

Central Valley Regional Water Quality Control Board

8 March 2017

Mr. Michael Wackman
San Joaquin County and Delta Water Quality Coalition
3294 Ad Art Road
Stockton, CA 95215

APPROVAL OF MANAGEMENT PLAN COMPLETION FOR SELECT CONSTITUENTS

Thank you for your 16 November 2016 request to remove specific constituents from selected site subwatershed management plans, as identified by the Waste Discharge Requirements General Order R5-2014-0029-R1 (Order). The attached memorandum references the requirements for management plan completion.

The San Joaquin County and Delta Water Quality Coalition (Coalition) has provided sufficient information to show that the requirements for management plan completion have been met for all of the requested site/constituent pairs (Table 1).

Table 1. Management Plans Approved for Completion

Management Plan	<i>C. dubia</i>	<i>H. azteca</i>	Specific Conductance	Chlorpyrifos	Diuron
Duck Creek @ Hwy 4	✓	✓			
Kellogg Creek along Hoffman Ln			✓		
Lone Tree Creek @ Jack Tone Rd				✓	
Sand Creek @ Hwy 4 Bypass		✓			
Terminus Tract Drain @ Hwy 12		✓			
Unnamed Drain to Lone Tree Creek @ Jack Tone Rd		✓			✓

I approve management plan completion for the eight site/constituent pairs. As required in the Order, each approved constituent shall revert to the monitoring schedule as described in the approved August 2016 Monitoring Plan Update. The third-party must also continue tracking on-going implementation of appropriate management practices by growers, which may be done through the Farm Evaluation process and focused outreach.

If you have questions regarding this letter, please contact Chris Jimmerson at (916) 464-4859 or by email at Chris.Jimmerson@waterboards.ca.gov.

Sincerely,

Original Signed by:

Pamela C. Creedon
Executive Officer

cc: MLJ-LLC, Davis

Central Valley Regional Water Quality Control Board

TO: Susan Fregien
Senior Environmental Scientist
IRRIGATED LANDS REGULATORY PROGRAM

FROM: Chris Jimmerson
Environmental Scientist
IRRIGATED LANDS REGULATORY PROGRAM

DATE: 6 February 2017

SUBJECT: REQUEST TO REMOVE SITE/CONSTITUENT PAIRS FROM MANAGEMENT PLAN MONITORING – SAN JOAQUIN COUNTY AND DELTA WATER QUALITY COALITION

The San Joaquin County and Delta Water Quality Coalition (Coalition) is required to implement management plans for constituents that exceed water quality objectives at the same site more than once in a three-year period per Order No. R5-2014-0029-R1 (Order). The Central Valley Water Board received a request from the Coalition on 16 November 2016 to remove a total of eight site/constituent pairs from the management plan monitoring schedule (i.e. management plan completion request). Those eight site/constituent pairs are discussed in this memorandum.

The Coalition's management plans are subject to the requirements found in the Order. The requirements for management plan completion outlined in the Order include: (1) at least three years of compliance with receiving water limitations during the times of year when previous exceedances occurred, (2) documentation of third-party education and outreach, (3) documentation of management practice implementation, and (4) demonstration of management practice effectiveness.

Staff evaluated the information provided by the Coalition to determine whether the requirements for management plan completion have been met. Eight site/constituent pairs included in the request for management plan completion meet the Order's requirements (Table 1).

Since the most recent exceedance, there has been sufficient monitoring during the times of the year when the triggering exceedances for all of the requested site/constituent pairs were observed, demonstrating that the water quality problems associated with those eight site/constituent pairs are no longer occurring. In addition, documentation of outreach/education was provided, including documented implementation of management practices. Based on the water quality data and other evidence discussed below, staff recommends approval of management plan completion for eight site/constituent pairs.

Table 1. Management Plans Monitoring Data Evaluation

Management Plan	Most Recent Exceedance	Monitoring Events Since Exceedance	Requirements for Completion Met?
Duck Creek @ Hwy 4			
<i>C. dubia</i>	2011	27	Yes
<i>H. azteca</i>	2012	18	Yes
Kellogg Creek along Hoffman Ln			
Specific Conductance	2006	49	Yes
Lone Tree Creek @ Jack Tone Rd			
Chlorpyrifos	2010	28	Yes
Sand Creek @ Hwy 4 Bypass			
<i>H. azteca</i>	2012	9	Yes
Terminus Tract Drain @ Hwy 12			
<i>H. azteca</i>	2013	6	Yes
Unnamed Drain to Lone Tree Creek @ Jack Tone Rd			
<i>H. azteca</i>	2012	8	Yes
Diuron	2012	12	Yes

Duck Creek @ Hwy 4

The Coalition proposed two toxicity test species for management plan completion including: *C. dubia* and *H. azteca*. A toxicity identification evaluation (TIE) concluded that chlorpyrifos was attributed to the *C. dubia* exceedances. In addition, *H. azteca* follow-up chemical analysis indicated that detections of pyrethroids and chlorpyrifos were attributed to the sediment exceedances.

