

Table B. ESJWQC 2012 MPUR Amendments Summary.

ITEM NUMBER	AMENDMENT DESCRIPTIONS	DATE SUBMITTED	PAGE NUMBER	DATE APPROVED
1	2012 MPM Schedule-revised due to suspension of Management Plan Monitoring at all locations except Bear Creek @ Kibby Rd.	April 30, 2012	Table 7, Page 28	April 17, 2012
2	Revised exceedance tally tables and Appendix I table to exclude azinphos methyl exceedance (APPL lab report error).	April 30, 2012	Tables 4-5, Pages 12-14, Appendix I Table VIII-5 and Verbiage, Page 241	NA
3	Added TMDL Dissolved Oxygen section as requested by Regional Board.	April 30, 2012	Tables 44-45, Pages 144-145	NA

NA-Not applicable

Table 4. ESJWQC exceedance tally based on results through December 2011.

Sites are listed alphabetically by site name and constituents are listed alphabetically within each of the following groups: field parameters (F), inorganics (I), bacteria (B), metals (M), pesticides (P) and toxicity (T). Constituents under a management plan are highlighted. The tally only includes field duplicate exceedances if the environmental sample did not also have an exceedance.

	F			I				B	M					P														T										
SITE NAME	OXYGEN, DISSOLVED	PH	SPECIFIC CONDUCTIVITY	DISSOLVED SOLIDS	AMMONIA	NITRATE AS N	NITRITE AS N	NITRATE + NITRITE AS N	E. COLI	ARSENIC	COPPER DISSOLVED†	COPPER TOTAL†	LEAD	MOLYBDENUM	ZINC	ALDICARB	CARBARYL	CARBOFURAN	CHLORPYRIFOS	CYANAZINE	DDD (P,P')	DDE (P,P')	DDT (P,P')	DIAZINON	DIELDRIN	DIMETHOATE	DIURON	HCH, DELTA	MALATHION	METHIDATHION	METHOXYCHLOR	METHYL PARATHION	THIOBENCARB	SIMAZINE	C. DUBIA	P. PROMELAS	S. CAPRICORNUTUM	H. AZTECA
Ash Slough @ Ave 21	1								3		2	5	2						4																			1
Bear Creek @ Kibby Rd	2	3							7	1		4							2				1												3		2	2
Berenda Slough along Ave 18 ½	10								7		11								4								1								1		3	
Black Rascal Creek @ Yosemite Rd	17	2							11			1	2						4																5		1	1
Cottonwood Creek @ Rd 20	19	1							19		9	12	3						3	1				1			2							1		1	2	1
Deadman Creek @ Gurr Rd	27	1	6	6	5				41	11		4							4				1		1					1					4	7	3	
Deadman Creek @ Hwy 59	17	4							17	5									6		1		1					1						1			3	1
Dry Creek @ Rd 18	3	4							4		7	21	5		1				3						2			2							1		4	2
Dry Creek @ Wellsford Rd	36	6	1	1					40			3	1						8								2						1		2		5	3
Duck Slough @ Gurr Rd	4	6	2	1				1	22		1	8	4					1	1														2		3	1	2	7
Duck Slough @ Hwy 59	3		1																																			
Duck Slough @ Hwy 99	2	3							12			11	11						4																1		3	2*
Hatch Drain @ Tuolumne Rd	23		22	12	1	13	1		12	12													1			1						1					10	6
Highline Canal @ Hwy 99	1	15	1	2	2				11			7	7						5				1					2							4		4	6
Highline Canal @ Lombardy Rd	1	5	1		1				6		2	5	8		1				6								1		1				1		6	2*	5	7
Hilmar Drain @ Central Ave	6	3	37	26	2	12			20			2							1		1	1					3								1		6	4
Howard Lateral @ Hwy 140	1	6	1	1				1	3		4								1																		1	
Lateral 2 ½ near Keyes Rd		5			1			1	2										3										1								1	1
Livingston Drain @ Robin Ave	1	11				1			2		2	9	2						4																		4	
McCoy Lateral @ Hwy 140		2									3																											
Merced River @ Santa Fe	4	1							4			1	2						3				1						1						5		1	
Miles Creek @ Reilly Rd	10								7			7	5			1			4												1				3		3	3

