeded the water quality criteria for either material. In addition to water quality analyses, the Westside Coalition analyses water samples for aquatic toxicity at the Lander Avenue site for aquatic toxicity year-round, and at the Sack Dam and Las Palmas sites during rain events. Aquatic toxicity to *C. dubia* was observed during the June 2011 sample event at the Lander Avenue site (20% survival). Despite testing for more than 45 different materials, no pesticides were detected. A TIE was performed but the toxicity was not persistent (there was no toxicity in any of the TIE samples) and the toxicity could not be linked to any cause. There were no other observations of toxicity in the San Joaquin River sites.

Tributary monitoring sites are also tested for pesticides and aquatic toxicity. During this report period, aquatic toxicity to *C. dubia* (the indicator species sensitive to chlorpyrifos and diazinon) was observed in seven San Joaquin River tributaries. However, only one of the observations of toxicity could be associated with a current use pesticide. Table 37 shows the sites with observed toxicity to *C. dubia* along with the apparent cause. The remaining samples showing toxicity either detected very low concentrations of DDE or no insecticides at all and there were no other exceedances of copper or other constituent likely to contribute to *C. dubia* toxicity. Based on these results, there are no apparent additive or synergistic effects that are contributing to aquatic toxicity. The Westside Coalition's SAMR provides a more detailed discussion of these results.

Table 37. Westside Coalition sites showing aquatic toxicity to *Ceriodaphnia dubia*.

SITE NAME	SAMPLE DATE	<i>C. DUBIA</i> (% SURVIVAL)	TIE COMMENTS	APPARENT CAUSE
Hospital Cr. @ River Rd.	12/21/2010	40	TIE indicated pesticides are likely cause.	Unknown - DDE only detected insecticide (0.017µg/L)
Orestimba Cr. @ River Rd.	3/8/2011	80	TIE not required	Unknown - DDE only detected insecticide (0.0053j µg/L)
San Joaquin River @ Lander Ave.	6/14/2011	20	Toxicity was not persistent: TIE baseline sample did not have toxicity - TIE inconclusive	Unknown - no detected pesticides
Poso Sl. @ Indiana Ave.	8/9/2011	0	TIE showed toxicity through all treatments with moderate increase in survival in carbon filter treatment. Pesticides likely cause.	chlorpyrifos (1.3µg/L)
Turner Sl near Ediminster Rd.	8/9/2011	55	TIE not required.	Unknown - no detected pesticides
Newman Wasteway near Hills Ferry Rd.	8/9/2011	70	TIE not required.	Unknown - no detected pesticides
Los Banos Cr. @ Highway 140	8/9/2011	70	TIE not required.	Unknown - no detected pesticides

OBJECTIVE 7: DEMONSTRATE THAT MANAGEMENT PRACTICES ARE ACHIEVING THE LOWEST PESTICIDE LEVELS TECHNICALLY AND ECONOMICALLY ACHIEVABLE

A determination of technical and economical feasibility needs to be done at the individual farm level and, consequently, is expected to vary with the specific operation and commodity farmed. The goal of the ESJWQC and Westside Coalitions is for their members to have no discharge of pesticides to surface waters. Economic feasibility is determined by factors outside the control of the Coalitions. Profitable operations can afford to implement management practices such as constructing sediment basins or installing pressurized irrigation, both of which can significantly reduce the runoff of irrigation and storm water carrying agricultural discharges. Marginally profitable operations may not be able to afford these practices. Consequently, efforts by the ESJWQC and Westside Coalition to obtain additional funding for growers have been important to achieving the Coalitions' goal. Both Coalitions have been instrumental in helping growers obtain AWEP funding and publicizing the current funding available through the Proposition 84 grant program run by the Coalition for Urban/Rural Environmental Stewardship (CURES). These programs offer several million dollars towards the implementation of structural management practices within their respective regions. However, these programs are still in their nascent stages and it will take a few years before the funding available through these programs is able to make an improvement in water quality. Also, there remain many growers in the eastside drainage area of the San Joaquin River who are not members of either Coalition and not influenced by the Coalitions' efforts.

It is technically feasible to eliminate all discharges of chemicals to surface waters, although it could require steps that are not economically feasible for even the most profitable operations. It does seem possible, given the success in the ESJWQC and Westside Coalition regions in 2011, to reduce discharges to surface waters to the point that they do not impair beneficial uses. There were no instances of exceedances of the WQOs or loading capacity in the San Joaquin River during 2011.

Within both the ESJWQC and Westside Coalition regions, there was a reduction in the number of exceedances of chlorpyrifos (diazinon exceedances are almost nonexistent) from 2010 to 2011, and in 2011 there were no instances of exceedances of the WQOs or loading capacity in the San Joaquin River compared to one noncompliant load in 2010. Consequently, the management practices implemented by growers appear to be resulting in a reduction of discharges, and Coalition members are in the process of achieving the lowest pesticide levels technically and economically feasible.

APPENDIX I

CHAIN OF CUSTODY FORMS

TABLE OF CONTENTS

ESJWQC COCs.....	1
Fourth Quarter Monitoring Event– October 21, 2010.....	2
First Quarter Monitoring Event – February 18, 2011	3
Second Quarter Monitoring Event – May 10, 2011.....	4
Third Quarter Monitoring Event – July 12, 2011	5
Westside Coalition COCs.....	6
Fourth Quarter Monitoring Event – October 12, 2010.....	7
November 9, 2010 Monitoring Event	9
December 14, 2010 Monitoring Event.....	11
December 20/21, 2010 Monitoring Event	13
January 11, 2011 Monitoring Event.....	15
February 8, 2011 Monitoring Event.....	17
First Quarter Monitoring Event – February 23, 2011	19
March 8, 2011 Monitoring Event.....	22
April 12, 2011 Monitoring Event.....	24
Second Quarter Monitoring Event – May 10, 2011.....	26
June 14, 2011 Monitoring Event.....	28
Third Quarter Monitoring Event – July 12, 2011	30
August 9, 2011 Monitoring Event	32
September 13, 2011 Monitoring Event	34

ESJWQC COCS

Fourth Quarter Monitoring Event- October 21, 2010



APPL CHAIN-OF-CUSTODY RECORD

Client Name: **MLJ-LLC**
 Address: **633 Cantrell Dr., Davis, CA 95618**
 Sampled By: **F. WALTER, K. STORRY**
 Phone: **(530) 756-5200**
 Fax: **(530) 756-5225**
 Project Manager: **Michael Johnson**
 Project Name: **East San Joaquin Water Quality Coalition**

Sample Identification	Sample Date	Sample Time	Sample Matrix	Number	Type	Preservative	Organophosphorus pesticides by EPA 8143A*	SAMPLE COMMENTS
541STC501-GR1N	10-21-10	10:40	FW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only
541STC512-GR1N	10-21-10	9:10	FW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only
541STC510-GR1N	10-21-10	10:10	FW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only
541STC501-GR2IN	10-21-10	10:40	FW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only
541STC501-MS	10-21-10	10:40	FW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only
541STC501-FB	10-21-10	10:40	FW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only
FW/Water to ID H-M-L								

Comments:
 Please fax signed and completed COC to MLJ LLC:
 (530) 756-5225, or email to muji@mlj-llc.com
 * See project-specific guidelines for exact analyze list

Temperature at Log In: _____ (°C)

Matrix codes: SED = sediment, FW = freshwater, MW = wastewater, STRAW = stormwater

Signature: <i>[Signature]</i>	Received By: <i>[Signature]</i>
Print Name: Franke Walter	Print Name: Doug Rietmann
Organization: MLJ-LLC	Organization: EC MICE
Date: 10/21/10	Date: 10/21/10
Time: 12:17	Time: 1535

Signature: <i>[Signature]</i>	Received By: <i>[Signature]</i>
Print Name: Doug Rietmann	Print Name: Tom Vong
Organization: EC MICE	Organization: Apple
Date: 10/21/10	Date: 10/21/10
Time: 1217	Time: 1535

AMENDED PAGE

First Quarter Monitoring Event - February 18, 2011



APPL CHAIN-OF-CUSTODY RECORD

Client Name: MJJ-LLC
 Address: 632 Carhill Dr., Davis, CA 95618
 Sampled By: F. Wolff, K. Stovry
 Phone: (530) 756-5200
 Fax: (530) 756-5225
 Project Manager: Michael Johnson
 Project Name: East San Joaquin Water Quality Coalition

Sample Identification	Sample Date	Sample Time	Sample Matrix	Number	Type	Preservative	High phosphorus pesticides by EPA 8142A*
541STCS01-GR	2/10/11	1230	FW	2	1-L Amber glass	Ice	X
541STCS12-GR	2/10/11	1030	FW	2	1-L Amber glass	Ice	X
541STCS10-GR	2/10/11	1200	FW	2	1-L Amber glass	Ice	X
541STCS04-GR			FW	2	1-L Amber glass	Ice	X
541STCS04-MW			FW	2	1-L Amber glass	Ice	X
541STCS07-GR	2/10/11	1140	FW	2	1-L Amber glass	Ice	X

SAMPLE COMMENTS

diapyrifos and diazinon only
 chlorpyrifos and diazinon only

Comments:
 Please fax signed and completed COC to MJJ LLC:
 (530) 756-5225, or email to mj@mjllc.com
 * See project-specific guidelines for exact analyte list

Signature	Received By	Signature	Received By
Print Name	Organization	Print Name	Organization
Date	Time	Date	Time

Temperature at Log In: _____ (°C)

Date: 2-18-11 Time: 13:10
 Date: 2-18-11 Time: 1620

Matrix codes: SED = sediment, FW = freshwater, MW = wastewater, STRAW = stormwater

Second Quarter Monitoring Event - May 10, 2011



APPL CHAIN-OF-CUSTODY RECORD

Client Name: MLJ-LLC
 Address: 632 Cantrell Dr., Davis, CA 95618
 Sampled By: *H. Stony, M. Zane*
 Phone: (530) 756-5200
 Fax: (530) 756-5225
 Project Manager: Michael Johnson
 Project Name: East San Joaquin Water Quality Coalition

Sample Identification	Sample Date	Sample Time	Sample Mark	Number	Type	Preservative	Organophosphorus pesticides by EPA 8141A*	SAMPLE COMMENTS
541STCS01-IN	5/10/11	0800	PW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only
541STCS12-IN	5/10/11	1430	PW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only
541STCS10-IN	5/10/11	0900	PW	2	1-L Amber Glass	Ice	X	chlorpyrifos and diazinon only

Comments:
 Please fax signed and completed COC to MLJ LLC:
 (530) 756-5225, or email to mlj@mlj-llc.com
 * See project-specific guidelines for exact analyte list

Signature	<i>Reedell Stees</i>	Retinquished By	Signature	<i>Donna</i>	
Print Name	Reedell Stees	Organization	Print Name	Donna Richards	
Organization	MLJ-LLC	Date	5/11/11	Time	0810
Date	5/11/11	Time	0810	Received By	Signature
Signature	<i>Donna Richards</i>	Print Name	Donna Richards	Organization	APPL
Print Name	Donna Richards	Date	5-11-11	Time	1245
Organization	APPL	Signature	<i>Tom Veng</i>	Print Name	Tom Veng
Date	5-11-11	Time	0810	Organization	APPL
Time	0810	Date	5/11/11	Time	1245

Temperature at Log In: _____ (°C)

Matrix codes: SED = sediment, FW = freshwater, WW = wastewater, STRHW = stormwater

Third Quarter Monitoring Event - July 12, 2011



APPL CHAIN-OF-CUSTODY RECORD

Client Name: MJJ-LLC
 Address: 632 Cantrell Dr., Davis, CA 95618
 Sampled By: F. WALTER, K. STARR
 Phone: (530) 756-5200
 Fax: (530) 756-5225
 Project Manager: Michael Johnson
 Project Name: Phase San Joaquin Water Quality Coalition

Sample Identification	Sample Date	Sample Time	Sample Matrix	Number	Type	Preservative	Organophosphorus pesticides by EPA 8141A*	Chlorpyrifos and diazinon only	Chlorpyrifos and diazinon only	Chlorpyrifos and diazinon only
541STCS01-IN	7/12/11	8:00	FW	2	1-L Amber Glass	Ice	X	X	X	X
541STCS12-IN	7/12/11	10:00	FW	2	1-L Amber Glass	Ice	X	X	X	X
541STCS10-IN	7/12/11	8:20	FW	2	1-L Amber Glass	Ice	X	X	X	X

Comments: Please fax signed and completed COC to MJJ LLC: (530) 756-5225, or email to fwalt@mj-llc.com. See project-specific guidelines for exact analyte list.

Relinquished By: F. WALTER
 Signature: [Signature]
 Print Name: Fred Walter
 Organization: MJJ-LLC
 Date: 7/12/11 Time: 15:10

Relinquished By: DOUG RICHMONS
 Signature: [Signature]
 Print Name: DOUG RICHMONS
 Organization: EP M I E
 Date: 7-12-11 Time: 1830

Relinquished By: Tom Veng
 Signature: [Signature]
 Print Name: Tom Veng
 Organization: APPL
 Date: 7/12/11 Time: 1830

Temperature at Log In: _____
 Date: 7-12-11 Time: 1510

Matrix codes: SED = sediment, FW = freshwater, WW = wastewater, STIMW = stormwater

WESTSIDE COALITION COCS

Fourth Quarter Monitoring Event - October 12, 2010



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 270-7750 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name: Pacific EcoRisk		Client Address: 2250 Cordelia Road, Fairfield, CA 94534	
Sampled By: (707) 270-7750		Phone: (707) 207-7916	
FAX: (707) 207-7916		Project Manager: Stephen Clark	
Project Name: Westside San Joaquin River Watershed Coalition		PO Number: 9426	

Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container		Requested Analysis
				Number	Type	
1	12-Oct-10	9:50	FW	3	1-L amber	Pesticides (Full List): EPA 8081, EPA 8321, EPA 8151, EPA 8141/619 (See Project specific analyses)** OP Pesticides: EPA 8141A/619 OC Pesticides: "Base" EPA 8081 OC Pesticides: "Group A" EPA 8081 Carbamates: EPA 8321 Herbicides: EPA 8321A (diuron and linuron) and EPA 619 (atrazine, cyatrazine, and simazine) Herbicides: EPA 8141A (Prowl and Trifluralin)
2	12-Oct-10	11:50	FW	3	1-L amber	
3	12-Oct-10	11:40	FW	5	1-L amber	
4	12-Oct-10	11:44	FW	5	1-L amber	
5	12-Oct-10	11:48	FW	5	1-L amber	
6	12-Oct-10	11:44	FW	3	1-G amber	
7	12-Oct-10	11:50	FW	5	1-L amber	
8	12-Oct-10	12:30	FW	3	1-L amber	

Correct Containers: Yes		No	
Sample Temperature:	Ambient	Cold	Warm
Sample Preservative:	Yes	No	
Turnaround Time:	STD	Specy:	

Comments:
 Field Blank = 72-SSALA-PB
 Lab and Field Duplicate = 72-SSALA-PD
 APPL Internal MS/MSD = 72-SSALA-PM (Do not invoice)
 Carbamate analyses must be low level detection

Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at 707-207-7916

MATRIX CODES: (SED = Sediment); (FW = Freshwater); (MW = Wastewater); (STBRW = Stormwater)

Signature:	<i>[Signature]</i>	Signature:	
Print:	<i>Dev G...</i>	Print:	
Organization:	<i>CCITD</i>	Organization:	
DATE: 10/12/10	TIME: 8:00	DATE:	TIME:

Signature:	<i>[Signature]</i>	Signature:	
Print:	<i>Tom V...</i>	Print:	
Organization:	<i>APPL</i>	Organization:	
DATE: 10/12/10	TIME: 8:00	DATE:	TIME:



Pacific EcoRisk

ENVIRONMENTAL CONSULTING & TESTING
 2220 Cordelia Road, Fairfield, CA 94534
 (707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk																			
Client Address:		2250 Cordelia Road Fairfield, CA 94534																			
Sampled By:		John Hanson																			
Phone:		(707) 270-7760																			
FAX:		(707) 207-7916																			
Project Manager:		Stephen Clark																			
Project Name:		Westside San Joaquin River Watershed Coalition																			
PO Number:		9426																			
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Number	Container Type	OP Pesticides: EPA 8141A/619		OC Pesticides: "Base" EPA 8081		OC Pesticides: "Group A" EPA 8081		** Carbamates: EPA 8321		Herbicides: EPA 819/8321/8141		Trifluralin: EPA 8141		Prowl (Pendimethalin), EPA 8141		
1	72-S,IRPP,PE	12-Oct-10	1:30P	FW	3	1-L amber	X	X													
2	72-DMCDP,PE	12-Oct-10	1:45P	FW	3	1-L amber	X	X													
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
Correct Containers:		Yes	No	Cold	Warm																
Sample Temperature:		Ambient																			
Sample Preservative:		Yes	No																		
Turnaround Time:		STD	Specify:																		
Comments:																					
Signature:		 Signature: John Hanson																			
Print:		John Hanson																			
Organization:		Pacific EcoRisk																			
DATE:		10/26/10																			
TIME:		8:00																			
Signature:		 Signature: Tom Vary																			
Print:		Tom Vary																			
Organization:		APCD																			
DATE:		10/13/10																			
TIME:		0:00																			

** Carbamate analyses must be low level detection
 *Upon receipt of samples, please fax a copy of the signed and received COC to
 Stephen Clark at 707-207-7916*

MATRIX CODES: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRM = Stormwater)

December 14, 2010 Monitoring Event



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name: Pacific EcoRisk		Client Address: 2250 Cordelia Road, Fairfield, CA 94534	
Sampled By: (707) 270-7760		Phone: (707) 207-7916	
Project Manager: Stephen Clark		Project Name: Westside San Joaquin River Watershed Coalition	
PO Number: 9426			

Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Number	Container Type	REQUESTED ANALYSIS						
						Pesticides (Full List): EPA 8081, EPA 8321, EPA 8151, EPA 8141/819 (See Project specific analyses)**	OP Pesticides: EPA 8141A/619	OC Pesticides: "Beta" EPA 8081	OC Pesticides: "Group A" EPA 8081	Carbamates: EPA 8321	Herbicides: EPA 8321A (diuron and linuron) and EPA 819 (atrazine, cyanazine, and simazine)	Herbicides: EPA 8141A (Prowl and Trifluralin)
74-LBCHW-PE	14-Dec-10	9:30	FW	3	1-L amber	X	X	X	X	X	X	
74-SURLA-PE	14-Dec-10	10:30	FW	3	1-L amber	X	X	X	X	X	X	
74-SSALA-PE	14-Dec-10	11:00	FW	5	1-L amber	X	X	X	X	X	X	
74-SSALA-PB	14-Dec-10	11:30	FW	5	1-L amber	X	X	X	X	X	X	
74-SSALA-PD	14-Dec-10	11:50	FW	5	1-L amber	X	X	X	X	X	X	
74-SSALA-PM	14-Dec-10	12:00	FW	3	1-L amber	X	X	X	X	X	X	
74-MSUSL-PE	14-Dec-10	12:15	FW	5	1-L amber	X	X	X	X	X	X	
74-SJRSO-PE	14-Dec-10	12:58	FW	3	1-L amber	X	X	X	X	X	X	

Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
Print: <i>[Name]</i>	Print: <i>[Name]</i>
Organization: <i>[Organization]</i>	Organization: <i>[Organization]</i>
DATE: 12/14/10	DATE: 12/15/10
TIME: 15:36	TIME: 14:30

RECEIVED BY: *[Signature]*

Signature: *[Signature]*

Print: *[Name]*

Organization: *[Organization]*

DATE: 12/14/10

TIME: 15:36

*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at 707-207-7916

** Carbamate analyses must be low level detection

Comments: Field Blank = 74-SSALA-PB
 Lab and Field Duplicate = 74-SSALA-PD
 APPL Internal MSMSD = 74-SSALA-PM (Do not invoice)

Matrix Codes: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRMW = Stormwater)



Pacific EcoRisk

2250 Cordelia Road, Fairfield, CA 94534
(707) 270-7790 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name: Pacific EcoRisk		Client Address: 2250 Cordelia Road Fairfield, CA 94534		Sampled By: <i>Steph Clark</i>		Phone: (707) 270-7760		FAX: (707) 207-7916		Project Manager: Stephen Clark		Project Name: Westside San Joaquin River Watershed Coalition		PO Number: 9426	
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Number	Container Type	REQUESTED ANALYSIS								
1	R11-VH132-PE	12/21/10	0900	FW	6	1-L amber	Pesticides: "Extended List" EPA 6081, EPA 8321, EPA 8141/819 (See Project specific analysis)**	X	X	X	X	X	X	X	X
2	R11-HCARR-PE	12/21/10	0900	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
3	R11-ICARR-PE	12/21/10	1030	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
4	R11-WWOCR-PE	12/21/10	1300	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
5	R11-DPOCR-PE	12/21/10	1300	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
6	R11-DPC-HW-PE	12/21/10	1500	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
7	R11-ROLFA-PE	12/21/10	1600	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
8	R11-MRDRR-PE	12/21/10	1630	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
9	R11-OCARR-PE	12/21/10	1630	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
10	R11-OCAMW-PE	12/21/10	1600	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
11	R11-OMCDP-PE	12/21/10	1600	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
12	R11-SURPP-PE	12/21/10	1130	FW	6	1-L amber	X	X	X	X	X	X	X	X	X
13															
14															
15															

Correct Containers: Yes No
 Sample Temperature: Ambient Cold
 Sample Preservative: Yes No
 Turnaround Time: STD Specify:
 Comments:
 Signature: *Steph Clark*
 Organization: *DEWD*
 DATE: *12/21/10* TIME: *1500*
 Signature: *Tom King*
 Organization: *APPL*
 DATE: *12/21/10* TIME: *800*

*Analyze for: atrin, chlorodane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including isomers), endosulfan, and toxaphene
 ** Carbamate analyses must be low level detection
 *Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916
 MATRIX CODES: (SED = Sediment), (TW = Freshwater), (WW = Wastewater), (STRM = Stormwater)

January 11, 2011 Monitoring Event



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 270-7760 FAX: (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		Requested Analysis		
Client Address:		2250 Cordelia Road Fairfield, CA 94534		OP Pesticides: EPA 8141A/619		
Sampled By:		John Harsco		OC Pesticides: "Base" EPA 8081		
Phone:		(707) 270-7760		OC Pesticides: "Group A" EPA 8081		
FAX:		(707) 207-7916		** Carbamates: EPA 8321		
Project Manager:		Stephen Clark		Herbicides: EPA 619/8321/8141		
Project Name:		Westside San Joaquin River Watershed Coalition		Trifluralin: EPA 8141		
PO Number:		9426		Picol (Pendimethalin), EPA 8141		
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Number	Container Type
1	75-SURPPE	11-Jan-11	1100	FW	3	1-L amber
2	75-DMCDPPE	11-Jan-11	1330	FW	3	1-L amber
3						
4						
5						
6						
7						
8						
9						
10						

Correct Containers:	Yes	No	Warm
Sample Temperature:	Ambient	Cold	Warm
Sample Preservative:	Yes	No	
Turnaround Time:	STD	Specify:	

Signature:	Signature:
Print: <i>John Harsco</i>	Print:
Organization: <i>Del Norte C&E Dist.</i>	Organization:
DATE: <i>1/11/11</i> TIME: <i>1730</i>	DATE: TIME:
RECEIVED BY	

Signature:	Signature:
Print: <i>Tom Wang</i>	Print:
Organization: <i>Appl</i>	Organization:
DATE: <i>1/11/11</i> TIME: <i>800</i>	DATE: TIME:

** Carbamate analyses must be low level detection
 *Upon receipt of samples, please fax a copy of the signed and received COC to:
 Stephen Clark at 707-207-7916"
 *MATRIX CODES: (SED = Sediment); (FW = Freshwater); (MW = Wastewater); (STMMW = Stormwater)



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		REQUESTED ANALYSIS Pesticides (Full List): EPA 8081, EPA 8321, EPA 8161, EPA 8141A/619 (See Project specific analyses)** OP Pesticides: EPA 8141A/619 OC-Pesticides: "Base" EPA 8081 OC Pesticides: "Group A" EPA 8081 Carbamates: EPA 8321 Herbicides: EPA 6321A (diuron and linuron) and EPA 619 (atrazine, eyezenzine, and almezine) Herbicides: EPA 6141A (Prowl and Trifluralin)				
Client Address:		2250 Cordelia Road Fairfield, CA 94534						
Sampled By:		(707) 270-7760						
Phone:		(707) 207-7916						
FAX:								
Project Manager:		Stephen Clark						
Project Name:		Westside San Joaquin River Watershed Coalition						
PO Number:		9425						
Client Sample ID		Sample Date	Sample Time			Sample Matrix*	Container Number	Container Type
1	75-LBCHW-PE	11-Jan-11	10:00			FW	3	1-L amber
2	75-SJRLA-PE	11-Jan-11	11:00	FW	3	1-L amber		
3	75-SSALA-PE	11-Jan-11	11:35	FW	5	1-L amber		
4	75-SSALA-PB	11-Jan-11	11:35	FW	5	1-L amber		
5	75-SSALA-PD	11-Jan-11	11:35	FW	5	1-L amber		
6	75-SSALA-PM	11-Jan-11	11:35	FW	3	1-Q amber		
7	75-MSLSL-DE	11-Jan-11	8:58	FW	5	1-L amber		
8	75-SJRSO-PE	11-Jan-11	14:02	FW	3	1-L amber		
9								
10								
Correct Containers:		Yes	No	Warm				
Sample Temperature:		Ambient	Cold	Warm				
Sample Preservative:		Yes	No					
Turnaround Time:		STD	Specify:					
Comments: Field Blank = 75-SSALA-PB Lab and Field Duplicate = 75-SSALA-PD APPL Internal MSMSD = 75-SSALA-PM (Do not invoice) * Carbamate analyses must be low level detection								
Signature:		[Signature]		Signature:		[Signature]		
DATE:		1/11/11		DATE:		1/11/11		
Organization:		Pacific EcoRisk		Organization:		Pacific EcoRisk		
Signature:		[Signature]		Signature:		[Signature]		
DATE:		1/11/11		DATE:		1/11/11		
Organization:		Pacific EcoRisk		Organization:		Pacific EcoRisk		
Signature:		[Signature]		Signature:		[Signature]		
DATE:		1/11/11		DATE:		1/11/11		
Organization:		Pacific EcoRisk		Organization:		Pacific EcoRisk		

*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at 707-207-7916**
 MATRIX CODES: (SED = Sediment); (FW = Freshwater); (MW = Wastewater); (STRMW = Stormwater)



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

February 8, 2011 Monitoring Event

Client Name: Pacific EcoRisk		Client Address: 2250 Cordelia Road Fairfield, CA 94534		Sampled By: [Signature]		Phone: (707) 270-7760		FAX: (707) 207-7916		Project Manager: Stephen Clark		Project Name: Westside San Joaquin River Watershed Coalition		PO Number: 9426	
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Number	Container Type	REQUESTED ANALYSIS								
1	76-LBCHW-PE	8-Feb-11	9:30	FW	3	1-L amber	Pesticides (Full List): EPA 8081, EPA 8321, EPA 8151, EPA 8141/819 (See Project specific analyses)**								
2	76-SJRLA-PE	8-Feb-11	10:30	FW	3	1-L amber	X	X	X	X	X	X			
3	76-SSALA-PE	8-Feb-11	11:00	FW	5	1-L amber	X	X	X	X	X	X			
4	76-SSALA-PB	8-Feb-11	11:00	FW	5	1-L amber	X	X	X	X	X	X			
5	76-SSALA-PD	8-Feb-11	11:00	FW	5	1-L amber	X	X	X	X	X	X			
6	76-SSALA-PM	8-Feb-11	11:00	FW	3	1-G amber	X	X	X	X	X	X			
7	76-MSUSL-PE	8-Feb-11	12:30	FW	5	1-L amber	X	X	X	X	X	X			
8	76-SJRS-D-PE	8-Feb-11	14:00	FW	3	1-L amber	X	X	X	X	X	X			
9															
10															

Correct Containers:	Yes	No	
Sample Temperature:	Ambient	Cold	Warm
Sample Preservative:	Yes	No	
Turnaround Time:	STD	Specify:	

Comments:

Field Blank = 76-SSALAPP
 Lab and Field Duplicate = 76-SSALAPD
 APPL Internal MS/MSD = 76-SSALA-PM (Do not invoice)
 ** Carbamate analyses must be low level detection

Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at 707-207-7916

MAATRIX CODES: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRMMW = Stormwater)

Signature: [Signature]	Signature:
Organization: CCD	Organization:
DATE: 2/8/11	DATE: 2/8/11
TIME: 11:51	TIME:

Signature: [Signature]	Signature:
Organization: APPL	Organization:
DATE: 2/9/11	DATE:
TIME: 11:25	TIME:



Pacific EcoRisk

ENVIRONMENTAL CONSULTING & TESTING
2250 Cordelia Road, Fairfield, CA 94534
(707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		REQUESTED ANALYSIS <input type="checkbox"/> OP Pesticides: EPA 8141A/619 <input type="checkbox"/> OC Pesticides: "Base" EPA 8081 <input type="checkbox"/> OC Pesticides: "Group A" EPA 8081 <input type="checkbox"/> ** Carbamates: EPA 8321 <input type="checkbox"/> Herbicides: EPA 619/8321/8141 <input checked="" type="checkbox"/> Trifluralin: EPA 8141 <input checked="" type="checkbox"/> Profl (Pendimethalin), EPA 8141				
Client Address:		2250 Cordelia Road Fairfield, CA 94534						
Sampled By:		<i>[Signature]</i>						
Phone:		(707) 270-7760						
FAX:		(707) 207-7916						
Project Manager:		Stephen Clark						
Project Name:		Westside San Joaquin River Watershed Coalition						
PO Number:		9426						
Client Sample ID		Sample Date	Sample Time			Sample Matrix*	Container Number	Container Type
1	76-SLRPP-PE	8-Feb-11	1420			FW	3	1-L amber
2	76-DMCDP-PE	8-Feb-11	1350	FW	3	1-L amber		
3								
4								
5								
6								
7								
8								
9								
10								
Correct Containers:		Yes	No					
Sample Temperature:		Ambient	Cold	Warm				
Sample Preservative:		Yes	No					
Turnaround Time:		STD	Specify:					
Comments:								
Signature:		<i>[Signature]</i>		Signature:		<i>[Signature]</i>		
Print:		John Hansen		Print:				
Organization:		DRIBD		Organization:				
DATE:		2/9/11		DATE:				
TIME:		11:00		RECEIVED BY				
Signature:		<i>[Signature]</i>		Signature:				
Print:		Tom Vms		Print:				
Organization:		AAR		Organization:				
DATE:		2/9/11		DATE:				
TIME:		11:25		TIME:				

** Carbamate analyses must be low level detection
Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at 707-207-7916
*MATRIX CODES: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRMMW = Stormwater)

First Quarter Monitoring Event - February 23, 2011



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Foothill, CA 94634
 (707) 207-7780 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name: Pacific EcoRisk		Client Address: 2250 Cordelia Road Fairfield, CA 94534		Sampled By: (707) 270-7780		Phone: (707) 207-7916		FAX: Stephen Clark		Project Manager: Westside San Joaquin River Watershed Coalition		PO Number: 9426	
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Container Number	Container Type	REQUESTED ANALYSIS						
1	R12-SSALA-PB		12:35	FW	6	1-L amber	Pesticides: *Extended List* EPA 8081, EPA 8321, EPA 8141/819 (See Project specific analyses)**	X	X	X	X	X	X
2	R12-SSALA-PD		12:35	FW	6	1-L amber	*Pesticides: *Group A* EPA 8081	X	X	X	X	X	X
3	R12-LBCCC-PE		10:40	FW	6	1-L amber	Herbicides (EPA 8321, EPA 619, EPA 8141)	X	X	X	X	X	X
4	R12-NWHR-PE		10:40	FW	6	1-L amber	** Carbamates: EPA 8321	X	X	X	X	X	X
5	R12-LBCHW-PE		11:30	FW	6	1-L amber	Trifluralin: EPA 8141	X	X	X	X	X	X
6	R12-TSAER-PE		11:30	FW	6	1-L amber	Prowl (Pendimethalin), EPA 8141	X	X	X	X	X	X
7	R12-SJRLA-PE		12:00	FW	6	1-L amber		X	X	X	X	X	X
8	R12-SSALA-PE		12:35	FW	6	1-L amber		X	X	X	X	X	X
9	R12-MSUSL-PE		9:15	FW	6	1-L amber		X	X	X	X	X	X
10	R12-SSASD-PE		14:00	FW	6	1-L amber		X	X	X	X	X	X
11	R12-PSALA-PE		14:45	FW	6	1-L amber		X	X	X	X	X	X
12	R12-SJPSD-PE		15:25	FW	6	1-L amber		X	X	X	X	X	X
13	R12-SSALA-PM		12:35	FW	5	multiple		X	X	X	X	X	X

Signature: <i>[Signature]</i>		Signature: <i>[Signature]</i>	
Print: <i>[Name]</i>	Print: <i>[Name]</i>	Organization: <i>[Name]</i>	Organization: <i>[Name]</i>
DATE: 2/24/11	DATE: 8:30	TIME: 12:10	TIME:

Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
Print: <i>[Name]</i>	Print: <i>[Name]</i>
Organization: <i>[Name]</i>	Organization: <i>[Name]</i>
DATE: 2/24/11	DATE: 12:10
TIME: 12:10	TIME:

*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916

** Carbamate analyses must be low level detection

ANALYZE FOR: atrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene

Matrix Codes: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRW = Stormwater)



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 207-7916 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk				REQUESTED ANALYSIS	
Client Address:		2250 Cordelia Road Fairfield, CA 94534					
Sampled By:		Stephen Clark					
Phone:		(707) 207-7916					
FAX:		(707) 207-7916					
Project Manager:		Stephen Clark					
Project Name:		Westside San Joaquin River Watershed Coalition					
PO Number:		6428					
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Number	Container Type	
1	R12-VH132-PE			FW	6	1-L amber	Features: "Extended List" EPA 8081, EPA 8321, EPA 8141/818 (See Project Specific Analyses)**
2	R12-HCARR-PE			FW	6	1-L amber	"Pesticides: "Group A" EPA 8081
3	R12-ICARR-PE			FW	6	1-L amber	Herbicides (EPA 8321, EPA 618, EPA 8141)
4	R12-WWNCR-PE			FW	6	1-L amber	** Carbamates: EPA 8321
5	R12-DPCCR-PE	2/24/11	0830	FW	6	1-L amber	Trifluralin: EPA 6141
6	R12-DPCWH-PE	2/24/11	1200	FW	6	1-L amber	Prowl (Pendimethalin), EPA 8141
7	R12-ROL-FA-PE			FW	6	1-L amber	
8	R12-MRDRR-PE			FW	6	1-L amber	
9	R12-OCARR-PE	2/24/11	1300	FW	6	1-L amber	
10	R12-OCAMW-PE	2/24/11	1230	FW	6	1-L amber	
11	R12-DMCDP-PE			FW	6	1-L amber	
12	R12-SRPP-PE			FW	6	1-L amber	
13							
14							
15							
Correct Containers:		Yes	No			REQUISISHED BY	
Sample Temperature:		Ambient	Cold	Warm			Signature: <i>[Signature]</i>
Sample Preservative:		Yes	No				Print: <i>[Signature]</i>
Turnaround Time:		STD	Specify:			Organization: <i>[Signature]</i>	
Comments:		*Analyze for: aldrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene ** Carbamate analyses must be low level detection *Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916* -MATRIX CODES: (SED = Sediment); (FW = Freshwater); (MW = Wastewater); (STREAM = Stormwater)					
Signature:		<i>[Signature]</i>		Signature:		<i>[Signature]</i>	
Print:		Stephen Clark		Print:		Tom Vang	
Organization:		Pacific EcoRisk		Organization:		Pacific EcoRisk	
DATE: 2/24/11		TIME: 1210		DATE:		TIME:	