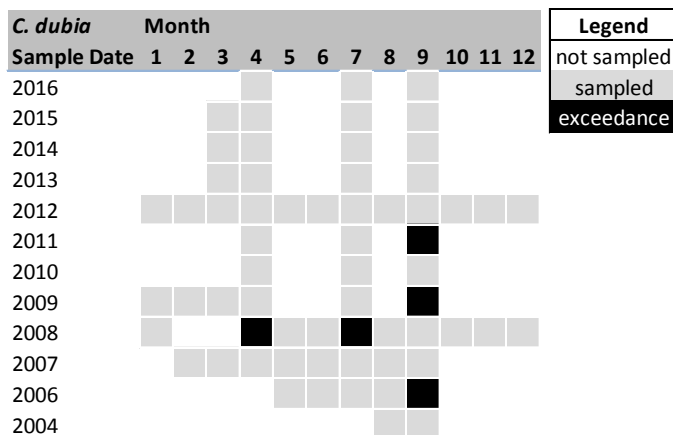
Focused outreach and education to 15 targeted growers was conducted from 2008-2012 in the site subwatershed. As a result of the outreach, growers in the subwatershed discontinued use of chlorpyrifos. In addition, growers implemented management practices to control runoff and reduced overall pesticide use. Since the outreach, management practices with orchard center grass rows, grass waterways, or grass filter strips increased by 9% and overall pesticide reduction increased by 11%. The grower's acreages with newly implemented management practices represent 89% (4,427 acres) of the 4,978 originally targeted acres¹.

The results of management plan monitoring for each test species is discussed in the following subsections and reflect the effectiveness of management practices.

a. Water column toxicity *C. dubia*

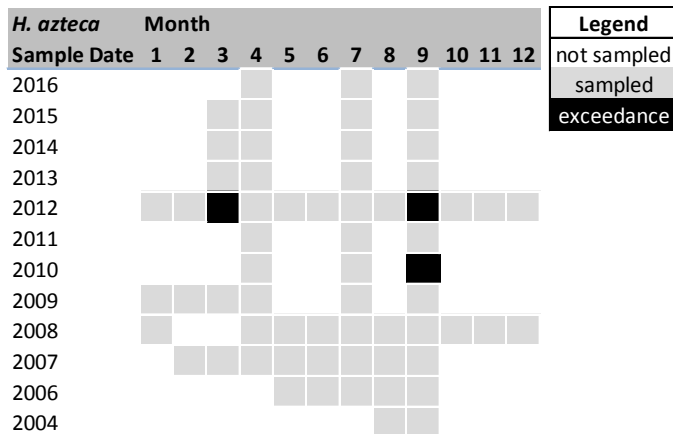
The management plan was triggered by exceedances in September 2006 and April 2008 with two more exceedances in subsequent years. Since the last exceedance in 2011, five years of monitoring events have taken place during the times of the year when previous exceedances occurred with no additional exceedances. This demonstrates compliance with the Order's surface receiving water limitations and management practice effectiveness.

¹ SJCDWQC 30 April 2013 Management Plan Update Report, Appendix I (pg. 20), as referenced in the management plan completion request.



b. Sediment toxicity to *H. azteca*

The management plan was triggered by exceedances that occurred in September 2010 and March 2012. Since the last exceedance in 2012, four years of monitoring events have taken place during the times of the year when previous exceedances occurred with no additional exceedances. This demonstrates compliance with the Order’s surface receiving water limitations and management practice effectiveness.