	F			I				B	M						P															T											
	OXYGEN, DISSOLVED	PH	SPECIFIC CONDUCTIVITY	DISSOLVED SOLIDS	AMMONIA	NITRATE AS N	NITRITE AS N	NITRATE + NITRITE AS N	E. COLI	ARSENIC	COPPER DISSOLVED†	COPPER TOTAL†	LEAD	MOLYBDENUM	ZINC	ALDICARB	CARBARYL	CARBOFURAN	CHLORPYRIFOS	CYANAZINE	DDD (p,p')	DDE (p,p')	DDT (p,p')	DIAZINON	DIELDRIN	DIMETHOATE	DIURON	HCH, DELTA	MALATHION	METHIDATHION	METHOXYCHLOR	METHYL PARATHION	THIOBENCARB	SIMAZINE	C. DUBIA	P. PROMELAS	S. CAPRICORNUTUM	H. AZTECA			
SITE NAME	10	1			1 ²				9										2								1 ²											1			
Mootz Drain @ Langworth Rd	9				1 ²				10																	1 ²															
Mootz Drain downstream of Langworth Pond	12		9	6	1			2	10		4								2		3													2	2*		1	1			
Mustang Creek @ East Ave	18	6	84	67	11	18	1	37	51	1				5			1		4				1			3			1						3	3 ¹	12	6			
Prairie Flower Drain @ Crows Landing Rd									4														1				1														
Rodden Creek @ Rodden Rd	17	1			3				13			3	1						6																3	1		4			
Silva Drain @ Meadow Dr	7		19	13		13			7										2																		4	1			
Westport Drain @ Vivian Rd	GRAND TOTAL			261	86	184	135	29	57	2	42	354	30	45	103	53	5	2	1	1	1	86	1	2	4	8	3	1	4	17	2	3	1	1	1	3	5	47	15	82	58

*Not prioritized for MPM; both toxic samples were from the same sampling event (sample and resample to test for persistence).

¹Two of the toxic samples were from the same sampling event (sample and resample to test for persistence).

²Exceedances from the Mootz Drain @ Langworth Rd site count toward the management plan for Mootz Drain Downstream of Langworth Pond (site location was moved in December 2010, as approved on November 18, 2009).

† Exceedances of the copper WQTL determined by either total or dissolved copper are evaluated under the same copper management plan.

Table 5. ESJWQC exceedance tally based on 2011 sampling events.

All sites are listed that have had at least one exceedance in 2011. Sites are listed alphabetically by site name and constituents are listed alphabetically within each of the following groups: field parameters (F), inorganics (I), bacteria (B), metals (M), pesticides (P) and toxicity (T). Green highlighted cells refer to sites/constituents that require a management plan due to 2011 exceedances; blue highlights refer to sites/constituents already in a management plan. The tally only includes field duplicate exceedances if the environmental sample did not also have an exceedance.