Pacific EcoRisk

ENVIRONMENTAL CONSULTING & TESTING
2250 Cordelia Road, Fairfield, CA 94534
(707) 270-7780 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		Requested Analysis	
Client Address:		2250 Cordelia Road Fairfield, CA 94534		Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/819 (See Project specific analyses)**	
Sampled By:		(707) 270-7780		*Pesticides: "Group A" EPA 8081	
Phone:		(707) 207-7916		Herbicides (EPA 8321, EPA 819, EPA 8141)	
FAX:		Stephen Clark		** Carbamates: EPA 8321	
Project Manager:		Westside San Joaquin River Watershed Coalition		Trifluralin: EPA 8141	
PO Number:		9426		Proxi (Pendimethalin), EPA 8141	
Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Number	Container Type
1 LBCS-PE	2-23-2011	12:05 PM	FW	6	1-L amber
2					
3					
4					
5					
6					
7					
8					
9					
10					

Signature:		Signature:	
Print:		Print:	
Organization:		Organization:	
DATE: 2-23-2011	TIME: 10:30 AM	DATE: 2-24-11	TIME: 12:10

Signature:		Signature:	
Print:		Print:	
Organization:		Organization:	
DATE: 2-23-11	TIME: 10:30	DATE: 2/24/11	TIME: 12:10

* Analyze for: atrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene

** Carbamate analyses must be low level detection

* Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916

MATRIX CODES: (SED = Sediment), (FW = Freshwater), (MW = Wastewater), (STRM = Stormwater)

March 8, 2011 Monitoring Event



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road Fairfield, CA 94534
 (707) 270-7780 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		Requested Analysis:	
Client Address:		2250 Cordelia Road Fairfield, CA 94534		Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/619 (See Project specific analyses) *	
Sampled By:		(707) 270-7780		*Pesticides: "Group A" EPA 8081	
Phone:		(707) 207-7916		Herbicides (EPA 8321, EPA 814, EPA 8141)	
FAX:		Stephen Clark		** Carbamates: EPA 8321	
Project Manager:		Westside San Joaquin River Watershed Coalition		Trifluralin: EPA 8141	
Project Name:		9426		Proxi (Pendimethalin), EPA 8141	
PO Number:		9426		OP Pesticides: EPA 8141A/619	
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Container Type
1	77-SSALA-PB	8-Mar-11	12:00	FW	1-L amber
2	77-SSALA-PD	8-Mar-11	12:00	FW	1-L amber
3	77-LBCCC-FE	8-Mar-11	8:30	FW	1-L amber
4	77-NWHFR-PE	8-Mar-11	9:15	FW	1-L amber
5	77-LECHRW-PE	8-Mar-11	9:55	FW	1-L amber
6	77-TSAER-PE	8-Mar-11	10:30	FW	1-L amber
7	77-SJRLA-PE	8-Mar-11	11:15	FW	1-L amber
8	77-SSALA-PE	8-Mar-11	12:00	FW	1-L amber
9	77-MSUSL-PE	8-Mar-11	13:00	FW	1-L amber
10	77-SSASD-PE	8-Mar-11	14:15	FW	1-L amber
11	77-PSALA-PE	8-Mar-11	15:00	FW	1-L amber
12	77-SJRSO-PE	8-Mar-11	15:30	FW	1-L amber
13	77-SSALA-PM	8-Mar-11	17:00	FW	multiple
Correct Containers:		Yes	No	Warm	RELOQUISHED BY
Sample Temperature:		Ambient	Cold		Signature: <i>[Signature]</i>
Sample Preservative:		Yes	No		Print: <i>[Signature]</i>
Turnaround Time:		STD	Specify:		Signature: <i>[Signature]</i>
Comments:		77-SSALA-PB = Field Blank			
		77-SSALA-PD = Field Duplicate			
		77-SSALA-PM = MS/MSD			
		*Analysis for: aldrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene			
		** Carbamate analyses must be low level detection			
		*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916 -			
		MATRIX CODES: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRM = Stormwater)			
Signature:	<i>[Signature]</i>	Signature:	<i>[Signature]</i>	Signature:	<i>[Signature]</i>
Print:	Tom Veng	Print:	<i>[Signature]</i>	Print:	<i>[Signature]</i>
Organization:	APPL	Organization:		Organization:	
DATE:	3/9/11	DATE:	12:00	DATE:	15:00
TIME:	15:00	TIME:		TIME:	



Pacific EcoRisk
 (Incorporated October 1, 2009)
 2250 Cordelia Road, Fairfield, CA 94504
 (707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		Requested Analysis	
Client Address:		2250 Cordelia Road Fairfield, CA 94504			
Sampled By:		John Hansen		Pesticides: "Extended List": EPA 605, EPA 8321, EPA 814/819 (See Project specific analyses)**	
Phone:		(707) 270-7760		*Pesticides: "Group A" EPA 8081	
FAX:		(707) 207-7916		Herbicides (EPA 8321, EPA 619, EPA 8141)	
Project Manager:		Stephen Clark		** Carbamates: EPA 8321	
Project Name:		Westside San Joaquin River Watershed Coalition		Trifluralin: EPA 8141	
PO Number:		9426		Prowé (Pendimethalin), EPA 8141	
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Container Type
1	77-HCARR-PB	8-Mar-11		FW	1-L amber
2	77-HCARR-PD	8-Mar-11		FW	1-L amber
3	77-VH132-PE	8-Mar-11		FW	1-L amber
4	77-HCARR-PE	8-Mar-11		FW	1-L amber
5	77-HCARR-PE	8-Mar-11		FW	1-L amber
6	77-WWNCR-PE	8-Mar-11	0800	FW	1-L amber
7	77-DPCR-PE	8-Mar-11	1600	FW	1-L amber
8	77-DPCW-PE	8-Mar-11	1600	FW	1-L amber
9	77-FOLFA-PE	8-Mar-11	1600	FW	1-L amber
10	77-MRDRR-PE	8-Mar-11	1600	FW	1-L amber
11	77-OCARR-PE	8-Mar-11	1300	FW	1-L amber
12	77-OCALW-PE	8-Mar-11	1400	FW	1-L amber
13	77-DMCDP-PE	8-Mar-11	1530	FW	1-L amber
14	77-SIRPP-PE	8-Mar-11	1530	FW	1-L amber
15	77-HCARR-PM	8-Mar-11		FW	1-L amber multiple

Signature:	Signature:	Signature:	Signature:
Print: John Hansen	Print: John Hansen	Print: Tom Vms	Print:
Organization: BPCSD	Organization:	Organization: Appl	Organization:
DATE: 3/9/11	DATE: 3/9/11	TIME: 1520	TIME:

RECEIVED BY

REQUINISHED BY

Comments: 77-HCARR-PB = Field Blank
 77-HCARR-PD = Field Duplicate
 77-HCARR-PM = MS/MSD
 *Analyze for aldrin, dieldrin, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene
 ** Carbamate analyses must be low level detection
 *Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916
 MATRIX CODES: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRM = Stormwater)

April 12, 2011 Monitoring Event



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name: Pacific EcoRisk Client Address: 2250 Cordelia Road Fairfield, CA 94534		Sampled By: John Hansen Phone: (707) 270-7760 FAX: (707) 207-7916		Project Manager: Stephen Clark Project Name: Westside San Joaquin River Watershed Coalition PO Number: 9426	
Client Sample ID		Sample Date		Sample Time	
1	78-VH132-PE	12-Apr-11	0800	FW	6
2	78-HCARR-PE	12-Apr-11	0845	FW	6
3	78-ICARR-PE	12-Apr-11	0930	FW	6
4	78-WMNCR-PE	12-Apr-11	1030	FW	6
5	78-DPCCR-PE	12-Apr-11	1130	FW	6
6	78-DPCHW-PE	12-Apr-11	1230	FW	6
7	78-ROLFA-PE	12-Apr-11	1415	FW	6
8	78-NRDRR-PE	12-Apr-11	1500	FW	6
9	78-OCARR-PE	12-Apr-11	1545	FW	6
10	78-OCALW-PE	12-Apr-11	1630	FW	6
11	78-DMODP-PE	12-Apr-11	1715	FW	3
12	78-SJRRP-PE	12-Apr-11	1830	FW	3

Correct Containers:	Yes	No	Ambient	Cold	Warm	Container Type	Number
Sample Temperature:	Yes	No	Yes	No	Warm	1-L amber	6
Sample Preservative:	Yes	No	Yes	No	Warm	1-L amber	6
Turnaround Time:	Yes	No	Yes	No	Warm	1-L amber	6
Comments:	Analyze for: aldrin, chlordane, heptachlor, heptachlor epoxide, hezachlorocyclohexane (including lindane), endosulfan, and toxaphene ** Carbamate analyses must be low level detection *Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916* ** MATRIX CODES: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRMW = Stormwater)						

Signature: <i>[Signature]</i> Print: John Hansen Organization: Pacific EcoRisk DATE: 4/13/11 TIME: 730		Signature: <i>[Signature]</i> Print: Tom Veng Organization: APPL DATE: 4/13/11 TIME: 0800	
Signature: _____ Print: _____ Organization: _____ DATE: _____ TIME: _____		Signature: _____ Print: _____ Organization: _____ DATE: _____ TIME: _____	

Second Quarter Monitoring Event - May 10, 2011



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 207-7780 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		REQUESTED ANALYSIS										
Client Address:		2250 Cordelia Road Fairfield, CA 94534												
Sampled By:		John Hansen		RECEIVED BY										
Phone:		(707) 270-7780												
FAX:		(707) 207-7916		RECEIVED BY										
Project Manager:		Stephen Clark												
Project Name:		Westside San Joaquin River Watershed Coalition		RECEIVED BY										
PO Number:		9426												
Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Container Number	Container Type	Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/819 (See Project specific analyses)**	"Pesticides: "Group A" EPA 8081	Herbicides (EPA 8321, EPA 619, EPA 8141)	** Carbamates: EPA 8321	Trifluralin: EPA 8141	Provl (Pendimethalin), EPA 8141	OP Pesticides: EPA 8141A/619		
1	10-May-11	0800	FW	6	1-L amber	X	X	X	X	X	X	X		
2	10-May-11		FW	6	1-L amber	X	X	X	X	X	X	X		
3	10-May-11	0930	FW	6	1-L amber	X	X	X	X	X	X	X		
4	10-May-11	1030	FW	6	1-L amber	X	X	X	X	X	X	X		
5	10-May-11	1130	FW	6	1-L amber	X	X	X	X	X	X	X		
6	10-May-11		FW	6	1-L amber	X	X	X	X	X	X	X		
7	10-May-11	1300	FW	6	1-L amber	X	X	X	X	X	X	X		
8	10-May-11	1345	FW	6	1-L amber	X	X	X	X	X	X	X		
9	10-May-11	1445	FW	6	1-L amber	X	X	X	X	X	X	X		
10	10-May-11	1545	FW	6	1-L amber	X	X	X	X	X	X	X		
11	10-May-11	1630	FW	3	1-L amber	X	X	X	X	X	X	X		
12	10-May-11	1730	FW	3	1-L amber	X	X	X	X	X	X	X		
Correct Containers:		Yes		No		No		Warm						
Sample Temperature:		Ambient		Cold		Warm								
Sample Preservative:		Yes		No										
Turnaround Time:		STD		Specify:										
Comments:														
Signature: <i>[Signature]</i> Print: <i>John Hansen</i> Organization: <i>PE</i> DATE: <i>5/11/11</i> TIME: <i>0900</i> Signature: <i>[Signature]</i> Print: <i>Tom Veng</i> Organization: <i>Apple</i> DATE: <i>5/11/11</i> TIME: <i>1245</i> Signature: <i>[Signature]</i> Print: <i>Apple</i> Organization: <i>Apple</i> DATE: <i>5/11/11</i> TIME: <i>1245</i>														

*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916

** Carbamate analyses must be low level detection

ANALYZE FOR: aldrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene

MATRIX CODES: [SED = Sediment]; [FW = Freshwater]; [WW = Wastewater]; [STRM = Stormwater]



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 210-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		<table border="1"> <tr> <th colspan="2">REQUESTED ANALYSIS</th> </tr> <tr> <td>Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/819 (See Project specific analysis)**</td> <td></td> </tr> <tr> <td>*Pesticides: "Group A" EPA 8081</td> <td></td> </tr> <tr> <td>Herbicides (EPA 8321, EPA 619, EPA 8141)</td> <td></td> </tr> <tr> <td>** Carbamates: EPA 8321</td> <td></td> </tr> <tr> <td>Trifluralin: EPA 8141</td> <td></td> </tr> <tr> <td>Prowl (Pendimethalin), EPA 8141</td> <td></td> </tr> <tr> <td>OP Pesticides: EPA 8141A/819</td> <td></td> </tr> </table>		REQUESTED ANALYSIS		Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/819 (See Project specific analysis)**		*Pesticides: "Group A" EPA 8081		Herbicides (EPA 8321, EPA 619, EPA 8141)		** Carbamates: EPA 8321		Trifluralin: EPA 8141		Prowl (Pendimethalin), EPA 8141		OP Pesticides: EPA 8141A/819	
REQUESTED ANALYSIS																					
Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/819 (See Project specific analysis)**																					
*Pesticides: "Group A" EPA 8081																					
Herbicides (EPA 8321, EPA 619, EPA 8141)																					
** Carbamates: EPA 8321																					
Trifluralin: EPA 8141																					
Prowl (Pendimethalin), EPA 8141																					
OP Pesticides: EPA 8141A/819																					
Client Address:		2250 Cordelia Road Fairfield, CA 94534																			
Sampled By:		(707) 210-7760																			
Phone:		(707) 207-7916																			
FAX:		Stephen Clark																			
Project Manager:		Westside San Joaquin River Watershed Coalition																			
Project Name:		9426																			
PO Number:																					
Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Number	Container Type																
79-SSALA-PB	10-Mar-11	12:00	FW	5	1-L amber	X	X	X	X	X											
79-SSALA-PD	10-May-11	17:00	FW	6	1-L amber	X	X	X	X	X											
79-LBCCC-PE	10-May-11	8:35	FW	6	1-L amber	X	X	X	X	X											
79-NMHR-PE	10-May-11	9:39	FW	6	1-L amber	X	X	X	X	X											
79-LBCHW-PE	10-May-11	10:30	FW	9	1-L amber	X	X	X	X	X											
79-TSAER-PE	10-May-11	11:00	FW	6	1-L amber	X	X	X	X	X											
79-SJRLA-PE	10-May-11	12:35	FW	6	1-L amber	X	X	X	X	X											
79-SSALA-PE	10-May-11	17:00	FW	6	1-L amber	X	X	X	X	X											
79-MSUSL-PE	10-May-11	13:00	FW	6	1-L amber	X	X	X	X	X											
79-SSASD-PE	10-May-11	14:17	FW	6	1-L amber	X	X	X	X	X											
79-PSALA-PE	10-May-11	15:00	FW	6	1-L amber	X	X	X	X	X											
79-SJRSSD-PE	10-May-11	15:35	FW	3	1-L amber	X	X	X	X	X											
79-SSALA-PM	10-May-11	12:00	FW	5	multiple	X	X	X	X	X											
Correct Containers:		Yes		No		Warm		Cold		No											
Sample Temperature:		Ambient		Cold		Warm		Cold		No											
Sample Preservative:		Yes		No																	
Turnaround Time:		STD		Specify:																	
Comments: 79-SSALA-PB = Field Blank 79-SSALA-PD = Field Duplicate 79-SSALA-PM = MS/MSD * Analyze for: aldrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene ** Carbamate analyses must be low level detection																					
*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916 MATRIX CODES: (SED = Sediment); (FW = Freshwater); (NW = Wastewater); (STRAW = Stormwater)																					
Signature:				Signature:				Signature:		Signature:											
Print:		Tom Vnag		Print:		Tom Vnag		Print:		Print:											
Organization:		APPL		Organization:		CCSD		Organization:		Organization:											
DATE:		5/11/11		TIME:		12:45		DATE:		DATE:											
TIME:				DATE:				TIME:		TIME:											
RECEIVED BY				DATE:				TIME:													



Pacific EcoRisk

ENVIRONMENTAL CONSULTING & TESTING
2250 Cordelia Road, Fairfield, CA 94534
(707) 207-7780 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		Requested Analysis:			
Client Address:		2250 Cordelia Road Fairfield, CA 94534		Pesticides: "Extended List" EPA 8061, EPA 8321, EPA 8141/619 (See Project specific analyses)**			
Sampled By:		(707) 270-7780		*Pesticides: "Group A" EPA 8081			
Phone:		(707) 207-7916		Herbicides (EPA 8321, EPA 619, EPA 8141)			
FAX:		Stephen Clark		** Carbamates: EPA 8321			
Project Manager:		Westside San Joaquin River Watershed Coalition		Trifluralin: EPA 8141			
PO Number:		9428		Provl (Pendimethalin), EPA 8141			
Client Sample ID		Sample Date	Sample Time	Sample Matrix	Container Number	Container Type	OP Pesticides: EPA 8141A/619
1	80-SSALA-PB	14-Jun-11	11:40	FW	5	1-L amber	
2	80-SSALA-PD	14-Jun-11	11:40	FW	5	1-L amber	
3	80-LBCC-PE	14-Jun-11	11:40	FW	5	1-L amber	
4	80-NMHR-PE	14-Jun-11	11:40	FW	5	1-L amber	
5	80-LBCHW-PE	14-Jun-11	11:40	FW	5	1-L amber	
6	80-TSAER-PE	14-Jun-11	11:40	FW	5	1-L amber	
7	80-SJRLA-PE	14-Jun-11	11:40	FW	5	1-L amber	
8	80-SSALA-PE	14-Jun-11	11:40	FW	5	1-L amber	
9	80-MSUSL-PE	14-Jun-11	11:40	FW	5	1-L amber	
10	80-SSASD-PE	14-Jun-11	11:40	FW	5	1-L amber	
11	80-PSALA-PE	14-Jun-11	11:40	FW	5	1-L amber	
12	80-SJRSO-PE	14-Jun-11	11:40	FW	3	1-L amber	
13	80-SSALA-PM	14-Jun-11	11:40	FW	5	multiple	
Correct Containers:		Yes		No		Warm	
Sample Temperature:		Ambient		Cold		Warm	
Sample Preservative:		Yes		No			
Turnaround Time:		STD		Specify:			
Comments:							
80-SSALA-PB = Field Blank							
80-SSALA-PD = Field Duplicate							
80-SSALA-PM = MSMSD							
*Analyze for: aldrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene							
** Carbamate analyses must be low level detection							
*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916							
MATRIX CODES: (SED = Sediment); (FW = Freshwater); (WV = Wastewater); (STRMW = Stormwater)							
Signature:		[Signature]		Signature:		[Signature]	
Organization:		Pacific EcoRisk		Organization:		DOUG RUCKENSTEIN	
DATE:		6/14/11		DATE:		6-14-11	
TIME:		1545		TIME:		1845	
Signature:		[Signature]		Signature:		[Signature]	
Organization:		BDM LLC		Organization:		APPD	
DATE:		6-14-11		DATE:		6/15/11	
TIME:		1545		TIME:		0800	

June 14, 2011 Monitoring Event



Pacific EcoRisk

ENVIRONMENTAL CONSULTING & TESTING
2250 Cordelia Road, Fairfield, CA 94534
(707) 270-7780 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name: Pacific EcoRisk
 Client Address: 2250 Cordelia Road, Fairfield, CA 94534
 Sampled By: John Hansen
 Phone: (707) 270-7780
 FAX: (707) 207-7916
 Project Manager: Stephen Clark
 Project Name: Westside San Joaquin River Watershed Coalition
 PO Number: 9426

Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Number	Container Type	Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/619 (See Project specific analyses)**	"Pesticides: "Group A" EPA 8061	Herbicides (EPA 8321, EPA 619, EPA 8141)	** Carbamates: EPA 8321	Trifluralin: EPA 8141	Prowl (Pendimethalin), EPA 8141	OP Pesticides: EPA 8141A/619
1	14-Jun-11	0800	FW	6	1-L amber	X	X	X	X	X	X	X
2	14-Jun-11	0930	FW	6	1-L amber	X	X	X	X	X	X	X
3	14-Jun-11	1030	FW	6	1-L amber	X	X	X	X	X	X	X
4	14-Jun-11	1130	FW	6	1-L amber	X	X	X	X	X	X	X
5	14-Jun-11	1315	FW	6	1-L amber	X	X	X	X	X	X	X
6	14-Jun-11	1410	FW	6	1-L amber	X	X	X	X	X	X	X
7	14-Jun-11	1520	FW	6	1-L amber	X	X	X	X	X	X	X
8	14-Jun-11	1600	FW	6	1-L amber	X	X	X	X	X	X	X
9	14-Jun-11	1655	FW	6	1-L amber	X	X	X	X	X	X	X
10	14-Jun-11	1730	FW	3	1-L amber	X	X	X	X	X	X	X
11	14-Jun-11		FW	3	1-L amber	X	X	X	X	X	X	X
12	14-Jun-11		FW	3	1-L amber	X	X	X	X	X	X	X

Correct Containers: Yes No
 Sample Temperature: Ambient Cold Warm
 Sample Preservation: Yes No
 Turnaround Time: STD Specify:
 Comments:
 Signature: [Signature] Signature:
 Print: John Hansen Print:
 Organization: [Organization] Organization:
 DATE: 6/15/11 TIME: 08:00 DATE: TIME:
 RECEIVED BY
 Signature: [Signature] Signature:
 Print: Tom Young Print:
 Organization: [Organization] Organization:
 DATE: 6/15/11 TIME: 08:00 DATE: TIME:

* Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916
 ** Carbamate analyses must be low level detection
 * Analyze for: aldrin, dieldrin, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene
 * MATRIX CODES: (SED = Sediment); (FW = Freshwater); (MW = Wastewater); (STRMW = Stormwater)

Third Quarter Monitoring Event - July 12, 2011



Pacific EcoRisk

ENVIRONMENTAL CONSULTING & TESTING
2250 Cordelia Road Fairfield, CA 94534
(707) 270-7780 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name: Pacific EcoRisk		Client Address: 2250 Cordelia Road Fairfield, CA 94534		Sampled By: <i>John Hawks</i>		Phone: (707) 270-7780		FAX: (707) 207-7916		Project Manager: Stephen Clark		Project Name: Westside San Joaquin River Watershed Coalition		PO Number: 9426	
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Number	Container Type	REQUESTED ANALYSIS								
1	81-VH132-PE	12-Jul-11	0830	FW	6	1-L amber	Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/819 (See Project specific analysis)**	Pesticides: "Group A" EPA 8081	Herbicides (EPA 8321, EPA 619, EPA 8141)	** Carbamates: EPA 8321	Trifluralin: EPA 8141	Prowl (Pendimethalin), EPA 8141	OP Pesticides: EPA 8141A/619		
2	81-HCARR-PE	12-Jul-11	0845	FW	6	1-L amber	X	X	X	X	X	X			
3	81-FCARR-PE	12-Jul-11	0930	FW	6	1-L amber	X	X	X	X	X	X			
4	81-WWOCR-PE	12-Jul-11	1030	FW	6	1-L amber	X	X	X	X	X	X			
5	81-DPCGR-PE	12-Jul-11	1130	FW	6	1-L amber	X	X	X	X	X	X			
6	81-DPCRW-PE	12-Jul-11	—	FW	6	1-L amber	X	X	X	X	X	X			
7	81-ROLFA-PE	12-Jul-11	1230	FW	6	1-L amber	X	X	X	X	X	X			
8	81-MRDR-PE	12-Jul-11	1330	FW	6	1-L amber	X	X	X	X	X	X			
9	81-OCARR-PE	12-Jul-11	1430	FW	6	1-L amber	X	X	X	X	X	X			
10	81-OCAMW-PE	12-Jul-11	1530	FW	6	1-L amber	X	X	X	X	X	X			
11	81-DMCDP-PE	12-Jul-11	1630	FW	3	1-L amber	X	X	X	X	X	X			
12	81-SJRP-PE	12-Jul-11	1730	FW	3	1-L amber	X	X	X	X	X	X			
Correct Containers:		Yes	No			RELIQUISHED BY									
Sample Temperature:		Ambient	Cold			Signature: <i>[Signature]</i>									
Sample Preservative:		Yes	No			Print: <i>John Hawks</i>									
Turnaround Time:		STD	Specify:			Organization: DPWD									
Comments:		Analyze for: aldrin, chlorodane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene ** Carbamate analyses must be low level detection *Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916 MATRIX CODES: (SED = Sediment); (FW = Freshwater); (MW = Waste) Y (STRMW = Stormwater)													
Signature:		Signature: <i>[Signature]</i>										Signature:			
Print:		Print: <i>Tom Long</i>										Print:			
Organization:		Organization: APD										Organization:			
DATE: 7/12/11		DATE: 7/12/11										DATE:			
TIME: 0800		TIME: 1745										TIME:			
RECEIVED BY															



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 207-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		Requested Analysis	
Client Address:		2250 Cordelia Road Fairfield, CA 94534			
Sampled By:		[Signature]			
Phone:		(707) 207-7760			
FAX:		(707) 207-7916			
Project Manager:		Stephen Clark			
Project Name:		Westside San Joaquin River Watershed Coalition			
PO Number:		9426			

Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Number	Container Type	Pesticides: "Extended List" EPA 8061, EPA 8321, EPA 8141/819 (See Project Specific Analyses)**	"Pesticides: "Group A" EPA 8081	Herbicides (EPA 8321, EPA 619, EPA 8141)	** Carbamates: EPA 8321	Trifluralin: EPA 8141	Prowl (Pendimethalin), EPA 8141	OP Pesticides: EPA 8141A/819
1	12-Jul-11	11:20	FW	6	1-L amber	X	X	X	X	X	X	
2	12-Jul-11	11:20	FW	6	1-L amber	X	X	X	X	X	X	
3	12-Jul-11	8:20	FW	6	1-L amber	X	X	X	X	X	X	
4	12-Jul-11	8:50	FW	6	1-L amber	X	X	X	X	X	X	
5	12-Jul-11	9:30	FW	6	1-L amber	X	X	X	X	X	X	
6	12-Jul-11	10:15	FW	6	1-L amber	X	X	X	X	X	X	
7	12-Jul-11	10:50	FW	6	1-L amber	X	X	X	X	X	X	
8	12-Jul-11	11:20	FW	6	1-L amber	X	X	X	X	X	X	
9	12-Jul-11	12:40	FW	6	1-L amber	X	X	X	X	X	X	
10	12-Jul-11	13:30	FW	6	1-L amber	X	X	X	X	X	X	
11	12-Jul-11	14:10	FW	6	1-L amber	X	X	X	X	X	X	
12	12-Jul-11	14:45	FW	3	1-L amber	X	X	X	X	X	X	X
13	12-Jul-11	15:20	FW	5	multiple	X	X	X	X	X	X	

Correct Containers: Yes No
 Sample Temperature: Ambient Cold Warm
 Sample Preservative: Yes No
 Turnaround Time: STD Specify

Comments:
 81-SSALA-PB = Field Blank
 81-SSALA-PD = Field Duplicate
 81-SSALA-PM = MS/MSD

*Analyze for: aldrin, chlorodane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene
 ** Carbamate analyses must be low level detection

Signature: [Signature] Organization: CSTD
 DATE: 7/21/11 TIME: 16:00
 RECEIVED BY

Signature: [Signature] Organization: Apple
 DATE: 7/13/11 TIME: 0800

*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916
 MATRIX CODES: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRM = Stormwater)



Pacific EcoRisk
 ENVIRONMENTAL MONITORING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

August 9, 2011 Monitoring Event

Client Name:		Pacific EcoRisk		Requested Analysis:	
Client Address:		2250 Cordelia Road Fairfield, CA 94534		Pesticides: "Extended List" EPA 8061, EPA 8321, EPA 8141/619 (See Project specific analyses)**	
Sampled By:		[Signature]		*Pesticides: "Group A" EPA 8061	
Phone:		(707) 270-7760		Herbicides (EPA 8321, EPA 619, EPA 8141)	
FAX:		(707) 207-7916		** Carbamates: EPA 8321	
Project Manager:		Stephen Clark		Trifluralin: EPA 8141	
PO Number:		9426		Frowl (Fendimethalin), EPA 8141	
Client Sample ID		Sample Date	Sample Time	Sample Matrix*	Container Type
1	82-SSALA-PB	9-Aug-11	11:30	FW	1-L amber
2	82-SSALA-PD	9-Aug-11	11:30	FW	1-L amber
3	82-LBCCC-PE	9-Aug-11	8:30	FW	1-L amber
4	82-MWHFR-PE	9-Aug-11	8:30	FW	1-L amber
5	82-LBCHW-PE	9-Aug-11	8:30	FW	1-L amber
6	82-TSAER-PE	9-Aug-11	10:30	FW	1-L amber
7	82-SURLA-PE	9-Aug-11	11:30	FW	1-L amber
8	82-SSALA-PE	9-Aug-11	11:30	FW	1-L amber
9	82-MSUSL-PE	9-Aug-11	12:30	FW	1-L amber
10	82-SSASD-PE	9-Aug-11	14:30	FW	1-L amber
11	82-PSALA-PE	9-Aug-11	15:30	FW	1-L amber
12	82-SURS-PE	9-Aug-11	15:30	FW	1-L amber
13	82-SSALA-PM	9-Aug-11	15:30	FW	multiple
Correct Containers:		Yes		No	
Sample Temperature:		Ambient		Cold	
Sample Preservative:		Yes		No	
Turnaround Time:		STD		Specify:	
Comments:					
82-SSALA-PB = Field Blank					
82-SSALA-PD = Field Duplicate					
82-SSALA-PM = MS/MSD					
*Analyze for: aldrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene					
** Carbamate analyses must be low level detection					
*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916					
MATRIX CODES: (SED = Sediment); (FW = Freshwater); (WW = Wastewater); (STRM = Stormwater)					
Signature:		[Signature]		Signature:	
Print:		Drew Gardner		Print:	
Organization:		CSD		Organization:	
DATE:		8/9/11		DATE:	
TIME:		11:30		TIME:	
Signature:		[Signature]		Signature:	
Print:		Doubt Reception		Print:	
Organization:		EPM/ILF		Organization:	
DATE:		8-9-11		DATE:	
TIME:		16:30		TIME:	
Signature:		[Signature]		Signature:	
Print:		Tom Vong		Print:	
Organization:		Appl Inc		Organization:	
DATE:		8/10/11		DATE:	
TIME:		0800		TIME:	



Pacific EcoRisk
 ENVIRONMENTAL CONSULTING & TESTING
 2250 Cordelia Road, Fairfield, CA 94534
 (707) 270-7760 FAX (707) 207-7918

APPL CHAIN-OF-CUSTODY RECORD

Client Name: Pacific EcoRisk		Client Address: 2250 Cordelia Road Fairfield, CA 94534		Sampled By: <i>John Hansen</i>		Phone: (707) 270-7760		FAX: (707) 207-7918		Project Manager: Stephen Clark		Project Name: Westside San Joaquin River Watershed Coalition		PO Number: 9426		Client Sample ID: 9426		Requested Analysis:	
Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/819 (See Project specific analyses)** *Pesticides: "Group A" EPA 8081 Herbicides (EPA 8321, EPA 619, EPA 8141) ** Carbamates: EPA 8321 Trifluralin: EPA 8141 Prowl (Pendimethalin), EPA 8141 OP Pesticides: EPA 8141A/819																			
Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Number	Container Type														
1	9-Aug-11	0800	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
2	9-Aug-11	0845	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
3	9-Aug-11	0930	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
4	9-Aug-11	1030	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
5	9-Aug-11	1130	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
6	9-Aug-11	1830	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
7	9-Aug-11	1830	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
8	9-Aug-11	1845	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
9	9-Aug-11	1515	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
10	9-Aug-11	1600	FW	6	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
11	9-Aug-11	1600	FW	3	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
12	9-Aug-11	1630	FW	3	1-L amber	X	X	X	X	X	X	X	X	X	X	X	X		
Correct Containers: Yes No Sample Temperature: Ambient Cold Warm Sample Preservative: Yes No Turnaround Time: STD Specify:																			
Signature: <i>[Signature]</i> Organization: <i>APPL</i> DATE: <i>8/9/11</i> TIME: <i>1700</i> Signature: <i>[Signature]</i> Organization: <i>APPL</i> DATE: <i>8/10/11</i> TIME: <i>1800</i> Signature: <i>[Signature]</i> Organization: <i>APPL</i> DATE: <i>8/10/11</i> TIME: <i>1800</i>																			

Comments: Analyze for: aldrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene
 ** Carbamate analyses must be low level detection
 *Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916
 MATRIX CODES: (SED = Sediment), (FW = Freshwater), (WW = Wastewater), (STRM = Stormwater)



APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		Requested Analysis:			
Client Address:		2250 Cordelia Road Fairfield, CA 94534		Pesticides: "Extended List" EPA 8081, EPA 8521, EPA 8141/619 (See Project specific analysis)**			
Sampled By:		[Signature]		*Pesticides: "Group A" EPA 8081			
Phone:		(707) 270-7760		Herbicides (EPA 8321, EPA 615, EPA 8141)			
FAX:		(707) 207-7916		** Carbamates: EPA 8321			
Project Manager:		Stephen Clark		Trifluralin: EPA 8141			
Project Name:		Westside San Joaquin River Watershed Coalition		Prowl (Pendimethalin), EPA 8141			
PO Number:		9426		OP Pesticides: EPA 8141A/619			
Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Number	Container Type	RECEIVED BY	
83-SSALA-PB	13-Sep-11	11:30	FW	6	1-L amber	[Signature]	[Signature]
83-SSALA-PD	13-Sep-11	11:30	FW	6	1-L amber	[Signature]	[Signature]
83-LBCCC-PE	13-Sep-11	8:30	FW	6	1-L amber	[Signature]	[Signature]
83-NWHFR-PE	13-Sep-11	9:50	FW	6	1-L amber	[Signature]	[Signature]
83-LBCHW-PE	13-Sep-11	10:50	FW	6	1-L amber	[Signature]	[Signature]
83-TSAER-PE	13-Sep-11	10:20	FW	6	1-L amber	[Signature]	[Signature]
83-SJRLA-PE	13-Sep-11	11:00	FW	6	1-L amber	[Signature]	[Signature]
83-SSALA-PE	13-Sep-11	11:30	FW	6	1-L amber	[Signature]	[Signature]
83-MSUSL-PE	13-Sep-11	11:40	FW	6	1-L amber	[Signature]	[Signature]
83-SSASD-PE	13-Sep-11	11:50	FW	6	1-L amber	[Signature]	[Signature]
83-SSAIA-PE	13-Sep-11	12:30	FW	6	1-L amber	[Signature]	[Signature]
83-SJRSO-PE	13-Sep-11	13:50	FW	3	1-L amber	[Signature]	[Signature]
83-SSALA-PM	13-Sep-11	14:30	FW	5	multiple	[Signature]	[Signature]
Correct Containers:		Yes		No		RELIQUISHED BY	
Sample Temperature:		Ambient		Cold		[Signature]	
Sample Preservative:		Yes		No		[Signature]	
Turnaround Time:		STD		Specify:		[Signature]	
Comments:							
83-SSALA-PB = Field Blank							
83-SSALA-PD = Field Duplicate							
83-SSALA-PM = MISMISD							
*Analyze for: aldrin, chlorodane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene							
** Carbamate analyses must be low level detection							
*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916							
MATRIX CODES: (SED = Sediment); (FW = Freshwater); (MW = Wastewater); (STRAW = Stormwater)							
Signature:		[Signature]		Signature:		[Signature]	
Print:		Tom Long		Print:		[Print]	
Organization:		APPL		Organization:		[Organization]	
DATE:		9/14/11		DATE:		[DATE]	
TIME:		0800		TIME:		[TIME]	