II. Kellogg Creek along Hoffman Ln

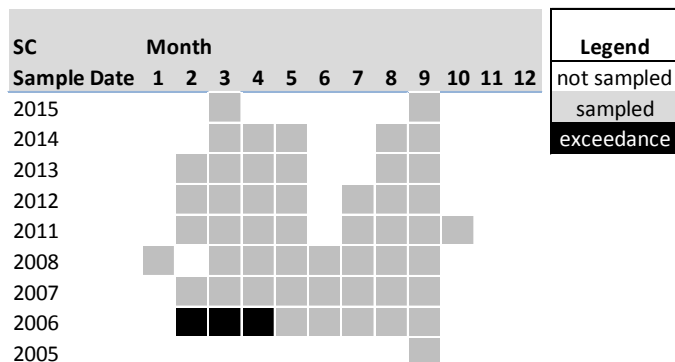
The Coalition proposed specific conductance for management plan completion. The Coalition conducted focused outreach and education in the site subwatershed from 2012 through 2014. Grower meetings were conducted in 2012 to discuss practices to reduce offsite movement of irrigation tailwater. Although it is unknown what management practices may have reduced specific conductance, the growers in the area have implemented various management practices including: pesticide reduction, center row grass strips, micro-irrigation, and reduced runoff. Since the outreach, reducing runoff acreage² increased by 11%³ and pesticide reduction increased by 25%¹. Consequently, seven other management plans at this site have been previously approved for completion.

² Management practices that reduced runoff include recapture systems, micro irrigation, vegetated filter strips or careful water management.

³ Percentage calculated from the SJCDWQC 30 April 2013 Management Plan Update Report (pg. 70), as referenced in the management plan completion request.

Specific Conductance

The management plan was triggered by exceedances that occurred in February, March and April 2006. Since the last exceedance occurred, seven years and 44 monitoring events have been completed with no additional exceedances of the WQTL for specific conductance, demonstrating the effectiveness of implemented management practices.



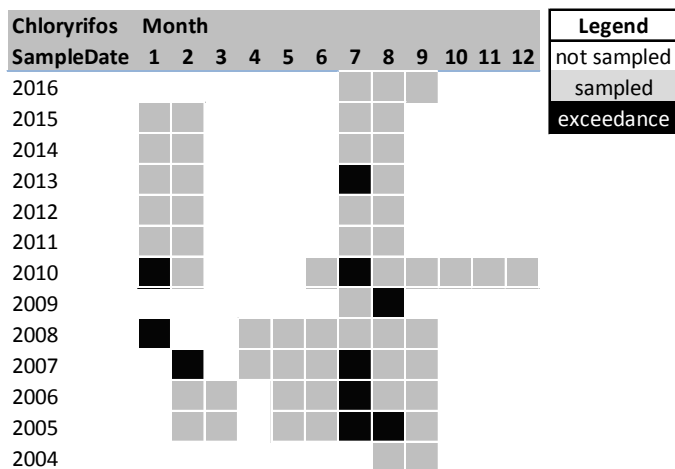
III. Lone Tree Creek at Jack Tone Rd

Chlorpyrifos has been proposed for management plan completion. Focused outreach and education began in the site subwatershed in 2008. The Coalition conducted outreach to new growers in the area in 2012 to document existing management practices and discuss water quality impairments. Management practices implemented by growers include: pesticide use reduction, installation of micro irrigation systems, holding basins, reduced runoff, and filter strips. Since the outreach, micro irrigation acreages increased by 14% and reduced runoff increased by 5% and pesticide reduction increased by 2%. The growers who implemented new management practices represent 51% (1,923 acres) of the 3,742 targeted acres⁴. Furthermore, PUR data between 2006 and 2015 report a steady decline in chlorpyrifos applications.

Chlorpyrifos

The management plan was triggered by exceedances in July and August 2005. Eight more exceedances occurred in the following years up through 2013. Three years of monitoring during the times of year of past exceedances (storm and irrigation seasons) has been performed with no additional exceedances. This demonstrates compliance with surface receiving water limitations and effectiveness of implemented management practices.

⁴ SJCDWQC 30 April 2013 Management Plan Update Report, Appendix I (pg. 49), as referenced in the management plan completion request.