ZONES	SITE NAME	F			I			B	M		P					T			
		OXYGEN, DISSOLVED	PH	SPECIFIC CONDUCTIVITY	DISSOLVED SOLIDS	AMMONIA	NITRATE + NITRITE AS N	E. COLI	COPPER DISSOLVED†	MOLYBDENUM	CARBARYL	CHLORPYRIFOS	DDT (P,P')	DIMETHOATE	DIURON	C. DUBIA	P. PROMELAS	S. CAPRICORNUTUM	H. AZTECA
6	Berenda Slough along Ave 18 ½	2						5	11			1							
6	Cottonwood Creek @ Rd 20	1						3	6										
5	Deadman Creek @ Hwy 59		4					5				2							
6	Dry Creek @ Rd 18		2						7										
1	Dry Creek @ Wellsford Rd	4	1		1			5											1
5	Duck Slough @ Gurr Rd	1	1					2									1		1
3	Highline Canal @ Hwy 99		1					1				1							
3	Highline Canal @ Lombardy Rd							2	1									1	
4	Howard Lateral @ Hwy 140								1										
2	Lateral 2 ½ near Keyes Rd		1																
4	Livingston Drain @ Robin Ave								2										
4	McCoy Lateral @ Hwy 140		2						3										
4	Merced River @ Santa Fe							1				1							
2	Prairie Flower Drain @ Crows Landing Rd	3		13	11	5	10	9		5	1	1	2		1	1	3		
1	Rodden Creek @ Rodden Rd							4				1		1					
GRAND TOTAL		11	12	13	12	5	10	37	31	5	1	3	4	2	1	1	2	4	2

† Exceedances of the copper WQTL determined by either total or dissolved copper are evaluated under the same copper management plan.

Table 7. 2012 Management Plan Monitoring schedule.

SITE NAME	2012 MPM YEAR	MONTH	COPPER	LEAD	CHLORPYRIFOS	DIAZINON	DIURON	C. DUBIA	P. PROMELAS	S. CAPRICORNUTUM	H. AZTECA
Bear Creek @ Kibby Rd	Year 3	January	X								
Berenda Slough along Ave 18 1/2	Year 2	January	X								
Cottonwood Creek @ Rd 20	Year 3	January	X		X		X				
Deadman Creek @ Gurr Rd	Year 1	January	X						X		
Deadman Creek @ Hwy 59	Year 1	January								X	
Dry Creek @ Rd 18	Year 2	January	X				X			X	
Duck Slough @ Gurr Rd	Year 3	January	X								
Highline Canal @ Hwy 99	Year 3	January	X		X		X				
Livingston Drain @ Robin Ave	Year 2	January	X	X	X						
Prairie Flower Drain @ Crows Landing Rd	Year 4	January								X	
Bear Creek @ Kibby Rd	Year 3	February	X								
Berenda Slough along Ave 18 1/2	Year 2	February	X								
Cottonwood Creek @ Rd 20	Year 3	February	X		X	X	X				
Deadman Creek @ Gurr Rd	Year 1	February	X					X	X	X	
Dry Creek @ Rd 18	Year 2	February	X		X	X	X			X	
Dry Creek @ Wellsford Rd	Year 4	February	X				X			X	
Duck Slough @ Gurr Rd	Year 3	February	X					X			
Duck Slough @ Hwy 99	Year 4	February	X								
Highline Canal @ Hwy 99	Year 3	February	X	X	X		X			X	
Hilmar Drain @ Central Ave	Year 1	February	X								
Livingston Drain @ Robin Ave	Year 2	February	X	X						X	
Prairie Flower Drain @ Crows Landing Rd	Year 4	February								X	
Deadman Creek @ Gurr Rd	Year 1	March			X			X	X		
Dry Creek @ Rd 18	Year 2	March									X
Dry Creek @ Wellsford Rd	Year 4	March								X	X
Duck Slough @ Gurr Rd	Year 3	March						X			
Highline Canal @ Hwy 99	Year 3	March						X		X	X
Hilmar Drain @ Central Ave	Year 1	March									X
Prairie Flower Drain @ Crows Landing Rd	Year 4	March						X			X
Bear Creek @ Kibby Rd	Year 3	May			X			X			
Bear Creek @ Kibby Rd	Year 3	July			X			X			
Bear Creek @ Kibby Rd	Year 3	August	X								

"X" indicates when a sample was collected for a particular constituent.