September 13, 2011 Monitoring Event



Pacific EcoRisk

ENVIRONMENTAL CONSULTING & TESTING
2250 Cordelia Road, Fairfield, CA 94534
(707) 207-7700 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		REQUESTED ANALYSIS	
Client Address:		2250 Cordelia Road Fairfield, CA 94534			
Sampled By:		[Signature] H. Clark			
Phone:		(707) 207-7760			
FAX:		(707) 207-7916			
Project Manager:		Stephen Clark			
Project Name:		Westside San Joaquin River Watershed Coalition			
PO Number:		9426			

Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Number	Container Type	Pesticides: "Extended List" EPA 8081, EPA 8321, EPA 8141/619 (See Project Specific Analyses)**	"Pesticides: "Group A" EPA 8081	Herbicides (EPA 8321, EPA 619, EPA 8141)	** Carbamates: EPA 8321	Trifluralin: EPA 8141	Prowl (Pendimethalin), EPA 8141	OP Pesticides: EPA 8141A/619
1	83-VH132-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
2	83-HCARR-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
3	83-HCARR-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
4	83-WMNCR-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
5	83-DPCCR-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
6	83-DPCHW-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
7	83-ROLFA-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
8	83-MRDRR-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
9	83-OCARR-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
10	83-OCANM-PE	13-Sep-11	FW	6	1-L amber	X	X	X	X	X	X	X
11	83-DMCDP-PE	13-Sep-11	FW	3	1-L amber	X	X	X	X	X	X	X
12	83-SRPP-PE	13-Sep-11	FW	3	1-L amber	X	X	X	X	X	X	X

Signature:	[Signature]	Signature:	[Signature]
Print:	Stephen Clark	Print:	[Print Name]
Organization:	Pacific EcoRisk	Organization:	[Print Name]
DATE:	9/13/11	DATE:	9/13/11
TIME:	7:07A	TIME:	

Signature:	[Signature]	Signature:	[Signature]
Print:	Tom Yong	Print:	[Print Name]
Organization:	APPL	Organization:	[Print Name]
DATE:	9/14/11	DATE:	9/14/11
TIME:	0800	TIME:	

RECEIVED BY

Signature: [Signature]

Print: [Print Name]

Organization: [Print Name]

DATE: [DATE]

TIME: [TIME]

*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916

** Carbamate analyses must be low level detection

Analyze for: aldrin, chlordane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene

*RQX CODES: (SED = Sediment); (FW = Freshwater); (MW = Wastewater); (ST = Stormwater)



Pacific EcoRisk

5800 HERKULES CIRCLE & 133RD
2250 Cordelia Road, Fairfield, CA 94534
(707) 270-7760 FAX (707) 207-7916

APPL CHAIN-OF-CUSTODY RECORD

Client Name:		Pacific EcoRisk		Requested Analysis	
Client Address:		2250 Cordelia Road Fairfield, CA 94534			
Sampled By:		[Signature]			
Phone:		(707) 270-7760			
FAX:		(707) 207-7916			
Project Manager:		Stephen Clark			
Project Name:		Westside San Joaquin River Watershed Coalition			
PO Number:		9426			
Client Sample ID	Sample Date	Sample Time	Sample Matrix*	Container Type	Requested Analysis
1 83-SSALA-PB	13-Sep-11	11:30	FW	1-L amber	Pesticides: "Extended List" EPA 6081, EPA 6321, EPA 6141A/619 (See Project specific analyses)**
2 83-SSALA-PD	13-Sep-11	11:30	FW	1-L amber	"Pesticides: "Group A" EPA 6081
3 83-LBOCC-PE	13-Sep-11	11:30	FW	1-L amber	Herbicides (EPA 6321, EPA 619, EPA 8141)
4 83-NMHR-PE	13-Sep-11	11:30	FW	1-L amber	** Carbamates: EPA 6321
5 83-LBOHW-PE	13-Sep-11	11:30	FW	1-L amber	Trifluralin: EPA 6141
6 83-TSAR-PE	13-Sep-11	11:30	FW	1-L amber	Prowl (Pendimethalin), EPA 6141
7 83-SFRLA-PE	13-Sep-11	11:30	FW	1-L amber	OP Pesticides: EPA 6141A/619
8 83-SSALA-PE	13-Sep-11	11:30	FW	1-L amber	
9 83-MSUSL-PE	13-Sep-11	11:30	FW	1-L amber	
10 83-SSASD-PE	13-Sep-11	11:30	FW	1-L amber	
11 83-PSALA-PE	13-Sep-11	11:30	FW	1-L amber	
12 83-SRSD-PE	13-Sep-11	11:30	FW	1-L amber	
13 83-SSALA-PM	13-Sep-11	11:30	FW	multiple	
Correct Containers:					RELIQUISHED BY
Sample Temperature: Ambient					Signature: [Signature]
Sample Preservative: Yes					Print: [Print]
Turnaround Time: STD					Organization: [Organization]
Comments:					DATE: [DATE] TIME: [TIME]
83-SSALA-PB = Field Blank					RECEIVED BY
83-SSALA-PD = Field Duplicate					Signature: [Signature]
83-SSALA-PM = MIMSMSD					Print: [Print]
*Analyze for atrin, chlorodane, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene					Organization: [Organization]
** Carbamate analyses must be low level detection					DATE: [DATE] TIME: [TIME]
*Upon receipt of samples, please fax a copy of the signed and received COC to Stephen Clark at (707) 207-7916					DATE: [DATE] TIME: [TIME]
MATRIX CODES: (SED = Sediment), (FW = Freshwater), (MW = Wastewater), (STIMW = Stormwater)					DATE: [DATE] TIME: [TIME]

APPENDIX II
MONITORING RESULTS

TABLE OF CONTENTS

Acronyms	1
Table II-1. San Joaquin River chlorpyrifos and diazinon TMDL monitoring field parameter results.	2
Table II-2. San Joaquin River chlorpyrifos and diazinon TMDL monitoring environmental sample chemistry analysis results.	5

ACRONYMS

AMR	Annual Monitoring Report
CDEC	California Data Exchange Center
cfs	cubic feet per second
DF	Dilution Factor
DO	Dissolved Oxygen
DNQ	Detected but Not Quantifiable
E	Environmental Sample
EPA	Environmental Protection Agency
ESJWQC	East San Joaquin Water Quality Coalition
MDL	Minimum Detection Limit
NA	Not Applicable
ND	Not Detected
pH	Power of Hydrogen
PR	Percent Recovery
RL	Reporting Limit
SC	Specific Conductance
TMDL	Total Maximum Daily Load
Westside	Westside San Joaquin River Watershed Coalition

Table II-1. San Joaquin River chlorpyrifos and diazinon TMDL monitoring field parameter results.

Results include recorded discharge and measured dissolved oxygen (DO), pH, specific conductivity (SC), and temperature and are sorted by station name and sample date.

RESPONSIBLE COALITION	STATION NAME	SAMPLE DATE	SAMPLE TIME	DISCHARGE, CFS	OXYGEN, DISSOLVED, MG/L	PH, NONE	SPECIFIC CONDUCTIVITY, μ S/CM	TEMPERATURE, $^{\circ}$ C	FIELD RESULT COMMENTS
ESJWQC	SJR @ Airport Way	10/21/10	10:40	2520	8.97	8	409	16.62	
ESJWQC	SJR @ Airport Way	2/18/11	12:30	7990	10.2	7.86	248	9.85	
ESJWQC	SJR @ Airport Way	5/10/11	8:00	15100	7.69	7.17	159	15.55	
ESJWQC	SJR @ Airport Way	7/12/11	8:00	10200	8.13	7.29	116	19.54	
ESJWQC	SJR @ Hills Ferry	10/21/10	9:10	647	7.69	7.92	203	17.63	
ESJWQC	SJR @ Hills Ferry	2/18/11	10:30	4180	10.24	8.36	47	9.22	
ESJWQC	SJR @ Hills Ferry	5/10/11	14:30	7120	9.25	6.94	88	14.74	
ESJWQC	SJR @ Hills Ferry	7/12/11	10:00	6380	8.08	7.67	61	19.07	
Westside	SJR @ Lander Ave	10/12/2010	11:00	295	10.48	7.63	186.00	24.70	
Westside	SJR @ Lander Ave	11/9/2010	11:05	380	9.87	7.80	791.00	15.01	
Westside	SJR @ Lander Ave	12/14/2010	10:30	314	8.31	7.50	907.00	13.44	Water level low in channel. Trash in water.
Westside	SJR @ Lander Ave	12/21/2010	11:15	1,880	8.61	7.70	182.00	10.53	Water level elevated well past dec sample.
Westside	SJR @ Lander Ave	1/11/2011	11:00	2,880	10.32	7.88	97.00	6.93	River above banks in some spots.
Westside	SJR @ Lander Ave	2/8/2011	10:20	2,075	13.75	8.37	800.00	11.37	Water still up.
Westside	SJR @ Lander Ave	2/23/2011	12:00	2,410	10.79	7.82	261.00	11.57	High water level. Lots of trash above water.
Westside	SJR @ Lander Ave	3/8/2011	11:15	1,810	9.54	7.70	532.00	14.90	
Westside	SJR @ Lander Ave	4/12/2011	11:50	NA	8.91	7.88	86.00	14.21	Water in flood plan, sampled above normal spot. Flow not available from CDEC.
Westside	SJR @ Lander Ave	5/10/2011	11:35	3,000	7.30	7.23	90.00	15.60	High river conditions. Flow from CDEC.
Westside	SJR @ Lander Ave	6/14/2011	11:10	1,400	7.80	7.51	89.00	23.28	
Westside	SJR @ Lander Ave	7/12/2011	10:50	NA	7.90	7.65	41.00	21.48	Water is up to the bridge. Flow data not available from CDEC.

RESPONSIBLE COALITION	STATION NAME	SAMPLE DATE	SAMPLE TIME	DISCHARGE, CFS	OXYGEN, DISSOLVED, MG/L	PH, NONE	SPECIFIC CONDUCTIVITY, μ S/CM	TEMPERATURE, $^{\circ}$ C	FIELD RESULT COMMENTS
Westside	SJR @ Lander Ave	8/9/2011	11:00	410	9.56	8.45	403.00	25.48	a lot of sediment built up on side of bank. Water level down. Flow from CDEC.
Westside	SJR @ Lander Ave	9/12/2011	10:45	310	8.39	7.80	561.00	24.26	Trash and oily sheen on the edge
Westside	SJR @ Lander Ave	9/13/2011	11:00	315	8.21	7.75	537.00	24.34	Garbage around sampling site. Oily sheen at water edge.
Westside	SJR @ Las Palmas	10/12/2010	13:00	867	8.26	7.05	752.00	23.23	
Westside	SJR @ Las Palmas	11/9/2010	13:00	821	9.60	7.32	824.00	17.00	
Westside	SJR @ Las Palmas	12/14/2010	10:00	708	7.48	7.37	1004.00	16.71	
Westside	SJR @ Las Palmas	12/20/2010	11:30	1,779	8.77	7.45	413.00	14.72	
Westside	SJR @ Las Palmas	1/11/2011	11:00	9,881	8.53	7.49	192.00	11.38	Flow extremely high due to reservoir releases.
Westside	SJR @ Las Palmas	2/8/2011	14:20	4,028	8.39	6.97	277.00	15.10	
ESJWQC	SJR @ Las Palmas	2/18/11	11:20	3861	10.01	7.65	405	10.05	
Westside	SJR @ Las Palmas	3/8/2011	15:30	4,747	9.27	6.74	360.00	12.25	
Westside	SJR @ Las Palmas	4/12/2011	13:30	16,875	7.09	6.99	158.00	11.63	
Westside	SJR @ Las Palmas	5/10/2011	12:30	6,875	6.99	7.18	159.00	17.63	
Westside	SJR @ Las Palmas	6/14/2011	12:30	3,582	7.10	6.92	415.00	23.00	
Westside	SJR @ Las Palmas	7/12/2011	17:30	6,082	8.31	6.56	131.00	16.00	
Westside	SJR @ Las Palmas	8/9/2011	16:30	1,002	5.78	6.88	988.00	23.50	
Westside	SJR @ Las Palmas	9/13/2011	16:45	789	5.74	7.14	912.00	17.85	
ESJWQC	SJR @ Maze	10/21/10	10:10	1579	7.96	7.85	680	17.95	
ESJWQC	SJR @ Maze	2/18/11	12:00	7206	10.07	7.89	268	9.76	
ESJWQC	SJR @ Maze	5/10/11	9:00	12427	8.92	7.68	167	15.4	
ESJWQC	SJR @ Maze	7/12/11	8:20	8763	7.5	7.38	132	20.74	
Westside	SJR @ Sack Dam	10/12/2010	4:30	0	11.68	8.13	550.00	22.80	dam blocked - no spill
Westside	SJR @ Sack Dam	11/9/2010	14:30	115	10.22	8.10	384.00	15.20	

RESPONSIBLE COALITION	STATION NAME	SAMPLE DATE	SAMPLE TIME	DISCHARGE, CFS	OXYGEN, DISSOLVED, MG/L	PH, NONE	SPECIFIC CONDUCTIVITY, μS/CM	TEMPERATURE, °C	FIELD RESULT COMMENTS
Westside	SJR @ Sack Dam	12/14/2010	13:50	0	12.49	8.11	623.00	15.34	No water flowing over dam. Flow level low - mud/sand bars showing.
Westside	SJR @ Sack Dam	12/21/2010	15:30	8	10.81	8.15	463.00	11.31	Flow blocked at sack dam. Below staff gauge
Westside	SJR @ Sack Dam	1/11/2011	14:00	1,760	11.65	7.85	113.00	7.33	
Westside	SJR @ Sack Dam	2/8/2011	14:00	10	12.90	8.06	318.00	11.25	
Westside	SJR @ Sack Dam	2/23/2011	15:25	50	11.60	7.86	327.00	12.80	
Westside	SJR @ Sack Dam	3/8/2011	15:30	20	9.80	7.78	327.00	14.31	
Westside	SJR @ Sack Dam	4/12/2011	15:00	NA	11.26	8.06	174.00	14.71	Water very high over the structure. Flow not available.
Westside	SJR @ Sack Dam	5/10/2011	15:00	800	7.90	7.20	91.00	18.70	
Westside	SJR @ Sack Dam	6/14/2011	15:00	485	8.86	7.92	65.00	23.15	
Westside	SJR @ Sack Dam	7/12/2011	14:45	2,100	7.94	7.61	36.00	22.03	
Westside	SJR @ Sack Dam	8/9/2011	15:30	9	8.94	8.20	276.00	26.94	
Westside	SJR @ Sack Dam	9/13/2011	15:00	0	10.92	8.87	215.00	25.65	

Table II-2. San Joaquin River chlorpyrifos and diazinon TMDL monitoring environmental sample chemistry analysis results.

Samples are sorted by station name, sample date, and analyte.

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
ESJWQC	SJR @ Airport Way	E	10/21/10	10:40	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Airport Way	E	10/21/10	10:40	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Airport Way	E	10/21/10	10:40	EPA 8141A	Tributylphosphate (Surrogate)	66.6	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Airport Way	E	10/21/10	10:40	EPA 8141A	Triphenyl phosphate (Surrogate)	87.1	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Airport Way	E	2/18/11	12:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Airport Way	E	2/18/11	12:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Airport Way	E	2/18/11	12:30	EPA 8141A	Tributylphosphate (Surrogate)	67	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Airport Way	E	2/18/11	12:30	EPA 8141A	Triphenyl phosphate (Surrogate)	66.3	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Airport Way	E	5/10/11	8:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Airport Way	E	5/10/11	8:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Airport Way	E	5/10/11	8:00	EPA 8141A	Tributylphosphate (Surrogate)	72.7	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Airport Way	E	5/10/11	8:00	EPA 8141A	Triphenyl phosphate (Surrogate)	73.6	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Airport Way	E	7/12/11	8:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		Batch ran overnight.
ESJWQC	SJR @ Airport Way	E	7/12/11	8:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		Batch ran overnight.
ESJWQC	SJR @ Airport Way	E	7/12/11	8:00	EPA 8141A	Tributylphosphate (Surrogate)	77.1	%	=	NA	NA	100	None	PR 60-150	Batch ran overnight.
ESJWQC	SJR @ Airport Way	E	7/12/11	8:00	EPA 8141A	Triphenyl phosphate (Surrogate)	97.1	%	=	NA	NA	100	None	PR 56-129	Batch ran overnight.
ESJWQC	SJR @ Hills Ferry	E	10/21/10	9:10	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Hills Ferry	E	10/21/10	9:10	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Hills Ferry	E	10/21/10	9:10	EPA 8141A	Tributylphosphate (Surrogate)	69	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Hills Ferry	E	10/21/10	9:10	EPA 8141A	Triphenyl phosphate (Surrogate)	56.8	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Hills Ferry	E	2/18/11	10:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
ESJWQC	SJR @ Hills Ferry	E	2/18/11	10:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Hills Ferry	E	2/18/11	10:30	EPA 8141A	Tributylphosphate (Surrogate)	140	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Hills Ferry	E	2/18/11	10:30	EPA 8141A	Triphenyl phosphate (Surrogate)	56	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Hills Ferry	E	5/10/11	14:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Hills Ferry	E	5/10/11	14:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Hills Ferry	E	5/10/11	14:30	EPA 8141A	Tributylphosphate (Surrogate)	64.1	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Hills Ferry	E	5/10/11	14:30	EPA 8141A	Triphenyl phosphate (Surrogate)	63.7	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Hills Ferry	E	7/12/11	10:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		Batch ran overnight.
ESJWQC	SJR @ Hills Ferry	E	7/12/11	10:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		Batch ran overnight.
ESJWQC	SJR @ Hills Ferry	E	7/12/11	10:00	EPA 8141A	Tributylphosphate (Surrogate)	86.6	%	=	NA	NA	100	None	PR 60-150	Batch ran overnight.
ESJWQC	SJR @ Hills Ferry	E	7/12/11	10:00	EPA 8141A	Triphenyl phosphate (Surrogate)	98.3	%	=	NA	NA	100	None	PR 56-129	Batch ran overnight.
Westside	SJR @ Lander Ave	E	10/12/10	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	10/12/10	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	10/12/10	11:00	EPA 8141A	Tributylphosphate (Surrogate)	90.8	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	10/12/10	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	90.8	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	11/9/10	11:05	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	11/9/10	11:05	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	11/9/10	11:05	EPA 8141A	Tributylphosphate (Surrogate)	91.5	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	11/9/10	11:05	EPA 8141A	Triphenyl phosphate (Surrogate)	78.8	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	12/14/10	10:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	12/14/10	10:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	12/14/10	10:30	EPA 8141A	Tributylphosphate (Surrogate)	97.7	%			NA	100	None	PR 60-150	

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	SJR @ Lander Ave	E	12/14/10	10:30	EPA 8141A	Triphenyl phosphate (Surrogate)	89.9	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	12/21/10	11:15	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	12/21/10	11:15	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	12/21/10	11:15	EPA 8141A	Tributylphosphate (Surrogate)	95.8	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	12/21/10	11:15	EPA 8141A	Triphenyl phosphate (Surrogate)	90.8	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	1/11/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	1/11/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	1/11/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	116	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	1/11/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	119	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	2/8/11	10:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	2/8/11	10:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	2/8/11	10:30	EPA 8141A	Tributylphosphate (Surrogate)	93.6	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	2/8/11	10:30	EPA 8141A	Triphenyl phosphate (Surrogate)	86.6	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	2/23/11	12:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	2/23/11	12:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	2/23/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	84.4	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	2/23/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	81.8	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	3/8/11	11:15	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	3/8/11	11:15	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	3/8/11	11:15	EPA 8141A	Tributylphosphate (Surrogate)	104	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	3/8/11	11:15	EPA 8141A	Triphenyl phosphate (Surrogate)	101	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	4/12/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	4/12/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		

Appendix II. Monitoring Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	SJR @ Lander Ave	E	4/12/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	84.2	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	4/12/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	85.8	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	5/10/11	11:35	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	5/10/11	11:35	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	5/10/11	11:35	EPA 8141A	Tributylphosphate (Surrogate)	92.9	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	5/10/11	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	87.9	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	6/14/11	11:10	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	6/14/11	11:10	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	6/14/11	11:10	EPA 8141A	Tributylphosphate (Surrogate)	80.2	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	6/14/11	11:10	EPA 8141A	Triphenyl phosphate (Surrogate)	83.2	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	7/12/11	10:50	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	7/12/11	10:50	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	7/12/11	10:50	EPA 8141A	Tributylphosphate (Surrogate)	75.4	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	7/12/11	10:50	EPA 8141A	Triphenyl phosphate (Surrogate)	83.0	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	8/9/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	8/9/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	8/9/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	95.6	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	8/9/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	86.3	%			NA	100	None	PR 56-129	
Westside	SJR @ Lander Ave	E	9/13/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Lander Ave	E	9/13/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Lander Ave	E	9/13/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	121	%			NA	100	None	PR 60-150	
Westside	SJR @ Lander Ave	E	9/13/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	85.7	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	10/12/10	13:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	SJR @ Las Palmas	E	10/12/10	13:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	10/12/10	13:00	EPA 8141A	Tributylphosphate (Surrogate)	71.5	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	10/12/10	13:00	EPA 8141A	Triphenyl phosphate (Surrogate)	73.7	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	11/9/10	13:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	11/9/10	13:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	11/9/10	13:00	EPA 8141A	Tributylphosphate (Surrogate)	84.6	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	11/9/10	13:00	EPA 8141A	Triphenyl phosphate (Surrogate)	73.3	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	12/14/10	10:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	12/14/10	10:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	12/14/10	10:00	EPA 8141A	Tributylphosphate (Surrogate)	94.9	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	12/14/10	10:00	EPA 8141A	Triphenyl phosphate (Surrogate)	92.2	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	12/20/10	11:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	12/20/10	11:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	12/20/10	11:30	EPA 8141A	Tributylphosphate (Surrogate)	79.0	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	12/20/10	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	65.4	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	1/11/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	1/11/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	1/11/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	87.4	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	1/11/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	96.8	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	2/8/11	14:20	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	2/8/11	14:20	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	2/8/11	14:20	EPA 8141A	Tributylphosphate (Surrogate)	83.0	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	2/8/11	14:20	EPA 8141A	Triphenyl phosphate (Surrogate)	79.9	%			NA	100	None	PR 56-129	

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
ESJWQC	SJR @ Las Palmas	E	2/18/11	11:20	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Las Palmas	E	2/18/11	11:20	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Las Palmas	E	2/18/11	11:20	EPA 8141A	Tributylphosphate (Surrogate)	64.5	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Las Palmas	E	2/18/11	11:20	EPA 8141A	Triphenyl phosphate (Surrogate)	63.3	%	=	NA	NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	3/8/11	15:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	3/8/11	15:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	3/8/11	15:30	EPA 8141A	Tributylphosphate (Surrogate)	90.8	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	3/8/11	15:30	EPA 8141A	Triphenyl phosphate (Surrogate)	87.3	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	4/12/11	13:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	4/12/11	13:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	4/12/11	13:30	EPA 8141A	Tributylphosphate (Surrogate)	101	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	4/12/11	13:30	EPA 8141A	Triphenyl phosphate (Surrogate)	104	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	5/10/11	12:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	5/10/11	12:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	5/10/11	12:30	EPA 8141A	Tributylphosphate (Surrogate)	101	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	5/10/11	12:30	EPA 8141A	Triphenyl phosphate (Surrogate)	90.2	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	6/14/11	12:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	6/14/11	12:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	6/14/11	12:30	EPA 8141A	Tributylphosphate (Surrogate)	122	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	6/14/11	12:30	EPA 8141A	Triphenyl phosphate (Surrogate)	114	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	7/12/11	17:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	7/12/11	17:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	7/12/11	17:30	EPA 8141A	Tributylphosphate (Surrogate)	77.1	%			NA	100	None	PR 60-150	

Appendix II. Monitoring Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	SJR @ Las Palmas	E	7/12/11	17:30	EPA 8141A	Triphenyl phosphate (Surrogate)	84.9	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	8/9/11	16:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	8/9/11	16:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	8/9/11	16:30	EPA 8141A	Tributylphosphate (Surrogate)	91.6	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	8/9/11	16:30	EPA 8141A	Triphenyl phosphate (Surrogate)	92.2	%			NA	100	None	PR 56-129	
Westside	SJR @ Las Palmas	E	9/13/11	16:45	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Las Palmas	E	9/13/11	16:45	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Las Palmas	E	9/13/11	16:45	EPA 8141A	Tributylphosphate (Surrogate)	75.7	%			NA	100	None	PR 60-150	
Westside	SJR @ Las Palmas	E	9/13/11	16:45	EPA 8141A	Triphenyl phosphate (Surrogate)	84.9	%			NA	100	None	PR 56-129	
ESJWQC	SJR @ Maze	E	10/21/10	10:10	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Maze	E	10/21/10	10:10	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Maze	E	10/21/10	10:10	EPA 8141A	Tributylphosphate (Surrogate)	76	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Maze	E	10/21/10	10:10	EPA 8141A	Triphenyl phosphate (Surrogate)	61.3	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Maze	E	2/18/11	12:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Maze	E	2/18/11	12:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Maze	E	2/18/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	60.8	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Maze	E	2/18/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	60.1	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Maze	E	5/10/11	9:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
ESJWQC	SJR @ Maze	E	5/10/11	9:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
ESJWQC	SJR @ Maze	E	5/10/11	9:00	EPA 8141A	Tributylphosphate (Surrogate)	79.9	%	=	NA	NA	100	None	PR 60-150	
ESJWQC	SJR @ Maze	E	5/10/11	9:00	EPA 8141A	Triphenyl phosphate (Surrogate)	79.1	%	=	NA	NA	100	None	PR 56-129	
ESJWQC	SJR @ Maze	E	7/12/11	8:20	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		Batch ran overnight.
ESJWQC	SJR @ Maze	E	7/12/11	8:20	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		Batch ran overnight.

Appendix II. Monitoring Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
ESJWQC	SJR @ Maze	E	7/12/11	8:20	EPA 8141A	Tributylphosphate (Surrogate)	65.8	%	=	NA	NA	100	None	PR 60-150	Batch ran overnight.
ESJWQC	SJR @ Maze	E	7/12/11	8:20	EPA 8141A	Triphenyl phosphate (Surrogate)	77.5	%	=	NA	NA	100	None	PR 56-129	Batch ran overnight.
Westside	SJR @ Sack Dam	E	10/12/10	14:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	10/12/10	14:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	10/12/10	14:30	EPA 8141A	Tributylphosphate (Surrogate)	77.0	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	10/12/10	14:30	EPA 8141A	Triphenyl phosphate (Surrogate)	76.7	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	11/9/10	14:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	11/9/10	14:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	11/9/10	14:30	EPA 8141A	Tributylphosphate (Surrogate)	92.0	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	11/9/10	14:30	EPA 8141A	Triphenyl phosphate (Surrogate)	80.1	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	12/14/10	13:50	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	12/14/10	13:50	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	12/14/10	13:50	EPA 8141A	Tributylphosphate (Surrogate)	95.2	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	12/14/10	13:50	EPA 8141A	Triphenyl phosphate (Surrogate)	90.0	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	12/21/10	15:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	12/21/10	15:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	12/21/10	15:30	EPA 8141A	Tributylphosphate (Surrogate)	80.5	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	12/21/10	15:30	EPA 8141A	Triphenyl phosphate (Surrogate)	75.8	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	1/11/11	14:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	1/11/11	14:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	1/11/11	14:00	EPA 8141A	Tributylphosphate (Surrogate)	87.6	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	1/11/11	14:00	EPA 8141A	Triphenyl phosphate (Surrogate)	99.3	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	2/8/11	14:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	SJR @ Sack Dam	E	2/8/11	14:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	2/8/11	14:00	EPA 8141A	Tributylphosphate (Surrogate)	86.0	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	2/8/11	14:00	EPA 8141A	Triphenyl phosphate (Surrogate)	85.9	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	2/23/11	15:25	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	2/23/11	15:25	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	2/23/11	15:25	EPA 8141A	Tributylphosphate (Surrogate)	82.1	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	2/23/11	15:25	EPA 8141A	Triphenyl phosphate (Surrogate)	84.2	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	3/8/11	15:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	3/8/11	15:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	3/8/11	15:30	EPA 8141A	Tributylphosphate (Surrogate)	102	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	3/8/11	15:30	EPA 8141A	Triphenyl phosphate (Surrogate)	102	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	4/12/11	15:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	4/12/11	15:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	4/12/11	15:00	EPA 8141A	Tributylphosphate (Surrogate)	81.4	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	4/12/11	15:00	EPA 8141A	Triphenyl phosphate (Surrogate)	85.7	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	5/10/11	15:35	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	5/10/11	15:35	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	5/10/11	15:35	EPA 8141A	Tributylphosphate (Surrogate)	93.8	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	5/10/11	15:35	EPA 8141A	Triphenyl phosphate (Surrogate)	90.9	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	6/14/11	15:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	6/14/11	15:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	6/14/11	15:00	EPA 8141A	Tributylphosphate (Surrogate)	130	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	6/14/11	15:00	EPA 8141A	Triphenyl phosphate (Surrogate)	129	%			NA	100	None	PR 56-129	

Appendix II. Monitoring Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	SJR @ Sack Dam	E	7/12/11	14:45	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	7/12/11	14:45	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	7/12/11	14:45	EPA 8141A	Tributylphosphate (Surrogate)	84.6	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	7/12/11	14:45	EPA 8141A	Triphenyl phosphate (Surrogate)	90.9	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	8/9/11	15:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	8/9/11	15:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	8/9/11	15:30	EPA 8141A	Tributylphosphate (Surrogate)	95.6	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	8/9/11	15:30	EPA 8141A	Triphenyl phosphate (Surrogate)	99.4	%			NA	100	None	PR 56-129	
Westside	SJR @ Sack Dam	E	9/13/11	15:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		None		
Westside	SJR @ Sack Dam	E	9/13/11	15:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		None		
Westside	SJR @ Sack Dam	E	9/13/11	15:00	EPA 8141A	Tributylphosphate (Surrogate)	77.9	%			NA	100	None	PR 60-150	
Westside	SJR @ Sack Dam	E	9/13/11	15:00	EPA 8141A	Triphenyl phosphate (Surrogate)	89.9	%			NA	100	None	PR 56-129	

APPENDIX III
LAB AND FIELD QC RESULTS

TABLE OF CONTENTS

Acronyms	1
Table III-1. San Joaquin River chlorpyrifos and diazinon TMDL field quality assurance (QA) chemistry analysis results.	2
Table III-2. San Joaquin River chlorpyrifos and diazinon TMDL laboratory quality assurance (LABQA) chemistry analysis results.	9

ACRONYMS

AMR	Annual Monitoring Report
EPA	Environmental Protection Agency
ESJWQC	East San Joaquin Water Quality Coalition
FB	Field Blank
FD	Field Duplicate
LABQA	Laboratory Quality Assurance
LCS	Laboratory Control Spike
MDL	Minimum Detection Limit
MS	Matrix Spike
NA	Not Applicable
ND	Not Detected
QA	Quality Assurance
QC	Quality Control
pH	Power of Hydrogen
PR	Percent Recovery
RL	Reporting Limit
RPD	Relative Percent Difference
TMDL	Total Maximum Daily Load
Westside	Westside San Joaquin River Watershed Coalition

Table III-1. San Joaquin River chlorpyrifos and diazinon TMDL field quality assurance (QA) chemistry analysis results.

Expected values for field duplicates (FD) are the associated environmental sample result. Samples are sorted by station name, sample type code, sample, date and analyte.

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	Salt Slough @ Lander Ave	FB	1	10/12/10	11:40	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	10/12/10	11:40	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	10/12/10	11:40	EPA 8141A	Tributylphosphate (Surrogate)	84.1	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	10/12/10	11:40	EPA 8141A	Triphenyl phosphate (Surrogate)	85.0	%		NA	NA	100		None		
ESJWQC	SJR @ Airport Way	FB	1	10/21/10	10:40	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
ESJWQC	SJR @ Airport Way	FB	1	10/21/10	10:40	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
ESJWQC	SJR @ Airport Way	FB	1	10/21/10	10:40	EPA 8141A	Tributylphosphate (Surrogate)	69.2	%	=	NA	NA	100		None		
ESJWQC	SJR @ Airport Way	FB	1	10/21/10	10:40	EPA 8141A	Triphenyl phosphate (Surrogate)	85.1	%	=	NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	11/09/10	11:35	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	11/09/10	11:35	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	11/09/10	11:35	EPA 8141A	Tributylphosphate (Surrogate)	84.4	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	11/09/10	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	73.7	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	12/14/10	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	12/14/10	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	12/14/10	11:00	EPA 8141A	Tributylphosphate (Surrogate)	85.2	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	12/14/10	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	83.8	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	12/21/10	12:15	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	12/21/10	12:15	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	12/21/10	12:15	EPA 8141A	Tributylphosphate (Surrogate)	95.1	%		NA	NA	100		None		

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	Salt Slough @ Lander Ave	FB	1	12/21/10	12:15	EPA 8141A	Triphenyl phosphate (Surrogate)	89.1	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	01/11/11	11:35	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	01/11/11	11:35	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	01/11/11	11:35	EPA 8141A	Tributylphosphate (Surrogate)	214	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	01/11/11	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	115	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	02/08/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	02/08/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	02/08/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	79.8	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	02/08/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	79.3	%		NA	NA	100		None		
ESJWQC	Duck Slough @ Gurr Rd	FB	1	02/17/11	10:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
ESJWQC	Duck Slough @ Gurr Rd	FB	1	02/17/11	10:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
ESJWQC	Duck Slough @ Gurr Rd	FB	1	02/17/11	10:30	EPA 8141A	Tributylphosphate (Surrogate)	74.2	%	=	NA	NA	100		None		
ESJWQC	Duck Slough @ Gurr Rd	FB	1	02/17/11	10:30	EPA 8141A	Triphenyl phosphate (Surrogate)	75.1	%	=	NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	02/23/11	12:35	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	02/23/11	12:35	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	02/23/11	12:35	EPA 8141A	Tributylphosphate (Surrogate)	109	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	02/23/11	12:35	EPA 8141A	Triphenyl phosphate (Surrogate)	105	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	03/08/11	12:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	03/08/11	12:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	03/08/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	101	%		NA	NA	100		None		

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	Salt Slough @ Lander Ave	FB	1	03/08/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	93.8	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	04/12/11	11:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	04/12/11	11:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	04/12/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	78.1	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	04/12/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	81.8	%		NA	NA	100		None		
ESJWQC	Lateral 3 along East Taylor Rd	FB	1	05/10/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	05/10/11	12:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
ESJWQC	Lateral 3 along East Taylor Rd	FB	1	05/10/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	05/10/11	12:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
ESJWQC	Lateral 3 along East Taylor Rd	FB	1	05/10/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	76.9	%	=	NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	05/10/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	76.5	%		NA	NA	100		None		
ESJWQC	Lateral 3 along East Taylor Rd	FB	1	05/10/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	74.9	%	=	NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	05/10/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	76.2	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	06/14/11	11:40	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	06/14/11	11:40	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	06/14/11	11:40	EPA 8141A	Tributylphosphate (Surrogate)	104	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	06/14/11	11:40	EPA 8141A	Triphenyl phosphate (Surrogate)	97.9	%		NA	NA	100		None		
ESJWQC	Lateral 3 along East Taylor Rd	FB	1	07/12/11	12:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	Batch ran overnight.
ESJWQC	Lateral 3 along East Taylor Rd	FB	1	07/12/11	12:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	Batch ran overnight.
ESJWQC	Lateral 3 along East Taylor Rd	FB	1	07/12/11	12:30	EPA 8141A	Tributylphosphate (Surrogate)	61.5	%	=	NA	NA	100		None		Batch ran overnight.

