Chapter 8 – Water Quality	Existing Condition	Alternative: No Action	1A	1B	1C	2A	2B	2C	3	4	5	6A	6B	6C	7	8	9	4A	2D	5A
WQ-5: Bromide (CM1) - Percent increase in long-term average concentration at Barker Slough	-	-2%	38/43%	38/43%	38/43%	22/26%	22/26%	22/26%	34/38%	40/44%	23/27%	19/22%	19/22%	19/22%	-2/1%	4/8%	19/23%	-2/2%	-2/2%	-4/0%
		LTS	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A[a]	S/A[a]	S/A	LTS/NA	LTS/NA	LTS/NA
WQ-7: Chloride - Percent of years when 150 mg/L water quality objective exceeded at CCPP#1[b]	7%	0	13%	13%	13%	13%	13%	13%	7%	7%	13%	13%	13%	13%	20%	13%	13%	0%	0%	0%
		S	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	LTS/NA	LTS/NA	LTS/NA
WQ-11: EC- Percent of days Emmaton objective would be exceeded	6%	14	31%	31%	31%	26%	26%	26%	30%	27-29%[c]	25%	32%	32%	32%	19%	22%	18%	16%[c]	7%[c]	10%[c]
		S	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	LTS/NA	LTS/NA	LTS/NA
WQ-13: Mercury (CM1) - Maximum percent increase in fish tissue concentrations at Delta locations	6%	6%	8/10%	8/10%	8/10%	13/11%	13/11%	13/11%	6/8%	15/12%	8/7%	64/58%	64/58%	64/58%	45/39%	46/41%	66/59%	8/7%	10/9%	5/3%
		LTS	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	S/A	S/A	S/A	S/A	S/A	S/A	LTS/NA	LTS/NA	LTS/NA

Notes

[a] While the long-term average increases in bromide would be low, the drought period increases would be 34% for Alternative 7 and 50% for Alternative 8, relative to Existing Conditions and the No Action Alternative. These increases in the drought period were considered significant/adverse.

[b] Water quality degradation as measured by use of available assimilative capacity also played a significant role in determining effects by alternative, and degradation varied by alternative.

[c] Alternative 4 does not include a change in compliance location from Emmaton to Threemile Slough, but the modeling used to evaluate the alternative did include the change. Thus, although the percent of days the Emmaton objective was exceeded is high, it is expected that under the alternative it would be similar to the No Action.

Key

Level of significance or effect **before** mitigation
(Quantity of impact: number of sites, structures, acres, etc. affected)

Increasing level of significance →

Bromide - Percent increase (%)	<0	1 - 20	21 - 40	>40
Chloride - % of years objective exceeded (%)	0	1-12	13-19	>20
EC - percent of days objective exceeded (%)	<10	11 - 20	20 - 30	>30
Mercury (CM1) - Percent increase (%)	<10	10 - 20	21 - 50	>50
Mercury (CM2-CM22) - restoration acres	0	1 - 100	25,000	65,000
Organic Carbon (CM1) - mg/L	<0.1	0.1 - 0.5	0.6 - 1.0	>1.0
Organic Carbon (CM2-CM21) - restoration acres	0	1 - 100	25,000	65,000
Selenium - Exceedance Quotient	0.87	0.88 - 0.93	0.94 - 0.99	>1.0
Microcystis - relative rank	1	2	3	4

Level of significance or effect **after** mitigation
(CEQA Finding / NEPA Finding)

CEQA Finding		NEPA Finding	
NI	No Impact	B	Beneficial
LTS	Less than significant	NE	No Effect
S	Significant	NA	Not Adverse
SU	Significant and unavoidable	A	Adverse

n/a	not applicable
>	greater than
<	less than
≈	about equal to

Continued on Figure 8-0b

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Figure 8-0a
Comparison of Impacts on Water Quality

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Chapter 8 – Water Quality (continued)	Alternative																		
	Existing Condition	No Action	1A	1B	1C	2A	2B	2C	3	4	5	6A	6B	6C	7	8	9	4A	2D	5A
WQ-14: Mercury(CM2-CM21) - Amount (acres) of new tidal habitat restoration that could contribute additional methylmercury	0	0	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	25,000	65,000	65,000	65,000	65,000	65,000	65,000	59	65	55
		-- [d]	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A
WQ-17: Organic Carbon (CM1) - Maximum increase in long-term average DOC (mg/L) at interior Delta locations	--	<0.1	0.3	0.3	0.3	0.4	0.4	0.4	0.2	0.4	0.2	1.2	1.2	1.2	0.8	0.8	0.7	0.2	0.2	0.1
		LTS	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	S/A	S/A	S/A	S/A	S/A	S/A	LTS/NA	LTS/NA	LTS/NA
WQ-18: Organic Carbon (CM2-CM21) - Amount (acres) of new tidal habitat restoration that could contribute additional DOC	0	0	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	25,000	65,000	65,000	65,000	65,000	65,000	65,000	59	65	55
		-- [d]	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	LTS/NA	LTS/NA	LTS/NA
WQ-25: Selenium (CM1) - High threshold exceedance quotient for whole body sturgeon (concentration divided by threshold) during drought period	.87	0.87	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.93	0.89	1.1	1.1	1.1	1.1	1.1	1.2	0.91	0.89	0.90
		LTS	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	S/A	S/A	S/A	S/A	S/A	S/A	LTS/NA	LTS/NA	LTS/NA
WQ-32 and 33: Microcystis (CM1-CM21) - potential for increased production in Delta [e]	--	2	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	2	2	2
		5	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	S/A	LTS/NA	LTS/NA	LTS/NA

Notes

[d] CM2-CM21 are not a component of Existing Conditions or the No Action Alternative, thus, no impact call was made for this effect in the EIR/EIS.

[e] The Microcystis was qualitative. Thus, the severity of the impact was established as a rank from 1 to 4, with the rankings based on the alternative-specific factors that would contribute to increased Microcystis production, including restoration area, diversions of Sacramento River water at the north intakes, and net Delta outflow.

Key

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(Quantity of impact: number of sites, structures, acres, etc. affected)

Increasing level of significance →

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n/a not applicable
> greater than
< less than
≈ about equal to

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Figure 8-0b
Comparison of Impacts on Water Quality (continued)

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