DISSOLVED OXYGEN

Low levels of DO in the Stockton Deep Water Ship Channel (DWSC) have been a concern for numerous years. To address the issue, the EPA approved on February 27, 2007 the *Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control Program for Factors Contributing to the Dissolved Oxygen Impairment in the Stockton Deep Water Ship Channel* (hereafter, DO Basin Plan Amendment). To demonstrate compliance with the DO TMDL, agriculturally-influenced tributaries to the San Joaquin River are routinely monitored, as described in the Coalition's MRPP (pages 33-58). The Coalition monitored monthly for DO in at least one representative site within each Coalition zone during 2011 (Table 44). The Coalition is addressing DO exceedances through the management plan process and includes discussions of DO water quality concerns during grower outreach. During 2011 monitoring, there were a total of 11 DO exceedances in five of the ESJWQC subwatersheds (Table 45).

The Coalition continues to follow developments in achieving DO WQOs in the Stockton DWSC; however, there were no stakeholder meetings held in 2011. The Coalition will continue to participate in meetings as they occur and review technical documents as they are made available.

Table 44. ESJWQC sites monitored for dissolved oxygen during January through December 2011.

ZONE	SITE NAME	DISSOLVED OXYGEN
Zone 1	Dry Creek @ Wellsford Rd	A
	Rodden Creek @ Rodden Rd	A
Zone 2	Lateral 2 1/2 near Keyes Rd	F
	Prairie Flower Drain @ Crows Landing Rd	A
Zone 3	Highline Canal @ Hwy 99	A
	Highline Canal @ Lombardy Rd	A
Zone 4	Bear Creek @ Kibby Rd	F
	Howard Lateral @ Hwy 140	F
	Livingston Drain @ Robin Ave	F
	McCoy Lateral @ Hwy 140	A
	Merced River @ Santa Fe	A
Zone 5	Deadman Creek @ Hwy 59	A
	Duck Slough @ Gurr Rd	A
	Duck Slough @ Hwy 99	F
Zone 6	Berenda Slough along Ave 18 1/2	A
	Cottonwood Creek @ Rd 20	A
	Dry Creek @ Rd 18	F

A - Assessment Monitoring (constituent was monitored at sites during 2011 Assessment Monitoring).

F - Field parameter data collected at sites scheduled for MPM.

Table 45. ESJWQC Exceedances of dissolved oxygen from January through December 2011.

Dissolved oxygen WQTL is listed below the constituent. Field parameters under a management plan are all classified as Priority E constituents and are monitored only as a part of Normal Monitoring (see Management Plan approved November 25, 2008, Prioritization of Exceedances section) or when a site is monitored for a high priority constituent in a management plan.

Station Name	Sample Date	Season	DO
			<7 MG/L
Prairie Flower Drain @ Crows Landing Rd	1/18/2011	Winter1	5.35
Duck Slough @ Gurr Rd	3/15/2011	Winter2	6.78
Berenda Slough along Ave 18 1/2	3/17/2011	Winter2-Sediment	6.72
Cottonwood Creek @ Rd 20	4/19/2011	Irrigation1	6.7
Prairie Flower Drain @ Crows Landing Rd	4/19/2011	Irrigation1	2.14
Dry Creek @ Wellsford Rd	6/14/2011	Irrigation3	6.36
Dry Creek @ Wellsford Rd	7/12/2011	Irrigation4	6.82
Dry Creek @ Wellsford Rd	8/9/2011	Irrigation5	6.52
Berenda Slough along Ave 18 1/2	10/11/2011	Fall1	5.69
Prairie Flower Drain @ Crows Landing Rd	10/11/2011	Fall1	6.59
Dry Creek @ Wellsford Rd	12/6/2011	Fall3	6.7
Non Contiguous Waterbody Exceedances			0
Total Exceedances			11

Exceedance History

Samples collected from Berenda Slough from 2006 through 2011 have exceeded the WQTLs for field parameters, *E. coli*, and pesticides as well as water column and sediment toxicity. Exceedances of WQTLs include DO (11), *E. coli* (7), copper (11), chlorpyrifos (4) and diuron (1). Toxicity to *C. dubia* (1) and to *S. capricornutum* (2) have occurred (Table VIII-5). During 2011, there were exceedances of DO (2), *E. coli* (5), copper (11) and chlorpyrifos (1).