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
ESJWQC	Lateral 3 along East Taylor Rd	FB	1	07/12/11	12:30	EPA 8141A	Triphenyl phosphate (Surrogate)	76.2	%	=	NA	NA	100		None		Batch ran overnight.
Westside	Salt Slough @ Lander Ave	FB	1	08/09/11	11:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	08/09/11	11:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	08/09/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	72.6	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	08/09/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	77.8	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	09/13/11	11:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	09/13/11	11:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02		None	<RL or < (sample ÷ 5)	
Westside	Salt Slough @ Lander Ave	FB	1	09/13/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	88.2	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FB	1	09/13/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	86.0	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	10/12/10	11:40	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	10/12/10	11:40	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	10/12/10	11:40	EPA 8141A	Tributylphosphate (Surrogate)	77.2	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	10/12/10	11:40	EPA 8141A	Triphenyl phosphate (Surrogate)	83.0	%		NA	NA	100		None		
ESJWQC	SJR @ Airport Way	FD	2	10/21/10	10:40	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.0026	FD RPD NA	None	RPD < 25	
ESJWQC	SJR @ Airport Way	FD	2	10/21/10	10:40	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.004	FD RPD NA	None	RPD < 25	
ESJWQC	SJR @ Airport Way	FD	2	10/21/10	10:40	EPA 8141A	Tributylphosphate (Surrogate)	71.6	%	=	NA	NA	100		None		
ESJWQC	SJR @ Airport Way	FD	2	10/21/10	10:40	EPA 8141A	Triphenyl phosphate (Surrogate)	61.2	%	=	NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	11/09/10	11:35	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	11/09/10	11:35	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	11/09/10	11:35	EPA 8141A	Tributylphosphate (Surrogate)	95.1	%		NA	NA	100		None		

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	Salt Slough @ Lander Ave	FD	2	11/09/10	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	81.4	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	12/14/10	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	12/14/10	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	12/14/10	11:00	EPA 8141A	Tributylphosphate (Surrogate)	87.4	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	12/14/10	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	82.9	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	12/21/10	12:15	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	12/21/10	12:15	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	12/21/10	12:15	EPA 8141A	Tributylphosphate (Surrogate)	85.3	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	12/21/10	12:15	EPA 8141A	Triphenyl phosphate (Surrogate)	80.3	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	01/11/11	11:35	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	01/11/11	11:35	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	01/11/11	11:35	EPA 8141A	Tributylphosphate (Surrogate)	95.5	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	01/11/11	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	101	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	02/08/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	02/08/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	02/08/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	76.4	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	02/08/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	73.5	%		NA	NA	100		None		
ESJWQC	Duck Slough @ Gurr Rd	FD	2	02/17/11	10:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.0026	FD RPD NA	None	RPD < 25	
ESJWQC	Duck Slough @ Gurr Rd	FD	2	02/17/11	10:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.004	FD RPD NA	None	RPD < 25	
ESJWQC	Duck Slough @ Gurr Rd	FD	2	02/17/11	10:30	EPA 8141A	Tributylphosphate (Surrogate)	74.9	%	=	NA	NA	100		None		

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
ESJWQC	Duck Slough @ Gurr Rd	FD	2	02/17/11	10:30	EPA 8141A	Triphenyl phosphate (Surrogate)	74.7	%	=	NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	02/23/11	12:35	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	02/23/11	12:35	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	02/23/11	12:35	EPA 8141A	Tributylphosphate (Surrogate)	84.1	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	02/23/11	12:35	EPA 8141A	Triphenyl phosphate (Surrogate)	87.6	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	03/08/11	12:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	03/08/11	12:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	03/08/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	67.4	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	03/08/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	65.8	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	04/12/11	11:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	04/12/11	11:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	04/12/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	73.3	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	04/12/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	75.7	%		NA	NA	100		None		
ESJWQC	Lateral 3 along East Taylor Rd	FD	2	05/10/11	11:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.0026	FD RPD NA	None	RPD < 25	
Westside	Salt Slough @ Lander Ave	FD	2	05/10/11	12:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
ESJWQC	Lateral 3 along East Taylor Rd	FD	2	05/10/11	11:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.004	FD RPD NA	None	RPD < 25	
Westside	Salt Slough @ Lander Ave	FD	2	05/10/11	12:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
ESJWQC	Lateral 3 along East Taylor Rd	FD	2	05/10/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	73.7	%	=	NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	05/10/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	134	%		NA	NA	100		None		
ESJWQC	Lateral 3 along East Taylor Rd	FD	2	05/10/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	73.4	%	=	NA	NA	100		None		

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	SAMPLE REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA	LAB COMMENTS
Westside	Salt Slough @ Lander Ave	FD	2	05/10/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	119	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	06/14/11	11:40	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	06/14/11	11:40	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	06/14/11	11:40	EPA 8141A	Tributylphosphate (Surrogate)	109	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	06/14/11	11:40	EPA 8141A	Triphenyl phosphate (Surrogate)	101	%		NA	NA	100		None		
ESJWQC	Lateral 3 along East Taylor Rd	FD	2	07/12/11	12:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.0026	FD RPD NA	None	RPD < 25	Batch ran overnight.
ESJWQC	Lateral 3 along East Taylor Rd	FD	2	07/12/11	12:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.004	FD RPD NA	None	RPD < 25	Batch ran overnight.
ESJWQC	Lateral 3 along East Taylor Rd	FD	2	07/12/11	12:30	EPA 8141A	Tributylphosphate (Surrogate)	85.5	%	=	NA	NA	100		None		Batch ran overnight.
ESJWQC	Lateral 3 along East Taylor Rd	FD	2	07/12/11	12:30	EPA 8141A	Triphenyl phosphate (Surrogate)	92.4	%	=	NA	NA	100		None		Batch ran overnight.
Westside	Salt Slough @ Lander Ave	FD	2	08/09/11	11:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	08/09/11	11:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	08/09/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	72.3	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	08/09/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	80.2	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	09/13/11	11:30	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	09/13/11	11:30	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02		FD RPD NA	None	RPD <25%	
Westside	Salt Slough @ Lander Ave	FD	2	09/13/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	83.7	%		NA	NA	100		None		
Westside	Salt Slough @ Lander Ave	FD	2	09/13/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	86.3	%		NA	NA	100		None		

Table III-2. San Joaquin River chlorpyrifos and diazinon TMDL laboratory quality assurance (LABQA) chemistry analysis results.

Results include blanks (LabBlank), laboratory control spikes (LCS), and matrix spikes (MS) for chemistry analysis. For laboratory control samples, the sample date is equal to the extraction date. Samples are sorted by sample type code, sample, date and analyte.

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LabBlank	1	10/19/10	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	10/19/10	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	10/19/10	0:00	EPA 8141A	Tributylphosphate (Surrogate)	79.0	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	10/19/10	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	79.0	%		NA	NA	100			None	
ESJWQC	Laboratory QA Samples	LabBlank	1	10/27/10	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
ESJWQC	Laboratory QA Samples	LabBlank	1	10/27/10	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
ESJWQC	Laboratory QA Samples	LabBlank	1	10/27/10	0:00	EPA 8141A	Tributylphosphate (Surrogate)	65.5	%	=	NA	NA	100			None	
ESJWQC	Laboratory QA Samples	LabBlank	1	10/27/10	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	80.3	%	=	NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	11/16/10	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	11/16/10	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	11/16/10	0:00	EPA 8141A	Tributylphosphate (Surrogate)	75.9	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	11/16/10	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	63.5	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	12/21/10	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	12/21/10	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	12/21/10	0:00	EPA 8141A	Tributylphosphate (Surrogate)	82.6	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	12/21/10	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	79.4	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	1/18/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	1/18/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	1/18/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	84.7	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	1/18/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	92.6	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	2/14/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LabBlank	1	2/14/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	2/14/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	94.1	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	2/14/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	87.2	%		NA	NA	100			None	
ESJWQC	Laboratory QA Samples	LabBlank	1	2/24/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
ESJWQC	Laboratory QA Samples	LabBlank	1	2/24/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
ESJWQC	Laboratory QA Samples	LabBlank	1	2/24/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	72.3	%	=	NA	NA	100			None	
ESJWQC	Laboratory QA Samples	LabBlank	1	2/24/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	73.6	%	=	NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	3/15/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	3/15/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	3/15/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	112	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	3/15/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	111	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	4/14/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	4/14/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	4/14/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	79.1	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	4/14/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	90.2	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	4/18/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	4/18/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	4/18/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	77.3	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	4/18/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	78.3	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	5/16/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	5/16/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	5/16/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	72.0	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	5/16/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	64.2	%		NA	NA	100			None	

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LabBlank	1	5/17/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	5/17/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	5/17/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	96.3	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	5/17/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	90.9	%		NA	NA	100			None	
ESJWQC	Laboratory QA Samples	LabBlank	1	5/31/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
ESJWQC	Laboratory QA Samples	LabBlank	1	5/31/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
ESJWQC	Laboratory QA Samples	LabBlank	1	5/31/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	76	%	=	NA	NA	100			None	
ESJWQC	Laboratory QA Samples	LabBlank	1	5/31/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	71.2	%	=	NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	6/17/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	6/17/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	6/17/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	113	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	6/17/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	105	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	6/17/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	6/17/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	6/17/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	104	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	6/17/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	98.3	%		NA	NA	100			None	
ESJWQC	Laboratory QA Samples	LabBlank	1	7/14/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
ESJWQC	Laboratory QA Samples	LabBlank	1	7/14/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
ESJWQC	Laboratory QA Samples	LabBlank	1	7/14/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	71	%	=	NA	NA	100			None	
ESJWQC	Laboratory QA Samples	LabBlank	1	7/14/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	77.6	%	=	NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	7/15/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	7/15/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	7/15/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	74.4	%		NA	NA	100			None	

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LabBlank	1	7/15/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	82.1	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	7/18/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	7/18/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	7/18/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	92.5	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	7/18/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	107	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	7/28/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	7/28/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	7/28/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	72.7	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	7/28/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	67.5	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	8/16/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	8/16/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	8/16/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	96.6	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	8/16/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	94.2	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	8/16/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	8/16/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	8/16/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	88.3	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	8/16/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	89.4	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	9/19/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	9/19/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL
Westside	Lab QA Sample	LabBlank	1	9/19/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	83.3	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	9/19/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	79.9	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	9/19/11	0:00	EPA 8141A	Chlorpyrifos	<0.0026	µg/L	ND	0.0026	0.015	<0.015			None	<RL
Westside	Lab QA Sample	LabBlank	1	9/19/11	0:00	EPA 8141A	Diazinon	<0.004	µg/L	ND	0.004	0.02	<0.02			None	<RL

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LabBlank	1	9/19/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	83.0	%		NA	NA	100			None	
Westside	Lab QA Sample	LabBlank	1	9/19/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	83.3	%		NA	NA	100			None	
Westside	Lab QA Sample	LCS	1	10/19/10	0:00	EPA 8141A	Chlorpyrifos	5.07	µg/L	=	0.0026	0.015	5.00	101%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	10/19/10	0:00	EPA 8141A	Diazinon	2.37	µg/L	=	0.004	0.02	2.50	95%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	10/19/10	0:00	EPA 8141A	Tributylphosphate (Surrogate)	95.6	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	10/19/10	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	100	%		NA	NA	100			None	PR 56-129
ESJWQC	Laboratory QA Samples	LCS	1	10/27/10	0:00	EPA 8141A	Chlorpyrifos	4.38	µg/L	=	0.0026	0.015	5	87.6%		None	PR 61-125
ESJWQC	Laboratory QA Samples	LCS	1	10/27/10	0:00	EPA 8141A	Diazinon	1.79	µg/L	=	0.004	0.02	2.5	71.6%		None	PR 57-130
ESJWQC	Laboratory QA Samples	LCS	1	10/27/10	0:00	EPA 8141A	Tributylphosphate (Surrogate)	79.2	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Laboratory QA Samples	LCS	1	10/27/10	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	70	%	=	NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	11/16/10	0:00	EPA 8141A	Chlorpyrifos	4.31	µg/L	=	0.0026	0.015	5.00	86%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	11/16/10	0:00	EPA 8141A	Diazinon	2.28	µg/L	=	0.004	0.02	2.50	91%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	11/16/10	0:00	EPA 8141A	Tributylphosphate (Surrogate)	100	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	11/16/10	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	87.6	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	12/21/10	0:00	EPA 8141A	Chlorpyrifos	4.54	µg/L	=	0.0026	0.015	5.00	91%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	12/21/10	0:00	EPA 8141A	Diazinon	2.37	µg/L	=	0.004	0.02	2.50	95%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	12/21/10	0:00	EPA 8141A	Tributylphosphate (Surrogate)	100	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	12/21/10	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	92.4	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	1/18/11	0:00	EPA 8141A	Chlorpyrifos	5.88	µg/L	=	0.0026	0.015	5.00	118%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	1/18/11	0:00	EPA 8141A	Diazinon	2.93	µg/L	=	0.004	0.02	2.50	117%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	1/18/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	118	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	1/18/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	122	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	2/14/11	0:00	EPA 8141A	Chlorpyrifos	5.24	µg/L	=	0.0026	0.015	5.00	105%		None	PR 61-125

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LCS	1	2/14/11	0:00	EPA 8141A	Diazinon	2.54	µg/L	=	0.004	0.02	2.50	102%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	2/14/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	106	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	2/14/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	106	%		NA	NA	100			None	PR 56-129
ESJWQC	Laboratory QA Samples	LCS	1	2/24/11	0:00	EPA 8141A	Chlorpyrifos	3.96	µg/L	=	0.0026	0.015	5	79.2%		None	PR 61-125
ESJWQC	Laboratory QA Samples	LCS	1	2/24/11	0:00	EPA 8141A	Diazinon	2.05	µg/L	=	0.004	0.02	2.5	82.0%		None	PR 57-130
ESJWQC	Laboratory QA Samples	LCS	1	2/24/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	82.4	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Laboratory QA Samples	LCS	1	2/24/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	83.2	%	=	NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	3/15/11	0:00	EPA 8141A	Chlorpyrifos	4.87	µg/L	=	0.0026	0.015	5.00	97%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	3/15/11	0:00	EPA 8141A	Diazinon	2.48	µg/L	=	0.004	0.02	2.50	99%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	3/15/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	102	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	3/15/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	98.4	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	4/14/11	0:00	EPA 8141A	Chlorpyrifos	5.87	µg/L	=	0.0026	0.015	5.00	117%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	4/14/11	0:00	EPA 8141A	Diazinon	2.97	µg/L	=	0.004	0.02	2.50	119%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	4/14/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	116	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	4/14/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	117	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	2	4/14/11	0:00	EPA 8141A	Chlorpyrifos	5.68	µg/L	=	0.0026	0.015	5.00	114%	3.3%	None	PR 61-125 RPD <25
Westside	Lab QA Sample	LCS	2	4/14/11	0:00	EPA 8141A	Diazinon	2.88	µg/L	=	0.004	0.02	2.50	115%	3.1%	None	RP 57-130 RPD <25
Westside	Lab QA Sample	LCS	2	4/14/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	113	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	2	4/14/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	114	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	4/18/11	0:00	EPA 8141A	Chlorpyrifos	4.80	µg/L	=	0.0026	0.015	5.00	96%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	4/18/11	0:00	EPA 8141A	Diazinon	2.50	µg/L	=	0.004	0.02	2.50	100%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	4/18/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	92.8	%		NA	NA	100			None	PR 60-150

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LCS	1	4/18/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	94.4	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	5/16/11	0:00	EPA 8141A	Chlorpyrifos	5.47	µg/L	=	0.0026	0.015	5.00	109%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	5/16/11	0:00	EPA 8141A	Diazinon	2.72	µg/L	=	0.004	0.02	2.50	109%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	5/16/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	120	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	5/16/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	111	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	2	5/16/11	0:00	EPA 8141A	Chlorpyrifos	5.49	µg/L	=	0.0026	0.015	5.00	110%	0.4%	None	PR 61-125 RPD <25
Westside	Lab QA Sample	LCS	2	5/16/11	0:00	EPA 8141A	Diazinon	2.80	µg/L	=	0.004	0.02	2.50	112%	2.9%	None	RP 57-130 RPD <25
Westside	Lab QA Sample	LCS	2	5/16/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	122	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	2	5/16/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	108	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	5/17/11	0:00	EPA 8141A	Chlorpyrifos	5.99	µg/L	=	0.0026	0.015	5.00	120%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	5/17/11	0:00	EPA 8141A	Diazinon	2.96	µg/L	=	0.004	0.02	2.50	118%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	5/17/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	130	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	5/17/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	117	%		NA	NA	100			None	PR 56-129
ESJWQC	Laboratory QA Samples	LCS	1	5/31/11	0:00	EPA 8141A	Chlorpyrifos	4.08	µg/L	=	0.0026	0.015	5	81.6%		None	PR 61-125
ESJWQC	Laboratory QA Samples	LCS	1	5/31/11	0:00	EPA 8141A	Diazinon	2.07	µg/L	=	0.004	0.02	2.5	82.8%		None	PR 57-130
ESJWQC	Laboratory QA Samples	LCS	1	5/31/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	88.4	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Laboratory QA Samples	LCS	1	5/31/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	83.2	%	=	NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	6/17/11	0:00	EPA 8141A	Chlorpyrifos	6.16	µg/L	=	0.0026	0.015	5.00	123%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	6/17/11	0:00	EPA 8141A	Diazinon	3.05	µg/L	=	0.004	0.02	2.50	122%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	6/17/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	150	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	6/17/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	153	%		NA	NA	100			PR >Range	PR 56-129
Westside	Lab QA Sample	LCS	2	6/17/11	0:00	EPA 8141A	Chlorpyrifos	5.54	µg/L	=	0.0026	0.015	5.00	111%		None	PR 61-125
Westside	Lab QA Sample	LCS	2	6/17/11	0:00	EPA 8141A	Diazinon	3.19	µg/L	=	0.004	0.02	2.50	128%		None	PR 57-130

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LCS	2	6/17/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	144	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	2	6/17/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	141	%		NA	NA	100			PR >Range	PR 56-129
Westside	Lab QA Sample	LCS	3	6/17/11	0:00	EPA 8141A	Chlorpyrifos	5.94	µg/L	=	0.0026	0.015	5.00	119%	7.0%	None	PR 61-125 RPD <25
Westside	Lab QA Sample	LCS	3	6/17/11	0:00	EPA 8141A	Diazinon	2.94	µg/L	=	0.004	0.02	2.50	118%	8.2%	None	RP 57-130 RPD <25
Westside	Lab QA Sample	LCS	3	6/17/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	130	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	3	6/17/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	126	%		NA	NA	100			None	PR 56-129
ESJWQC	Laboratory QA Samples	LCS	1	7/14/11	0:00	EPA 8141A	Chlorpyrifos	4.89	µg/L	=	0.0026	0.015	5	97.8%		None	PR 61-125
ESJWQC	Laboratory QA Samples	LCS	1	7/14/11	0:00	EPA 8141A	Diazinon	2.5	µg/L	=	0.004	0.02	2.5	100.0%		None	PR 57-130
ESJWQC	Laboratory QA Samples	LCS	1	7/14/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	106	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Laboratory QA Samples	LCS	1	7/14/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	108	%	=	NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	7/15/11	0:00	EPA 8141A	Chlorpyrifos	5.05	µg/L	=	0.0026	0.015	5.00	101%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	7/15/11	0:00	EPA 8141A	Diazinon	2.69	µg/L	=	0.004	0.02	2.50	108%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	7/15/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	113	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	7/15/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	110	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	2	7/15/11	0:00	EPA 8141A	Chlorpyrifos	4.49	µg/L	=	0.0026	0.015	5.00	90%	11.7%	None	PR 61-125 RPD <25
Westside	Lab QA Sample	LCS	2	7/15/11	0:00	EPA 8141A	Diazinon	2.35	µg/L	=	0.004	0.02	2.50	94%	13.5%	None	RP 57-130 RPD <25
Westside	Lab QA Sample	LCS	2	7/15/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	100	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	2	7/15/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	102	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	7/18/11	0:00	EPA 8141A	Chlorpyrifos	5.22	µg/L	=	0.0026	0.015	5.00	104%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	7/18/11	0:00	EPA 8141A	Diazinon	2.72	µg/L	=	0.004	0.02	2.50	109%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	7/18/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	118	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	7/18/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	118	%		NA	NA	100			None	PR 56-129

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LCS	2	7/28/11	0:00	EPA 8141A	Chlorpyrifos	5.14	µg/L	=	0.0026	0.015	5.00	103%		None	PR 61-125
Westside	Lab QA Sample	LCS	2	7/28/11	0:00	EPA 8141A	Diazinon	2.63	µg/L	=	0.004	0.02	2.50	105%		None	PR 57-130
Westside	Lab QA Sample	LCS	2	7/28/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	117	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	2	7/28/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	104	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	3	7/28/11	0:00	EPA 8141A	Chlorpyrifos	5.13	µg/L	=	0.0026	0.015	5.00	103%	0.2%	None	PR 61-125 RPD <25
Westside	Lab QA Sample	LCS	3	7/28/11	0:00	EPA 8141A	Diazinon	2.60	µg/L	=	0.004	0.02	2.50	104%	1.1%	None	RP 57-130 RPD <25
Westside	Lab QA Sample	LCS	3	7/28/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	113	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	3	7/28/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	102	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Chlorpyrifos	4.99	µg/L	=	0.0026	0.015	5.00	100%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Diazinon	2.39	µg/L	=	0.004	0.02	2.50	96%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	86.0	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	88.8	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Chlorpyrifos	5.78	µg/L	=	0.0026	0.015	5.00	116%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Diazinon	2.94	µg/L	=	0.004	0.02	2.50	118%		None	PR 57-130
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	103	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	112	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Chlorpyrifos	6.07	µg/L	=	0.0026	0.015	5.00	121%	4.9%	None	PR 61-125 RPD <25
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Diazinon	2.99	µg/L	=	0.004	0.02	2.50	120%	1.7%	None	RP 57-130 RPD <25
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	106	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	8/16/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	114	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	1	9/19/11	0:00	EPA 8141A	Chlorpyrifos	4.52	µg/L	=	0.0026	0.015	5.00	90%		None	PR 61-125
Westside	Lab QA Sample	LCS	1	9/19/11	0:00	EPA 8141A	Diazinon	2.57	µg/L	=	0.004	0.02	2.50	103%		None	PR 57-130

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Lab QA Sample	LCS	1	9/19/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	114	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	1	9/19/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	111	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	2	9/19/11	0:00	EPA 8141A	Chlorpyrifos	4.30	µg/L	=	0.0026	0.015	5.00	86%		None	PR 61-125
Westside	Lab QA Sample	LCS	2	9/19/11	0:00	EPA 8141A	Diazinon	2.51	µg/L	=	0.004	0.02	2.50	100%		None	PR 57-130
Westside	Lab QA Sample	LCS	2	9/19/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	104	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	2	9/19/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	110	%		NA	NA	100			None	PR 56-129
Westside	Lab QA Sample	LCS	3	9/19/11	0:00	EPA 8141A	Chlorpyrifos	4.37	µg/L	=	0.0026	0.015	5.00	87%	1.6%	None	PR 61-125 RPD <25
Westside	Lab QA Sample	LCS	3	9/19/11	0:00	EPA 8141A	Diazinon	2.48	µg/L	=	0.004	0.02	2.50	99%	1.2%	None	RP 57-130 RPD <25
Westside	Lab QA Sample	LCS	3	9/19/11	0:00	EPA 8141A	Tributylphosphate (Surrogate)	103	%		NA	NA	100			None	PR 60-150
Westside	Lab QA Sample	LCS	3	9/19/11	0:00	EPA 8141A	Triphenyl phosphate (Surrogate)	108	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	10/12/10	11:40	EPA 8141A	Chlorpyrifos	5.22	µg/L		0.0026	0.015	5.00	104%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	10/12/10	11:40	EPA 8141A	Diazinon	2.40	µg/L		0.004	0.02	2.50	96%		None	PR 57-130
Westside	Salt SI @ Lander Ave.	MS1	1	10/12/10	11:40	EPA 8141A	Tributylphosphate (Surrogate)	104	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	1	10/12/10	11:40	EPA 8141A	Triphenyl phosphate (Surrogate)	110	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	2	10/12/10	11:40	EPA 8141A	Chlorpyrifos	5.23	µg/L		0.0026	0.015	5.00	105%	0.2%	None	PR 61-125 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	10/12/10	11:40	EPA 8141A	Diazinon	2.45	µg/L		0.004	0.02	2.50	98%	2.1%	None	RP 57-130 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	10/12/10	11:40	EPA 8141A	Tributylphosphate (Surrogate)	106	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	2	10/12/10	11:40	EPA 8141A	Triphenyl phosphate (Surrogate)	109	%		NA	NA	100			None	PR 56-129
ESJWQC	SJR @ Airport Way	MS1	1	10/21/10	10:40	EPA 8141A	Chlorpyrifos	4.34	µg/L	=	0.0026	0.015	5	86.8%		None	PR 61-125
ESJWQC	SJR @ Airport Way	MS1	1	10/21/10	10:40	EPA 8141A	Diazinon	1.58	µg/L	=	0.004	0.02	2.5	63.2%		None	PR 57-130
ESJWQC	SJR @ Airport Way	MS1	1	10/21/10	10:40	EPA 8141A	Tributylphosphate (Surrogate)	74.4	%	=	NA	NA	100			None	PR 60-150
ESJWQC	SJR @ Airport Way	MS1	1	10/21/10	10:40	EPA 8141A	Triphenyl phosphate (Surrogate)	64	%	=	NA	NA	100			None	PR 56-129

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
ESJWQC	SJR @ Airport Way	MS1	2	10/21/10	10:40	EPA 8141A	Chlorpyrifos	4.44	µg/L	=	0.0026	0.015	5	88.8%	2.3%	None	PR 61-125 RPD <25
ESJWQC	SJR @ Airport Way	MS1	2	10/21/10	10:40	EPA 8141A	Diazinon	1.7	µg/L	=	0.004	0.02	2.5	68.0%	7.3%	None	PR 57-130 RPD <25
ESJWQC	SJR @ Airport Way	MS1	2	10/21/10	10:40	EPA 8141A	Tributylphosphate (Surrogate)	81.6	%	=	NA	NA	100			None	PR 60-150
ESJWQC	SJR @ Airport Way	MS1	2	10/21/10	10:40	EPA 8141A	Triphenyl phosphate (Surrogate)	66.8	%	=	NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	11/9/10	11:35	EPA 8141A	Chlorpyrifos	4.66	µg/L		0.0026	0.015	5.00	93%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	11/9/10	11:35	EPA 8141A	Diazinon	2.44	µg/L		0.004	0.02	2.50	98%		None	PR 57-130
Westside	Salt SI @ Lander Ave.	MS1	1	11/9/10	11:35	EPA 8141A	Tributylphosphate (Surrogate)	107	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	1	11/9/10	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	94.0	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	2	11/9/10	11:35	EPA 8141A	Chlorpyrifos	4.54	µg/L		0.0026	0.015	5.00	91%	2.6%	None	PR 61-125 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	11/9/10	11:35	EPA 8141A	Diazinon	2.35	µg/L		0.004	0.02	2.50	94%	3.8%	None	RP 57-130 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	11/9/10	11:35	EPA 8141A	Tributylphosphate (Surrogate)	104	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	2	11/9/10	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	86.4	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	12/14/10	11:00	EPA 8141A	Chlorpyrifos	4.26	µg/L		0.0026	0.015	5.00	85%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	12/14/10	11:00	EPA 8141A	Diazinon	2.31	µg/L		0.004	0.02	2.50	92%		None	PR 57-130
Westside	Salt SI @ Lander Ave.	MS1	1	12/14/10	11:00	EPA 8141A	Tributylphosphate (Surrogate)	98.4	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	1	12/14/10	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	88.8	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	2	12/14/10	11:00	EPA 8141A	Chlorpyrifos	4.54	µg/L		0.0026	0.015	5.00	91%	6.4%	None	PR 61-125 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	12/14/10	11:00	EPA 8141A	Diazinon	2.38	µg/L		0.004	0.02	2.50	95%	3.0%	None	RP 57-130 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	12/14/10	11:00	EPA 8141A	Tributylphosphate (Surrogate)	98.0	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	2	12/14/10	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	92.0	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	1/11/11	11:35	EPA 8141A	Chlorpyrifos	5.69	µg/L		0.0026	0.015	5.00	114%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	1/11/11	11:35	EPA 8141A	Diazinon	2.90	µg/L		0.004	0.02	2.50	116%		None	PR 57-130

Appendix III. Field and LAB QA Results
San Joaquin River Chlorpyrifos and Diazinon TMDL AMR (May 1, 2012)

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Salt Sl @ Lander Ave.	MS1	1	1/11/11	11:35	EPA 8141A	Tributylphosphate (Surrogate)	116	%		NA	NA	100			None	PR 60-150
Westside	Salt Sl @ Lander Ave.	MS1	1	1/11/11	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	123	%		NA	NA	100			None	PR 56-129
Westside	Salt Sl @ Lander Ave.	MS1	2	1/11/11	11:35	EPA 8141A	Chlorpyrifos	5.39	µg/L		0.0026	0.015	5.00	108%	5.4%	None	PR 61-125 RPD <25
Westside	Salt Sl @ Lander Ave.	MS1	2	1/11/11	11:35	EPA 8141A	Diazinon	2.64	µg/L		0.004	0.02	2.50	106%	9.4%	None	RP 57-130 RPD <25
Westside	Salt Sl @ Lander Ave.	MS1	2	1/11/11	11:35	EPA 8141A	Tributylphosphate (Surrogate)	110	%		NA	NA	100			None	PR 60-150
Westside	Salt Sl @ Lander Ave.	MS1	2	1/11/11	11:35	EPA 8141A	Triphenyl phosphate (Surrogate)	111	%		NA	NA	100			None	PR 56-129
Westside	Salt Sl @ Lander Ave.	MS1	1	2/8/11	11:00	EPA 8141A	Chlorpyrifos	4.84	µg/L		0.0026	0.015	5.00	97%		None	PR 61-125
Westside	Salt Sl @ Lander Ave.	MS1	1	2/8/11	11:00	EPA 8141A	Diazinon	2.38	µg/L		0.004	0.02	2.50	95%		None	PR 57-130
Westside	Salt Sl @ Lander Ave.	MS1	1	2/8/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	98.8	%		NA	NA	100			None	PR 60-150
Westside	Salt Sl @ Lander Ave.	MS1	1	2/8/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	96.4	%		NA	NA	100			None	PR 56-129
Westside	Salt Sl @ Lander Ave.	MS1	2	2/8/11	11:00	EPA 8141A	Chlorpyrifos	5.20	µg/L		0.0026	0.015	5.00	104%	7.2%	None	PR 61-125 RPD <25
Westside	Salt Sl @ Lander Ave.	MS1	2	2/8/11	11:00	EPA 8141A	Diazinon	2.68	µg/L		0.004	0.02	2.50	107%	11.9%	None	RP 57-130 RPD <25
Westside	Salt Sl @ Lander Ave.	MS1	2	2/8/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	109	%		NA	NA	100			None	PR 60-150
Westside	Salt Sl @ Lander Ave.	MS1	2	2/8/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	101	%		NA	NA	100			None	PR 56-129
ESJWQC	Duck Slough @ Gurr Rd	MS1	1	2/17/11	10:30	EPA 8141A	Chlorpyrifos	4.45	µg/L	=	0.0026	0.015	5	89.0%		None	PR 61-125
ESJWQC	Duck Slough @ Gurr Rd	MS1	1	2/17/11	10:30	EPA 8141A	Diazinon	2.26	µg/L	=	0.004	0.02	2.5	90.4%		None	PR 57-130
ESJWQC	Duck Slough @ Gurr Rd	MS1	1	2/17/11	10:30	EPA 8141A	Tributylphosphate (Surrogate)	92.4	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Duck Slough @ Gurr Rd	MS1	1	2/17/11	10:30	EPA 8141A	Triphenyl phosphate (Surrogate)	90.8	%	=	NA	NA	100			None	PR 56-129
ESJWQC	Duck Slough @ Gurr Rd	MS1	2	2/17/11	10:30	EPA 8141A	Chlorpyrifos	4.08	µg/L	=	0.0026	0.015	5	81.6%	8.7%	None	PR 61-125 RPD <25
ESJWQC	Duck Slough @ Gurr Rd	MS1	2	2/17/11	10:30	EPA 8141A	Diazinon	2.09	µg/L	=	0.004	0.02	2.5	83.6%	7.8%	None	PR 57-130 RPD <25
ESJWQC	Duck Slough @ Gurr Rd	MS1	2	2/17/11	10:30	EPA 8141A	Tributylphosphate (Surrogate)	82.8	%	=	NA	NA	100			None	PR 60-150