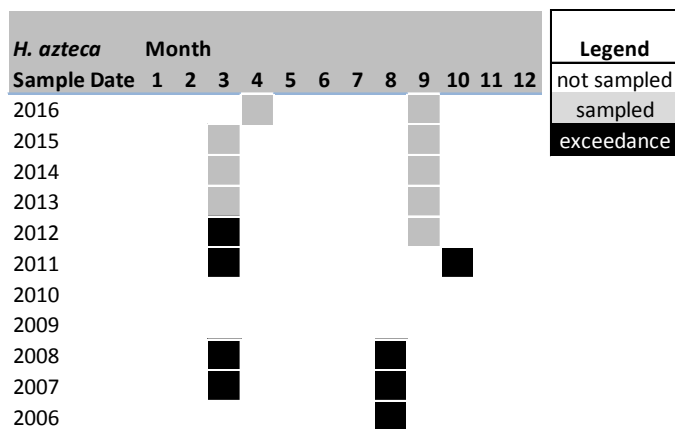
IV. Sand Creek at Hwy 4 Bypass

The Coalition proposed *H. azteca* for management plan completion. Urban development has replaced most of the agriculture land in this site subwatershed. The first eight sediment samples from 2006-2012 were considered toxic. Follow-up chemical analysis indicated that detections of pyrethroids were attributed to the exceedances. Pyrethroids are also a common pesticide used in residential/urban areas. Since 2012, nine sampling events have occurred with no exceedances, thus demonstrating compliance with the Order’s surface receiving water limitations. For sediment, the Order requires at least two sampling events per year.

Focused outreach and education began in the site subwatershed in 2012 to the only grower in the urban land use dominated area. The single grower farms 116 acres. Follow-up efforts documented very little change with management practices in the area with micro irrigation as the main management practice. Other practices include continued pesticide reduction and reducing runoff.

Sediment Toxicity to *H. azteca*

The Coalition performed four years of monitoring during the times of year of past exceedances with no additional exceedances, demonstrating compliance with surface water receiving limitations and effectiveness of management practices.



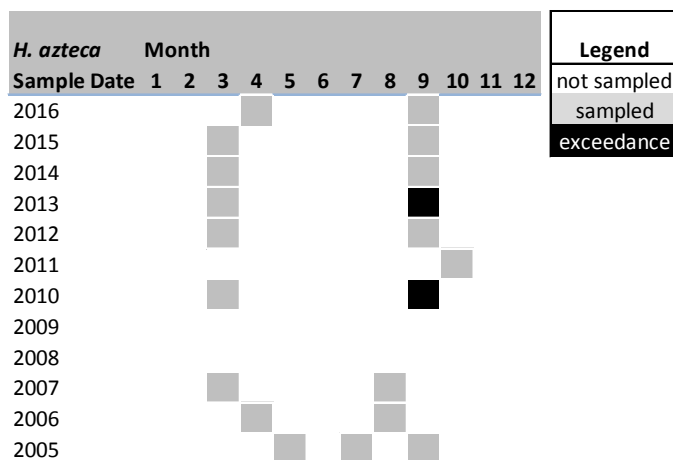
V. Terminous Tract Drain at Hwy 12

The Coalition proposed *H. azteca* for management plan completion. Two samples were considered toxic. Follow-up chemistry analysis indicated that detections of pyrethroids and

chlorpyrifos were present in the samples. Focused outreach began in the site subwatershed in 2011. The Coalition contacted four targeted growers accounting for 1,778 acres of direct drainage within the subwatershed⁵. Management practices implemented by growers in the site subwatershed include: grassed waterways, reduced runoff, and micro irrigation. Since the outreach, the number of acres implemented with these practices increased by 6%, 29%, and 15%, respectively.

Sediment toxicity to *H. azteca*

The management plan was triggered by exceedances that occurred in September of 2010 and 2013. Since the last exceedance in 2013, three years of sampling with no exceedances has occurred in the month during which a previous exceedance had occurred, demonstrating the effectiveness of implemented management practices.



VI. Unnamed Drain to Lone Tree Creek at Jack Tone Rd

Two constituents have been proposed for management plan completion including: diuron and sediment toxicity to *H. azteca*. Follow-up chemistry analysis indicated that pyrethroids were attributed to the toxic monitoring events.

Focused outreach and education began in the site subwatershed in 2008. Outreach to two targeted growers began in 2012 to document existing management practices and discuss water quality impairments. Management practices implemented by growers in the site subwatershed include: reduced pesticide use, micro irrigation and reduce runoff. Since the outreach, the number of acres implemented with these practices increased by 4%, 4%, and 11%, respectively. The growers who implemented new management practices represent 61% (3,934 acres) of the 6,463 targeted acres⁶. To a smaller extent, management practices also included center grass rows and retention ponds.

a. Diuron

The management plan was triggered by an exceedance in 2008. The last exceedance was reported in 2012. Since the last exceedance, four years of sampling with no exceedances has occurred during months when exceedance occurred and

⁵ SJCDWQC 30 April 2013 Management Plan Update Report, Appendix I (pg. 271), as referenced in the management plan completion request.

⁶ SJCDWQC 30 April 2013 Management Plan Update Report, Appendix I (pg. 90), as referenced in the management plan completion request.