Exceedances are based on WQTLs listed in the introduction to the ESJWQC Management Plan. The highest priority constituents in the Berenda Slough site subwatershed are chlorpyrifos (A/B), copper (C) and *S. capricornutum* toxicity (D).

Table VIII-5. Berenda Slough site subwatershed exceedances (2006-2011).

The WQTL used to evaluate the data are listed in the header after the analyte. Upstream site is italicized.

SITE NAME	SEASON	SAMPLE DATE	OXYGEN, DISSOLVED, <7 mg/L	<i>E. coli</i> , >235 MPN/100 mL	COPPER DISSOLVED ¹ , µg/L	CHLORPYRIFOS, >0.015 µg/L	DIURON, >2 µg/L	<i>C. dubia</i> , (% CONTROL)	<i>S. capricornutum</i> , (% CONTROL)
Berenda Slough along Ave 18 1/2	Irrigation	5/16/2006							
Berenda Slough along Ave 18 1/2	Irrigation	6/13/2006	5.49	460					
Berenda Slough along Ave 18 1/2	Irrigation	7/11/2006	6.54			0.043			
Berenda Slough along Ave 18 1/2	Irrigation	8/8/2006							
Berenda Slough along Ave 18 1/2	Irrigation	9/12/2006				0.14		40	
Berenda Slough along Ave 18 1/2	Irrigation	5/29/2007	1.75				3.4		78
Berenda Slough along Ave 18 1/2	Irrigation	6/5/2007	3.07						
Berenda Slough along Ave 18 1/2	Irrigation	6/26/2007	5.20	390					
Berenda Slough along Ave 18 1/2	Irrigation	7/24/2007	6.37			0.028			12
Berenda Slough along Ave 18 1/2	Irrigation	7/31/2007	4.72						70
Berenda Slough along Ave 18 1/2	Irrigation	8/21/2007	6.13						
<i>Berenda Slough @ Rd 19</i>	<i>Irrigation</i>	<i>7/29/2008</i>	<i>1.10</i>						
Berenda Slough along Ave 18 1/2	Winter	1/18/2011		520	6.8 (2.65)				
Berenda Slough along Ave 18 1/2	Storm	2/17/2011		400	3.6 (1.87)				
Berenda Slough along Ave 18 1/2	Winter	3/17/2011	6.72						
Berenda Slough along Ave 18 1/2	Irrigation	4/19/2011			3.3 (1.36)	0.021			
Berenda Slough along Ave 18 1/2	Irrigation	5/17/2011			3.8 (1.57)				
Berenda Slough along Ave 18 1/2	Irrigation	6/21/2011			3.6 (1.46)				
Berenda Slough along Ave 18 1/2	Irrigation	7/19/2011			2.6 (1.03)				
Berenda Slough along Ave 18 1/2	Irrigation	8/16/2011		290	2.3 (1.25)				
Berenda Slough along Ave 18 1/2	Irrigation	9/13/2011		370	2.1 (1.46)				
Berenda Slough along Ave 18 1/2	Fall	10/11/2011	5.69	1600	4.2 (1.03)				
Berenda Slough along Ave 18 1/2	Fall	11/8/2011			3.1 (2.46)				
Berenda Slough along Ave 18 1/2	Fall	12/6/2011			3.7 (3.38)				
Constituent Priority			E	E	C	A/B	NP	NP	D

¹Dissolved metals not analyzed until October 2008; WQTL variable based on hardness.

NP – Not Prioritized; less than two exceedances within three consecutive monitoring years and currently no TMDL.