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
ESJWQC	Duck Slough @ Gurr Rd	MS1	2	2/17/11	10:30	EPA 8141A	Triphenyl phosphate (Surrogate)	79.6	%	=	NA	NA	100			None	PR 56-129
Westside	Salt Sl @ Lander Ave.	MS1	1	3/8/11	12:00	EPA 8141A	Chlorpyrifos	5.50	µg/L	=	0.0026	0.015	5.00	110%		None	PR 61-125
Westside	Salt Sl @ Lander Ave.	MS1	1	3/8/11	12:00	EPA 8141A	Diazinon	2.69	µg/L	=	0.004	0.02	2.50	108%		None	PR 57-130
Westside	Salt Sl @ Lander Ave.	MS1	1	3/8/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	118	%		NA	NA	100			None	PR 60-150
Westside	Salt Sl @ Lander Ave.	MS1	1	3/8/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	111	%		NA	NA	100			None	PR 56-129
Westside	Salt Sl @ Lander Ave.	MS1	2	3/8/11	12:00	EPA 8141A	Chlorpyrifos	5.73	µg/L	=	0.0026	0.015	5.00	115%	4.1%	None	PR 61-125 RPD <25
Westside	Salt Sl @ Lander Ave.	MS1	2	3/8/11	12:00	EPA 8141A	Diazinon	2.90	µg/L	=	0.004	0.02	2.50	116%	7.5%	None	RP 57-130 RPD <25
Westside	Salt Sl @ Lander Ave.	MS1	2	3/8/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	126	%		NA	NA	100			None	PR 60-150
Westside	Salt Sl @ Lander Ave.	MS1	2	3/8/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	117	%		NA	NA	100			None	PR 56-129
Westside	Salt Sl @ Lander Ave.	MS1	1	4/12/11	11:30	EPA 8141A	Chlorpyrifos	4.67	µg/L	=	0.0026	0.015	5.00	93%		None	PR 61-125
Westside	Salt Sl @ Lander Ave.	MS1	1	4/12/11	11:30	EPA 8141A	Diazinon	2.37	µg/L	=	0.004	0.02	2.50	95%		None	PR 57-130
Westside	Salt Sl @ Lander Ave.	MS1	1	4/12/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	93.2	%		NA	NA	100			None	PR 60-150
Westside	Salt Sl @ Lander Ave.	MS1	1	4/12/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	92.4	%		NA	NA	100			None	PR 56-129
Westside	Salt Sl @ Lander Ave.	MS1	2	4/12/11	11:30	EPA 8141A	Chlorpyrifos	4.65	µg/L	=	0.0026	0.015	5.00	93%	0.4%	None	PR 61-125 RPD <25
Westside	Salt Sl @ Lander Ave.	MS1	2	4/12/11	11:30	EPA 8141A	Diazinon	2.37	µg/L	=	0.004	0.02	2.50	95%	0.0%	None	RP 57-130 RPD <25
Westside	Salt Sl @ Lander Ave.	MS1	2	4/12/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	95.2	%		NA	NA	100			None	PR 60-150
Westside	Salt Sl @ Lander Ave.	MS1	2	4/12/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	92.8	%		NA	NA	100			None	PR 56-129
ESJWQC	Lateral 3 along East Taylor Rd	MS1	1	5/10/11	11:00	EPA 8141A	Chlorpyrifos	4.77	µg/L	=	0.0026	0.015	5	95.4%		None	PR 61-125
ESJWQC	Lateral 3 along East Taylor Rd	MS1	1	5/10/11	11:00	EPA 8141A	Diazinon	2.37	µg/L	=	0.004	0.02	2.5	94.8%		None	PR 57-130
ESJWQC	Lateral 3 along East Taylor Rd	MS1	1	5/10/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	102	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Lateral 3 along East Taylor Rd	MS1	1	5/10/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	96	%	=	NA	NA	100			None	PR 56-129

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
ESJWQC	Lateral 3 along East Taylor Rd	MS1	2	5/10/11	11:00	EPA 8141A	Chlorpyrifos	4.31	µg/L	=	0.0026	0.015	5	86.2%	10.1%	None	PR 61-125 RPD <25
ESJWQC	Lateral 3 along East Taylor Rd	MS1	2	5/10/11	11:00	EPA 8141A	Diazinon	2.18	µg/L	=	0.004	0.02	2.5	87.2%	8.4%	None	PR 57-130 RPD <25
ESJWQC	Lateral 3 along East Taylor Rd	MS1	2	5/10/11	11:00	EPA 8141A	Tributylphosphate (Surrogate)	90	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Lateral 3 along East Taylor Rd	MS1	2	5/10/11	11:00	EPA 8141A	Triphenyl phosphate (Surrogate)	87.2	%	=	NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	5/10/11	12:00	EPA 8141A	Chlorpyrifos	5.57	µg/L	=	0.0026	0.015	5.00	111%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	5/10/11	12:00	EPA 8141A	Diazinon	2.80	µg/L	=	0.004	0.02	2.50	112%		None	PR 57-130
Westside	Salt SI @ Lander Ave.	MS1	1	5/10/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	124	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	1	5/10/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	110	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	2	5/10/11	12:00	EPA 8141A	Chlorpyrifos	5.23	µg/L	=	0.0026	0.015	5.00	105%	6.3%	None	PR 61-125 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	5/10/11	12:00	EPA 8141A	Diazinon	2.72	µg/L	=	0.004	0.02	2.50	109%	2.9%	None	RP 57-130 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	5/10/11	12:00	EPA 8141A	Tributylphosphate (Surrogate)	120	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	2	5/10/11	12:00	EPA 8141A	Triphenyl phosphate (Surrogate)	104	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	6/14/11	11:40	EPA 8141A	Chlorpyrifos	5.79	µg/L	=	0.0026	0.015	5.00	116%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	6/14/11	11:40	EPA 8141A	Diazinon	2.86	µg/L	=	0.004	0.02	2.50	114%		None	PR 57-130
Westside	Salt SI @ Lander Ave.	MS1	1	6/14/11	11:40	EPA 8141A	Tributylphosphate (Surrogate)	138	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	1	6/14/11	11:40	EPA 8141A	Triphenyl phosphate (Surrogate)	122	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	2	6/14/11	11:40	EPA 8141A	Chlorpyrifos	5.14	µg/L	=	0.0026	0.015	5.00	103%	11.9%	None	PR 61-125 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	6/14/11	11:40	EPA 8141A	Diazinon	2.52	µg/L	=	0.004	0.02	2.50	101%	12.6%	None	RP 57-130 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	6/14/11	11:40	EPA 8141A	Tributylphosphate (Surrogate)	126	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	2	6/14/11	11:40	EPA 8141A	Triphenyl phosphate (Surrogate)	111	%		NA	NA	100			None	PR 56-129
ESJWQC	Lateral 3 along East Taylor Rd	MS1	1	7/12/11	12:30	EPA 8141A	Chlorpyrifos	4.09	µg/L	=	0.0026	0.015	5	81.8%		None	PR 61-125

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
ESJWQC	Lateral 3 along East Taylor Rd	MS1	1	7/12/11	12:30	EPA 8141A	Diazinon	2.17	µg/L	=	0.004	0.02	2.5	86.8%		None	PR 57-130
ESJWQC	Lateral 3 along East Taylor Rd	MS1	1	7/12/11	12:30	EPA 8141A	Tributylphosphate (Surrogate)	87.6	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Lateral 3 along East Taylor Rd	MS1	1	7/12/11	12:30	EPA 8141A	Triphenyl phosphate (Surrogate)	94	%	=	NA	NA	100			None	PR 56-129
ESJWQC	Lateral 3 along East Taylor Rd	MS1	2	7/12/11	12:30	EPA 8141A	Chlorpyrifos	4.31	µg/L	=	0.0026	0.015	5	86.2%	5.2%	None	PR 61-125 RPD <25
ESJWQC	Lateral 3 along East Taylor Rd	MS1	2	7/12/11	12:30	EPA 8141A	Diazinon	2.29	µg/L	=	0.004	0.02	2.5	91.6%	5.4%	None	PR 57-130 RPD <25
ESJWQC	Lateral 3 along East Taylor Rd	MS1	2	7/12/11	12:30	EPA 8141A	Tributylphosphate (Surrogate)	94.8	%	=	NA	NA	100			None	PR 60-150
ESJWQC	Lateral 3 along East Taylor Rd	MS1	2	7/12/11	12:30	EPA 8141A	Triphenyl phosphate (Surrogate)	98	%	=	NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	7/12/11	11:20	EPA 8141A	Chlorpyrifos	4.27	µg/L	=	0.0026	0.015	5.00	85%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	7/12/11	11:20	EPA 8141A	Diazinon	3.13	µg/L	=	0.004	0.02	2.50	125%		None	PR 57-130
Westside	Salt SI @ Lander Ave.	MS1	1	7/12/11	11:20	EPA 8141A	Tributylphosphate (Surrogate)	97.2	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	1	7/12/11	11:20	EPA 8141A	Triphenyl phosphate (Surrogate)	96.8	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	2	7/12/11	11:20	EPA 8141A	Chlorpyrifos	6.01	µg/L	=	0.0026	0.015	5.00	120%	33.9%	RPD>25%	PR 61-125 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	7/12/11	11:20	EPA 8141A	Diazinon	3.19	µg/L	=	0.004	0.02	2.50	128%	1.9%	None	RP 57-130 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	7/12/11	11:20	EPA 8141A	Tributylphosphate (Surrogate)	133	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	2	7/12/11	11:20	EPA 8141A	Triphenyl phosphate (Surrogate)	129	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	8/9/11	11:30	EPA 8141A	Chlorpyrifos	5.71	µg/L	=	0.0026	0.015	5.00	114%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	8/9/11	11:30	EPA 8141A	Diazinon	2.62	µg/L	=	0.004	0.02	2.50	105%		None	PR 57-130
Westside	Salt SI @ Lander Ave.	MS1	1	8/9/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	98.8	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	1	8/9/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	102	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	2	8/9/11	11:30	EPA 8141A	Chlorpyrifos	6.17	µg/L	=	0.0026	0.015	5.00	123%	7.7%	None	PR 61-125 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	8/9/11	11:30	EPA 8141A	Diazinon	2.92	µg/L	=	0.004	0.02	2.50	117%	10.8%	None	RP 57-130 RPD <25

RESPONSIBLE COALITION	STATION NAME	SAMPLE TYPE CODE	LAB REPLICATE	SAMPLE DATE	SAMPLE TIME	METHOD NAME	ANALYTE	RESULT	UNIT	QUALIFIER CODE	MDL	RL	EXPECTED VALUE	PR	RPD	QUALITY ASSURANCE	DATA ACCEPTABILITY CRITERIA
Westside	Salt SI @ Lander Ave.	MS1	2	8/9/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	111	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	2	8/9/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	112	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	1	9/13/11	11:30	EPA 8141A	Chlorpyrifos	4.30	µg/L	=	0.0026	0.015	5.00	86%		None	PR 61-125
Westside	Salt SI @ Lander Ave.	MS1	1	9/13/11	11:30	EPA 8141A	Diazinon	2.43	µg/L	=	0.004	0.02	2.50	97%		None	PR 57-130
Westside	Salt SI @ Lander Ave.	MS1	1	9/13/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	117	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	1	9/13/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	106	%		NA	NA	100			None	PR 56-129
Westside	Salt SI @ Lander Ave.	MS1	2	9/13/11	11:30	EPA 8141A	Chlorpyrifos	4.16	µg/L	=	0.0026	0.015	5.00	83%	3.3%	None	PR 61-125 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	9/13/11	11:30	EPA 8141A	Diazinon	2.48	µg/L	=	0.004	0.02	2.50	99%	2.0%	None	RP 57-130 RPD <25
Westside	Salt SI @ Lander Ave.	MS1	2	9/13/11	11:30	EPA 8141A	Tributylphosphate (Surrogate)	116	%		NA	NA	100			None	PR 60-150
Westside	Salt SI @ Lander Ave.	MS1	2	9/13/11	11:30	EPA 8141A	Triphenyl phosphate (Surrogate)	103	%		NA	NA	100			None	PR 56-129

APPENDIX IV
CONCENTRATION BASED LOAD CALCULATIONS

TABLE OF CONTENTS

Acronyms	1
Table IV-1. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load capacity calculations for all samples collected from the San Joaquin River during the 2011 water year.	2
Table IV-2. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for ESJWQC tributaries sampled during the 2011 water year within the Bear Creek and Fresno-Chowchilla subareas.	4
Table IV-3. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for ESJWQC tributaries sampled during the 2011 water year within the Turlock and Merced subareas.	6
Table IV-4. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for ESJWQC tributaries sampled during the 2011 water year within the Tuolumne River and Northeast Bank subareas.	7
Table IV-5. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for ESJWQC tributaries sampled during the 2011 water year within the Stanislaus River and North Stanislaus subareas.	8
Table IV-6. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for Westside Coalition tributaries sampled during the 2011 water year within the Greater Orestimba subarea.	9
Table IV-7. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for Westside Coalition tributaries sampled during the 2011 water year within the Stevinson and Grassland subareas.	10
Table IV-8. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for Westside Coalition tributaries sampled during the 2011 water year within the Westside Creek subarea.	12

ACRONYMS

ESJWQC	East San Joaquin Water Quality Coalition
SJR	San Joaquin River
TMDL	Total Maximum Daily Load
NT	Not Tested
Westside	Westside San Joaquin River Watershed Coalition

Table IV-1. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load capacity calculations for all samples collected from the San Joaquin River during the 2011 water year.

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (µg/L)	DIAZINON (µg/L)	LOAD ¹	LOADING CAPACITY COMPLIANCE
SJR @ Las Palmas Ave (Patterson)	10/12/2010	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	10/12/2010	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	10/12/2010	<0.0026	<0.004	0	In Compliance
SJR @ Hills Ferry	10/21/2010	<0.0026	<0.004	0	In Compliance
SJR @ Maze Blvd	10/21/2010	<0.0026	<0.004	0	In Compliance
SJR @ Airport Way	10/21/2010	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	11/9/2010	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	11/9/2010	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	11/9/2010	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	12/14/2010	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	12/14/2010	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	12/14/2010	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	12/20/2010	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	12/21/2010	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	12/21/2010	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	1/11/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	1/11/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	1/11/2011	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	2/8/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	2/8/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	2/8/2011	<0.0026	<0.004	0	In Compliance
SJR @ Hills Ferry	2/18/2011	<0.0026	<0.004	0	In Compliance
SJR @ Maze Blvd	2/18/2011	<0.0026	<0.004	0	In Compliance
SJR @ Airport Way	2/18/2011	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	2/18/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	2/23/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	2/23/2011	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	3/8/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	3/8/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	3/8/2011	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	4/12/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	4/12/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	4/12/2011	<0.0026	<0.004	0	In Compliance
SJR @ Hills Ferry	5/10/2011	<0.0026	<0.004	0	In Compliance
SJR @ Maze Blvd	5/10/2011	<0.0026	<0.004	0	In Compliance
SJR @ Airport Way	5/10/2011	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	5/10/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	5/10/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	5/10/2011	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	6/14/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	6/14/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	6/14/2011	<0.0026	<0.004	0	In Compliance
SJR @ Hills Ferry	7/12/2011	<0.0026	<0.004	0	In Compliance
SJR @ Maze Blvd	7/12/2011	<0.0026	<0.004	0	In Compliance
SJR @ Airport Way	7/12/2011	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	7/12/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	7/12/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	7/12/2011	<0.0026	<0.004	0	In Compliance

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (µG/L)	DIAZINON (µG/L)	LOAD ¹	LOADING CAPACITY COMPLIANCE
SJR @ Las Palmas Ave (Patterson)	8/9/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	8/9/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	8/9/2011	<0.0026	<0.004	0	In Compliance
SJR @ Las Palmas Ave (Patterson)	9/13/2011	<0.0026	<0.004	0	In Compliance
SJR @ Lander Ave	9/13/2011	<0.0026	<0.004	0	In Compliance
SJR @ Sack Dam	9/13/2011	<0.0026	<0.004	0	In Compliance

¹Load is concentration based following the formula in Figure 1.

Table IV-2. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for ESJWQC tributaries sampled during the 2011 water year within the Bear Creek and Fresno-Chowchilla subareas.

If a site was scheduled for chlorpyrifos and/or diazinon analysis (Table 20) but results are not included in this table, the site was dry during the sampling event.

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (µg/L)	DAZINON (µg/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Bear Creek @ Kibby Rd	5/17/2011	<0.0026	NT	0	In compliance
Bear Creek @ Kibby Rd	7/19/2011	<0.0026	NT	0	In compliance
Berenda Slough along Ave 18 1/2	1/18/2011	<0.0026	<0.004	0	In compliance
Berenda Slough along Ave 18 1/2	2/17/2011	<0.0026	<0.004	0	In compliance
Berenda Slough along Ave 18 1/2	3/15/2011	<0.0026	<0.004	0	In compliance
Berenda Slough along Ave 18 1/2	4/19/2011	0.021	<0.004	1.36	Out of compliance
Berenda Slough along Ave 18 1/2	5/17/2011	<0.0026	<0.004	0	In compliance
Berenda Slough along Ave 18 1/2	6/21/2011	<0.0026	<0.004	0	In compliance
Berenda Slough along Ave 18 1/2	7/19/2011	<0.0026	<0.004	0	In compliance
Berenda Slough along Ave 18 1/2	8/16/2011	<0.0026	<0.004	0	In compliance
Berenda Slough along Ave 18 1/2	9/13/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	1/18/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	2/17/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	3/15/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	4/19/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	5/17/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	6/21/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	7/19/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	8/16/2011	<0.0026	<0.004	0	In compliance
Cottonwood Creek @ Rd 20	9/13/2011	<0.0026	<0.004	0	In compliance
Deadman Creek (Dutchman) @ Gurr Rd	10/19/2010	<0.0026	<0.004	0	In compliance
Deadman Creek (Dutchman) @ Gurr Rd	11/16/2010	<0.0026	<0.004	0	In compliance
Deadman Creek (Dutchman) @ Gurr Rd	12/14/2010	<0.0026	<0.004	0	In compliance
Deadman Creek @ Hwy 59	1/18/2011	<0.0026	<0.004	0	In compliance
Deadman Creek @ Hwy 59	2/17/2011	<0.0026	<0.004	0	In compliance
Deadman Creek @ Hwy 59	3/15/2011	<0.0026	<0.004	0	In compliance
Deadman Creek @ Hwy 59	4/19/2011	0.016	<0.004	1.0267	Out of compliance
Deadman Creek @ Hwy 59	5/17/2011	<0.0026	<0.004	0	In compliance
Deadman Creek @ Hwy 59	6/21/2011	<0.0026	<0.004	0	In compliance
Deadman Creek @ Hwy 59	7/19/2011	<0.0026	<0.004	0	In compliance
Deadman Creek @ Hwy 59	8/16/2011	<0.0026	<0.004	0	In compliance
Deadman Creek @ Hwy 59	9/13/2011	0.049	<0.004	3.2267	Out of compliance
Dry Creek @ Rd 18	2/17/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Rd 18	4/19/2011	<0.0026	NT	0	In compliance
Dry Creek @ Rd 18	7/19/2011	<0.0026	NT	0	In compliance
Duck Slough @ Gurr Rd	1/18/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Gurr Rd	2/17/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Gurr Rd	3/15/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Gurr Rd	4/19/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Gurr Rd	5/17/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Gurr Rd	6/21/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Gurr Rd	7/19/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Gurr Rd	8/16/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Gurr Rd	9/13/2011	<0.0026	<0.004	0	In compliance
Duck Slough @ Hwy 99	5/17/2011	<0.0026	NT	0	In compliance

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (µg/L)	DIAZINON (µg/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Duck Slough @ Hwy 99	7/19/2011	<0.0026	NT	0	In compliance
Duck Slough @ Hwy 99	9/13/2011	<0.0026	NT	0	In compliance
Howard Lateral @ Hwy 140	10/19/2010	<0.0026	<0.004	0	In compliance
Howard Lateral @ Hwy 140	6/21/2011	<0.0026	NT	0	In compliance
Livingston Drain @ Robin Ave	6/21/2011	<0.0026	NT	0	In compliance
Livingston Drain @ Robin Ave	7/19/2011	<0.0026	NT	0	In compliance
Livingston Drain @ Robin Ave	8/16/2011	<0.0026	NT	0	In compliance
McCoy Lateral @ Hwy 140	1/18/2011	<0.0026	<0.004	0	In compliance
McCoy Lateral @ Hwy 140	4/19/2011	<0.0026	<0.004	0	In compliance
McCoy Lateral @ Hwy 140	5/17/2011	<0.0026	<0.004	0	In compliance
McCoy Lateral @ Hwy 140	6/21/2011	<0.0026	<0.004	0	In compliance
McCoy Lateral @ Hwy 140	7/19/2011	<0.0026	<0.004	0	In compliance
McCoy Lateral @ Hwy 140	8/16/2011	<0.0026	<0.004	0	In compliance
McCoy Lateral @ Hwy 140	9/13/2011	<0.0026	<0.004	0	In compliance

NT- Not tested

Table IV-3. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for ESJWQC tributaries sampled during the 2011 water year within the Turlock and Merced subareas.

If a site was scheduled for chlorpyrifos and/or diazinon analysis (Table 20) but results are not included in this table, the site was dry during the sampling event.

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (µg/L)	DIAZINON (µg/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Highline Canal @ Hwy 99	3/15/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Hwy 99	4/19/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Hwy 99	5/10/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Hwy 99	6/14/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Hwy 99	7/12/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Hwy 99	8/9/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Hwy 99	9/6/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	1/18/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	2/17/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	3/15/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	4/19/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	5/10/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	6/14/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	7/12/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	8/9/2011	<0.0026	<0.004	0	In compliance
Highline Canal @ Lombardy Rd	9/6/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	1/18/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	2/17/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	3/15/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	4/19/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	5/10/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	6/14/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	7/12/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	8/9/2011	<0.0026	<0.004	0	In compliance
Merced River @ Santa Fe	9/6/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	1/18/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	2/17/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	3/15/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	4/19/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	5/10/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	6/14/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	7/12/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	8/9/2011	<0.0026	<0.004	0	In compliance
Prairie Flower Drain @ Crows Landing Rd	9/6/2011	<0.0026	<0.004	0	In compliance

Table IV-4. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for ESJWQC tributaries sampled during the 2011 water year within the Tuolumne River and Northeast Bank subareas.

If a site was scheduled for chlorpyrifos and/or diazinon analysis (Table 20) but results are not included in this table, the site was dry during the sampling event.

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (µg/L)	DIAZINON (µg/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Dry Creek @ Wellsford Rd	1/18/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Wellsford Rd	2/17/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Wellsford Rd	3/15/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Wellsford Rd	4/19/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Wellsford Rd	5/10/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Wellsford Rd	6/14/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Wellsford Rd	7/12/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Wellsford Rd	8/9/2011	<0.0026	<0.004	0	In compliance
Dry Creek @ Wellsford Rd	9/6/2011	<0.0026	<0.004	0	In compliance
Lateral 2 1/2 near Keyes Rd	10/19/2010	<0.0026	<0.004	0	In compliance
Lateral 2 1/2 near Keyes Rd	4/19/2011	<0.0026	NT	0	In compliance
Lateral 2 1/2 near Keyes Rd	7/12/2011	<0.0026	NT	0	In compliance

NT-Not tested

Table IV-5. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for ESJWQC tributaries sampled during the 2011 water year within the Stanislaus River and North Stanislaus subareas.

If a site was scheduled for chlorpyrifos and/or diazinon analysis (Table 20) but results are not included in this table, the site was dry during the sampling event.

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (µg/L)	DIAZINON (µg/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Mootz Drain Downstream of Langworth Pond	12/14/2010	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	1/18/2011	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	2/17/2011	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	3/15/2011	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	4/19/2011	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	5/10/2011	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	6/14/2011	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	7/12/2011	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	8/9/2011	<0.0026	<0.004	0	In compliance
Rodden Creek @ Rodden Rd	9/6/2011	<0.0026	<0.004	0	In compliance

Table IV-6. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for Westside Coalition tributaries sampled during the 2011 water year within the Greater Orestimba subarea.

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (MG/L)	DIAZINON (MG/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Marshall Road Drain near River Road	12/20/10	<0.0026	<0.004	0.00	In compliance
Marshall Road Drain near River Road	4/12/11	<0.0026	<0.004	0.00	In compliance
Marshall Road Drain near River Road	5/10/11	0.09	<0.004	6.00	Out of compliance
Marshall Road Drain near River Road	6/14/11	<0.0026	<0.004	0.00	In compliance
Marshall Road Drain near River Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Marshall Road Drain near River Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Marshall Road Drain near River Road	9/13/11	0.27	<0.004	18.00	Out of compliance
Orestimba Creek at Hwy 33	2/22/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at Hwy 33	3/8/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at Hwy 33	4/12/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at Hwy 33	5/10/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at Hwy 33	6/14/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at Hwy 33	7/12/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at Hwy 33	8/9/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at Hwy 33	9/13/11	0.09	<0.004	6.00	Out of compliance
Orestimba Creek at River Road	2/22/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at River Road	3/8/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at River Road	4/12/11	0.068	<0.004	4.53	Out of compliance
Orestimba Creek at River Road	5/10/11	0.054	<0.004	3.60	Out of compliance
Orestimba Creek at River Road	6/14/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at River Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at River Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Orestimba Creek at River Road	9/13/11	<0.0026	<0.004	0.00	In compliance
Ramona Lake near Fig Avenue	12/20/10	<0.0026	<0.004	0.00	In compliance
Ramona Lake near Fig Avenue	3/8/11	<0.0026	<0.004	0.00	In compliance
Ramona Lake near Fig Avenue	4/12/11	<0.0026	<0.004	0.00	In compliance
Ramona Lake near Fig Avenue	5/10/11	0.065	<0.004	4.33	Out of compliance
Ramona Lake near Fig Avenue	6/14/11	<0.0026	<0.004	0.00	In compliance
Ramona Lake near Fig Avenue	7/12/11	<0.0026	<0.004	0.00	In compliance
Ramona Lake near Fig Avenue	8/9/11	<0.0026	<0.004	0.00	In compliance
Ramona Lake near Fig Avenue	9/13/11	0.089	<0.004	5.93	Out of compliance

Table IV-7. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for Westside Coalition tributaries sampled during the 2011 water year within the Stevinson and Grassland subareas.

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (MG/L)	DAZINON (MG/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Los Banos Creek at China Camp Road	12/21/10	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at China Camp Road	2/23/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at China Camp Road	3/8/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at China Camp Road	4/12/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at China Camp Road	5/10/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at China Camp Road	6/14/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at China Camp Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at China Camp Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at China Camp Road	9/13/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	10/12/10	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	11/9/10	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	12/14/10	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	12/21/10	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	1/11/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	2/8/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	2/23/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	3/8/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	4/12/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	5/10/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	6/14/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	7/12/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	8/9/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Hwy 140	9/13/11	<0.0026	<0.004	0.00	In compliance
Los Banos Creek at Sunset Ave.	2/23/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	10/12/10	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	11/9/10	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	12/14/10	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	12/21/10	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	1/11/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	2/8/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	2/23/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	3/8/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	4/12/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	5/10/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	6/14/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	7/12/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	8/9/11	<0.0026	<0.004	0.00	In compliance
Mud Slough Upstream of San Luis Drain	9/13/11	<0.0026	<0.004	0.00	In compliance
Newman Wasteway near Hills Ferry Road	12/21/10	<0.0026	<0.004	0.00	In compliance
Newman Wasteway near Hills Ferry Road	2/23/11	<0.0026	<0.004	0.00	In compliance
Newman Wasteway near Hills Ferry Road	3/8/11	<0.0026	<0.004	0.00	In compliance
Newman Wasteway near Hills Ferry Road	4/12/11	<0.0026	<0.004	0.00	In compliance
Newman Wasteway near Hills Ferry Road	5/10/11	<0.0026	<0.004	0.00	In compliance

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (MG/L)	DIAZINON (MG/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Newman Wasteway near Hills Ferry Road	6/14/11	<0.0026	<0.004	0.00	In compliance
Newman Wasteway near Hills Ferry Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Newman Wasteway near Hills Ferry Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Newman Wasteway near Hills Ferry Road	9/13/11	<0.0026	<0.004	0.00	In compliance
Poso Slough at Indiana Ave	12/21/10	<0.0026	<0.004	0.00	In compliance
Poso Slough at Indiana Ave	2/23/11	<0.0026	<0.004	0.00	In compliance
Poso Slough at Indiana Ave	3/8/11	<0.0026	<0.004	0.00	In compliance
Poso Slough at Indiana Ave	4/12/11	<0.0026	<0.004	0.00	In compliance
Poso Slough at Indiana Ave	5/10/11	<0.0026	<0.004	0.00	In compliance
Poso Slough at Indiana Ave	6/14/11	<0.0026	<0.004	0.00	In compliance
Poso Slough at Indiana Ave	7/12/11	<0.0026	<0.004	0.00	In compliance
Poso Slough at Indiana Ave	8/9/11	1.3	<0.004	86.67	Out of compliance
Poso Slough at Indiana Ave	9/13/11	0.12	<0.004	8.00	Out of compliance
Salt Slough at Lander Ave	10/12/10	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	11/9/10	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	12/14/10	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	12/21/10	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	1/11/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	2/8/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	2/23/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	3/8/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	4/12/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	5/10/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	6/14/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	7/12/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	8/9/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Lander Ave	9/13/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	12/21/10	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	2/23/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	3/8/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	4/12/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	5/10/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	6/14/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	7/12/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	8/9/11	<0.0026	<0.004	0.00	In compliance
Salt Slough at Sand Dam	9/13/11	0.087	<0.004	5.80	Out of compliance
Turner Slough at Edminster Road	2/23/11	<0.0026	<0.004	0.00	In compliance
Turner Slough at Edminster Road	3/8/11	<0.0026	<0.004	0.00	In compliance
Turner Slough at Edminster Road	4/12/11	<0.0026	<0.004	0.00	In compliance
Turner Slough at Edminster Road	5/10/11	<0.0026	<0.004	0.00	In compliance
Turner Slough at Edminster Road	6/14/11	<0.0026	<0.004	0.00	In compliance
Turner Slough at Edminster Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Turner Slough at Edminster Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Turner Slough at Edminster Road	9/13/11	<0.0026	<0.004	0.00	In compliance

Table IV-8. Chlorpyrifos and diazinon San Joaquin River TMDL concentration based load allocation calculations for Westside Coalition tributaries sampled during the 2011 water year within the Westside Creek subarea.

STATION NAME	SAMPLE DATE	CHLORPYRIFOS (MG/L)	DAZINON (MG/L)	LOAD	LOAD ALLOCATION COMPLIANCE
Blewett Drain at Highway 132	4/12/11	<0.0026	<0.004	0.00	In compliance
Blewett Drain at Highway 132	5/10/11	<0.0026	<0.004	0.00	In compliance
Blewett Drain at Highway 132	6/14/11	<0.0026	<0.004	0.00	In compliance
Blewett Drain at Highway 132	7/12/11	<0.0026	<0.004	0.00	In compliance
Blewett Drain at Highway 132	8/9/11	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek at Hwy 33	12/20/10	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek at Hwy 33	2/22/11	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek at Hwy 33	3/8/11	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek at Hwy 33	4/12/11	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek near Cox Road	12/20/10	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek near Cox Road	2/22/11	0.023	<0.004	1.53	Out of compliance
Del Puerto Creek near Cox Road	4/12/11	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek near Cox Road	5/10/11	0.018	<0.004	1.20	Out of compliance
Del Puerto Creek near Cox Road	6/14/11	0.38	<0.004	25.33	Out of compliance
Del Puerto Creek near Cox Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek near Cox Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Del Puerto Creek near Cox Road	9/13/11	<0.0026	<0.004	0.00	In compliance
Hospital Creek at River Road	12/21/10	<0.0026	<0.004	0.00	In compliance
Hospital Creek at River Road	4/12/11	<0.0026	<0.004	0.00	In compliance
Hospital Creek at River Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Hospital Creek at River Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Hospital Creek at River Road	9/13/11	0.27	<0.004	18.00	Out of compliance
Ingram Creek at River Road	12/21/10	<0.0026	<0.004	0.00	In compliance
Ingram Creek at River Road	4/12/11	<0.0026	<0.004	0.00	In compliance
Ingram Creek at River Road	5/10/11	0.067	<0.004	4.47	Out of compliance
Ingram Creek at River Road	6/14/11	<0.0026	<0.004	0.00	In compliance
Ingram Creek at River Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Ingram Creek at River Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Ingram Creek at River Road	9/13/11	<0.0026	<0.004	0.00	In compliance
Westley Wasteway near Cox Road	3/8/11	<0.0026	<0.004	0.00	In compliance
Westley Wasteway near Cox Road	4/12/11	<0.0026	<0.004	0.00	In compliance
Westley Wasteway near Cox Road	5/10/11	<0.0026	<0.004	0.00	In compliance
Westley Wasteway near Cox Road	6/14/11	0.072	<0.004	4.80	Out of compliance
Westley Wasteway near Cox Road	7/12/11	<0.0026	<0.004	0.00	In compliance
Westley Wasteway near Cox Road	8/9/11	<0.0026	<0.004	0.00	In compliance
Westley Wasteway near Cox Road	9/13/11	<0.0026	<0.004	0.00	In compliance

APPENDIX V
FIELD SHEETS

TABLE OF CONTENTS

Westside Coalition Fourth Quarter Monitoring Event – October 12, 2010.....	1
ESJWQC Fourth Quarter Monitoring Event– October 21, 2010	5
Westside Coalition November 9, 2010 Monitoring Event	10
Westside Coalition December 14, 2010 Monitoring Event	14
Westside Coalition December 20/21, 2010 Monitoring Event	18
Westside Coalition January 11, 2011 Monitoring Event.....	22
Westside Coalition February 8, 2011 Monitoring Event.....	26
ESJWQC First Quarter Monitoring Event – February 18, 2011	30
Westside Coalition First Quarter Monitoring Event – February 23, 2011	36
Westside Coalition March 8, 2011 Monitoring Event.....	40
Westside Coalition April 12, 2011 Monitoring Event.....	44
ESJWQC Second Quarter Monitoring Event--May 10, 2011	48
Westside Coalition Second Quarter Monitoring Event--May 10, 2011	53
Westside Coalition June 14, 2011 Monitoring Event.....	57
ESJWQC Third Quarter Monitoring Event – July 12, 2011	61
Westside Coalition Third Quarter Monitoring Event – July 12, 2011	66
Westside Coalition August 9, 2011 Monitoring Event	70
Westside Coalition September 13, 2011 Monitoring Event	74

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2010 October 12

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 72
 Ag Waiver Program

Station: San Joaquin River at PID Pumps

Date: 10/12/10

Latitude: GPS Reading Longitude: GPS Reading
37° 29.833' -121° 04.967'

Personnel: JH

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

Wet Channel Width: Stage:

Est. Velocity (fps):

D.O. (mg/L) / %sat	E.C. (μ S/cm)	Midchannel Depth (ft)
<u>8.26 / 100</u>	<u>752</u>	<u> </u>
H ₂ O Temp (°C)	pH	
<u>23-23</u>	<u>7.05</u>	

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
<u>72-S-JRPP-QE</u>	<u>Dissolved Metals (Cu, Ni, Zn)</u>	<u>1300</u>	<u>SB</u>	
<u>72-S-JRPP-QE</u>	<u>E. coli</u>	<u> </u>	<u> </u>	
<u>72-S-JRPP-QE</u>	<u>Herbicides (Prow and Thifluralin)</u>	<u> </u>	<u> </u>	
<u>72-S-JRPP-QE</u>	<u>OP Pesticides</u>	<u> </u>	<u> </u>	
<u>72-S-JRPP-QE</u>	<u>Total Metals (B, Cu, Ni, Zn), Hardness</u>	<u> </u>	<u> </u>	
<u>72-S-JRPP-QE</u>	<u>Turbidity, TDS, TSS</u>	<u> </u>	<u> </u>	

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 72
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 10/12/10

Latitude: GPS Reading 36° 59.012' Longitude: GPS Reading -120° 30.030'

Personnel: DL

Datum: Accuracy (ft/m):

Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat

2.16

E.C. (µS/cm)

550

Midchannel Depth (ft)

3.17

Wet Channel Width: 120 ft

Stage: 76

Est. Velocity (fps):

H₂O Temp (°C)

22.80

pH

8.13

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
72-S-JRSD-QE	Dissolved Metals (Cu, Ni, Zn)	4:30	56	
72-S-JRSD-QE	E. coli			
72-S-JRSD-QE	Herbicides (Prowal and Trifluralin)			
72-S-JRSD-QE	OP Pesticides			
72-S-JRSD-QE	Total Metals (P, Cu, Ni, Zn), Hardness			
72-S-JRSD-QE	Turbidity, TDS, TSS			

→ Don checked in 3:11 at the Dam

Sky Code: (clear, partly cloudy, overcast, fog, hazy) Wadeable: Yes / No Photo #:

Precipitation: (none, foggy, drizzle, rain, snow)

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 72
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 10/12/10

Latitude: GPS Reading 37° 17.703' Longitude: GPS Reading -120° 51.083'

Personnel: Diss/AL

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O.
(mg/L) / %sat

E.C.
(μ S/cm)

Midchannel
Depth (ft)

Wet Channel
Width:

Stage: 2.70

10.40

186

Est. Velocity
(fps):

H₂O Temp
(°C)

pH

24.7

7.63

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
72-SJRLA-QE	DOC	<u>11:00</u>	<u>SG</u>	
72-SJRLA-QE	E. coli			
72-SJRLA-QE	Hardness			
72-SJRLA-PE	Herbicides			
72-SJRLA-PE	OP Pesticides			
72-SJRLA-DE	TKN, Total NH ₃ , Nitrate-Nitrite as N (NO ₃ -NO ₂ -N), Total			
72-SJRLA-QE	TOC			
72-SJRLA-TE	Tox. Tests: Belenistrum & Acute Daphnophila			
72-SJRLA-QE	Turbidity, TDS, TSS, Bromide (Total), Solub. Chlorophyll (as			

Sky Code: clear, partly cloudy, overcast, fog, hazy

Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

East San Joaquin Water Quality Coalition

**Quarter 4 San Joaquin River TMDL
Field Sheets**

2010 October 21

Meter Calibration Log

Team 1

F. Wulff

Team 1 members: **K. Stony**, #1
 Primary multiparameter meter ID: #1
 Backup multiparameter meter ID: #2

Serial number: 07A1894AE
 Serial number: 07A1894AF
 Serial number:
 Serial number:
 Serial number:

Discharge Meter:
 Marsh-McBirney
 FloMate 2000

Discharge meter ID:
 GPS Unit ID:
 Auxiliary meter ID:
 Camera ID:

Standard Solution	Before		After		Date	Initials
	Primary	Secondary	Primary	Secondary		
pH 4	4.04	3.69	4.00	4.00	10/20/10	KS
pH 7	6.96	6.41	7.00	7.00	10/20/10	KS
pH 10	10.07	10.02	10.01	10.00	10/20/10	KS
1413 μ S/cm	1410	1378	1413	1413	10/20/10	KS
pH 4	4.03		3.99		10/21/10	KS
pH 7	7.06		7.00		10/21/10	KS
pH 10	10.04		10.01		10/21/10	KS
1413 μ S/cm	1417		1413		10/21/10	KS

Team 2

Team 2 members:
 Primary multiparameter meter ID:
 Backup multiparameter meter ID:
 Discharge meter ID:
 GPS Unit ID:
 Auxiliary meter ID:
 Camera ID:

Serial number:
 Serial number:
 Serial number:
 Serial number:
 Serial number:

Discharge Meter:
 Marsh-McBirney
 FloMate 2000

Standard Solution	Before		After		Date	Initials
	Primary	Secondary	Primary	Secondary		
pH 4						
pH 7						
pH 10						
1413 μ S/cm						
pH 4						
pH 7						
pH 10						
1413 μ S/cm						

Station Name: **SJR @ Maze Blvd** Agency: **MLJ-LLC**
 Station ID: **541STC510** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **10ES5001**
 Project ID: **ILRP_ESJWQC**
 Group: **Quarter 4**
 Personnel: **F. W. WAJFF, K. STORY**

DATE (mm/dd/yyyy): **10-21-2010** Arrival Time: **0950**
 Purpose Failure: **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 Purpose (Circle all that apply):
 SAMPLE TIME: **1010**
 Departure Time: **10:15**

SAMPLE LOCATION: Bank, Thawed, (Midchannel), Open Water
 OCCUPATION METHOD: Walk-in, Bridge, Other
 STARTING BANK: (LB) (RB) (NA)
 STREAM WIDTH (ft / m):
 WATER DEPTH (ft / m):
 HYDRO-MODIFICATION: None, Bridge, Pipes, Concrete Channel, Grade Control, Culvert, Other
 HYDROMODLOC: US (DS) (NA)
 Method = **Water_Grab** Position in Water Column: **Subsurface** Depth: **0.1 m**

SAMPLE TYPE: **Grab**, (Integrated)
 DEVICE: **Indiv** bottle by hand, By pole, **MLJ 3L PTFE**, Other
 Method: **Not Applicable**

WATER ODOOR: None, Sulfides, Sewage, Petroleum, Mixed, Other
 SITE ODOOR: None, Sulfides, Sewage, Petroleum, Mixed, Other
 PRECIPITATION: None, Foggy, Drizzle, Rain, Snow
 DOMINANT SUBSTRATE: Concrete, Cobble, Gravel, Sand, Mud, Unk., Other
 WATER CLARITY: Clear (see bottom), Cloudy (>4" vis) Murky (<4" vis)
 WADEABLE: **YES** / NO
 WIND: **Calm**, Light Breeze, Gusty
 WATERCOLOR: Colorless, Green, Yellow, Brown, Other
 OBSERVED FLOW: NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200 cfs
 WIND DIRECTION (from): circle direction in compass at right
 SKY CODE: **Clear**, Partly Cloudy, Overcast, Fog, Hazy
 PICTURE NUMBER: **IN151E1W** PICTURE NAME: **STC510-TMDL-102110-N,S,E,W**
 PRECIPITATION (last 24 hrs): **Unknown** <1", >1", None
 OTHER PRESENCE: **Vascular**, Nonvascular, Oily Sheen, Foam, **Trash**, None, Other

Field Results
 Sample Type = Field Measure; Method = Field
 Depth: 0.1 m Position in Column: Subsurface
 Air Temp (Celsius): **18.60**
 Water Temp (Celsius): **17.95**
 SC (uS/cm): **680**
 DO (mg/L): **7.96**
 pH: **7.85**
 TDS: **0.442**
 YSI Meter ID: **#1**
 Stage:
 Calculated Site Discharge: **1579**

Geometry Data
 *GPS/DGPS
 Target: **37.64194** Lat (dd.ddddd) Long (dd.ddddd): **-121.22778**
 *Actual: **37.64098**
 Difference:
 GPS Model: **MLJ-LLC Garmin eTrex** Accuracy (ft/m): **18**
 Datum: **NAD 83**

Field Dup: **Yes** / **No**
 Container Number: **1-L Amber Glass**
 Analyte: **Ops: chlorpyrifos, diazinon**
 Samples Collected: **541STC510-GR**
 Number: **2**

ESJWQC Field Data Sheet: Water Sampling (Event Type = WQ) Entered in d-base (initial/date) **KS 10-21-10** double checker: **FW.10/22/10** Pg of Pgs

Station Name: **SJR @ Airport Way** Agency: **MLJ-LLC**
 Station ID: **541SJC501** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **10ES5001**
 Project ID: **ILRP_ESJWQC**
 Group: **Quarter 4**
 Personnel: **F. W. ALFF, K. Story**

DATE (mm/dd/yyyy): **10-21-2010** Arrival Time: **10:25**
 Purpose Failure: **WaterChem** WaterTox **Habitat** FieldMeasure
 Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 SAMPLE TIME: **10:40**
 Departure Time: **11:19**

SAMPLE LOCATION: Bank, Thialweg, **Midchannel**, Open Water
 OCCUPATION METHOD: Walk-in (Bridge) Other
 STARTING BANK (LB) (RB) (NA)
 STREAM WIDTH (ft / m): WATER DEPTH (ft / m):
 HYDRO-MODIFICATION: None (Bridge) Pipes, Concrete Channel, Grade Control, Culvert, Other
 HYDROMODLOC: US (S) (NA)

Lab Chem/Tox Method=Water_Grab Position in Water Column: Subsurface Depth: 0.1 m
 SAMPLE TYPE: Grab (Integrated)
 DEVICE: Indiv bottle by hand, By pole (MLJ 3L PTFE, Other)

Habitat Method: Not Applicable
 WATER ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other
 SITE ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other
 PRECIPITATION: None, Foggy, Drizzle, Rain, Snow
 DOMINANT SUBSTRATE: Concrete, Cobble, Gravel, Sand, Mud, Junk, Other
 WATER CLARITY: Clear (see bottom), Cloudy (>4' vis), Murky (<4' vis)
 WADEABLE: YES / NO
 WIND: Calm, Light Breeze, Gusty
 WATERCOLOR: Colorless, Green, Yellow, Brown, Other
 OBSERVED FLOW: NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200 cfs
 WIND DIRECTION (from): circle direction in compass at right
 SKY CODE: Clear, Partly Cloudy, Overcast, Fog, Hazy
 PICTURE NUMBER: **4**
 PRECIPITATION (last 24 hrs): (Unknown) <1", >1", None
 OTHER PRESENCE: Vascular, Nonvascular, Oily/Sheen, Foam, Trash, None, Other

Picture Name: **SJC501-TMPL-102110-N,S,E,W.**

Samples Collected	Analyte	Container	Number	Notes
541SJC501-GR	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	
541SJC501-GR2	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	
541SJC501-MS	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	
541SJC501-FB	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	

QC Site

Field Results
 Sample Type=FieldMeasure; Method=Field
 Depth: 0.1 m Position in Column: Subsurface
 Air Temp (Celsius): **18.75**
 Water Temp (Celsius): **16.62**
 SC (uS/cm): **409**
 DO (mg/L): **8.97**
 pH: **8.00**
 TDS: **0.260**
 YSI Meter ID: **#1**
 Stage:
 Calculated Site Discharge:

Geometry Data
 *GPS/DGPS
 Lat (dd.ddddd): **37.67556**
 Long (dd.ddddd): **-121.26417**
 Target:
 *Actual: **37.67523**
 -121.26600
 Difference:
 GPS Model: MLJ-LLC Garmin eTrex
 Datum: NAD 83
 Accuracy (m): **15**

ESJWQC Field Data Sheet: Water Sampling (Event Type = WQ) Entered in d-base (initial/date) **VS 10-21-10** double checker: **F.W 10/22/10** Pg of Pgs

Station Name: **SJR @ Hills Ferry** Agency: **MLJ-LLC**
 Station ID: **541STC512** Funding: **10ES5001** Project ID: **ILRP_ESJWQC** Group: **Quarter 4**
 Date (mm/dd/yyyy): **10/21/2010** Arrival Time: **8:52** Departure Time: **9:17**
 Purpose Failure: **None** Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 Personnel: **F. Wulff, K. Story** Protocol: **MLJ-LLC FieldSOP 03/13/09**

Details-WQTox
 SAMPLE LOCATION: **Bank, Thalweg, Middlechannel, Open Water**
 OCCUPATION METHOD: **Walk-in**, **Bridge**, Other
 STARTING BANK: **LB** **RIB** **NA**
 STREAM WIDTH (ft / m): _____ WATER DEPTH (ft / m): _____
 HYDRO-MODIFICATION: **None**, **Bridge**, Pipes, Concrete Channel, Grade Control, Culvert, Other
 HYDROMODLOC: **US** / **DS** / **NA**

Lab Chem/Tox Method=Water Grab Position in Water Column: **Subsurface** Depth: **0.1 m**
 SAMPLE TYPE: **Grab** Integrated
 DEVICE: **Indiv** bottle by hand, By pole, **MLJ 3L PTFE**, Other
 Method: **Not Applicable**

Habitat
 WATER ODOR: **None**, Sulfides, Sewage, Petroleum, Mixed, Other
 SITE ODOR: **None**, Sulfides, Sewage, Petroleum, Mixed, Other
 PRECIPITATION: **None**, Foggy, Drizzle, Rain, Snow
 DOMINANT SUBSTRATE: **Concrete**, Cobble, Gravel, Sand, Mud, Unk., Other
 WATER CLARITY: **Clear** (see bottom), Cloudy (>4" vis), Murky (<4" vis)
 WADEABLE: **YES** **NO**
 WIND: **Calm**, Light Breeze, Gusty
 WATERCOLOR: **Colorless**, Green, Yellow, Brown, Other
 OBSERVED FLOW: **NA**, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200cfs
 WIND DIRECTION (from): circle direction in compass at right
 SKY CODE: **Clear**, Partly Cloudy, Overcast, Fog, Hazy
 PICTURE NUMBER: **IN15, 1E, 1W** PICTURE NAME: **STC512-TMOL-102110-NS,EW**
 PRECIPITATION (last 24 hrs): **Unknown** <1", >1", None
 OTHER PRESENCE: **Vascular**, Nonvascular, Oily/Sheen, Foam/Trash, None, Other

Samples Taken (# of Containers Filled)
 Samples Collected: **541STC512-GR** Analyte: _____
 Ops: **chlorpyrifos, diazinon**
 Container: **1-L Amber Glass** Number: **2**
 Field Dup: **Yes** / **No** Notes: _____

Geometry Data

GPS/DGPS	Lat (dd.dddd)	Long (ddd.ddddd)
Target:	37.3425	-120.97722
Actual:	37.35010	-120.97395
Difference:		

GPS Model: **MLJ-LLC Garmin eTrex** Accuracy: **2.3**
 Datum: **NAD 83**

Field Results
 Sample Type: **FieldMeasure**; Method: **Field**
 Depth: **0.1 m** Position in Column: **Subsurface**

Air Temp (Celsius):	18.17
Water Temp (Celsius):	17.63
SC (uS/cm):	203
DO (mg/L):	7.69
pH:	7.92
TDS:	0.132
YSI Meter ID:	#1
Stage:	
Calculated Site Discharge:	647

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2010 November 9

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 73
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 11/9/10

Latitude: GPS Reading Longitude: GPS Reading
 36° 59.012' -120° 30.030'

Personnel: DG/KR

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

<u>D.O.</u> (mg/L) / %sat	<u>E.C.</u> (μS/cm)	<u>Midchannel</u> <u>Depth (ft)</u>
<u>10.22</u>	<u>384</u>	<u>3.74</u>
<u>H₂O Temp</u> (°C)	<u>pH</u>	
<u>15.20</u>	<u>8.10</u>	

Wet Channel Width: 20ft Stage: 1.33
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
73-S-JRSD-QE	Dissolved Metals (Cu, Ni, Zn)	14:30	SB	
73-S-JRSD-QE	E. coli			
73-S-JRSD-PF	Herbicides (Prowl and Imazaliquin)			
73-S-JRSD-PF	OP Pesticides			
73-S-JRSD-QE	Total Metals (B, Cu, Ni, Zn), Hardness			
73-S-JRSD-QE	Turbidity, TDS, TSS			

115 cfs per CDEC

Sky Code: clear, partly cloudy, overcast, fog, hazy
 Wadeable: Yes / No Photo #:
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis), murky (<4" vis.)
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

115 cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWQ FIELD SAMPLING DATA LOG SHEET EVENT 73
Aq. Water Program

Station: San Joaquin River at PID Pumps

Date: 11/9/10

Latitude: GPS Reading Longitude: GPS Reading
37° 29.833' -121° 04.967'

Personnel: JA

Datum: Accuracy (ft/m): Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat	E.C. (μ S/cm)	Midchannel Depth (ft)
<u>9.60 / 100</u>	<u>824</u>	<input type="text"/>
H ₂ O Temp (°C)	pH	
<u>17.00</u>	<u>7.32</u>	

Wet Channel Width: Stage:
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
JA-SJRP-06	Dissolved Metals (Cu, Ni, Zn)	<u>1300</u>	<u>SG</u>	
JA-SJRP-06	Herbicides (Prow and Inturam)	<u>1300</u>	<u>SG</u>	
JA-SJRP-06	Total Metals (B, Cu, Ni, Zn), Hardness	<u>1300</u>	<u>SG</u>	

Sky Code: clear partly cloudy, overcast, fog, hazy Wadeable: Yes/No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 73
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 11/9/10

Latitude: GPS Reading Longitude: GPS Reading
37° 17.703' -120° 51.083'

Personnel: DG/EF

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat 9.87 E.C. (μ S/cm) 791 Midchannel Depth (ft)
H₂O Temp ($^{\circ}$ C) 15.01 pH 7.80

Wet Channel Width: Stage:
Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
73-SJRLA-QE	DOC	11:05	56	
73-SJRLA-QE	E. coli			
73-SJRLA-QE	Hardness			
73-SJRLA-QE	Herbicides			
73-SJRLA-QE	OP Pesticides			
73-SJRLA-QE	TRN, Total NH ₃ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
73-SJRLA-QE	TDC			
73-SJRLA-QE	Tox. Tests: <i>Selenastrum</i> & <i>Acute Ceriodaphnia</i>			
73-SJRLA-QE	Turbidity, TDS, TSS, Bromide (Total), Sulf. Orthophos (as			

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:
Precipitation: none, foggy, drizzle, rain, snow
Precipitation (last 24 hrs): unknown, <1", >1", none
Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)
Water Color: colorless, green, yellow, brown, other
Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2010 December 14

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 74
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 12/14/10

Latitude: GPS Reading 36° 59.012' Longitude: GPS Reading -120° 30.030'

Personnel: DG/AB

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat

E.C. (µS/cm)

Midchannel Depth (ft)

Wet Channel Width: 120 ft Stage:

12.49

673

2.25

Est. Velocity (fps): 0.74

H₂O Temp (°C)

pH

15.34

8.11

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
74-S-JRSD-QE	Dissolved Metals (Cu, Ni, Zn)	15:50	56	
74-S-JRSD-QE	E. coli			
74-S-JRSD-QE	Herbicides (Frowl and Terbufos)			
74-S-JRSD-QE	OP Pesticides			
74-S-JRSD-QE	Total Metals (Pb, Cu, Ni, Zn), Hardness			
74-SJRSD-QE	Turbidity, TDS, TSS			

→ No water flowing over Sack Dam. Blocked with rocks
 → Water level low. mud/sand bars showing in front of dam
 → depth measured in front of weir, ground to rock surface

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky) (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 74
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 12/14/10

Latitude: GPS Reading 37° 17.703' Longitude: GPS Reading -120° 51.083'

Personnel: [Signature]

Datum: [] Accuracy (ft/m): [] **Site Discharge Characterization**

Field Meter Data

<u>D.O.</u> (mg/L) / %sat	<u>E.C.</u> (µS/cm)	<u>Midchannel</u> <u>Depth (ft)</u>
<u>5.31</u>	<u>907</u>	<u>[]</u>
<u>H₂O Temp</u> (°C)	<u>pH</u>	
<u>17.47</u>	<u>7.80</u>	

Wet Channel Width: [] Stage: []
 Est. Velocity (fps): []

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
74-SJRLA-QE	DOC	10:30	8	
74-SJRLA-QE	E. coli			
74-SJRLA-QE	Hardness			
74-SJRLA-PE	Herbicides			
74-SJRLA-PE	OP Pesticides			
74-SJRLA-QE	TAN, Total NH ₃ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
74-SJRLA-QE	TOC			
74-SJRLA-TE	Tox. Tests: Selenastrum & Acute Ceriodaphnia			
74-SJRLA-QE	Turbidity, TDS, TSS, Bromide (Total), Solub. Orthophos (as			

glacier stream in channel
and some large, fishy debris in the water

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWG FIELD SAMPLING DATA LOG SHEET EVENT 74
Ag Waiver Program

Station: Del Puerto Creek near Cox Road

Date: 12/14/10

Latitude: GPS Reading 37° 32.362' Longitude: GPS Reading -121° 07.323'

Personnel: _____

Datum: _____ Accuracy (ft/m): _____ Site Discharge Characterization

Field Meter Data

Wet Channel Width: _____ Stage: _____
Est. Velocity (fps): 0

<u>D.O.</u> (mg/L) / %sat	<u>E.C.</u> (µS/cm)	<u>Midchannel</u> <u>Depth (ft)</u>
<u>8.07</u> / <u>99</u>	<u>854</u>	<u> </u>
<u>H₂O Temp</u> (°C)	<u>pH</u>	
<u>15.75</u>	<u>7.29</u>	

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
74-DPCR-QE	DOC	<u>0817</u>	<u>RB</u>	
74-DPCR-QE	Hardness	<u>0817</u>	<u>RB</u>	
74-DPCR-QE	TOC	<u>0817</u>	<u>RB</u>	
74-DPCR-QE	TSS	<u>0817</u>	<u>RB</u>	

*Sample Taken @ Hook Ranch
NO FLOW*

Sky Code: clear, partly cloudy, (overcast), fog, hazy Wadeable: Yes/No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), (cloudy) >4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

SG = Surface Grab, direct to container; BG = Bucket Grab

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2010 December 20/21

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT R11
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 12/2/10

Latitude: GPS Reading Longitude: GPS Reading
36° 59.012' -120° 30.030'

Personnel: SL Mac

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat	E.C. (μS/cm)	Midchannel Depth (ft)
<u>10.81</u>	<u>463</u>	<u>0</u>
H ₂ O Temp (°C)	pH	
<u>11.3</u>	<u>5.15</u>	

Wet Channel Width: 120ft Stage: Below gauge
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
R11-SJRSD-OE	Dissolved Metals (Cd, Cu, Pb, Ni, Zn)	15:30		
R11-SJRSD-OE	DOC			
R11-SJRSD-OE	E. coli			
R11-SJRSD-PE	Herbicides			
R11-SJRSD-PE	Pesticides (Full List)			
R11-SJRSD-OE	TKN, Total NH ₄ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
R11-SJRSD-OE	TOC			
R11-SJRSD-OE	Total Metals (As, B, Cd, Cr, Pb, Ni, Se, Zn), Hardness			
R11-SJRSD-TE	Tox. Tests: Selenasium, Acute Ceriodaphnia, & Acute			
R11-SJRSD-QE	Turbidity, TDS, TSS, Bromide (Total), Salub. Orthophosph (as			

*→ Flow fluctuates
 Sub. obs.
 → below 500 gauge*

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT R11
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 12/21/10

Latitude: GPS Reading Longitude: GPS Reading
37° 17.703' -120° 51.083'

Personnel: Db Ab

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat: 8.61
 E.C. (µS/cm): 182
 Midchannel Depth (ft):
 H₂O Temp (°C): 10.53
 pH: 7.70

Wet Channel Width: Stage:
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
R11-SJRLA-QE	Dissolved Metals (Cd, Cu, Pb, Ni, Zn)	11:55	SG	
R11-SJRLA-QE	DOC			
R11-SJRLA-QE	E. coli			
R11-SJRLA-PE	Herbicides			
R11-SJRLA-PE	Pesticides (Full List)			
R11-SJRLA-QE	TKN, Total NH ₃ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
R11-SJRLA-QE	TOC			
R11-SJRLA-QE	Total Metals (As, B, Cd, Cu, Pb, Ni, Se, Zn), Hardness			
R11-SJRLA-TL	Tox. Tests: Selenium, Acute Ceriodaphnia, & Acute			
R11-SJRLA-QE	Humidity, TDS, TSS, Bromide (Total), Solub. Orthophos (as			

→ Water level observed well past Dec Sample

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", ≥1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWG FIELD SAMPLING DATA LOG SHEET: EVENT R11
 Ag Waiver Program

Station: San Joaquin River at PID Pumps

Date: 12/20/10

Latitude: GPS Reading 37° 29.833' Longitude: GPS Reading -121° 04.967'

Personnel: JJA

Datum: _____ Accuracy (ft/m): _____

Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat

E.C. (µS/cm)

Midchannel Depth (ft)

8.77 / 99

413

Wet Channel Width: _____

Stage: _____

Est. Velocity (fps): _____

H₂O Temp (°C)

pH

14.72

7.45

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
R11-S-JRPP-DE	Dissolved Metals (Cd, Cu, Pb, Ni, Zn)	11:30	66	
R11-S-JRPP-DE	E. coli	11:30	66	
R11-S-JRPP-DE	Herbicides (Full List)	11:30	66	
R11-S-JRPP-DE	Pesticides (Full List)	11:30	66	
R11-S-JRPP-DE	Organic Pesticides (Full List)	11:30	66	
R11-S-JRPP-DE	TCO	11:30	66	
R11-S-JRPP-DE	Total Metals (As, Pb, Cd, Cr, Ni, Se, Zn), Herbicides, Insecticides, Organophosphates, and Acetylcholinesterase Inhibitors	11:30	66	
R11-S-JRPP-DE	Total Metals (As, Pb, Cd, Cr, Ni, Se, Zn), Herbicides, Insecticides, Organophosphates, and Acetylcholinesterase Inhibitors	11:30	66	
R11-S-JRPP-DE	Total Metals (As, Pb, Cd, Cr, Ni, Se, Zn), Herbicides, Insecticides, Organophosphates, and Acetylcholinesterase Inhibitors	11:30	66	

Sky Code: clear, partly cloudy, overcast, fog, hazy

Wadeable: Yes/No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown (<1", >1", none)

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol, mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

SG = Surface Grab, direct to container; BG = Bucket Grab

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 January 11

WSJRW FIELD SAMPLING DATA LOG SHEET: EVENT 75
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 1/11/11

Latitude: GPS Reading Longitude: GPS Reading
 36° 59.012' -120° 30.030'

Personnel: DC AG

Datum: Accuracy (ft/m): Site Discharge Characterization

Field Meter Data

D.O.
(mg/L) / %sat

11.65

E.C.
(μS/cm)

113

Midchannel
Depth (ft)

Wet Channel
Width: 120ft +

Stage: 8

Est. Velocity
(fps):

H₂O Temp
(°C)

7.33

pH

7.85

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
75-S-JRSD-DE	Dissolved Metals (Cu, Ni, Zn)	14:00	SC	
75-S-JRSD-DE	E. coli			
75-S-JRSD-DE	Herbicides (Prowl and Turalyn)			
75-S-JRSD-DE	OP Pesticides			
75-S-JRSD-DE	Total Metals (B, Cu, Ni, Zn), Hardness			
75-S-JRSD-DE	Turbidity, TDS, TSS			

*3.2 liter run back in
 → high flow*

Sky Code: clear, partly cloudy, overcast, fog, hazy

Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, 200cfs

1763 per COEC

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 75
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 1/11/11

Latitude: GPS Reading Longitude: GPS Reading
 37° 17.703' -120° 51.083'

Personnel: IC/AL

Datum: _____ Accuracy (ft/m): _____ **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat: 10.72
E.C. (µS/cm): 97
Midchannel Depth (ft): 0
H₂O Temp (°C): 6.93
pH: 7.53

Wet Channel Width: _____ Stage: _____
 Est. Velocity (fps): _____

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
75-SJRLA-DE	DOC	11:50	0.5	
75-SJRLA-DE	E. coli			
75-SJRLA-DE	Hardness			
75-SJRLA-PE	Herbicides			
75-SJRLA-PE	OP Pesticides			
75-SJRLA-DE	TKM, Total NH ₃ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
75-SJRLA-DE	TDC			
75-SJRLA-TE	Tox. Tests: Seimastrium & Acute Ceriodaphnia			
75-SJRLA-DE	Turbidity, TDS, TSS, Bromide (Total), Solub. Orthophos (as			

→ River above banks in spots

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis., murky) (<4" vis.)
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

Per CDEC

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWG FIELD SAMPLING DATA LOG SHEET EVENT 75
Ag Waiver Program

Station: San Joaquin River at PID Pumps

Date: 1/11/11

Latitude: GPS Reading 37° 29.833' Longitude: GPS Reading -121° 04.967'

Personnel: J. J.

Datum: Accuracy (ft/m): Site Discharge Characterization
Field Meter Data

D.O. (mg/L) / %sat: 8.53 / 99
E.C. (µS/cm): 192
Midchannel Depth (ft):
H₂O Temp (°C): 11.38
pH: 7.49

Wet Channel Width: Stage:
Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
77.S.JRPP.DF	Dissolved Metals (Cu, Ni, Zn)	1100	56	
77.S.JRPP.DF	Herbicides (Prow and Tallurein)	1100	56	
77.S.JRPP.PF	Herbicides (Prow and Tallurein)	1100	56	
77.S.JRPP.PF	Total Metals (B, Cu, Ni, Zn) Hardness	1100	56	
77.S.JRPP.DF	Total Metals (B, Cu, Ni, Zn) Hardness	1100	56	
77.S.JRPP.PF	Total Metals (B, Cu, Ni, Zn) Hardness	1100	56	

Sky Code: clear, partly cloudy, overcast, fog, hazy
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 February 8

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 76
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 2/8/11

Latitude: GPS Reading Longitude: GPS Reading
36° 59.012' -120° 30.030'

Personnel: PL/ER

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O.
(mg/L) / %sat

12.90

E.C.
(μ S/cm)

318

Midchannel
Depth (ft)

4.75

Wet Channel
Width: 12.0ft

Stage: 4.75

Est. Velocity
(fps):

H₂O Temp
(°C)

11.25

pH

8.35

8.24

↳ measured @ new gauge

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
76-S-JRSD-QE	Dissolved Metals (Cu, Ni, Zn)	14:00	30	
76-S-JRSD-QE	E. coli			
76-S-JRSD-QE	Herbicides (Prowal and Traluralin)			
76-S-JRSD-QE	OP Pesticides			
76-S-JRSD-QE	Total Metals (B, Cu, Ni, Zn), Hardness			
76-S-JRSD-QE	Turbidity, TDS, TSS			

Flow over dam restricted after construction

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

BRT per CDEC

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 76
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 2/8/11

Latitude: GPS Reading
37° 17.703'

Longitude: GPS Reading
-120° 51.083'

Personnel: DB / ER

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O.
(mg/L) / %sat

13.75

E.C.
(µS/cm)

800

Midchannel
Depth (ft)

8

Wet Channel
Width: 8

Stage: 8

Est. Velocity
(fps): 8

H₂O Temp
(°C)

11.37

pH

8.37

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
76-SJRLA-QE	DOC	10:30	SG	
76-SJRLA-QE	E. coli			
76-SJRLA-QE	Hardness			
76-SJRLA-QE	Herbicides			
76-SJRLA-QE	OP Pesticides			
76-SJRLA-QE	TKN, Total NH ₃ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
76-SJRLA-QE	TOC			
76-SJRLA-QE	Tox. Tests: Deltamethrin & Acetyl Chlorpyrifos			
76-SJRLA-QE	Turbidity, TDS, TSS, Bromide (Total), Solub. Orthophos (as			

Water still up

Sky Code: clear, partly cloudy, overcast, fog, hazy

Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow (isolated pool), 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWG FIELD SAMPLING DATA LOG SHEET, EVENT 76
 AqWaiver Program

Station: San Joaquin River at PID Pumps

Date: 2/8/11

Latitude: GPS Reading 37° 29.833' Longitude: GPS Reading -121° 04.967'

Personnel: JAC

Datum: Accuracy (ft/m):

Site Discharge Characterization

Field Meter Data

D.O.
(mg/L) / %sat

E.C.
(µS/cm)

Midchannel
Depth (ft)

Wet Channel
Width:

Stage:

8.39 / 99

277

Est. Velocity
(fps):

H₂O Temp
(°C)

pH

15.40

6.97

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
76-S-IRPP-01	Dissolved Metals (Cu, Ni, Zn)	<u>1420</u>	<u>36</u>	
76-S-IRPP-02	Herbicides (Prow and Imazam)	<u>1420</u>	<u>36</u>	
76-S-IRPP-03	Total Metals (Pb, Cd, Ni, Zn, Chromium)	<u>1420</u>	<u>36</u>	
76-S-IRPP-04	Total Metals (Pb, Cd, Ni, Zn, Chromium)	<u>1420</u>	<u>36</u>	

Sky Code: clear, partly cloudy, overcast, fog, hazy

Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown (<1", >1", none)

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other

Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

East San Joaquin Water Quality Coalition

**Quarter 1 San Joaquin River TMDL
Field Sheets**

2011 February 18

Meter Calibration Log

Team 1

Team 1 members: F. Wulff, K. Stong
 Primary multiparameter meter ID: #4
 Backup multiparameter meter ID: #3

Serial number: 07K101586
 Serial number: 07K101587
 Serial number:
 Serial number:
 Serial number:

Discharge Meter:
 Marsh-McBirney
 FloMate 2000

Discharge meter ID:
 GPS Unit ID:
 Auxiliary meter ID:
 Camera ID:

Standard Solution	Before		After		Date	Initials
	Primary	Secondary	Primary	Secondary		
pH 4	3.98	3.95	4.00	4.00	2/18/11	KS
pH 7	6.97	6.97	7.00	7.00	2/18/11	KS
pH 10	10.04	10.08	10.01	10.01	2/18/11	KS
1413 μ S/cm	1398	1392	1413	1413	2/18/11	KS
pH 4	3.99	3.99	4.00	4.00	2/18/11	KS
pH 7	6.99	7.00	7.00	7.00	2/18/11	KS
pH 10	10.05	9.98	10.01	10.00	2/18/11	KS
1413 μ S/cm	1409	1414	1413	1413	2/18/11	KS

Team 2

Team 2 members:
 Primary multiparameter meter ID:
 Backup multiparameter meter ID:
 Discharge meter ID:
 GPS Unit ID:
 Auxiliary meter ID:
 Camera ID:

Serial number:
 Serial number:
 Serial number:
 Serial number:
 Serial number:

Discharge Meter:
 Marsh-McBirney
 FloMate 2000

Standard Solution	Before		After		Date	Initials
	Primary	Secondary	Primary	Secondary		
pH 4						
pH 7						
pH 10						
1413 μ S/cm						
pH 4						
pH 7						
pH 10						
1413 μ S/cm						

ESJWQC Field Data Sheet: Water Sampling (Event Type = WQ) Entered in d-base (initial/date) **K5 2-22-11** double checker: **FW 2-23-11** Pg of Pgs

Station Name: **SJR @ Airport Way** Agency: **MLJ-LLC**

Station ID: **541SJC501** Protocol: **MLJ-LLC FieldSOP 03/13/09**

Funding: **10ES5001**

Project ID: **TMDL_ESJWQC**

Group: **Quarter**

Personnel: **F. Wulff, K. Story**

Arrival Time: **1219**

Departure Time: **1239**

DATE (mm/dd/yyyy): **02/18/2011**

Purpose/Failure: **WaterChem** **WaterTox** **Habitat** **FieldMeasure**

Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**

SAMPLE TIME: **1230**

Geometry Data

SAMPLE LOCATION: Bank, Thailweg, Midchannel, Open Water

OCCUPATION METHOD: Walk-in, Bridge, Other

STARTING BANK: **LB** / RE / NA

STREAM WIDTH (ft / m):

WATER DEPTH (ft / m):

HYDRO-MODIFICATION: None, Bridge, Pipes, Concrete Channel, Grade Control, Culvert, Other

HYDROMODLOC: **US** / DS / NA

GPS/DGPS: **37.67556** Long (ddd.ddddd) **-121.26417**

Target: **37.67556**

Actual: **37.67516**

Difference:

GPS Model: **MLJ-LLC Garmin eTrex**

Datum: **NAD 83**

Accuracy (ft/m): **55**

Lab Chem/Tox Method=Water Grab Position in Water Column: Subsurface Depth: 0.1 m

Habitat Method: Not Applicable

SAMPLE TYPE: **Grab, Integrated**

DEVICE: **Indiv bottle by hand, By pole, MLJ 3L, PTFE, Other**

WATER ODOR: **None, Sulfides, Sewage, Petroleum, Mixed, Other**

SITE ODOR: **None, Sulfides, Sewage, Petroleum, Mixed, Other**

PRECIPITATION: **None, Foggy, Drizzle, Rain, Snow**

DOMINANT SUBSTRATE: **Concrete, Cobble, Gravel, Sand, Mud, Unk., Other**

WATER CLARITY: **Clear (see bottom), Cloudy (>4" vis), Murky (<4" vis)**

WADEABLE: **YES / NO**

WIND: **Calm, Light Breeze, Gusty**

WATER COLOR: **Colorless, Green, Yellow, Brown, Other**

OBSERVED FLOW: **NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200cfs**

WIND DIRECTION (from): **circle direction in compass at right**

SKY CODE: **Clear, Partly Cloudy, Overcast, Fog, Hazy**

PICTURE NUMBER: **1N1S1E1W**

PRECIPITATION (last 24 hrs): **Unknown (>1")**; None

OTHER PRESENCE: **Algal, Nonvascular, Oily/Sheen, Foam, Trash, None, High water discharging off bridge**

PICTURE NAME: **SJC501-TMDL-021811-N1S1E1W**

Field Results

Sample Type: **Field Measure**; Method: **Field**

Depth: **0.1 m** Position in Column: **Subsurface**

Air Temp (Celsius): **8.86**

Water Temp (Celsius): **9.85**

SC (uS/cm): **248**

DO (mg/L): **10.20**

pH: **7.86**

TDS: **0.163**

YSI Meter ID: **4**

Stage:

Calculated Site Discharge: **7990**

Samples Taken (# of Containers Filled)	Analyte	Container	Number	Notes
541SJC501-GR	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	
541SJC501-GR2	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	
541SJC501-MS	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	
541SJC501-FB	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	

Station Name: **SJR @ Patterson** Agency: **MLJ-LLC**
 Station ID: **541STC507** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **10ES5001**
 Project ID: **TMDL ESJWQC**
 Group: **Quarter**
 Personnel: **F. Wulff, K. Story**

Arrival Time: **1104**
 SAMPLE TIME: **1120**
 Departure Time: **1137**

Purpose/Failure: **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**

SAMPLE LOCATION: **Bank, Thalweg, Midchannel, Open Water**

OCCUPATION METHOD: **Walk-in** **Bridge** **Other**
 STARTING BANK: **(LB) RB/ NA**

STREAM WIDTH (ft / m): **WATER DEPTH (ft / m):**

HYDRO-MODIFICATION: **None** **Bridge** **Pipes** **Concrete Channel** **Grade Control** **Culvert** **Other**
 HYDROMODLOC: **US** **DS** **MS** **Construction Site**

Lab Chem/Tox Method: **Water** **Grab** Position in Water Column: **Subsurface** Depth: **0.1 m**

SAMPLE TYPE: **Grab** Integrated
 DEVICE: **Infiltr** bottle by hand By pole, MLJ 3L PTFE, Other

Habitat Method: **Not Applicable**

WATER ODOR: **None** **Sulfides** **Sewage** **Petroleum** **Mixed** **Other**
 SITE ODOR: **None** **Sulfides** **Sewage** **Petroleum** **Mixed** **Other**
 PRECIPITATION: **None** **Foggy** **Drizzle** **Rain** **Snow**
 DOMINANT SUBSTRATE: **Concrete** **Cobble** **Gravel** **Sand** **Mud** **Unk.** **Other**
 WATER CLARITY: **Clear** (see bottom) **Cloudy** (>4" vis) **Murky** (<4" vis)
 WADEABLE: **YES** **NO**

WIND: **Calm** **Light Breeze** **Gusty**
 WATERCOLOR: **Colorless** **Green** **Yellow** **Brown** **Other**
 OBSERVED FLOW: **NA** **Dry Waterbody Bed** **No Observed Flow** **Isolated Pool** **0.1 - 1 cfs** **1 - 5 cfs** **5 - 20 cfs** **20 - 50 cfs** **50 - 200 cfs** **>200 cfs**

WIND DIRECTION (from): circle direction in compass at right **XX** → 
 SKY CODE: **Clear** **Partly Cloudy** **Overcast** **Fog** **Hazy**
 PICTURE NUMBER: **INISITE** PICTURE NAME: **STC507-TMDL-021811-NISITE**

PRECIPITATION (last 24 hrs): **Unknown** (<1") **None**
 OTHER PRESENCE: **Vascular** **Nonvascular** **Oily/Sheen** **Foam** **Trash** **Other**

Samples Taken (# of Containers Filled) **541STC507-GR** Analyte **chlorpyrifos, diazinon**

Field Dup: **Yes** / **No** Container Number **2**
 Notes **1-L Amber Glass**

Geometry Data	
GPS/DGPS Lat (dd.dddddd)	37.49778
Long (ddd.ddddd)	121.08167
Target	-121.08167
Actual	-121.08353
Difference	
GPS Model	MLJ-LLC Garmin eTrex
Datum	NAD 83
Accuracy (ft / m)	29

Field Results	
Sample Type: Field Measure; Method: Field	
Depth: 0.1 m Position in Column: Subsurface	
Air Temp (Celsius)	9.88
Water Temp (Celsius)	10.05
SC (uS/cm)	405
DO (mg/L)	10.01
pH	7.65
TDS	0.263
YSI Meter ID	4
Stage	
Calculated Site Discharge	3861

ESJWQC Field Data Sheet: Water Sampling (Event Type = WQ) Entered in d-base (initial/date) **KS 2-22-11** double checker: **F.W. 2-23-11** Pg of Pgs

Station Name: **SJR @ Hills Ferry** Agency: **MLJ-LLC**
 Station ID: **541STC512** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **10ES5001**
 Project ID: **TMDL_ESJWQC**
 Group: **Quarter 4**
 Personnel: **F. Wuff, K. Stov**

DATE (mm/dd/yyyy): **02/18/2011** Arrival Time: **1016**
 Purpose/Failure: **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 SAMPLE TIME: **1030**
 Departure Time: **1046**

Geometry Data	
GPS/DGPS	Lat (dd.ddddd) 37.3425
Target	Long (dd.ddddd) -120.9722
Actual	37.35016
Difference	-120.97392
GPS Model	MLJ-LLC Garmin eTrex
Accuracy (m)	32
Datum	NAD 83

Field Results	
Sample Type: Field Measure, Method: Field	Air Temp (Celsius): 11.12
Depth: 0.1 m Position in Column: Subsurface	Water Temp (Celsius): 9.22
	SC (uS/cm): 47
	DO (mg/L): 10.24
	pH: 8.36
	TDS: 6.031
	YSI Meter ID: 4
	Stage: 4180
	Calculated Site Discharge: 4180

Details-WQ/Tox

SAMPLE LOCATION: Bank, Thailweg, (Midchannel), Open Water

OCCUPATION METHOD: Walk-in, Spigs, Other

STARTING BANK: LB / RB / NA

STREAM WIDTH (ft / m):

WATER DEPTH (ft / m):

HYDRO-MODIFICATION: None, Bridge, Pipes, Concrete Channel, Grade Control, Culvert, Other

HYDROMODLOC: US / DS / NA

Lab Chem/Tox Method=Water_Grab Position in Water Column: **Subsurface** Depth: 0.1 m

SAMPLE TYPE: Grab / Integrated

DEVICE: Indiv bottle by hand, By pole (MLJ 3L PTFE) / Other

Habitat Method: Not Applicable

WATER ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other

SITE ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other

PRECIPITATION: None, Foggy, Drizzle, Rain, Snow

DOMINANT SUBSTRATE: Concrete, Cobble, Gravel, Sand, Mud, Unk., Other

WATER CLARITY: Clear (see bottom), Cloudy (>4" vis), Murky (<4" vis)

WADEABLE: YES / NO

WIND: Calm, Light Breeze, Gusty

WATER COLOR: Colorless, Green, Yellow, Brown, Other

OBSERVED FLOW: NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200 cfs

WIND DIRECTION (from): circle direction in compass at right →

SKY CODE: Clear, Partly Cloudy, Overcast, Fog, Hazy

PICTURE NUMBER: IN151E1W PICTURE NAME: STC 512_TMDL_02.18.11-N1S,E1W

PRECIPITATION (last 24 hrs): Unknown / None

OTHER PRESENCE: Algal, Nonvascular, Oily/Sheen, Foam, Trash, None, Other

Samples Taken (# of Containers Filled)

Samples Collected: 541STC512-GR

Analyte: Ops: chlorpyrifos, diazinon

Field Dup: Yes / No

Container: 1-L Amber Glass

Number: 2

Notes:

ESJWQC Field Data Sheet: Water Sampling (Event Type = WQ) Entered in d-base (initial/date) FS 2-22-11 double checker: FW, 2-23-11 Pg of Pgs

Station Name: **SJR @ Maze Blvd** Agency: **MLJ-LLC**
 Station ID: **541STC510** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **10ES5001**
 Project ID: **TMDL_ESJWQC**
 Group: **Quarter 4**
 Personnel: **F. Wulff, K. Stovry**

DATE (mm/dd/yyyy): 02/18/2011 Arrival Time: 1151
 Purpose/Failure: WaterChem Habitat FieldMeasure
 Purpose (Circle all that apply): WaterChem Habitat FieldMeasure
 SAMPLE TIME: 1200
 Departure Time: 1214

Details-WQ/Tox

SAMPLE LOCATION: Bank, Thailweg, McChamper, Open Water

OCCUPATION METHOD: Walk-in, Bridge, Other
 STARTING BANK: LB / RB / NA

STREAM WIDTH (ft / m): WATER DEPTH (ft / m):

HYDRO-MODIFICATION: None, Bridge, Pipes, Concrete Channel, Grade Control, Culvert, Other
 HYDROMODLOC: US / DS / NA

Lab Chem/Tox Method: Water_Grab Position in Water Column: Subsurface Depth: 0.1 m

SAMPLE TYPE: Grab, Integrated
 DEVICE: indiv bottle by hand, By pole, MLJ 3L PTFE, Other
 Method: Not Applicable

Habitat

WATER ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other
 SITE ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other
 PRECIPITATION: None, Foggy, Drizzle, Rain, Snow
 DOMINANT SUBSTRATE: Concrete, Cobble, Gravel, Sand, Mud, Unk., Other
 WATER CLARITY: Clear (see bottom), Cloudy (<4" vis), Murky (<4" vis)
 WADEABLE: YES / NO
 WIND: Calm, Light Breeze, Gusty
 WATERCOLOR: Colorless, Green, Yellow, Brown, Other
 OBSERVED FLOW: NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200 cfs
 WIND DIRECTION (from): circle direction in compass at right →
 SKY CODE: Clear, Partly Cloudy, Overcast, Fog, Hazy
 PICTURE NUMBER: IN5151611W PICTURE NAME: 541STC510-TMDL-021811-N,S,E,W
 OTHER PRESENCE: vascular / Nonvascular, Oily/Sheen, Foam, Trash, None, Other Water discharging off bridge

Field Results

Sample Type: Field Measure, Method: Field
 Depth: 0.1 m Position in Column: Subsurface

Air Temp (Celsius): 9.52
 Water Temp (Celsius): 9.76
 SC (uS/cm): 268
 DO (mg/L): 10.07
 pH: 7.89
 TDS: 0.157
 YSI Meter ID: 4
 Stage: 7206

Accuracy (ft/m): 25

Datum: NAD 83

GPS Model: MLJ-LLC Garmin eTrex
 GPS/DGPS: 37.64194 Lat (ddd.ddddd) 37.64101 Long (ddd.ddddd) -121.22778
 Target: 37.64194
 Actual: 37.64101
 Difference:

Samples Taken (# of Containers Filled)

541STC510-GR Analyte: Ops: chlorpyrifos, diazinon Container Number: 2
 1-L Amber Glass

Field Dup: Yes / No

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 February 23

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT R12
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 2/27/11

Latitude: GPS Reading Longitude: GPS Reading
36° 59.012' -120° 30.030'

Personnel: _____

Datum: _____ Accuracy (ft/m): _____ **Site Discharge Characterization**

Field Meter Data

D.O.
(mg/L) / %sat

11.10

E.C.
(µS/cm)

327

Midchannel
Depth (ft)

4.95

Wet Channel
Width: 120ft

Stage: 4.75

Est. Velocity
(fps): 1.5

H₂O Temp
(°C)

12.50

pH

7.870

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
R12-S-JRSD-OE	Dissolved Metals (Cd, Cu, Pb, Ni, Zn)	<u>15:15</u>	<u>SC</u>	
R12-S-JRSD-OE	DOC			
R12-S-JRSD-OE	E. coli			
R12-S-JRSD-OE	Herbicides			
R12-S-JRSD-OE	Pesticides (PAM List)			
R12-S-JRSD-OE	TKN, Total NH ₃ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
R12-S-JRSD-OE	TDC			
R12-S-JRSD-OE	Total Metals (As, B, Cd, Cr, Pb, Ni, Se, Zn), Hardness			
R12-S-JRSD-OE	Tox. Tests: Salinastrium, Acute Ceriodaphnia, & Acute			
R12-S-JRSD-OE	Toxicity: TDS, TSS, Bromide (Total), Salub. Orthophas (as			

→ new downstream controls for flow
 → stop reps depth in front of Sack Dam per Alejandro SICC

Sky Code: clear, (partly cloudy), overcast, fog, hazy Wadeable: Yes / No Photo #: _____
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (>4" vis.)
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT R12
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 5/27

Latitude: GPS Reading Longitude: GPS Reading
37° 17.703' -120° 51.083'

Personnel: 12 312

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O.
(mg/L) / %sat

10.9

E.C.
(μ S/cm)

261

Midchannel
Depth (ft)

Wet Channel
Width:

Stage:

Est. Velocity
(fps):

H₂O Temp
(°C)

15.57

pH

7.82

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
R12-SJRLA-QE	Dissolved Metals (Cd, Cu, Pb, Ni, Zn)	12:00	56	
R12-SJRLA-QE	DOC			
R12-SJRLA-QE	E. coli			
R12-SJRLA-PE	Herbicides			
R12-SJRLA-PE	Pesticides (Full List)			
R12-SJRLA-QE	TKN, Total NH ₃ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
R12-SJRLA-QE	TOC			
R12-SJRLA-QE	Total Metals (As, B, Cd, Cu, Pb, Ni, Se, Zn), Hardness			
R12-SJRLA-TE	Tox. Tests: Sekenashom, Acute Ceriodaphnia, & Acute			
R12-SJRLA-QE	turbidity, TDS, TSS, Bromide (Total), Solub. Orthophos (as			

→ Under up
 → lots of trash above water

Sky Code: clear, (partly cloudy), overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

R12

WSJRWC FIELD SAMPLING DATA LOG SHEET EVENT R12
Ag Waiver Program

Station: San Joaquin River at PID Pumps

Date: 2/22

Latitude: GPS Reading 37° 29.833'
Longitude: GPS Reading -121° 04.967'

Personnel: SH

Datum: Accuracy (ft/m): Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat
E.C. (µS/cm)
Midchannel Depth (ft)
H₂O Temp (°C)
pH

Wet Channel Width: Stage:
Est. Velocity (fps):

Samples Collected

Table with columns: Sample ID, Analyte, Time, Sample Depth (ft), Notes*. Rows include Dissolved Metals, Herbicides, Pesticides, etc.

NO SAMPLE

Key Code: clear, partly cloudy, overcast, fog, hazy
Precipitation: none, foggy, drizzle, rain, snow
Precipitation (last 24 hrs): unknown, <1", >1", none
Water Clarity: clear (>4" vis.), cloudy (<4" vis.), murky (<4" vis.)
Water Color: colorless, green, yellow, brown, other
Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
Water Odor: none, sulfides, sewage, petrol., mixed, other
Site Odor: none, sulfides, sewage, petrol., mixed, other
Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

SG = Surface Grab, direct to container; BG = Bucket Grab

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 March 8

WSJRW FIELD SAMPLING DATA LOG SHEET: EVENT 77
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 5/24/11

Latitude: GPS Reading Longitude: GPS Reading

37° 17.703' -120° 51.083'

Personnel: DB SI

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O.
(mg/L) / %sat

E.C.
(μ S/cm)

Midchannel
Depth (ft)

Wet Channel
Width:

Stage:

Est. Velocity
(fps):

H₂O Temp
(°C)

pH

Samples Collected

<u>Sample ID</u>	<u>Analyte</u>	<u>Time</u>	<u>Sample Depth (ft)</u>	<u>Notes*</u>
<u>17-SJRLA-STE</u>	<u>Tox. Test: Acute Hyalella</u>			

→ No Sample to ~~be~~ high

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

77

WATER QUALITY FIELD SAMPLING DATA LOG SHEET (EVENT 17)
ANALYSIS PROGRAM

Station: San Joaquin River at PID Pumps

Latitude: GPS Reading Longitude: GPS Reading
37° 29.833' -121° 04.967'

Date: 3/8/11

Personnel: J. H.

Datum: _____ Accuracy (ft/m): _____

Field Meter Data

D.O. (mg/L) / %sat: 8.2 / 99
E.C. (µS/cm): 360
H₂O Temp (°C): 12.25
pH: 6.74
Midchannel Depth (ft): _____

Site Discharge Characterization

Wet Channel Width: _____ Stage: _____
Est. Velocity (fps): _____

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
77.8 IRPP-CF	Dissolved Metals (Cu, Ni, Zn)	15:30	5.1	
77.8 IRPP-CF	Herbicides (Propr and Imazalim)		5.1	
77.8 IRPP-CF	Total Metals (Cu, Ni, Zn) Herbicides		5.1	

sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes/No Photo #: ✓

precipitation: none, foggy, drizzle, rain, snow

precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, silt, other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRW C FIELD SAMPLING DATA LOG SHEET: EVENT 77
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 3/8/11

Latitude: GPS Reading Longitude: GPS Reading
36° 59.012' -120° 30.030'

Personnel: JB/EK

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat	E.C. (µS/cm)	Midchannel Depth (ft)
<u>9.80</u>	<u>327</u>	<u>5.10</u>
H ₂ O Temp (°C)	pH	
<u>14.31</u>	<u>7.78</u>	

Wet Channel Width: 120.54 Stage: 5.10
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
77-SJRS0-DE	E. coli	<u>15:30</u>	<u>15:30</u>	<u>SL</u>
77-SJRS0-DE	Herbicides (Provl and Atrazine)			
77-SJRS0-DE	OP Pesticides			
77-SJRS0-DE	Pesticides (not OP) - MSMSD			
77-SJRS0-DE	Total Metals (Pb, Cu, Ni, Zn), Hardness			
77-SJRS0-DE	Turbidity, TDS, TSS			

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

Page 15

19cfs
p = CDFC

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 April 12

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 78
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 4/12/11

Latitude: GPS Reading Longitude: GPS Reading
36° 59.012' -120° 30.030'

Personnel: DJL/K

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat: 11.24
 E.C. (µS/cm): 174
 Midchannel Depth (ft):
 H₂O Temp (°C): 14.71
 pH: 8.06

Wet Channel Width: 120ft Stage: Ø
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
78-S-JRSD-DE	Dissolved Metals (Cu, Ni, Zn)	15:00	SG	
78-S-JRSD-DE	E. coli			
78-S-JRSD-PE	Herbicides (Prow and Talfuram)			
78-S-JRSD-PE	OP Pesticides			
78-S-JRSD-DE	Total Metals (B, Cu, Ni, Zn), Hardness			
78-S-JRSD-DE	Turbidity, TDS, TSS			

Flood Plain. Water very high + over the structure

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 78
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 4/12/11

Latitude: GPS Reading Longitude: GPS Reading
37° 17.703' -120° 51.083'

Personnel: DEER

Datum: Accuracy (ft/m):

Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat: 89%
 E.C. (µS/cm): 86
 Midchannel Depth (ft):
 H₂O Temp (°C): 14.2/1
 pH: 7.88

Wet Channel Width: 8 Stage: 8
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
78-SJRLA-0E	Dissolved Metals (Cd, Cu, Pb, Ni, Zn)	<u>11:50</u>	<u>SC</u>	
78-SJRLA-0E	DOC			
78-SJRLA-0E	E. coli			
78-SJRLA-0E	Heterotrophs			
78-SJRLA-0E	Phosphates (Total)			
78-SJRLA-0E	TAN: Total NH ₃ , Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
78-SJRLA-0E	TOC			
78-SJRLA-0E	Total Metals (As, B, Cd, Cu, Pb, Ni, Se, Zn), Hardness			
78-SJRLA-0E	Tox. Tests: Selenium, Acute Ceriodaphnia & Acute			
78-SJRLA-0E	Turbidity, TDS, TSS, Bromide (Total), Sulfate, Orthophos (as			

*Water in flood plain → sampled above normal
 sub*

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWG FIELD SAMPLING DATA LOG SHEET EVENT 78
Ag Waiver Program

Location: San Joaquin River at PID Pumps

Date: 9/2/11

Latitude: GPS Reading Longitude: GPS Reading
37° 29.833' -121° 04.967'

Personnel: JH

Accuracy (ft/m): Site Discharge Characterization

Id Meter Data

Wet Channel Width: Stage:

D.O. 7.09 E.C. Midchannel Depth (ft)
1/L 7% sat (μ S/cm)

Est. Velocity (fps):

O Temp pH
(°C) 11.63

amples Collected
Sample ID

Analyte

Time

Sample Depth (ft)

Notes*

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
LSJRP01	Dissolved Metals (Cu, Ni, Zn)	1330	5.1	
LSJRP02	Herbicide (Prowl and Imazalix)	1330	5.1	
LSJRP03	Herbicide (Prowl and Imazalix)	1330	5.1	
LSJRP04	Dissolved Metals (Cu, Ni, Zn) Herbicide	1330	5.1	
LSJRP05	Dissolved Metals (Cu, Ni, Zn)	1330	5.1	

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4' vis.), murky (<4' vis.)
 Water Color: colorless, green, yellow, brown, other
 Water Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, bmk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs
 SG = Surface Grab, direct to container; BG = Bucket Grab

East San Joaquin Water Quality Coalition

Quarter 2 San Joaquin River TMDL Field Sheets

2011 May 10

Station Name: **SJR @ Airport Way** Agency: **MLJ-LLC**
 Station ID: **541SJC501** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **10ES5001**
 Project ID: **TMDL_ESJWQC**
 Group: **Quarter 2**
 Personnel: **K. Story, M. Zsue**

Arrival Time: **07:53** Departure Time: **0836**
 Purpose Failure: **None**
 Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 Date (mm/dd/yyyy): **05/10/11**
 SAMPLE TIME: **08:00**
 GPS/DGPS: **37.67556** Lat (dd.ddddd) **37.67556** Long (dd.ddddd) **-121.26417**
 Target: **37.67556** Difference: **-121.26417**
 GPS Model: **MLJ-LLC Garmin eTrex** Accuracy (m): **47**
 Datum: **NAD 83**

Details - WQ/Tox
 SAMPLE LOCATION: **Bank, Thalweg (Midchannel) Open Water**
 OCCUPATION METHOD: **Walk-in (Bridge) Other**
 STARTING BANK: **(B) RB/NA**
 STREAM WIDTH (ft./m): **WATER DEPTH (ft./m):**
 HYDRO-MODIFICATION: **None (Bridge) Pipes, Concrete Channel, Grade Control, Culvert, Other**
 HYDROMODLOC: **US (S) NA**
Lab Chem/Tox Method: Water Grab Position in Water Column: **Subsurface** Depth: **0.1 m**
 SAMPLE TYPE: **Grab, Integrated**
 DEVICE: **Indiv bottle by hand, By pole (MLJ 3L PTE) Other**
Habitat Method: Not Applicable
 WATER ODOOR: **None** Sulfides, Sewage, Petroleum, Mixed, Other
 SITE ODOOR: **None** Sulfides, Sewage, Petroleum, Mixed, Other **Organic**
 PRECIPITATION: **None** Foggy, Drizzle, Rain, Snow
 DOMINANT SUBSTRATE: **Concrete, Cobble, Gravel (Sand) Mud, Unk., Other**
 WATER CLARITY: **Clear** (see bottom), Cloudy (>4" vis) **Murky (<4" vis)**
 WADEABLE: **YES (NO)**
 WIND: **Calm, Light Breeze** - Gusty
 WATERCOLOR: **Colorless, Green** - Yellow, Brown, Other
 OBSERVED FLOW: **NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200 cfs**
 WIND DIRECTION (from): **circle direction in compass at right**
 SKY CODE: **Clear, Partly Cloudy, Overcast, Fog, Hazy**
 PICTURE NUMBER: **1N, 1S, 1E, 1W** PICTURE NAME: **SJC501-QTR2-051011-N, S, E, W**
 PRECIPITATION (last 24 hrs): **0.104**
 OTHER PRESENCE: **(Vascular) Nonvascular, Oily/Sheen, Foam, Trash, None, Other**

Field Results	
Sample Type = Field Measure; Method = Field	Depth: 0.1 m Position in Column: Subsurface
Air Temp (Celsius):	15.62
Water Temp (Celsius):	15.55
SC (uS/cm):	159
DO (mg/L):	7.69
pH:	7.17
TDS:	0.104
YSI Meter ID:	2
Stage:	
Calculated Site Discharge:	15100

Samples Taken (# of Containers Filled)

Samples Collected	Analyte	Container	Number	Notes
541SJC501-IN	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	

Field Dup: **Yes / No**

Discharge not available: MZ

Station Name: **SJR @ Maze Blvd** Agency: **MLJ-LLC**
 Station ID: **541STC510** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **10ES5001**
 Project ID: **TMDL_ESJWQC**
 Group: **Quarter 2**
 Personnel: **K. Story, M. Zenc**

Arrival Time: **0851** double checker: **KS 5/12/11**
 DATE (mm/dd/yyyy): **05/10/2011**
 Purpose/Failure: **0900**
 Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 Departure Time: **0922**

Geometry Data
 *GPS/DGPS Lat (dd.ddddd) Long (ddd.ddddd) -121.22778
 Target: 37.64194
 *Actual: 37.64078
 Difference:
 GPS Model: **MLJ-LLC Garmin eTrex** Accuracy (ft/m): **17**
 Datum: **NAD 83**

Lab Chem/Tox Method=**Water Grab** Position in **Water Column: Subsurface** Depth: **0.1 m**
 SAMPLE TYPE: **Grab, Integrated**
 DEVICE: **Indiv bottle by hand, By pole (MLJ 3L PTFE) Other**
Method: Not Applicable

Habitat
 WATER ODOUR: **None**, Sulfides, Sewage, Petroleum, Mixed, Other
 SITE ODOUR: **None**, Sulfides, Sewage, Petroleum, Mixed, Other
 PRECIPITATION: **None**, Foggy, Drizzle, Rain, Snow
 DOMINANT SUBSTRATE: **Concrete, Cobble, Gravel, Sand, Mud, Unk., Other**
 WATER CLARITY: **Clear** (see bottom), Cloudy (>4" vis), Murky (<4" vis)
 WADEABLE: **YES/NO**
 WIND: **Calm, Light Breezy, Gusty**
 WATER COLOR: **Colorless, Green, Yellow, Brown, Other**
 OBSERVED FLOW: **NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, 200 cfs**
 WIND DIRECTION (from): **circle direction in compass at right**
 SKY CODE: **C** (Clear), **P** (Partly Cloudy), **O** (Overcast), **F** (Fog), **H** (Hazy)
 PICTURE NUMBER: **15, 16, 17, 18**
 OTHER PRESENCE: **Vascular, Nonvascular, Oily/Sheen, Foam, Trash, None** Other
 PICTURE NAME: **STC510-Dtr2-051011-NIS, EIW**

Field Results
 Sample Type=**Field** Measure; Method=**Field**
 Depth: **0.1 m** Position in Column: **Subsurface**
 Air Temp (Celsius): **17.74**
 Water Temp (Celsius): **15.40**
 SC (uS/cm): **167**
 DO (mg/L): **8.92**
 pH: **7.68**
 TDS: **0.109**
 YSI Meter ID: **2**
 Stage:
 Calculated Site Discharge: **12427**

Samples Taken (# of Containers Filled)
 Samples Collected: **541STC510-IN** Analyte: **Ops: chlorpyrifos, diazinon**
 Field Dup: **Yes / No** Container: **Number**
 1-L Amber Glass 2

Station Name: **SJR @ Hills Ferry** Agency: **MLJ-LLC**
 Station ID: **541STC512** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **10ES5001**
 Project ID: **TMDL_ESJWQC**
 Group: **Quarter 2**
 Personnel: **K. Story M. Zene**

DATE (mm/dd/yyyy): **05/10/2011**
 Arrival Time: **1420**
 Purpose Failure: **None**
 Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 Departure Time: **1505**
 SAMPLE TIME: **1430**

SAMPLE LOCATION: **Bank, Thalweg, Midchannel/Open Water**
 OCCUPATION METHOD: **Walk-up, Bridge, Other**
 STARTING BANK: **LB / RB/NA**
 STREAM WIDTH (ft / m): **WATER DEPTH (ft / m):**
 HYDRO-MODIFICATION: **None, Bridge, Pipes, Concrete Channel, Grade Control, Culvert, Other**
 HYDROMODLOC: **US, DS, NA**

Lab Chem/Tox Method: **Water_Grab** Position in Water Column: **Subsurface** Depth: **0.1 m**
 SAMPLE TYPE: **Grab, Integrated**
 DEVICE: **Indiv bottle by hand, By pole, MLJ 3L PTFE, Other**
 Method: **Not Applicable**

WATER ODOR: **None, Sulfides, Sewage, Petroleum, Mixed, Other**
 SITE ODOR: **None, Sulfides, Sewage, Petroleum, Mixed, Other**
 PRECIPITATION: **None, Foggy, Drizzle, Rain, Snow**
 DOMINANT SUBSTRATE: **Concrete, Cobble, Gravel, Sand, Mud, Unk., Other**
 WATER CLARITY: **Clear (see bottom), Cloudy (>4" vis), Murky (<4" vis)**
 WADEABLE: **YES / NO**
 WIND: **Calm, Light Breeze, Gusty**
 WATER COLOR: **Colorless, Green, Yellow, Brown, Other**
 OBSERVED FLOW: **NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200 cfs**

WIND DIRECTION (from): **circle direction in compass at right**
 SKY CODE: **Clear, Partly Cloudy, Overcast, Fog, Hazy**
 PICTURE NUMBER: **INSUBEW**
 PRECIPITATION (last 24 hrs): **Unknown, <1", >1" (None)**
 OTHER PRESENCE: **Vascular, Nonvascular, Oily/Sheen, Foam, Trash, None, Other**
 PICTURE NAME: **STC512-QTR2-051011-NIS, EIW**

Field Dup: **Yes / No**
 Container: **1-L Amber Glass**
 Number: **2**
 Analyte: **Ops: chlorpyrifos, diazinon**
 Samples Collected: **541STC512-IN**

Geometry Data	
*GPSIDGPS	Lat (ddd.ddddd) Long (ddd.ddddd)
Target:	37.3425 -120.97722
*Actual:	37.35001 -120.97399
Difference:	
GPS Model:	MLJ-LLC Garmin eTrex Accuracy (ft./m): 13
Datum:	NAD 83
Field Results	
Sample Type=Field Measure, Method=Field	Depth: 0.1 m Position in Column: Subsurface
Air Temp (Celsius):	25.22
Water Temp (Celsius):	14.74
SC (uS/cm):	88
DO (mg/L):	7.25
pH:	6.94
TDS:	.057
YSI Meter ID:	Z
Stage:	
Calculated Site Discharge:	7120

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 May 10

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 79
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 5/10/11

Latitude: GPS Reading Longitude: GPS Reading
37° 17.703' -120° 51.083'

Personnel: SR/FR

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat 7.3 E.C. (μ S/cm) 90 Midchannel Depth (ft)
H₂O Temp (°C) 15.6 pH 7.23

Wet Channel Width: Stage:
Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
7R-SJRLA-0E	Dissolved Metals (Co, Cu, Pb, Ni, Zn)	11:35	56	
7R-SJRLA-0E	DO			
7R-SJRLA-0E	E. coli			
7R-SJRLA-0E	Nitrospira			
7R-SJRLA-0E	Pesticides (Full List)			
7R-SJRLA-0E	TKN, Total NPS, Nitrite+Nitrate as N (NO ₂ +NO ₃ -N), TSS			
7R-SJRLA-0E	TOC			
7R-SJRLA-0E	Total Metals (As, B, Cd, Cu, Pb, Ni, Se, Zn), Hardness			
7R-SJRLA-0E	Tox. Tests: Selenastrium, Acute Lematathria, & Acute Tubidity, TDS, TSS, Bromide (Total), Sulfid Orthophos (as			

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes No Photo #:
Precipitation: none, foggy, drizzle, rain, snow
Precipitation (last 24 hrs): unknown, <1", >1", none
Water Clarity: clear (see bottom), cloudy (>4" vis), murky (<4" vis.)
Water Color: colorless, green, yellow, brown, other
Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET EVENT 79

Ag Waiver Program

Location: San Joaquin River at PID Pumps

Date: 5/10/11

Latitude: GPS Reading 37° 29.833' Longitude: GPS Reading -121° 04.967'

Personnel: JH

Altitude: Accuracy (ft/m): Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat: 99 / 99
 E.C. (µS/cm): 159
 Midchannel Depth (ft):

Wet Channel Width: Stage:

Est. Velocity (fps):

DO Temp (°C): 9.90c
 pH: 7.18

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
79-S-IRPP-DE	Dissolved Metals (Cu, Ni, Zn)	1230	SC	
79-S-IRPP-DE	Herbicides (Frow and Inluraan)	1230	SC	
79-S-IRPP-DE	OP Herbicides	1230	SC	
79-S-IRPP-DE	Total Metals (B, Cu, Ni, Zn) Hardness	1230	SC	
79-S-IRPP-DE	Turbidity - TSS #55	1230	SC	

Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Water Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

G = Surface Grab, direct to container; BG = Bucket Grab Page 16

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 79
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 5/10/11

Latitude: GPS Reading Longitude: GPS Reading
36° 59.012' -120° 30.030'

Personnel: JR / CR

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat: 7.9
 E.C. (µS/cm): 91
 Midchannel Depth (ft):

Wet Channel Width: Wet width Stage: Debris clearing gauge - 1.5 ft below deck of Dam
 Est. Velocity (fps):

H₂O Temp (°C): 18.7
 pH: 7.20

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
178-S-IRSD-DE	Dissolved Metals (Cu, Ni, Zn)	15:35		
178-S-IRSD-DE	F. Col			
178-S-IRSD-DE	Herbicides (Prowl and Trifluralin)			
178-S-IRSD-DE	OP Pesticides			
178-S-IRSD-DE	Total Metals (P, Cu, Ni, Zn), Hardness			
178-S-IRSD-DE	Turbidity, TDS, TSS			

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes No Photo #:
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

795 cfs per CDE

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 June 14

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 80
Aq Waiver Program

Station: San Joaquin River at Sack Dam

Date: 6/14/11
 Personnel: DB/AB

Latitude: GPS Reading 36° 59.012' Longitude: GPS Reading -120° 30.030'

Datum: Accuracy (ft/m):

Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat	E.C. (μ S/cm)	Midchannel Depth (ft)
<u>8.86</u>	<u>65</u>	<u>5.00</u>
H ₂ O Temp (°C)	pH	
<u>23.15</u>	<u>7.92</u>	

Wet Channel Width: 20ft Stage: 5.00
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
80-S-JRSD-01	Dissolved Metals (Cu, Ni, Zn)	15:00	SG	
80-S-JRSD-02	E. coli			
80-S-JRSD-03	Herbicides (Prowl and Thilurain)			
80-S-JRSD-04	OP Pesticides			
80-S-JRSD-05	Total Metals (P, Cu, Ni, Zn), Hardness			
80-S-JRSD-06	Turbidity, TDS, TSS			

Depth of Start is Depth in front of dam

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab Page 15

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 80
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 6/14/11

Latitude: GPS Reading Longitude: GPS Reading
37° 17.703' -120° 51.083'

Personnel: DL/AL

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat: 7.00
 E.C. (µS/cm): 89
 Midchannel Depth (ft):
 H₂O Temp (°C): 23.28
 pH: 7.51

Wet Channel Width: Stage:
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
80-SJRLA-DE	Dissolved Metals (Cd, Cu, Pb, Ni, Zn)	11:00	50	
80-SJRLA-DE	DOC			
80-SJRLA-DE	E. coli			
80-SJRLA-DE	Heterotrophs			
80-SJRLA-DE	Pesticides (Full List)			
80-SJRLA-DE	TKN Total NH3 Nitrite+Nitrate as N INORGANIC-N Total			
80-SJRLA-DE	TOC			
80-SJRLA-DE	Total Metals (As, B, Cd, Cu, Pb, Ni, Se, Zn) Hardness			
80-SJRLA-DE	Tox. Tests: Selaginella, Acute Ceriodaphnia, & Acute			
80-SJRLA-DE	Water? TDS, TSS, Bromide (TMB), Sulfide Chlorophyll (AS)			

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab Page 10

WSJRWC FIELD SAMPLING DATA LOG SHEET EVENT 80
Ag Waiver Program

Station: San Joaquin River at PID Pumps

Date: 6/14/11

Latitude: GPS Reading 37° 29.833' Longitude: GPS Reading -121° 04.967'

Personnel: 541

Datum: Accuracy (ft/m):

Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat: 7.10 / 99
 E.C. (µS/cm): 415
 Midchannel Depth (ft):

Wet Channel Width: Stage:

Est. Velocity (fps):

H₂O Temp (°C): 23.0
 pH: 6.92

Samples Collected

<u>Sample ID</u>	<u>Analyte</u>	<u>Time</u>	<u>Sample Depth (ft)</u>	<u>Notes*</u>
80-S-JRPP-DE	Dissolved Metals (Cu, Ni, Zn)	<u>1230</u>	<u>5.5</u>	
80-S-JRPP-DE	E. coli	<u>1230</u>	<u>5.5</u>	
80-S-JRPP-PE	Herbicides (Prow and Trifluralin)	<u>1230</u>	<u>5.5</u>	
80-S-JRPP-PE	OP Pesticides	<u>1230</u>	<u>5.5</u>	
80-S-JRPP-DE	Total Metals (B, Cu, Ni, Zn) Hardness	<u>1230</u>	<u>5.5</u>	
80-S-JRPP-DE	Turbidity, TDS, TSS	<u>1230</u>	<u>5.5</u>	

Sky Code: clear / partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none / foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.))

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab Page 16

East San Joaquin Water Quality Coalition

Quarter 3 San Joaquin River TMDL

Field Sheets

2011 July 12

Meter Calibration Log

Team 1

F. Wulff, A. Fish

Team 1 members:
 Primary multiparameter meter ID: 4
 Backup multiparameter meter ID: 5

Serial number: 07K101586
 Serial number: 11B100290
 Serial number:
 Serial number:
 Serial number:

Discharge meter ID:
 GPS Unit ID:
 Auxiliary meter ID:
 Camera ID:

Discharge Meter:
 Marsh-McBirney
 FloMate 2000

Standard Solution	Before		After		Date	Initials
	Primary	Secondary	Primary	Secondary		
pH 4	4.02	4.03	4.00	4.00	7/11/2011	KS
pH 7	7.02	6.98	7.00	7.00	7/11/2011	KS
pH 10	10.09	9.85	10.01	10.00	7/11/2011	KS
1413 µS/cm	1415	1409	1413	1413	7/11/2011	KS
pH 4	4.05	4.00	4.00	4.00	7/13/2011	KS
pH 7	6.94	6.96	7.00	7.00	7/13/2011	KS
pH 10	10.08	9.98	10.01	10.00	7/13/2011	KS
1413 µS/cm	1422	1406	1413	1413	7/13/2011	KS

Team 2

K. Story, M. Zane

Team 2 members:
 Primary multiparameter meter ID: 3
 Backup multiparameter meter ID: 2

Serial number: 07K101587
 Serial number: 07A1894AF
 Serial number:
 Serial number:
 Serial number:

Discharge meter ID:
 GPS Unit ID:
 Auxiliary meter ID:
 Camera ID:

Discharge Meter:
 Marsh-McBirney
 FloMate 2000

Standard Solution	Before		After		Date	Initials
	Primary	Secondary	Primary	Secondary		
pH 4	4.07	4.07	4.00	4.00	7/11/2011	KS
pH 7	7.03	7.04	7.00	7.00	7/11/2011	KS
pH 10	10.11	10.10	10.02	10.02	7/11/2011	KS
1413 µS/cm	1413	1410	1413	1413	7/11/2011	KS
pH 4	3.97	4.08	4.00	4.00	7/13/2011	KS
pH 7	7.00	7.02	7.00	7.00	7/13/2011	KS
pH 10	10.04	10.09	10.01	10.01	7/13/2011	KS
1413 µS/cm	1421	1416	1413	1413	7/13/2011	KS

Station Name: **SJR @ Airport Way** Agency: **MLJ-LLC**
 Station ID: **541SJC501** DATE (mm/dd/yyyy): **07/12/2011** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **11SJR_OP** Purpose Failure: **7:40**
 Project ID: **TMDL_ESJWQC** Purpose (Circle all that apply): WaterChem WaterTox Habitat FieldMeasure
 Group: **Quarter 3** Departure Time: **8:04**
 Personnel: **F. W. IFF, A. Fish**

Geometry Data

*GPS/DGPS	Lat (ddd.ddddd)	Long (ddd.ddddd)
Target:	37.67556	-121.26417
*Actual:	37.67570	-121.26618
Difference:		

GPS Model: **MLJ-LLC Garmin eTrex** Accuracy: **2.8**
 Datum: **NAD 83**

Lab Chem/Tox Method=Water_Grab Position in Water Column: Subsurface Depth: 0.1 m

Habitat Method: Not Applicable

WATER DEPTH (ft / m):

HYDRO-MODIFICATION: None, Bridge, Pipes, Concrete Channel, Grade Control, Culvert, Other

HYDROMODLOC: US / DS (NA)

SAMPLE TYPE: Grab, Integrated

DEVICE: Indiv bottle by hand, By pole (MLJ 3L PTFE) Other

WATER ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other

SITE ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other

PRECIPITATION: None, Foggy, Drizzle, Rain, Snow

DOMINANT SUBSTRATE: Concrete, Cobble, Gravel, Sand, Mud, Unk., Other

WATER CLARITY: Clear (see bottom), Cloudy (>4" vis), Murky (<4" vis)

WADEABLE: YES / NO YES

WIND: Calm, Light breeze, Gusty

WATERCOLOR: Colorless, Green, Yellow, Brown, Other

OBSERVED FLOW: NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200 cfs

WIND DIRECTION (from): circle direction in compass at right **XX →**

SKY CODE: Clear, Partly Cloudy, Overcast, Fog, Hazy

PICTURE NUMBER: **IN15, IE, IW**

PRECIPITATION (last 24 hrs): Unknown, <1", >1" (None)

OTHER PRESENCE: Vascular, Nonvascular, Oily/Sheen, Foam, Trash (None) Other

PICTURE NAME: **SJC501 - Quarters 3 - 071211 - N, S, E, W**

Field Results	
Air Temp (Celsius):	19.35
Water Temp (Celsius):	19.54
SC (uS/cm):	116
DO (mg/L):	8.13
pH:	7.29
TDS:	0.076
YSI Meter ID:	#4
Stage:	
Calculated Site Discharge:	10200

Samples Taken (# of Containers Filled)

Analyte	Container	Number	Notes
541SJC501-IN	1-L Amber Glass	2	

Field Dup: Yes / No

Retrieve discharge information from CDEC: SAN JOAQUIN RIVER NEAR VERNALIS (VNS)

ESJWQC Field Data Sheet: Water Sampling (Event Type = WQ) Entered in d-base (initial/date) 42 07/13/2011 double checker: KS 7/13/11 Pg of Pgs

Station Name: **SJR @ Maze Blvd** Agency: **MLJ-LLC**
 Station ID: **541STC510** DATE (mm/dd/yyyy): **07/12/2011** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **11SJR_OP** Purpose Failure: **8:13**
 Project ID: **TMDL_ESJWQC** Purpose (Circle all that apply): **WaterChem** **WaterTox** **Habitat** **FieldMeasure**
 Group: **Quarter 3** Departure Time: **8:38**
 Personnel: **F. WALLER, A. FISH**

Geometry Data

*GPSIDGPS	Lat (dd.ddddd)	Long (dd.ddddd)
Target:	37.64194	-121.22778
*Actual:	37.64099	-121.23012
Difference:		

GPS Model: **MLJ-LLC Garmin eTrex** Accuracy: **6** m
 Datum: **NAD 83**

Lab Chem/Tox Method=Water Grab Position in Water Column: Subsurface Depth: 0.1 m

Habitat

SAMPLE TYPE: **Grab (Integrated)**
 DEVICE: **Indiv bottle by hand, By pole, MLJ 3L PTFE, Other**
 Method: **Not Applicable**

WATER ODOR: **None** Sulfides, Sewage, Petroleum, Mixed, Other
 SITE ODOR: **None** Sulfides, Sewage, Petroleum, Mixed, Other
 PRECIPITATION: **None** Foggy, Drizzle, Rain, Snow
 DOMINANT SUBSTRATE: **Concrete** Cobble, Gravel, Sand, Mud, Unk., Other
 WATER CLARITY: **Clear** (see bottom), Cloudy (>4" vis), Murky (<4" vis)
 WADEABLE: **YES** **NO**

WIND: **Calm** Light Breeze, Gusty
 WATERCOLOR: **Colorless** Green, Yellow, Brown, Other
 OBSERVED FLOW: **NA**, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, 200 cfs
 WIND DIRECTION (from): **circle direction in compass at right**
 SKY CODE: **Clear** Partly Cloudy, Overcast, Fog, Hazy
 PICTURE NUMBER: **N.S.E.W**
 PRECIPITATION (last 24 hrs): **Unknown**, <1", >1" **None**
 OTHER PRESENCE: **Vascular**, Nonvascular, Oily/Sheen, Foam, Trash, **None**, Other

FIELD RESULTS

Air Temp (Celsius):	18.99
Water Temp (Celsius):	20.74
SC (uS/cm):	132
DO (mg/L):	7.50
pH:	7.38
TDS:	6.086
YSI Meter ID:	#4
Stage:	
Calculated Site Discharge:	8763

Samples Taken (# of Containers Filled)

541STC510-IN	Analyte	Container	Number	Notes
	Ops: chlorpyrifos, diazinon	1-L Amber Glass	2	

Field Dup: **Yes** / **No**

Picture Name: **STC510-Quarter3-071211-N.S.E.W**

Retrieve discharge information from CDEC: SAN JOAQUIN R AT MAZE RD BRIDGE (MRB)

Station Name: **SJR @ Hills Ferry** Agency: **MLJ-LLC**
 StationID: **541STC512** Protocol: **MLJ-LLC FieldSOP 03/13/09**
 Funding: **11SJR_OP**
 Project ID: **TMDL_ESJWQC**
 Group: **Quarter 3**
 Personnel: **F. Waff, A. Fish**
 Arrival Time: **9:47**
 Purpose Failure: **None**
 Purpose (Circle all that apply): WaterChem WaterTox Habitat FieldMeasure
 SAMPLE TIME: **10:00**
 Departure Time: **10:20**

Geometry Data	
*GPS/DGPS	Lat (dd.ddddd) 37.3425
Target:	Long (ddd.ddddd) -120.97722
*Actual:	37.35015
Difference:	-120.97392
GPS Model:	MLJ-LLC Garmin eTrex
Accuracy (m):	19
Datum:	NAD 83

Field Results	
Sample Type=FieldMeasure, Method=Field	Air Temp (Celsius): 21.74
Depth: 0.1 m Position in Column: Subsurface	Water Temp (Celsius): 19.67
	SC (uS/cm): 61
	DO (mg/L): 8.08
	pH: 7.67
	TDS: 6.040
	YSI Meter ID: #4
	Stage:
	Calculated Site Discharge: 6380

SAMPLE LOCATION: Bank, Thaliweg (Midchannel) Open Water
 OCCUPATION METHOD: Walk-in (Bridges) Other
 STARTING BANK: LB / RB (NA)
 STREAM WIDTH (ft / m):
 WATER DEPTH (ft / m):
 HYDRO-MODIFICATION: None (Bridges) Pipes, Concrete Channel, Grade Control, Culvert, Other
 HYDRO-MODLOC: US / DS (NA)
 Lab Chem/Tox Method=Water_Grab Position in Water Column: Subsurface Depth: 0.1 m
 SAMPLE TYPE: Grab, Integrated
 DEVICE: Indiv bottle by hand, By pole (MLJ 3L PTFE) Other
 Method: Not Applicable
 WATER ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other
 SITE ODOR: None, Sulfides, Sewage, Petroleum, Mixed, Other
 PRECIPITATION: None, Foggy, Drizzle, Rain, Snow
 DOMINANT SUBSTRATE: Concrete, Cobble, Gravel, Sand (Mud) Unk., Other
 WATER CLARITY: Clear (see bottom), Cloudy (>4" vis) Murky (<4" vis)
 WADEABLE: YES / NO
 WIND: Calm, Light Breeze, Gusty
 WATERCOLOR: Colorless, Green, Yellow, Brown, Other
 OBSERVED FLOW: NA, Dry Waterbody Bed, No Observed Flow, Isolated Pool, 0.1 - 1 cfs, 1 - 5 cfs, 5 - 20 cfs, 20 - 50 cfs, 50 - 200 cfs, >200 cfs
 WIND DIRECTION (from): circle direction in compass at right XX →
 SKY CODE: Clear, Partly Cloudy, Overcast, Fog, Hazy
 PICTURE NUMBER: 1N, 1S, 1E, 1W
 PRECIPITATION (last 24 hrs): Unknown, <1", >1" (None)
 OTHER PRESENCE: Vascular, Nonvascular, Oily/Sheen, Foam, Trash, None, Other
 PICTURE NAME: STC512 - Quarter 3 - 071211 - N, S, E, W
 Field Dup: Yes / No
 Container: 1-L Amber Glass
 Number: 2
 Analyte: Ops: chlorpyrifos, diazinon
 Samples Collected: 541STC512-IN
 Samples Taken (# of Containers Filled)

Retrieve discharge information from CDEC: SAN JOAQUIN RIVER NEAR NEWMAN (NEW)

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 July 12

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 81
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: _____

Latitude: GPS Reading Longitude: GPS Reading
 36° 59.012' -120° 30.030'

Personnel: _____

Datum: _____ Accuracy (ft/m): _____

Site Discharge Characterization

Field Meter Data

Wet Channel Width: _____ Stage: _____

D.O. (mg/L) / %sat:
 E.C. (µS/cm): 36
 Midchannel Depth (ft):
 H₂O Temp (°C): 20.43
 pH: 7.6

Est. Velocity (fps): _____

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
181-S-JRSD-QE	Dissolved Metals (Cu, Ni, Zn)	19:45	36	
181-S-JRSD-QE	E Col			
181-S-JRSD-QE	Hardness (Prowl and Titration)			
181-S-JRSD-QE	TP Phosphides			
181-S-JRSD-QE	Total Metals (P, Cu, Ni, Zn), Hardness			
181-S-JRSD-QE	Turbidity, TDS, TSS			

*Water running down dam possible wash out
 concrete structure*

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #: _____
 Precipitation: none, foggy, drizzle, rain, snow
 Precipitation (last 24 hrs): unknown, <1", >1", none
 Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)
 Water Color: colorless, green, yellow, brown, other
 Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other
 Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other
 Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other
 Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 81
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 7/12/11

Latitude: GPS Reading Longitude: GPS Reading
37° 17.703' -120° 51.083'

Personnel: DE 16, 21

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat: 790
 E.C. (µS/cm): 41
 Midchannel Depth (ft):
 H₂O Temp (°C): 21.48
 pH: 7.68

Wet Channel Width: Stage: 7d
 Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
81-SJRLA-DE	Dissolved Metals (Cd, Cu, Pb, Ni, Zn)	<u>11:52</u>	<u>56</u>	
81-SJRLA-DE	DOX			
81-SJRLA-DE	E. coli			
81-SJRLA-DE	Herbicides			
81-SJRLA-DE	Pesticides (Full List)			
81-SJRLA-DE	TN: Total Nitro Nitrate+Nitrite as N (NO ₃ +NO ₂ -N), Total			
81-SJRLA-DE	TOC			
81-SJRLA-DE	Total Hardness as Ca (Ca, Cu, Pb, Ni, Se, Zn, Turbidity)			
81-SJRLA-DE	TOX Tests: bisphenol, Acids Carboxylic, & Acids			
81-SJRLA-DE	Turbidity, TSS, Bromide (Total) DOX & Microbes (2)			

Water up to Bridge

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab Page 10

WSJRWC FIELD SAMPLING DATA LOG SHEET, EVENT 81
Ag Waiver Program

Station: San Joaquin River at PID Pumps

Date: 7/13/11

Latitude: GPS Reading Longitude: GPS Reading
37° 29.833' -121° 04.967'

Personnel: T+D

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

D.O. (mg/L) / %sat: 8.31 / 99
E.C. (µS/cm): 131
Midchannel Depth (ft):

Wet Channel Width: Stage:

Est. Velocity (fps):

H₂O Temp (°C): 16°
pH: 6.56

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
B1-S-IRPP-0E	Dissolved Metals (Cu, Ni, Zn)	<u>1730</u>	<u>36</u>	
B1-S-IRPP-0E	E. Coli - Fecal Coliform	<u>1730</u>	<u>36</u>	
B1-S-IRPP-PE	Herbicides (Flow and Tributary)	<u>1730</u>	<u>36</u>	
B1-S-IRPP-PE	OTH Pesticides	<u>1730</u>	<u>36</u>	
B1-S-IRPP-0E	Total Metals (B, Cu, Ni, Zn), Hardness	<u>1730</u>	<u>36</u>	
B1-S-IRPP-0E	Asbestos (Flow, Tributary, DB, BSS)	<u>1730</u>	<u>36</u>	

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes/No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 August 9

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 82

Aq Waiver Program

Station: San Joaquin River at Sack Dam

Date: 8/9/11

Latitude: GPS Reading Longitude: GPS Reading
36° 59.012' -120° 30.030'

Personnel: DG, AL

Datum: Accuracy (ft/m):

Site Discharge Characterization

Field Meter Data

Wet Channel Width: 120ft Stage: 5.10

D.O. (mg/L) / %sat: 894
 E.C. (µS/cm): 274
 Midchannel Depth (ft): 5.10

Est. Velocity (fps): 0

H₂O Temp (°C): 26.94
 pH: 8.20

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
82-SJRS0-0E	Dissolved Metals (Cu, Al, Zn)	15:30	5.0	
82-SJRS0-0E	BOD			
82-SJRS0-0E	Herbicides (Prowl and Trifluralin)			
82-SJRS0-0E	OP Pesticides			
82-SJRS0-0E	Total Metals (B, Cu, Ni, Zn), Hardness			
82-SJRS0-0E	Turbidity, TSS, TSS			

→ under down staff should match up stream depth
 → wash out repaired

Sky Code: Wadeable: Photo #:

Precipitation:

Precipitation (last 24 hrs):

Water Clarity:

Water Color:

Other Presence:

Water Odor: Site Odor:

Dominant Substrate:

Observed Flow:

* SG = Surface Grab, direct to container; BG = Bucket Grab

→ 9 cfs per CDEC

WSJRWG FIELD SAMPLING DATA LOG SHEET EVENT 82
Ag Waiver Program

Station: San Joaquin River at PID Pumps

Latitude: GPS Reading 37° 29.833' Longitude: GPS Reading -121° 04.967'

Date: 5/9/11

Personnel: JH

Datum: Accuracy (ft/m):

Field Meter Data

D.O. (mg/L) / %sat	E.C. (µS/cm)	Midchannel Depth (ft)
<u>5.78</u> / <u>99</u>	<u>988</u>	<u> </u>
H ₂ O Temp (°C)	pH	
<u>23.50</u>	<u>6.88</u>	

Site Discharge Characterization

Wet Channel Width: Stage:

Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
<u>82-SURPP-DE</u>	<u>Dissolved Metals (Cu, Ni, Zn)</u>	<u>11:30</u>	<u>5.6</u>	
<u>82-SURPP-DE</u>	<u>Herbicides (Pron and Imazam)</u>	<u>11:30</u>	<u>5.6</u>	
<u>82-SURPP-DE</u>	<u>Total Metals (B, Cu, Ni, Zn) Hardness</u>	<u>11:30</u>	<u>5.6</u>	

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

Westside San Joaquin River Watershed Coalition
TMDL Monitoring
Field Sheets
2011 September 13

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 83
Ag Waiver Program

Station: San Joaquin River at Lander Avenue

Date: 7/2/11

Latitude: GPS Reading Longitude: GPS Reading
37° 17.703' -120° 51.083'

Personnel: DC/AL

Datum: Accuracy (ft/m): **Site Discharge Characterization**

Field Meter Data

<u>D.O.</u> (mg/L) / %sat	<u>E.C.</u> (μ S/cm)
<u>8.39</u>	<u>561</u>
<u>H₂O Temp</u> (°C)	<u>pH</u>
<u>24.26</u>	<u>7.80</u>

Midchannel
Depth (ft)
4

Wet Channel Width: Stage: 1

Est. Velocity (fps):

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
181-SJRLA-STE	Tox. Test: <i>Acute Hyalalla</i>	10:45	16	

→ Trash is oil sheen on the edge

Sky Code: clear, partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis., murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 83
Ag Waiver Program

Station: San Joaquin River at Sack Dam

Date: 7/3/11

Latitude: GPS Reading Longitude: GPS Reading

Personnel: D. PAL

36° 59.012' -120° 30.030'

Datum: _____ Accuracy (ft/m): _____

Site Discharge Characterization

Field Meter Data

D.O.
(mg/L) / %sat

E.C.
(µS/cm)

Midchannel
Depth (ft)

Wet Channel
Width: 120ft

Stage: 4.80

10.90

215

4.80

Est. Velocity
(fps): _____

H₂O Temp
(°C)

pH

25.65

8.87

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
183-S-IRSD-0E	Dissolved Metals (Cu, Ni, Zn)	15:00	SG	
183-S-IRSD-0E	F ₂₅₄			
183-S-IRSD-0E	Herbicides (Atrazine and Imazalrin)			
183-S-IRSD-0E	Chlorophyll			
183-S-IRSD-0E	Total Nitrate (B, Cu, Ni, Zn), Hardness			
183-S-IRSD-0E	Turbidity, TSS TSS			

→ No Flow - water blocked

→ lots of sediment in front of drain

Sky Code: clear partly cloudy, overcast, fog, hazy Wadeable: Yes / No Photo #:

Precipitation: none, foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom), cloudy (>4" vis.), murky (<4" vis.)

Water Color: colorless, green, yellow, brown, other

Other Presence: vascular, nonvascular, oily sheen, foam, trash, none, other

Water Odor: none, sulfides, sewage, petrol., mixed, other Site Odor: none, sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

WSJRWC FIELD SAMPLING DATA LOG SHEET: EVENT 83
 Ag Waiver Program

Station: San Joaquin River at PID Pumps

Date: 9/13/11

Latitude: GPS Reading 37° 29.833' Longitude: GPS Reading -121° 04.967'

Personnel: JH

Datum: _____ Accuracy (ft/m): _____

Site Discharge Characterization

Field Meter Data

D.O. (mg/L) / %sat
 5.74 / 99

E.C. (µS/cm)
 912

Midchannel Depth (ft)

Wet Channel Width: _____

Stage: _____

Est. Velocity (fps): _____

H₂O Temp (°C)
 17.85

pH
 7.14

Samples Collected

Sample ID	Analyte	Time	Sample Depth (ft)	Notes*
83-SJRP-DE	Dissolved Metals (Cu, Ni, Zn)	1645	56	
83-SJRP-DE	Herbicides (Prow and Aliflorin)	1645	56	
83-SJRP-DE	OP-Pesticides	1645	56	
83-SJRP-DE	Total Metals (B, Cu, Ni, Zn), Hardness	1645	56	
83-SJRP-DE	_____	_____	_____	_____

Sky Code: clear / partly cloudy, overcast, fog, hazy

Wadeable: Yes / No Photo #: _____

Precipitation: none / foggy, drizzle, rain, snow

Precipitation (last 24 hrs): unknown, <1", >1", none

Water Clarity: clear (see bottom) / cloudy (>4" vis., murky (<4" vis.))

Water Color: colorless / green, yellow, brown, other

Other Presence: vascular / nonvascular, oily sheen, foam, trash, none, other

Water Odor: none / sulfides, sewage, petrol., mixed, other Site Odor: none / sulfides, sewage, petrol., mixed, other

Dominant Substrate: concrete, cobble, gravel, sand, mud, unk., other

Observed Flow: NA, dry watershed bed, no observed flow, isolated pool, 0.1-1cfs, 1-5cfs, 5-20cfs, 20-50cfs, 50-200cfs, >200cfs

* SG = Surface Grab, direct to container; BG = Bucket Grab

APPENDIX VI

ESJWQC AND WESTSIDE COALITION MONITORING PHOTOS

TABLE OF CONTENTS

ESJWQC Monitoring Photos.....	1
ESJWQC San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring Fourth Quarter – October 21, 2010	2
ESJWQC San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring First Quarter – February 18, 2011	14
ESJWQC San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring Second Quarter – May 10, 2011	29
ESJWQC San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring Third Quarter – July 12, 2011	41
Westside Coalition Monitoring Photos.....	53
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring Fourth Quarter – October 12, 2010	54
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– November 9, 2010	57
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– December 14, 2010	60
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring (Rain Event) – December 20/21, 2010	63
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– January 11, 2011	66
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– February 8, 2011	69
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring First Quarter (Rain Event) – February 23, 2011	72
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– March 8, 2011... ..	74
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– April 12, 2011	77
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring Second Quarter – May 10, 2011	80
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– June 14, 2011.... ..	83
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring Third Quarter – July 12, 2011	86
Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– August 9, 2011.. ..	89

Westside Coalition San Joaquin River Chlorpyrifos and Diazinon TMDL Monitoring– September 13,
2011 92

ESJWQC MONITORING PHOTOS

ESJWQC SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL MONITORING
FOURTH QUARTER – OCTOBER 21, 2010

SJR @ Hills Ferry, 10-21-10, Facing South (upstream)



SJR @ Hills Ferry, 10-21-10, Facing North (downstream)



SJR @ Hills Ferry, 10-21-10, Facing East (downstream to the left)



SJR @ Hills Ferry, 10-21-10, Facing West (downstream to the right)



SJR @ Airport Way, 10-21-2010, Facing South (upstream)



SJR @ Airport Way, 10-21-2010, Facing North (downstream)



SJR @ Airport Way, 10-21-2010, Facing West (upstream to the left)



SJR @ Airport Way, 10-21-2010, Facing East (upstream to the right)



SJR @ Maze Blvd, 10-21-2010, Facing North (downstream)



SJR @ Maze Blvd, 10-21-2010, Facing South (upstream)



SJR @ Maze Blvd, 10-21-2010, Facing East (downstream to the left)



SJR @ Maze Blvd, 10-21-2010, Facing West (downstream to the right)



ESJWQC SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL MONITORING
FIRST QUARTER – FEBRUARY 18, 2011

SJR @ Hills Ferry, 02-18-2011, Facing South (upstream)



SJR @ Hills Ferry, 02-18-2011, Facing North (downstream)



SJR @ Hills Ferry, 02-18-2011, Facing East (downstream to the left)



SJR @ Hills Ferry, 02-18-2011, Facing West (downstream to the right)



SJR @ Airport Way, 02-18-2011, Facing South (upstream)



SJR @ Airport Way, 02-18-2011, Facing North (downstream)



SJR @ Airport Way, 02-18-2011, Facing West (upstream to the left)



SJR @ Airport Way, 02-18-2011, Facing East (upstream to the right)



SJR @ Maze Blvd, 02-18-2011, Facing North (downstream)



SJR @ Maze Blvd, 02-18-2011, Facing South (upstream)



SJR @ Maze Blvd, 02-18-2011, Facing East (downstream to the left)



SJR @ Maze Blvd, 02-18-2011, Facing West (downstream to the right)



SJR @ Las Palmas Ave (Patterson), 02-18-2011, Facing East (downstream to the left)



SJR @ Las Palmas Ave (Patterson), 02-18-2011, Facing North (downstream)



SJR @ Las Palmas Ave (Patterson), 02-18-2011, Facing South (upstream)



ESJWQC SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL MONITORING
SECOND QUARTER – MAY 10, 2011

SJR @ Hills Ferry, 05-10-2011, Facing South (upstream)



SJR @ Hills Ferry, 05-10-2011, Facing North (downstream)



SJR @ Hills Ferry, 05-10-2011, Facing East (downstream to the left)



SJR @ Hills Ferry, 05-10-2011, Facing West (downstream to the right)



SJR @ Airport Way, 05-10-2011, Facing South (upstream)



SJR @ Airport Way, 05-10-2011, Facing North (downstream)



SJR @ Airport Way, 05-10-2011, Facing West (upstream to the left)



SJR @ Airport Way, 05-10-2011, Facing East (upstream to the right)



SJR @ Maze Blvd, 05-10-2011, Facing North (downstream)



SJR @ Maze Blvd, 05-10-2011, Facing South (upstream)



SJR @ Maze Blvd, 05-10-2011, Facing East (downstream to the left)



SJR @ Maze Blvd, 05-10-2011, Facing West (downstream to the right)



ESJWQC SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING THIRD QUARTER – JULY 12, 2011

SJR @ Hills Ferry, 07-12-2011, Facing North (downstream)



SJR @ Hills Ferry, 07-12-2011, Facing South (upstream)



SJR @ Hills Ferry, 07-12-2011, Facing East (downstream to the left)



SJR @ Hills Ferry, 07-12-2011, Facing West (downstream to the right)



SJR @ Maze, 07-12-2011, Facing North (downstream)



SJR @ Maze, 07-12-2011, Facing South (upstream)



SJR @ Maze, 07-12-2011, Facing East (downstream to the left)



SJR @ Maze, 07-12-2011, Facing West (downstream to the right)



SJR @ Airport Way, 07-12-2011, Facing North (downstream)



SJR @ Airport Way, 07-12-2011, Facing South (upstream)



SJR @ Airport Way, 07-12-2011, Facing East (downstream to the left)



SJR @ Airport Way, 07-12-2011, Facing West (downstream to the right)



WESTSIDE COALITION MONITORING PHOTOS

WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING FOURTH QUARTER – OCTOBER 12, 2010

SJR @ Lander Ave, 10-12-10



SJR @ Las Palmas Ave (Patterson), 10-12-10



SJR @ Sack Dam, 10-12-10



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- NOVEMBER 9, 2010

SJR @ Lander Ave, 11-09-10



SJR @ Las Palmas Ave (Patterson), 11-09-10



SJR @ Sack Dam, 11-09-10



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- DECEMBER 14, 2010

SJR @ Lander Ave, 12-14-10



SJR @ Las Palmas Ave (Patterson), 12-14-10



SJR @ Sack Dam, 12-14-10



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING (RAIN EVENT) – DECEMBER 20/21, 2010

SJR @ Lander Ave, 12-21-10



SJR @ Las Palmas Ave (Patterson), 12-20-10



SJR @ Sack Dam, 12-21-10



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- JANUARY 11, 2011

SJR @ Lander Ave, 01-11-11



SJR @ Las Palmas Ave (Patterson), 01-11-11



SJR @ Sack Dam, 01-11-11



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- FEBRUARY 8, 2011

SJR @ Lander Ave, 02-08-11



SJR @ Las Palmas Ave (Patterson), 02-08-11



SJR @ Sack Dam, 02-08-11



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING FIRST QUARTER (RAIN EVENT) – FEBRUARY 23, 2011

SJR @ Sack Dam, 02-23-11



SJR @ Lander Ave, 02-23-11



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- MARCH 8, 2011

SJR @ Lander Ave, 03-08-11



SJR @ Las Palmas Ave (Patterson), 03-08-11



SJR @ Sack Dam, 03-08-11



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- APRIL 12, 2011

SJR @ Lander Ave, 04-12-11



SJR @ Las Palmas Ave (Patterson), 04-12-11



SJR @ Sack Dam, 04-12-11



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING SECOND QUARTER – MAY 10, 2011

SJR @ Lander Ave, 05-10-11



SJR @ Las Palmas Ave (Patterson), 05-10-11





WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- JUNE 14, 2011

SJR @ Lander Ave, 06-14-11



SJR @ Las Palmas Ave (Patterson), 06-14-11



SJR @ Sack Dam, 06-14-11



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING THIRD QUARTER – JULY 12, 2011

SJR @ Lander Ave, 07-12-11



SJR @ Las Palmas Ave (Patterson), 07-12-11



SJR @ Sack Dam, 07-12-11



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- AUGUST 9, 2011

SJR @ Lander Ave, 08-09-11



SJR @ Las Palmas Ave (Patterson), 08-09-11



SJR @ Sack Dam, 08-09-11



WESTSIDE COALITION SAN JOAQUIN RIVER CHLORPYRIFOS AND DIAZINON TMDL
MONITORING- SEPTEMBER 13, 2011

SJR @ Lander Ave, 09-13-11



SJR @ Las Palmas Ave (Patterson), 09-13-11



SJR @ Sack Dam, 09-13-11

